



# SSM

SSM is a member  
in good standing  
of the Steel Joist  
Institute.

## SSM Joist & Joist Girder Systems

Structural Steel  
Manufacturing, Inc.

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STRUCTURAL STEEL WORKS, INC.

ENTRADA 2

ENTRADA 3



**SSM**  
STRUCTURAL STEEL MANUFACTURING, INC.



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A Business Unit of Structural Steel Manufacturing, Inc.

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**SSW Group Companies:**

- **Structural Steel Manufacturing, Inc.**
  - ✔ SJI Member
  - ✔ AISC Quality Certified Fabricator with Complex Coating Endorsement 2
- **SSW Engineering & Construction, LLC**
  - ✔ AISC Quality Certified Erector
  - ✔ With Seismic Endorsement and with Metal Deck Endorsement
- **Structural Steel Works, Inc.**

**Products/Services:**

- Steel Joist Manufacturer
- Structural Steel Fabricator
- Misc. Steel Fabricator
- Pre-Eng. Buildings Manufacturer
- Steel Structures Design/Builder
- Steel Erector
- Steel Structures Consultant
- Maintenance – Steel Structures
- Steel Products Warehouse
- Service Center

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## WELCOME TO SSW GROUP AND TO SSM JOIST!

**Structural Steel Works, Inc.** was founded by my father and professional mentor, Engr. José Aguayo, in 1968 as a miscellaneous quality steel fabricator/erector and specialty contractor. During the past 55 years, SSW has grown and become a “one-stop shop” that offers a wide range of products and professional value-added services including: planning & design of steel structures, supply of steel materials, fabrication & erection of structural steel, manufacturing of steel joists & pre-engineered buildings, warehouse & service center operations, and value-engineering solutions for structural steel buildings and bridges.

Our 17-acres main facility in PR-USA houses a 20,000 Tons steel materials inventory and state-of-the-art CNC fabrication equipment. It is also the headquarters of a dream-team of experienced and talented engineers, project managers, steel detailers, fabrication personnel, and staff all of whom share an unwavering commitment to ensure that our Clients receive the best on-budget, timely, and spec-compliant steel products/structures in the market.

I am very grateful to our Clients for their repeat business, and to our team members whose dedication made it possible for SSW Group to become the 1st AISC Qualified Certified Fabricator (2004), the 1st AISC Quality Certified Erector (2017), and the 1st SJI Member (1990 & 2023) in Puerto Rico, USA. It is the hard work and the dedication of all of our associates together with the collaboration of the rest of our stakeholders, that have enabled SSW Group’s successful 55-years trajectory and over 2,000 completed projects.

It is with great enthusiasm that we engage into the future, empowered by the solid legacy of our predecessors and by our relentless desire to exceed expectations.

**Juan C. Aguayo, PE, MSCE**  
President & CEO  
SSW Group

April 21, 2023



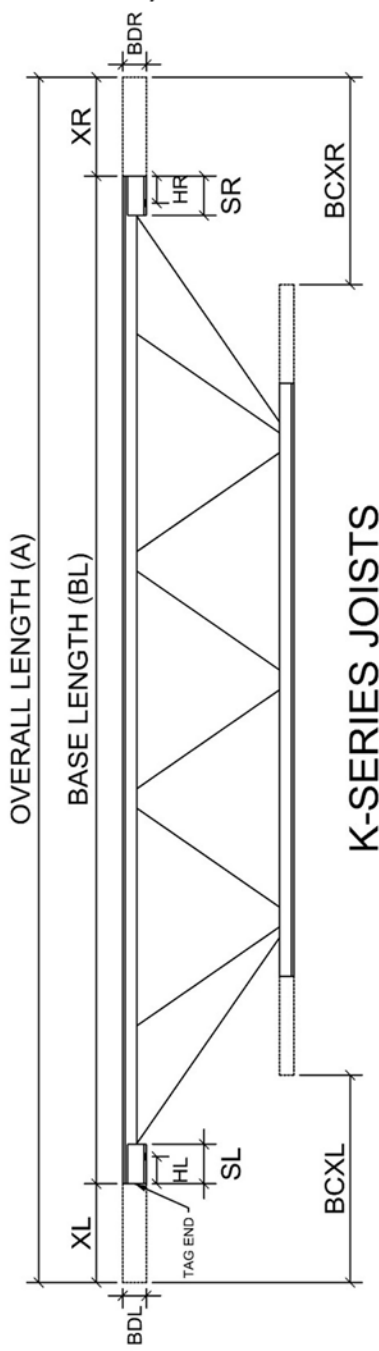


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### JOISTS FABRICATION LIST

SHEET: \_\_\_\_ OF \_\_\_\_



### K-SERIES JOISTS

PAINT	
RED O.	
GRAY O.	X

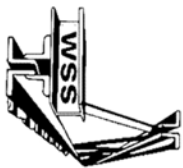
STANDARD UNLESS NOTED OTHERWISE ON BILL  
BDL, BDR = 2-1/2"  
SLOTS = 9/16" x 1-1/2"  
GAGE = 3-1/2"  
BCXL, BCXR = NONE

A = BL + XL + XR

### TOP CHORD EXTENSION (TCX) LEGEND \* ALL HOLES FROM BASE LENGTH

<p>TYPE "S" EXTENDED TC ANGLES ONLY</p>	<p>TYPE "R" TC &amp; SEATS EXTENDED</p>	<p>TYPE "D" REINFORCED TOP CHORD EXT.</p>
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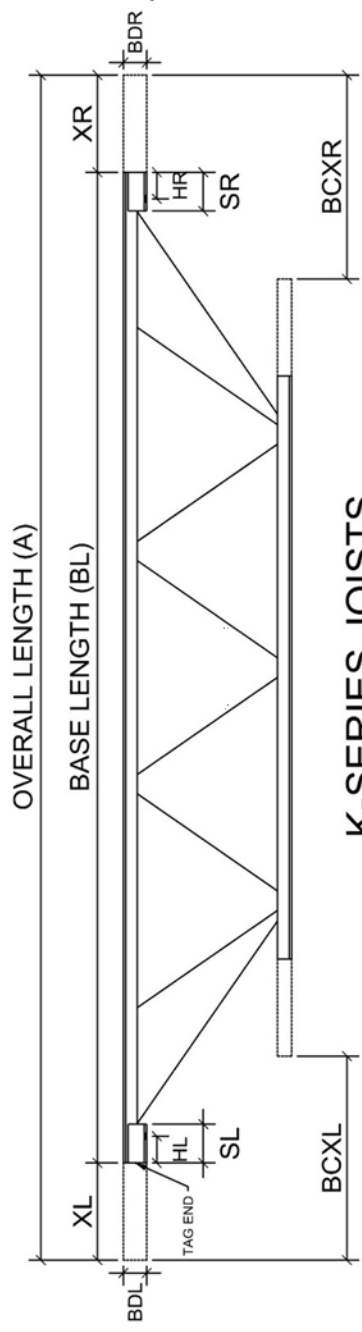
JOIST MARK	QTY.	JOIST DESIG.	BASE LENGTH	TOP CHORD			OVERALL LENGTH	BOTTOM CHORD		SEAT DEPTH			SEAT HOLES			TCX TYPE & LOC.	Uplift lbs/ft
				XL	SL	XR		SR	BCXL	BCXR	BDL	BDR	HL	HR			
J25	15	16K4	30' 0"	1' 0"	6"	0"	6"	None	None	2-1/2"	2-1/2"	3"	None	D-Left	250		
J34	23	20K5	35' 6"	1' 4"	5"	2' 3"	8"	None	None	2-1/2"	2-1/2"	None	None	R-Both	None		
J99	38	18K4	32' 0"		4"		4"			2-1/2"	2-1/2"			S-L; D-R	None		
<div style="font-size: 48pt; opacity: 0.3; pointer-events: none;">EXAMPLE</div>																	
<p>Note: Blank Sheet (Without Example) is Attached Herewith for Client's Use</p>																	



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# JOISTS FABRICATION LIST



**JOB NUMBER:** \_\_\_\_\_  
**CUSTOMER:** \_\_\_\_\_  
**PROJECT:** \_\_\_\_\_  
**LOCATION:** \_\_\_\_\_  
**BY:** \_\_\_\_\_ **CHK'D BY:** \_\_\_\_\_  
**DATE:** \_\_\_\_\_

## K-SERIES JOISTS

PAINT
RED O. _____
GRAY O. _____

TOP CHORD EXTENSION (TCX) LEGEND			* ALL HOLES FROM BASE LENGTH											
<p>TYPE "S" EXTENDED TC ANGLES ONLY</p>	<p>TYPE "R" TC &amp; SEATS EXTENDED</p>	<p>TYPE "D" REINFORCED TOP CHORD EXT.</p>	OVERALL LENGTH		BOTTOM CHORD		SEAT DEPTH		SEAT HOLES		TCX	Uplift		
			XL	SL	XR	SR	BCXL	BCXR	BDL	BDR	HL	HR	TYPE & LOC.	lbs/ft

STANDARD UNLESS NOTED OTHERWISE ON BILL

BDL, BDR = 2-1/2"

SLOTS = 9/16" x 1-1/2"

GAGE = 3-1/2"

BCXL, BCXR = NONE

**A = BL + XL + XR**

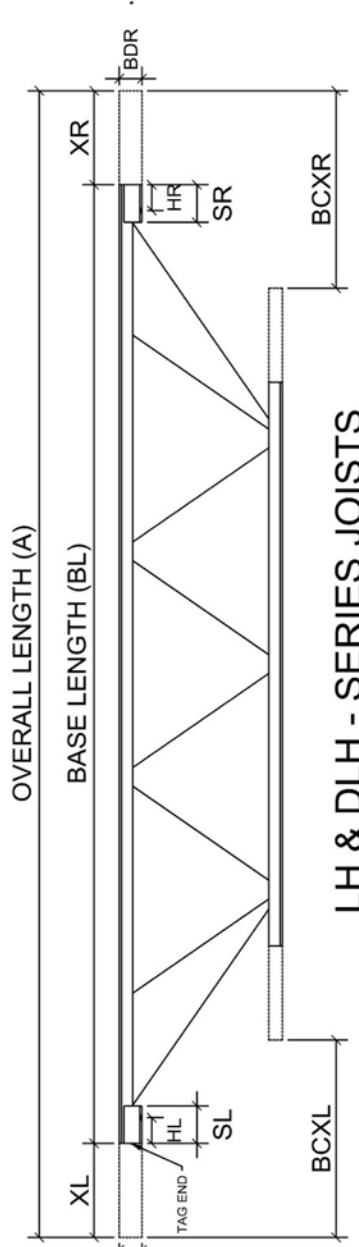
JOIST MARK	QTY.	JOIST DESIG.	BASE LENGTH		TOP CHORD			OVERALL LENGTH	BOTTOM CHORD		SEAT DEPTH		SEAT HOLES		TCX	Uplift lbs/ft
			XL	SL	XR	SR	BCXL		BCXR	BDL	BDR	HL	HR			



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## JOISTS FABRICATION LIST

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### LH & DLH - SERIES JOISTS

JOB NUMBER: 99-999  
 CUSTOMER: XYZ  
 PROJECT: XYZ PROJECT  
 LOCATION: XYZ LOC  
 BY: JM CHK'D BY: TM  
 DATE: 04/25/2030

TOP CHORD EXTENSION (TCX) LEGEND	* ALL HOLES FROM BASE LENGTH		
 TYPE "S" EXTENDED TC ANGLES ONLY	 TYPE "R" TC & SEATS EXTENDED	 TYPE "D" REINFORCED TOP CHORD EXT.	

PAINT	
RED O.	X
GRAY O.	X

**STANDARD UNLESS NOTED OTHERWISE ON BILL**  
 BDL, BDR = 5"  
 FOR LH/DLH18-25: BDL, BDR = 7-1/2"  
 SLOTS = 13/16" x 1-1/2"  
 GAGE = 4"  
 BCXL, BCXR = NONE

**A = BL + XL + XR**

JOIST MARK	QTY.	JOIST DESIG.	BASE LENGTH	TOP CHORD				OVERALL LENGTH	BOTTOM CHORD		SEAT DEPTH		SEAT HOLES			TCX TYPE & LOC.	Uplift lbs/ft
				XL	SL	XR	SR		BCXL	BCXR	BDL	BDR	HL	HR	TCX		
J50	10	20LH07	30' 0"	1' 0"	6"	0"	6"	31' 0"	1' 6"	None	5"	5"	3"	None	D-Left	100	
J57	5	36LH17	35' 6"	1' 4"	5"	2' 3"	8"	39' 1"	None	None	5"	5"	2"	2"	R-Both	None	
J61	3	48LH20	32' 0"		4"		4"	32' 0"			7-1/2"	7-1/2"		S-L; D-R	None		
<b>Note: Blank Sheet (Without Example) is Attached Herewith for Client's Use</b>																	



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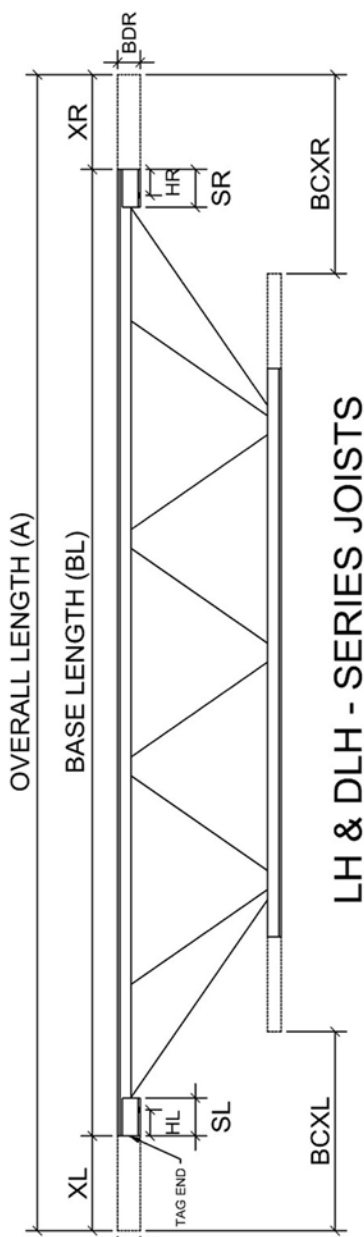
JOB NUMBER: \_\_\_\_\_  
 CUSTOMER: \_\_\_\_\_  
 PROJECT: \_\_\_\_\_  
 LOCATION: \_\_\_\_\_  
 BY: \_\_\_\_\_  
 DATE: \_\_\_\_\_

CHK'D BY: \_\_\_\_\_

PAINT	
RED O.	_____
GRAY O.	_____

STANDARD UNLESS NOTED OTHERWISE ON BILL  
 BDL, BDR = 5"  
 FOR LH/DLH18-25: BDL, BDR = 7-1/2"  
 SLOTS = 13/16" x 1-1/2"  
 GAGE = 4"  
 BCXL, BCXR = NONE

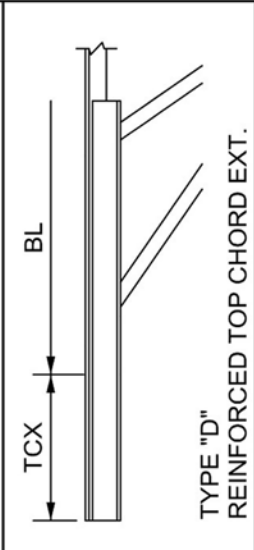
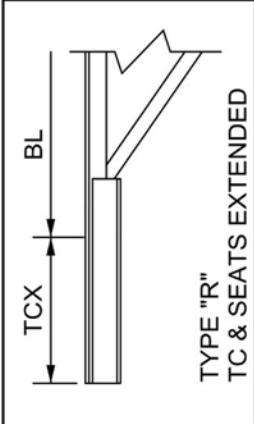
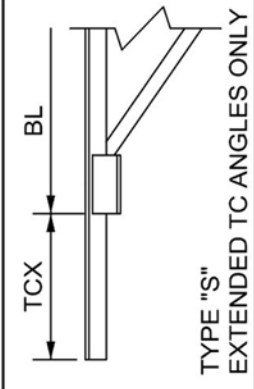
**A = BL + XL + XR**



**LH & DLH - SERIES JOISTS**

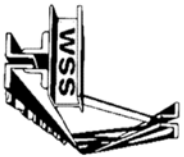
**TOP CHORD EXTENSION (TCX) LEGEND**

\* ALL HOLES FROM BASE LENGTH



JOIST MARK	QTY.	JOIST DESIG.	BASE LENGTH	TOP CHORD			OVERALL LENGTH	BOTTOM CHORD		SEAT DEPTH		SEAT HOLES		TCX TYPE & LOC.	Uplift lbs/ft
				XL	SL	XR		SR	BCXL	BCXR	BDL	BDR	HL		



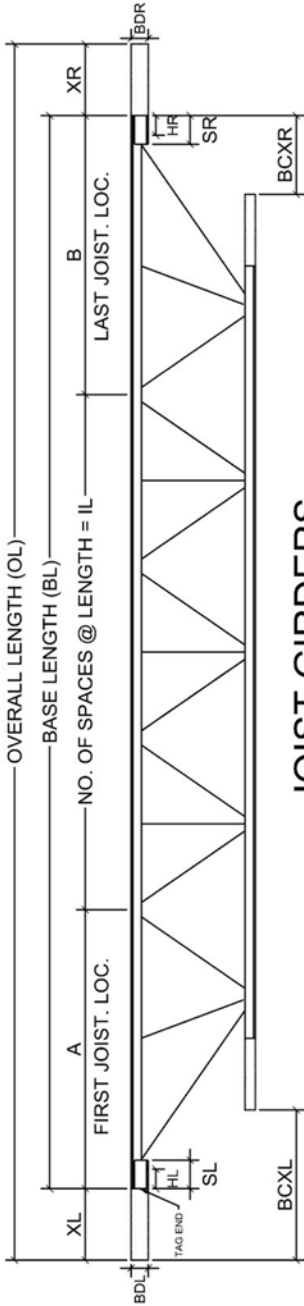


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# GIRDERS FABRICATION LIST

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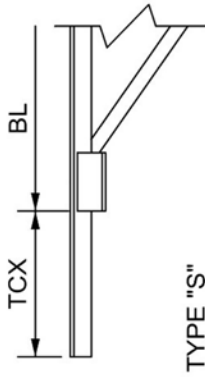
**JOB NUMBER:** 99-999  
**CUSTOMER:** XYZ  
**PROJECT:** XYZ PROJECT  
**LOCATION:** XYZ LOC  
**BY:** JM CHK'D BY: TM  
**DATE:** 04/25/2030



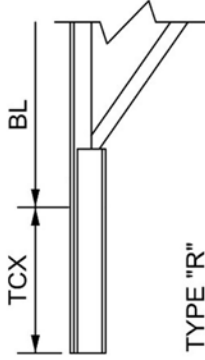
## JOIST GIRDERS

### TOP CHORD EXTENSION (TCX) LEGEND

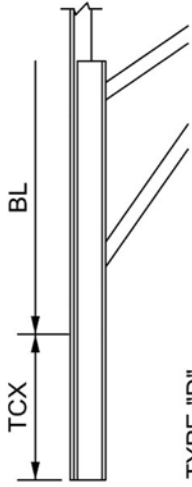
\* ALL HOLES FROM BASE LENGTH



TYPE "S"  
EXTENDED TC ANGLES ONLY



TYPE "R"  
TC & SEATS EXTENDED



TYPE "D"  
REINFORCED TOP CHORD EXT.

PAINT	
RED O.	
GRAY O.	X

STANDARD UNLESS NOTED OTHERWISE ON BILL  
 BDL, BDR = 7-1/2"  
 SLOTS = 13/16" x 1-1/2"  
 GAGE = 5"  
 BCXL, BCXR = NONE

$OL = BL + XL + XR$

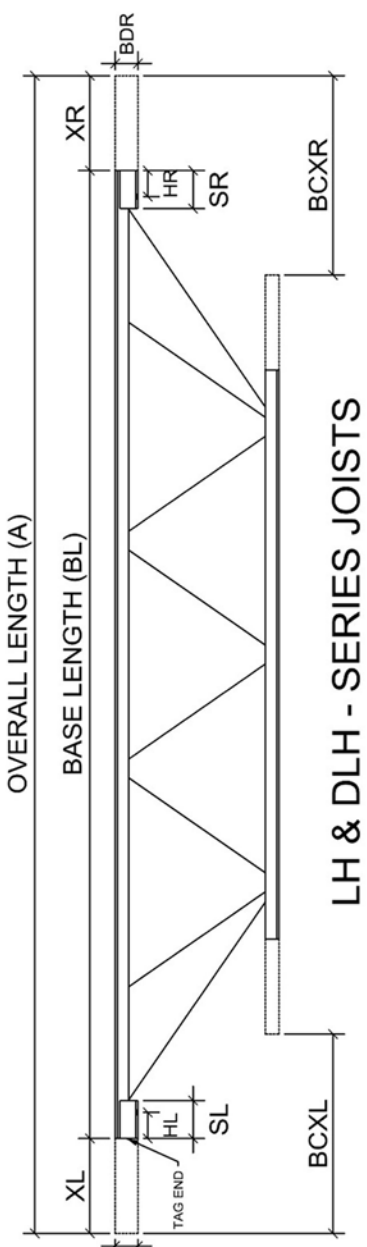
$BL = A + IL + B$

GIRDER MARK	GIRDER QTY.	GIRDER DESIG.	BASE LENGTH	TOP CHORD				OVERALL LENGTH	BOTTOM CHORD		A	IL		P.P.U.	TCX TYPE & LOC.	SEAT SLOTS	
				XL	SL	XR	SR		BCXL	BCXR		NO.	LENGTH			HL	BL
G5	2	32G8N32K	32' 0"	1' 0"	4"	0"	4"	33' 0"	1' 6"	None	2' 0"	6	4' 8"	None	D-Left	3"	None
G10	5	44G5N18K	42' 6"	1' 6"	6"	2' 3"	8"	46' 3"	None	None	4' 3"	3	11' 7"	10K	R-Both	None	None
G15	15	66G10N20K	80' 0"		6"		6"	80' 0"			8' 0"	8	8' 0"	5K	S-L; D-R	None	None

Note: Blank Sheet (Without Example) is Attached Herewith for Client's Use

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## LH & DLH - SERIES JOISTS

JOB NUMBER: \_\_\_\_\_  
 CUSTOMER: \_\_\_\_\_  
 PROJECT: \_\_\_\_\_  
 LOCATION: \_\_\_\_\_  
 BY: \_\_\_\_\_ CHK'D BY: \_\_\_\_\_  
 DATE: \_\_\_\_\_

PAINT	
RED O.	_____
GRAY O.	_____

STANDARD UNLESS NOTED OTHERWISE ON BILL  
 BDL, BDR = 5"  
 FOR LH/DLH18-25: BDL, BDR = 7-1/2"  
 SLOTS = 13/16" x 1-1/2"  
 GAGE = 4"  
 BCXL, BCXR = NONE

**A = BL + XL + XR**

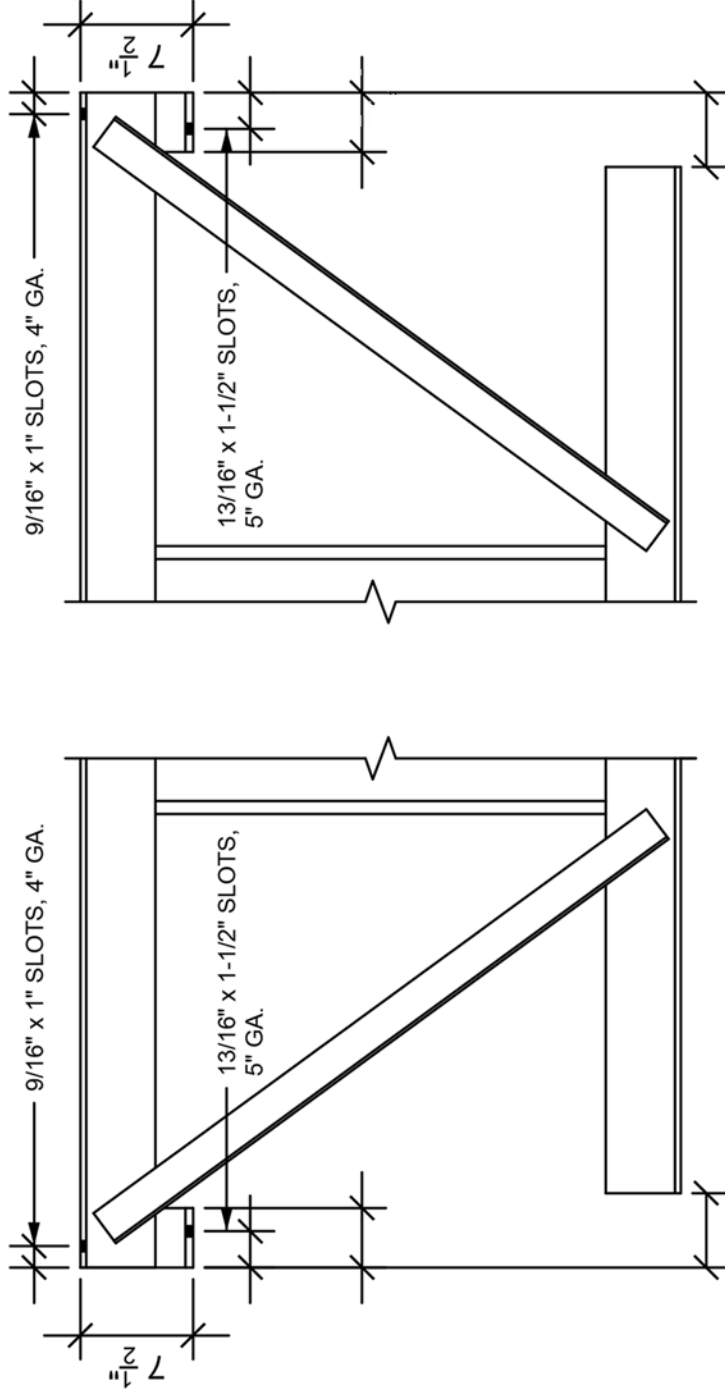
**TOP CHORD EXTENSION (TCX) LEGEND** \* ALL HOLES FROM BASE LENGTH

TYPE "S" EXTENDED TC ANGLES ONLY	TYPE "R" TC & SEATS EXTENDED	TYPE "D" REINFORCED TOP CHORD EXT.

JOIST MARK	QTY.	JOIST DESIG.	BASE LENGTH	TOP CHORD			OVERALL LENGTH	BOTTOM CHORD			SEAT DEPTH			SEAT HOLES			TCX TYPE & LOC.	Uplift lbs/ft
				XL	SL	XR		SR	BCXL	BCXR	BDL	BDR	HL	HR	HL	HR		

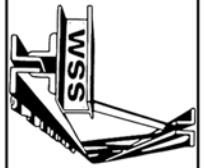
# JOIST GIRDER BEARING DETAILS

HOLES ARE STANDARD AS SHOWN UNLESS OTHERWISE NOTED  
BEARING SEAT ANGLES - 2 - L 7 x 4 x 1/2"



DETAIL -

DETAIL -



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JOB NUMBER \_\_\_\_\_  
SHEET \_\_\_\_\_ OF \_\_\_\_\_  
DATE \_\_\_\_\_

OVERALL LENGTH



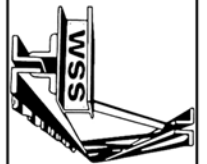
(MARK#)

(OVERALL LENGTH)


**BRIDGING CLIP LOCATION**

BRIDGING CLIP TYPE \_\_\_\_\_

HOLE SIZE \_\_\_\_\_



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JOB NUMBER \_\_\_\_\_  
 SHEET \_\_\_\_\_ OF \_\_\_\_\_  
 DATE \_\_\_\_\_

# WELDED BRIDGING

JOB NUMBER: \_\_\_\_\_  
 PROJECT: \_\_\_\_\_  
 LOCATION: \_\_\_\_\_

SHEET: \_\_\_\_\_ OF \_\_\_\_\_  
 DATE: \_\_\_\_\_  
 CUSTOMER: \_\_\_\_\_  
 PAINT: \_\_\_\_\_

MK#	QTY.	SIZE	LENGTH	MK#	QTY.	SIZE	LENGTH



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The following document contained in this catalog has been approved  
by the American National Standards Institute (ANSI):

Standard Specification for K-Series, LH-Series, DLH-Series  
Open Web Steel Joists and for Joist Girders (SJI 100-2020)



Approval of an American National Standard requires review by ANSI that the requirements for due process, consensus, and other criteria for approval have been met by the standards developer.

Consensus is established when, in the judgment of the ANSI Board of Standards Review, substantial agreement has been reached by directly and materially affected interests. Substantial agreement means much more than a simple majority, but not necessarily unanimity. Consensus requires that all views and objections be considered, and that a concerted effort be made towards their resolution.

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# STEEL JOIST INSTITUTE

## HISTORY

Formed five years after the first open web steel joist was manufactured, the Institute has worked since 1928 to maintain sound engineering practice throughout our industry. As a non profit organization of active manufacturers, the Institute cooperates with governmental and business agencies to establish steel joist standards. Continuing research and updating are included in its work.

The first joist in 1923 was a Warren truss type, with top and bottom chords of round bars and a web formed from a single continuous bent bar. Various other types were developed, but problems also followed because each manufacturer had their own design and fabrication standards. Architects, engineers and builders found it difficult to compare rated capacities and to use fully the economies of steel joist construction.

Members of the industry began to organize the Institute, and in 1928 the first standard specifications were adopted, followed in 1929 by the first load table. The joists covered by these early standards were later identified as open web steel joists, SJ Series.

Other landmark adoptions by the Institute include the following:

### 1953

Introduction of Longspan Steel Joists, L Series. Specifications and a standard load table, covering spans through 96 feet and depths through 48 inches, were jointly approved with the American Institute of Steel Construction.

### 1959

Introduction of the S Series Joists, which replaced the SJ Series Joists. The allowable tensile stress was increased from 18,000 to 20,000 psi, joist depths were expanded through 24 inches, and spans increased through 48 feet.

### 1961

(a) Introduction of the J Series Joists, which replaced the S Series Joists. The allowable tensile stress was increased from 20,000 psi to 22,000 psi, based on the use of steel with a minimum yield strength of 36,000 psi.

(b) Introduction of the LA Series Joists, which replaced the L Series Joists. The LA Series Joists were designed to a maximum tensile stress of either 20,000 psi or 22,000 psi, depending on the yield strength of the steel.

(c) Introduction of the H Series Joists, whose design was based on steel with a minimum yield strength of 50,000 psi, and an allowable tensile stress of 30,000 psi.

### 1962

Introduction of the LH Series Joists, utilizing steel whose minimum yield strength was between 36,000 psi and 50,000 psi and an allowable tensile strength of 22,000 psi to 30,000 psi.



**1965**

Development of a single specification for both the J and H Series Joists by the Steel Joist Institute and the American Institute of Steel Construction.

**1966**

Development and introduction by the SJI and AISC of the LJ Series Joists, which replaced the LA Series Joists. Also, the development of a single specification for both the LJ and the LH Series Joists, with the use of 36,000 psi minimum yield strength steel for the LJ Series, and 36,000 psi to 50,000 psi minimum yield strength steel for the LH Series.

**1970**

Introduction of the DLJ and DLH-Series Joists to include depths through 72 inches and spans through 144 feet.

**1971**

Elimination of chord section number 2 and the addition of joist designations 8J3 and 8H3 to the load tables.

**1972**

(a) Adoption by the SJI and AISC of a single specification for the LJ , LH , DLJ , and DLH-Series Joists.

(b) Adoption by the SJI and AISC of the expanded specifications and load tables for Open Web Steel Joists with increased depths through 30 inches, and spans through 60 feet, plus adding chord section numbers 9, 10, and 11.

**1978**

(a) Elimination of the J , LJ , and DLJ Series Joists because of the widespread acceptance of high strength steel joists.

(b) Introduction of Joist Girders, complete with specifications and weight tables, in response to the growing need for longer span primary structural members with highly efficient use of steel.

**1986**

Introduction of the K-Series Joists, which replaced the H Series Joists. The reasons for developing the K-Series Joists were: (1) to achieve greater economies by utilizing the Load Span design concept; (2) to meet the demand for roofs with lighter loads at depths from 18 inches to 30 inches; (3) to offer joists whose load carrying capacities at frequently used spans are those most commonly required; (4) to eliminate the very heavy joists in medium depths for which there was little, if any, demand.

**1994**

(a) Introduction of the KCS Joists as a part of the K-Series Specification in response to the need for a joist with a constant moment and constant shear. The KCS Joist is an economical alternative joist that may be specified for special loading situations.

(b) Addition of metric nomenclature for all Joist and Joist Girder Series in compliance with government and industry standards.

(c) Addition of revised stability criteria.



## **2002**

- (a) Introduction of Joist Substitutes, K-Series.
- (b) K-Series, LH- and DLH- Series and Joist Girder Specifications approved as American National Standards (ANSI).
- (c) Revisions to K-Series Section 6, LH- and DLH-Series Section 105, and Recommended Code of Standard Practice for conformance to OSHA Steel Erection Standard §1926.757.
- (d) Addition of Standing Seam Roof requirements to the K-Series Specification Section 5.8(g) and the LH-Series and DLH-Series Specification Section 104.9(g).
- (e) Addition of Definition for Parallel Chord Sloped Joists – K-Series and LH-Series.

## **2005**

- (a) Major revision of K-Series, LH- and DLH-Series and Joist Girder Specifications to allow the design of joists and Joist Girders to be either in accordance with Load and Resistance Factor Design (LRFD) or Allowable Strength Design (ASD).
- (b) Major revision of K-Series and LH- and DLH-Series Load Tables to be in both LRFD and ASD.
- (c) Expansion of Joist Girder Weight Tables to spans through 120 feet.
- (d) Code of Standard Practice was renamed.

## **2007**

Introduction of the CJ-Series Composite Steel Joists, complete with specifications, weight tables and bridging tables, in response to the growing need to have a standard design specification for all member companies producing composite steel joists.

## **2010**

- (a) Expanded Range of Products

Most significant is the extension of the DLH-Series joist range from a maximum of 72 inches deep and 144 feet long to a maximum now of 120 inches deep and 240 feet long. In conjunction with the increased range, the standard camber for spans over 100 feet has been reduced and the LH-Series and DLH-Series Load Tables have been converted from a “Clearspan” to “Span” basis. An alternate “load/load” method of specifying Longspan joists has been introduced. Changes were also made with regard to Joist Substitutes and Top Chord Extensions.

- (b) Substantial changes were made to the criteria for the spacing of bridging rows and the design of bridging. The changes make the criteria more cohesive between K-Series and LH-Series joists.
- (c) A number of changes were made relative to bearing seat and end anchorage conditions, primarily incremental criteria rather than one standard for LH-Series and DLH-Series joists due to the broad range. In addition, design responsibilities are better defined and additional options for masonry bearing conditions are permitted.



(d) Several design criteria or checks that were already being performed but had not been shown in the specifications, are now included. These include node shear, girder top chord transverse bending, and weld design criteria. Based on SJI research, new criteria for crimped end angle webs have been applied.

(e) The Code of Standard Practice is updated with more discussion of the options available when specifying joist for non-uniform loads.

## **2015**

(a) The three previous Specifications, K-Series, LH-Series and DLH-Series and Joist Girders, have been combined into one, unified Specification. Load Tables for each Series have not been combined and remain unchanged

(b) Adjustments were made to the k factors for web and bottom chord slenderness ratios.

(c) Several design criteria or checks that were already being performed but had not been shown in the specifications, are now included. These include uncrimped single angles and erection bridging.

(d) The joint eccentricity criteria have been updated.

(e) Minimum end anchorage requirements have been increased for uplift.

(f) When exact locations for concentrated loads are known, the joist shall be designed without the need for field applied web members.

(g) For both K-Series and KCS joists, bending stress can no longer be neglected for panels less than 24". The top chord design criteria now match that of LH-Series and DLH-Series.

(h) The Code of Standard Practice has been reorganized, revised and updated, including additional information on uplift and end anchorage.

## **2020**

(a) The LH-Series Load Tables have been expanded to incorporate shorter spans with higher uniform design loads as well as additional standard designations, particularly for floor systems. Because of these expanded LH-Series Load Tables, the Safe Load as well as the LH Load/Load weight tables are no longer needed and have been removed.

(b) LH-Series Load Tables layout has been reformatted to match the K-Series Load Tables.

(c) Tables outlining bearing conditions and bridging information have been updated to include the new LH-Series chord numbers.

(d) The Duct Opening Accessories page has been updated.

(e) Added page describing additional joist minimum shear criteria for web design.



## **POLICY**

The manufacturers of any standard SJI products shall be required to submit design data for verification of compliance with Steel Joist Institute Specifications, undergo physical design verification tests, and undergo an initial plant inspection and subsequent biennial in-plant inspections for all products for which they wish to be certified.

SJI Member companies complying with the above conditions shall be licensed to publish the appropriate copyrighted SJI Specifications, Load Tables and Weight Tables.

## **MEMBERSHIP**

Membership is open to manufacturers who produce, on a continuing basis, joists of the K Series, LH-Series, and DLH-Series, and/or Joist Girders, conforming to the Institute's Specifications and Load Tables. Membership requirements differ as described below.

### **APPLICATION PROCESS**

The Institute's Consulting Engineer checks to see that designs conform to the Institute's Specifications and Load Tables. This comprises an examination of: (1) Complete engineering design details and calculations for selected designations for each type of materials and constructions; (2) Data obtained from physical tests of a limited number of joists, conducted by an independent laboratory, to verify conclusions from analysis of the applicant's engineering design details and calculations.

An initial plant inspection and subsequent biennial inspections are required to ensure that the applicant/member possesses the facilities, equipment and personnel required for proper manufacturing.

### **RESPONSIBILITY FOR PRODUCT QUALITY**

The plant inspections are not a guarantee of the quality of any specific joists or Joist Girders; this responsibility lies fully and solely with the individual manufacturer.

### **SERVICES TO NONMEMBERS**

The Institute's facilities for checking the design of K Series, LH Series, and DLH-Series Joists or Joist Girders are available on a cost basis.

The Steel Joist Institute does not check joist designs for specific construction projects. Manufacturing to Institute Specifications is the responsibility of the individual manufacturer.



## **PUBLICATIONS, PRESENTATIONS, TOOLS**

Visit the SJI Web Site at [www.steeljoist.org](http://www.steeljoist.org) for a complete listing of SJI publications, presentations, and design tools.

1. Listings for SJI Webinar presentations, live and on-demand, and available for PDH credit are found on the website.
2. Catalog of Standard Specifications, Load Tables and Weight Tables and Code of Standard Practice for Steel Joists and Joist Girders
3. Catalog of Standard Specifications, Weight Tables, Bridging Tables and Code of Standard Practice for Composite Steel Joists.
4. The following **TECHNICAL DIGESTS** are also available from the Institute:
  - No. 3 Structural Design of Steel Joist Roofs to Resist Ponding Loads (2018)
  - No. 5 Vibration of Steel Joist – Concrete Slab Floors (2015)
  - No. 6 Design of Steel Joist Roofs to Resist Uplift Loads (2012)
  - No. 8 Welding of Open-Web Steel Joists and Joist Girders (2020)
  - No. 9 Handling and Erection of Steel Joists and Joist Girders (2008)
  - No. 10 Design of Fire-Resistive Assemblies with Steel Joists (2003)
  - No. 11 Design of Lateral Load Resisting Frames Using Steel Joists and Joist Girders (2007)
  - No. 12 Evaluation and Modification of Open Web Steel Joists and Joist Girders (2020)
5. 90 Year Download Open Web Steel Joist Construction (1928-2018)
6. The following **DESIGN TOOLS** are also available from the Institute:
  - Roof Bay Analysis Tool – With Ponding Analysis
  - Floor Bay Analysis Tool
  - Joist Girder Moment Connection Design Tools
  - Historical Load Tables





## **INTRODUCTION TO K-SERIES, LH-SERIES, DLH-SERIES**

Open Web Steel Joists were primarily developed to provide structural support for floors and roofs of buildings. They possess the following advantages and features which have resulted in their wide use and acceptance throughout the United States and other countries.

First and foremost, they are economical. For many types of buildings, no other products or methods for supporting floors and roofs can compete with steel joists. The advantages listed in the following paragraphs all contribute to the overall economy of using Open Web Steel Joists.

Open Web Steel Joists are light in weight – they possess an exceptionally high strength-to-weight ratio in comparison with other building materials. Coupled with their low price per pound, they contribute significantly to lower building costs. An additional economy stemming from their light weight is the fact that the structural materials supporting the joists, such as beams and Joist Girders, columns, and the foundations themselves, can therefore be lighter, thus leading to even greater economies.

Open Web Steel Joists represent unitized construction. Upon arrival at the job site, the joists are ready immediately for proper installation. No forming, pouring, curing, or stripping is required. Furthermore, their light weight makes the erection procedure simple and fast.

The open webs in the joists permit the ready passage and concealment of pipes, ducts and electric conduits within the depth of the floor. In high rise buildings this can result in a reduced overall building height, which translates into considerable cost savings. As soon as the joists are erected and bridged, with ends properly attached, a working platform is available for the immediate follow-up of allied trades; this allows field work to progress rapidly and efficiently.

In combination with other materials, joists can provide fire resistive assemblies for both floors and roofs of buildings for nearly any hourly rating required. Appendix A, Fire Resistance Ratings, provides detailed information on this subject.

Joists can be used in all types, sizes or heights of buildings. They can be found in the roof of the neighborhood convenience store, big box retailer, school, church or synagogue, mid-rise hotel or hospital. Add to that warehouses, distribution centers plus many industrial applications.

K-Series Joists are standardized regarding depths, spans, and load-carrying capacities. There are 103 separate designations in the Load Tables, representing joist depths from 10 inches (254 mm) through 30 inches (762 mm) in 2 inch (51 mm) increments and spans through 60 feet (18,288 mm). Standard K-Series Joists have a 2 1/2-inch (64 mm) end bearing depth so that, regardless of the overall joist depths, the tops of the joists lie in the same plane. Seat depths deeper than 2 1/2-inch (64 mm) can also be specified.

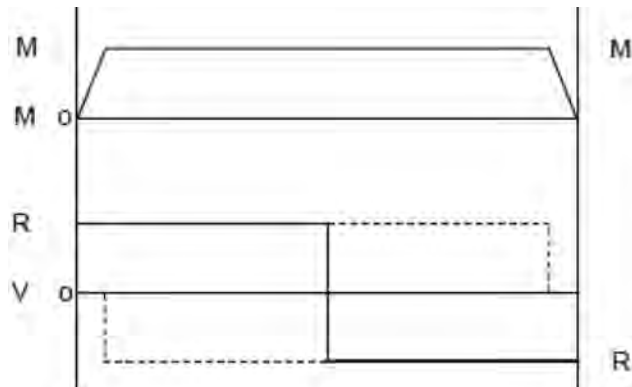
Standard K-Series Joists are designed for simple span uniform loading which results in a parabolic moment diagram for chord forces and a linearly sloped shear diagram for web forces. When non-uniform and/or concentrated loads are encountered, the shear and moment diagrams required may be shaped quite differently and may not be covered by the shear and moment design envelopes of a standard K-Series Joist. When conditions such as this arise, a KCS (K-Series Constant Shear) Joist may be a good option. KCS Joists are designed in accordance with the Standard Specification for K-Series Joists with a few unique advantages.



KCS Joist advantages:

1. Provides a versatile K-Series Joist that can be easily specified to support uniform and non-uniform loads plus concentrated loads applied at panel points.
2. Eliminate many repetitive load diagrams required on contract documents and allow some flexibility of load locations.

KCS Joist chords are designed for a flat positive moment envelope. The moment capacity is constant at all interior panels. All webs are designed for a vertical shear equal to the specified shear capacity and interior webs will be designed for 100% stress reversal.



**KCS JOIST  
SHEAR AND MOMENT ENVELOPES**

Both LRFD and ASD KCS Joist load tables list the shear and moment capacity of each joist. The selection of a KCS Joist requires the specifying professional to calculate the maximum moment and shear imposed and select the appropriate KCS Joist.

LH-Series Joists have been standardized in depths from 18 inches (457 mm) through 48 inches (1219 mm), for spans through 96 feet (29,260 mm).

DLH-Series Joists have been standardized in depths from 52 inches (1321 mm) through 120 inches (3048 mm), for spans up through 240 feet (73,152 mm).

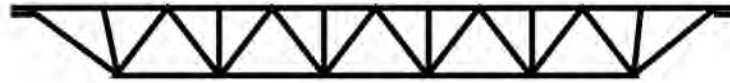
LH-Series and DLH-Series Steel Joists can be furnished with either under-slung or square ends, with parallel chords or with single or double pitched top chords to provide sufficient slope for roof drainage. Square end joists are primarily intended for bottom chord bearing. Sloped parallel-chord joists shall use span as defined by the length along the slope. The joist designation is determined by its nominal depth at the center of the span and by the chord size designation.

The depth of the bearing seat at the ends of underslung LH-Series and DLH-Series Joists has been established at 5 inches (127 mm) for chord section number 2 through 17. A bearing seat depth of 7 1/2 inches (191 mm) has been established for the DLH-Series Joists chord section number 18 through 25.

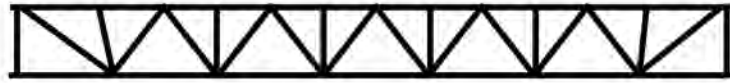
Open Web Steel Joists are manufactured with standardized camber as given in Section 4.6.

For the proper handling of concentrated and/or varying loads, see Section 2.4 in the Code of Standard Practice for Steel Joists and Joist Girders.

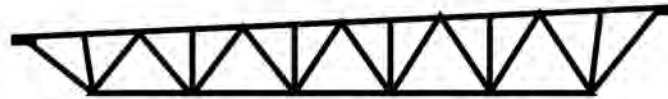




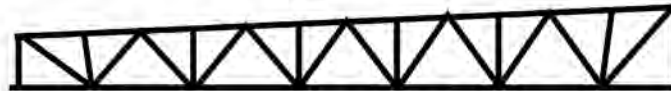
PARALLEL CHORDS, UNDERSLUNG



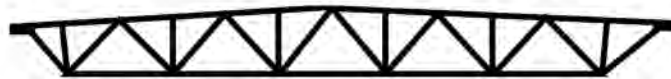
PARALLEL CHORDS, SQUARE ENDS



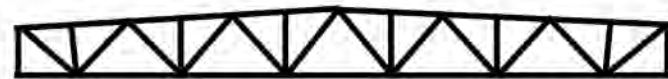
TOP CHORD PITCHED ONE WAY, UNDERSLUNG



TOP CHORD PITCHED ONE WAY, SQUARE ENDS



TOP CHORD PITCHED TWO WAYS, UNDERSLUNG



TOP CHORD PITCHED TWO WAYS, SQUARE ENDS

The illustrations above show modified Warren type web systems. However, the web systems may be any type, whichever is standard with the manufacturer furnishing the product.

## INTRODUCTION TO COMPOSITE STEEL JOISTS, CJ-SERIES

Open Web Composite Steel Joists, CJ-Series, were developed to provide structural support for floors and roofs which incorporate an overlying concrete slab while also allowing the steel joist and slab to act together as an integral unit after the concrete has adequately cured.

The CJ-Series Joists are capable of supporting larger floor or roof loadings due to the attachment of the concrete slab to the top chord of the composite joist. Shear connection between the concrete slab and steel joist is typically made by the welding of shear studs thru the steel deck to the underlying CJ-Series Composite Steel Joist.

CJ-Series joists can provide an economical alternative to K-Series, KCS, or LH-Series joists when taking into account overall costs. Some potential advantages may include those listed below:

1. Reductions in overall floor to floor height of the structure.
2. Maximum span-to-depth ratios of 30 permit the use of shallower joists for any given span.
3. Efficient composite design makes it more economical to span greater distances. This results in larger column spacing, thus increasing the rental value of floor space.
4. Composite Steel Joists can be more efficient than other series depending on loading and span due to a potential reduction in the joist weight for any given joist depth. Lighter weight joists translate into potentially lighter weight columns and reduced foundation costs.
5. Live load deflections are significantly reduced. With the overlying concrete slab locked to the steel joist, the resulting composite action provides a stiffer floor system.
6. Efficient erection of the CJ-Series joist system reduces construction time and permits early occupancy of the building. Wider joist spacing reduces the number of joists to be erected and fireproofed.

The composite joist designation is determined by its nominal depth, the letters "CJ", followed by the total uniform composite load, uniform composite live load, and finally the uniform composite dead load. Composite Steel Joists are furnished with parallel chords with either under-slung or square ends and act as pinned-pinned members. For specifications, load tables, and additional information to determine if CJ-Series may be suitable for your project, please refer to the latest edition of the *Steel Joist Institute Standard Specifications for Composite Steel Joists*.



## INTRODUCTION TO JOIST GIRDERS

Joist Girders are open web steel trusses used as primary framing members. They are typically designed as simple spans supporting equally spaced concentrated loads for a floor or roof system. These concentrated loads are considered to act at the panel points of the Joist Girders. Joist Girders have been designed to allow for a growing need for longer span primary members, coupled with a need for more efficient steel usage.

These members have been standardized in the LRFD and ASD Weight Tables for depths from 20 inches (508 mm) to 120 inches (3048 mm), and spans to 120 feet (36,576 mm). Standardized camber is as shown in Section 4.6 of the Specifications. Joist Girders are furnished with underslung ends and bottom chord extensions. The minimum standard depth at the bearing ends has been established at 7 1/2 inches (191 mm) for all Joist Girders, and increases to 10" (254 mm) for high capacity joist girders. Joist Girders are usually attached to the columns by bolting with two 3/4-inch diameter (19 mm) bolts. A loose connection of the bottom chord to the column or other support is recommended during erection in order to stabilize the bottom chord laterally and to help brace the Joist Girder against possible overturning. A vertical stabilizer plate shall be provided on each column for the bottom chord of the Joist Girder. The stabilizer plate shall be furnished by other than the joist manufacturer.

**CAUTION: If a rigid connection of the bottom chord is to be made to the column or other support, it shall be made only after the application of the dead loads. The Joist Girder is then no longer simply supported and the system must be investigated for continuous frame action by the specifying professional.\* Bearing details of joists on perimeter Joist Girders, or interior Joist Girders with unbalanced loads, should be designed such that the joist reactions pass through the centroid of the Joist Girder.**

The Weight Tables list the approximate weight in pounds per linear foot (kiloNewtons per meter) for a Joist Girder supporting the concentrated panel point loads shown. Please note that the weight of the Joist Girder must be included in the panel point load (See Code of Standard Practice for Steel Joists and Joist Girders, Section 2.4 for examples).

For calculating the approximate deflection or checking for ponding, the following formulas in U. S. Customary Units and Metric Units may be used in determining the approximate moment of inertia of a Joist Girder.

$$I_{JG} = 0.027 \text{ NPLd: where } N = \text{number of joist spaces;}$$

$$P = \text{Total panel point load in kips (unfactored); } L = \text{Joist Girder length in feet;}$$

and  $d$  = effective depth of the Joist Girder in inches, or,

$$I_{JG} = 0.3296 \text{ NPLd: where } N = \text{number of joist spaces;}$$

$$P = \text{Total panel point load in kiloNewtons (unfactored); } L = \text{Joist Girder length in}$$

millimeters and  $d$  = effective depth of the Joist Girder in millimeters.

The Joist Girder manufacturer should be contacted when a more exact Joist Girder moment of inertia must be known.

\* For further reference, refer to Steel Joist Institute Technical Digest Number 11, "Design of Lateral Load Resisting Frames Using Steel Joists and Joist Girders".



# JOIST MOMENT OF INERTIA AND DEFLECTION

The moment of inertia of K-Series, LH-Series and DLH-Series joists in the load table can be estimated using the following equations:

$$I_j = 26.767 (W) (L^3) (10^{-6}) \text{ ASD, US Customary Units with } W \text{ in plf and } L = \text{Span} - 0.33 \text{ in feet}$$

$$I_j = 2.6953 (W) (L^3) (10^{-5}) \text{ ASD, Metric Units with } W \text{ in kN/m and } L = \text{Span} - 102 \text{ in mm}$$

The equations shown above provide an approximate “gross” moment of inertia, not including the effects of shear deformation. An open web steel joist can be expected to have approximately 15 percent more deformation than a solid web member. When a conventional beam formula is used to calculate joist deflection, a factor of 1.15 should be applied to account for the web shear deformation.

## Example:

Find the Inertia for a 24K7 @ 40'-0”:

SJI tables 253 / 148

$I_j = 26.767 (W) (L^3) (10^{-6})$  where  $W =$  RED figure in the Load Table and  $L = (\text{Span} - 0.33)$  in feet.

$$I_j = 26.767(148) (40-0.33)^3(10^{-6}) = 247 \text{ in}^4$$

## Compute Joist Deflection:

Increase deflection 15% to account for shear deformation in webs.

$$(1.15)(5WL^4/384EI)$$

$$(1.15)(5)(148/12) [(40-.33) \times 12]^4 / [(384)(29 \times 10^6) (247)] = 1.32''$$

Verify the RED number represents the joist loading that produces L/360 deflection

$$L/360 = (40-.33) \times 12/360 = 1.32''$$

The 15 percent approximation also applies to the deflection equations when using the Joist Girder moment of Inertia equations.

Having determined the moment of inertia and live load deflection requirements, it is not typically necessary to specify a total load deflection limit. K-Series, LH-Series, DLH Series and Joist Girders are fabricated with camber, (ref. SJI 100 sect 4.6), and since these are steel structural members, 2018 IBC Table 1604.3 note G states the dead load shall be taken as zero in determining the total load deflection.



# LOAD/LOAD AND SP DESIGNATIONS

Specification Section 1.4 “Definitions” provides an alternate method of specifying standard K-Series, LH-Series, or DLH-Series joists by permitting the joist designation to be provided in a “load/load” sequence in lieu of the using the SJI Load Table Section Numbers. The format for a standard joist designation using the SJI Load Table Section Number is, for example 28K9, 36LH12, or 60LH18. The format for a joist designation using the “load/load” method is ddKtl/ll, ddLHtl/ll, or ddDLHtl/ll where:

dd is the nominal depth of the joist in inches, (mm)

tl is the total uniformly distributed load applied to the joist top chord, plf (KN)

ll is the uniform live load for which the deflection shall be checked and limited as required by the SJI-100 Specification, plf (KN)

Refer to Specification section 1.4 for the range of permissible depths and spans for each Series.

This “load/load” method provides the advantages of ease of specifying and some economy where the required load capacity falls between two standard designation chord numbers. However, care and consideration is required to properly communicate the scope of the total load. In some cases, particularly where seismic loads are involved, a simple designation of the format ddKSP, ddLHSP, or ddDLHSP may be more appropriate, where “SP” refers to a loading schedule or diagrams.

Consider as an example: **24K250/150** ASD, spaced 5'-0” center to center.

For this example, the 250 plf total load could represent a dead load of 20 psf and a live load of 30 psf. That represents just one of several possible load combinations. If it is indeed the controlling downward load combination, then this is a valid designation.

Other combinations of load may control, such as dead load, live load, and downward wind pressure. The Specifying Professional shall utilize a designation based on the maximum uniform load resulting from all applicable load combinations, or shall clearly indicate what additional loads or loading combinations need to be considered by the Joist Manufacturer.

Consider three examples, all ASD and 5 feet center-to-center spacing:

## Example 1:

20 psf dead load, 30 psf live load, 16 psf downward wind

DL + LL = 50 psf ← controls

50 psf x 5'-0” = 250 plf TL

DL + 0.75(LL + 0.6WL) = 49.7 psf

Hence, a designation 24K250/150 is adequate and no further instruction to the Joist Manufacturer is required.



**Example 2:**

20 psf dead load, 20 psf live load, 20 psf downward wind

$$DL + LL = 40 \text{ psf}$$

$$DL + 0.75(LL + 0.6WL) = 44 \text{ psf} \quad \leftarrow \text{controls} \quad 44 \text{ psf} \times 5'-0" = 220 \text{ plf TL}$$

Thus, the designation 24K220/120 can be utilized.

**Example 3:**

20 psf dead load, 20 psf live load, 20 psf downward wind

$$DL + LL = 40 \text{ psf} \quad 40 \text{ psf} \times 5'-0" = 200 \text{ plf TL}$$

A designation 24K200/100, based solely upon DL + LL could be utilized, along with a specific instruction to the Joist Manufacturer to also consider a downward wind pressure of 20 psf. However, a general reference to ASCE, or wind load charts in the design loads section of structural contract drawings is not adequate. An instruction should be given in the joist notes or on the framing plan.

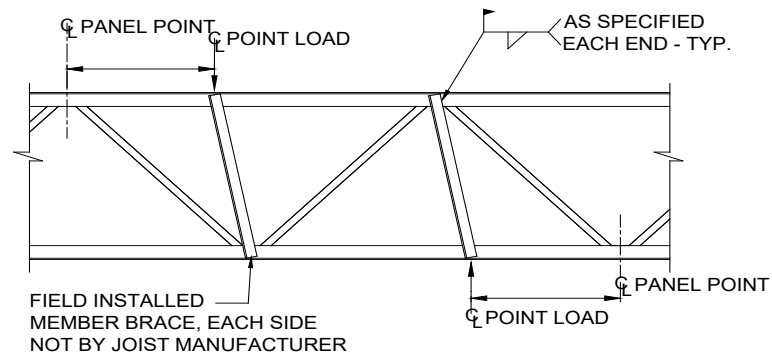
Note that when seismic loads are present and there are additional load combinations to be considered, a joist loading chart or schedule provides the detail required for the Joist Manufacturer to properly construct the required load combinations. A designation such as 24KSP can be used where "SP" provides an indication that the loading information is to be found in a diagram or schedule.

See the SJI Code of Standard Practice for further details about Load Schedules and guidance on how the specifying professional must calculate and provide the design loads.





# CONCENTRATED LOADS AT JOIST CHORDS



## TYPICAL JOIST REINFORCEMENT AT CONCENTRATED LOADS

*For nominal concentrated loads between panel points, which have been accounted for in the specified uniform design loads, a “strut” to transfer the load to a panel point on the opposite chord shall not be required, provided the sum of the concentrated loads within a chord panel does not exceed 100 pounds and the attachments are concentric to the chord.*

Although standard K-Series, including KCS joists, and standard LH-Series and DLH-Series joists are designed specifically to support uniformly distributed loads applied to the top chord, research conducted by the Steel Joist Institute, using second-order inelastic analysis, has demonstrated that the localized accumulation of uniform design loads of up to 100 pounds within any top or bottom chord panel has a negligible effect on the overall performance of the joist, provided that the load is applied to both chord angles in a manner which does not induce torsion on the chords.

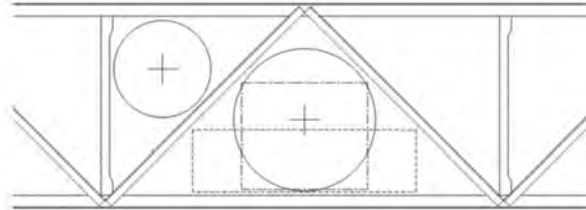
Concentrated loads in excess of 100 pounds or which do not meet the criteria outlined above, must be applied at joist panel points, or field strut members must be utilized as shown in the detail above.

When exact dimensional locations for concentrated loads are provided by the specifying professional, the joist manufacturer will design the joist for the loads and load locations provided without the need for additional field applied web members at the specified locations.

For a traveling load with no specific location, the manufacturer can consider the worst case for both the shear and bending moment. When a traveling load is specified, the contract drawings should indicate whether the load is to be applied at the top or bottom chord, and at any panel point, or at any point with the local bending effects considered. For additional information see SJI Code of Standard Practice, Section 2.4 – Specifying Design Loads.

# APPROXIMATE DUCT OPENING SIZES

An advantage of open web steel joists and Joist Girders over solid web members is the ability to pass mechanical ducts, plumbing and electrical conduits through the open webs. In floor applications, this aspect can be used to minimize floor-to-floor heights. Ideally, ducts would run through the standard web panel configurations for optimal structural efficiency.



The following chart shows general guidelines for maximum duct sizes in the large web opening using typical chord and web sizes with standard web configurations. Although SJI manufacturers may differ in member sizes and configurations, these sizes have been confirmed by all SJI manufacturers. However, the manufacturer must be contacted to confirm final dimensions, including duct size and location. When passing ductwork through the joist, the specified minimum opening must account for insulation on the duct, spray applied fire proofing on the joist, or other criteria as applicable, in addition to the duct size.

Joist Depth (inches)	Panel length (inches)	Round (inches)	Square (inches)	Rectangle (inches)
10	19*	5	4	3x7
12	19*	6	5	4x7
14	19*	7	6	5x7
16	19*	8	6	6x7
18	24*	9	7	6x9
20	24*	10	8	6x11
22	24*	10	9	7x11
24	24*	12	10	7x13
18	48	10	8	6x18
20	48	10	8	7x18
22	48	10	9	8x18
24	48	12	10	8x19
26	48	15	12	9x19
28	48	16	13	10x18
30	48	17	14	11x19
32	64	20	16	11x25
36	72	24	18	13x29
40	80	26	22	14x32
44	88	28	23	17x36
48	96	32	26	19x40

\* FOR JOISTS BUILT WITH BENT ROD WEB CONFIGURATION.

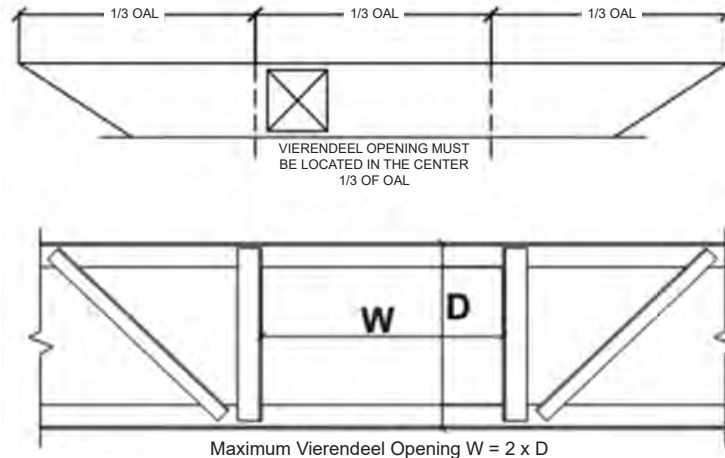
The Specifying Professional must indicate on the structural drawings the size and location of any duct opening that is to pass through joist. For deeper LH- and DLH-Series joists, consult manufacturer.

If ducts must pass through two or more adjacent joists, the joist manufacturer must also be alerted so that the joist web configurations can be aligned.



## Vierendeel Openings

For conditions requiring larger web openings at specific locations, a special joist design leaving out certain diagonal web(s) may be needed. This can be accommodated by the joist manufacturer and is typically referred to as a Vierendeel opening. The manufacturer must be contacted to confirm final dimensions, including duct size and location. Both the specifying professional and the joist manufacturer have special criteria to consider when specifying and designing joists with Vierendeel openings.



### *General Guidelines for the Specifying Professional*

- Maximum opening depth: Subtract 6"-12" from the joist depth to account for increased chord sizes.
- Maximum opening width: 2 x joist depth, but keep as narrow as necessary.  
Note: The maximum dimensions provided above are general guidelines, and include consideration for joist chord, web and reinforcement material. However, the joist manufacturer must be contacted to confirm final dimensions.
- If passing ductwork through the joist, the specified minimum opening must account for insulation, spray applied fire proofing on the joist, etc., as applicable, in addition to the duct size.
- Locate openings in the center third of the joist span.
- Multiple openings within a single joist span should be avoided. If required, a minimum space of twice the joist depth must be maintained between openings to allow for transfer of shear forces.

### *Design Considerations by the Joist Manufacturer*

- Chord design must account for bending moments developed in transferring shear across an opening without diagonal web members. This commonly requires larger chords or chord reinforcing.
- The vertical webs at each edge of the opening may be designed as pinned-end members or as moment-frame members. If designed as moment frame members, these webs will likely also be reinforced and will likely require special moment connections to the chord members.
- Partial span loading effects on member forces in the region around the opening must be considered.
- To avoid interference from bridging and bridging clips, bridging lines should be located outside the openings. This may increase the number of bridging rows to adequately brace the joist.

# MINIMUM SHEAR

Steel Joist Institute (SJI) specifications have a history of including minimum shear criteria for design of web members. The minimum shear criteria is intended to address the potential for loading variations due to partial span loading or from minor accumulation of uniformly distributed loads.

SJI has adopted more stringent minimum shear criteria for open web steel joists with uniformly distributed design loading. The specification continues to require a minimum shear of 25% of end reaction. Additionally, the SJI member companies design the webs for shear envelopes defined by 75% of uniform design loads assumed to be partial span loading of any length and location along the joist span, combined with full span loading of the remaining 25% of uniform design loads. The SJI anticipates formally incorporating this change in the next Specification update.

The new minimum shear criteria for joist design is as follows:

The vertical shears to be used in the design of the web members shall be determined by including all loads, but such vertical shears shall be not less than 25 percent of the maximum end reaction from the design load combinations.

For joists only, excluding KCS-Series, the web members shall also be designed for a vertical shear, based only on the uniform load, of not less than magnitude V:

$$V = 0.75 ER (1-X_{pe}/L)^2 + 0.25 (ER-2 X_{pe} ER/L) \quad \text{lbs. (kN)}$$

Where:

ER = End reaction based on the maximum uniform design total load occurring across the full length of span, not including any other design loads, lbs. (kN)

L = joist design length between end reaction working points = (Span-0.33), ft or (Span-102) mm

$X_{pe}$  = distance from the end reaction work point, to the panel point nearest this end reaction to which the web connects,  $X_{pe} < L/2$ , ft. (mm)

For stress reversal, the joist tension web members, except for KCS-Series, shall be designed for an axial compression force due to a vertical shear of magnitude V:

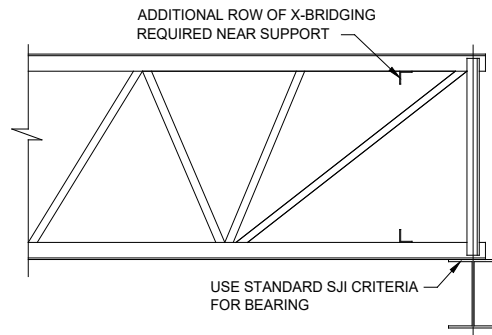
$$V = 0.75 ER (X_{pc}/L)^2 - 0.25 (ER-2 X_{pc} ER/L) \quad \text{only if } V > 0, \text{ lbs. (kN)}$$

Where:

$X_{pc}$  = distance from the end reaction work point, to the panel point nearest joist centerline to which the web connects,  $X_{pc} \leq L/2$ , ft. (mm)



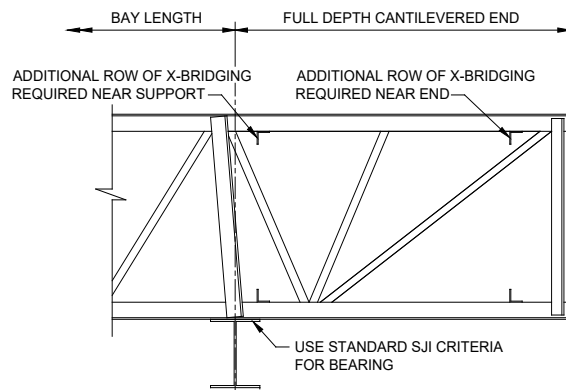
# BOTTOM BEARING DETAILS



## SQUARE ENDED, BOTTOM BEARING

Whenever joists are bottom chord bearing, diagonal cross bridging must be installed from joist to joist at or near the bearing location to provide additional lateral erection stability.

**Note:** Joist configuration and member size may vary.

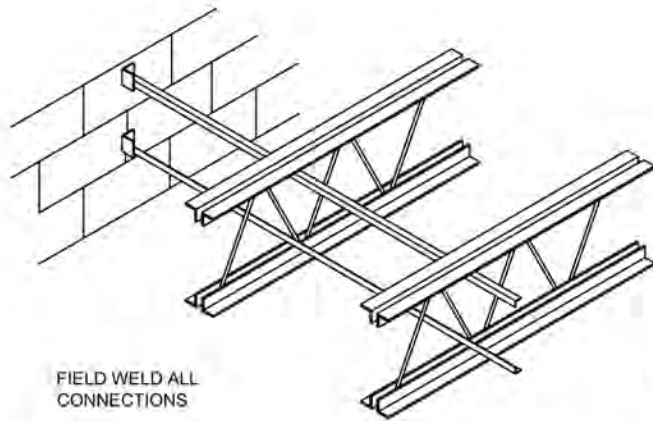


## CANTILEVERED, BOTTOM BEARING, SQUARE END

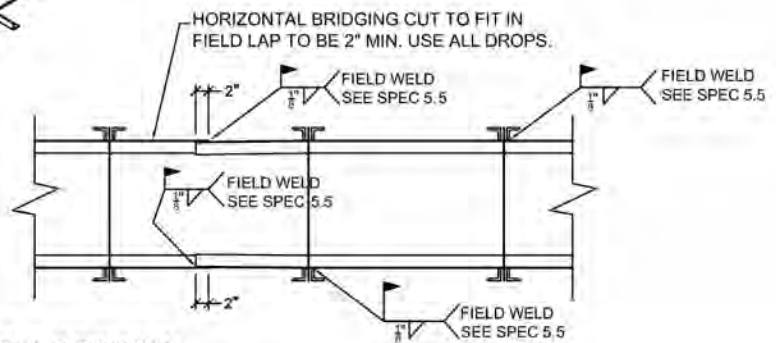
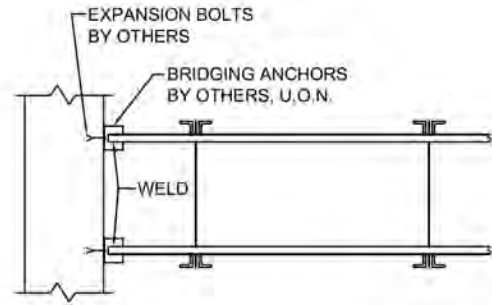
The weight of walls, signage, fascia, etc. supported at the end of a cantilever square end must be shown on the contract drawings to be properly considered in the joist design.

**Note:** Joist configuration and member size may vary.

# BRIDGING DETAILS

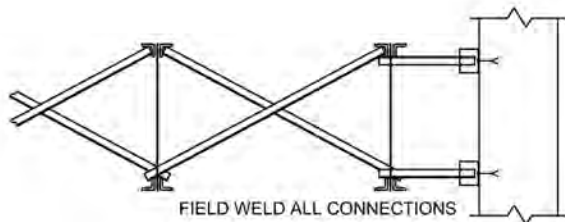


FIELD WELD ALL CONNECTIONS



## HORIZONTAL BRIDGING SEE SJI SPECIFICATIONS

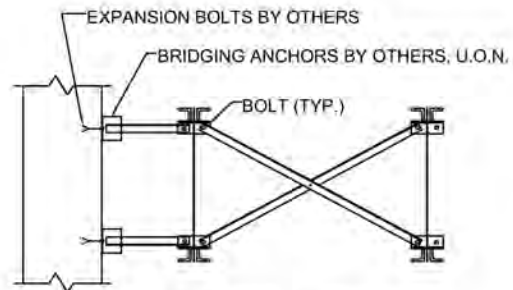
**NOTE:** DO NOT WELD BRIDGING TO JOIST WEB MEMBERS. DO NOT HANG ANY MECHANICAL, ELECTRICAL, ETC. FROM BRIDGING.



FIELD WELD ALL CONNECTIONS

## WELDED CROSS BRIDGING

HORIZONTAL BRIDGING SHALL BE USED IN SPACE ADJACENT TO THE WALL TO ALLOW FOR PROPER DEFLECTION OF THE JOIST NEAREST WALL.



## BOLTED CROSS BRIDGING

(a) HORIZONTAL BRIDGING UNITS SHALL BE USED IN THE SPACE ADJACENT TO THE WALL TO ALLOW FOR PROPER DEFLECTION OF THE JOIST NEAREST THE WALL.  
(b) FOR REQUIRED BOLT SIZE REFER TO BRIDGING TABLE.  
NOTE: CLIP CONFIGURATION MAY VARY FROM THAT SHOWN.

# STANDARD SPECIFICATION

## FOR K-SERIES, LH-SERIES, AND DLH-SERIES OPEN WEB STEEL JOISTS AND FOR JOIST GIRDERS.

K-Series Adopted by the Steel Joist Institute November 4, 1985  
LH/DLH-Series Adopted by the Steel Joist Institute May 10, 2006  
Joist Girders Adopted by the Steel Joist Institute November 4, 1985  
Revised to April 27, 2020, Effective July 1, 2020

### SECTION 1.

## SCOPE AND DEFINITIONS

### 1.1 SCOPE

The *Standard Specification for K-Series, LH-Series, DLH-Series Open Web Steel Joists and for Joist Girders*, hereafter referred to as the Specification, covers the design, manufacture, application, and erection stability and handling of Joist Girders and Open Web Steel Joists K-Series, LH-Series, and DLH-Series in buildings or other structures, where other structures are defined as those structures designed, manufactured, and erected in a manner similar to buildings. Joist Girders and K-Series, LH-Series, and DLH-Series joists shall be designed using Allowable Stress Design (ASD) or Load and Resistance Factor Design (LRFD) in accordance with this Specification. Included as part of this Specification are KCS joists, K-Series; Joist Substitutes, K-Series; and Top Chord Extensions and Extended Ends, K-Series.

### 1.2 OTHER REGULATIONS

Joist Girders and K-Series, LH-Series, and DLH-Series joists shall be erected in accordance with the Occupational Safety and Health Administration (OSHA), 29 CFR Part 1926, Safety Standards for Steel Erection, Subpart R – Steel Erection. The erection of Joist Girders and K-Series, LH-Series, and DLH-Series joists 144 ft. (43.9 m) or less in length shall be in accordance with the requirements of Section 1926.757, Open Web Steel Joists. Joist Girders and DLH-Series joists greater than 144 ft. (43.9 m) in length shall be in accordance with the requirements of Section 1926.756 Beams and Columns.

### 1.3 APPLICATION

This Specification includes Section 1 through Section 6. The user notes shall not be part of the Specification.

**User Note:** User notes are intended to provide practical guidance in the use and application of this Specification.

### 1.4 DEFINITIONS

The following terms shall, for the purposes of this Specification, have the meanings shown in this Section. Where terms are not defined in this Section, those terms shall have their ordinary accepted meanings in the context in which it applies.

Joist Girders, K-Series, LH-Series, and DLH-Series shall be open web, in-plane load-carrying steel members utilizing hot-rolled or cold-formed steel, including cold-formed steel whose yield strength has been attained by cold working.

Joist Girders shall be open web steel trusses used as primary framing members designed as simple spans supporting in-plane concentrated loads for a floor or roof system. These concentrated loads shall be considered to act at the top chord panel points of the Joist Girders unless otherwise specified.



The Joist Girder standard designation in ASD shall be established by its nominal depth in inches (mm), the letter “G”, followed by the number of joist spaces, the letter “N”, the load in kips (kN) at each panel point, and the letter “K”. The Joist Girder standard designation in LRFD shall be established by its nominal depth in inches (mm), the letter “G”, followed by the number of joist spaces, the letter “N”, the factored load in kips (kN) at each panel point, and the letter “F”. Joist Girders shall be designed in accordance with this Specification to support the loads defined by the specifying professional.

Joist Girders shall be designed and manufactured as either simple framing members with underslung ends and bottom chord extensions or as part of an ordinary steel moment frame (OMF). Where used as part of an OMF the specifying professional shall be responsible for carrying out all the required frame analyses (i.e. first-order and second-order), provide all the required load information and stiffness data to the joist manufacturer, and indicate the type of **Joist Girder** to column connections that are being designed on the structural drawings.

**User Note:** Joist Girders have been standardized in depths from 20 inches (508 mm) through 120 inches (3048 mm), for spans from 20 feet (6096 mm) through 120 feet (36576 mm).

Where this Specification refers to “steel joists”, this shall mean the K-Series, LH-Series, and DLH-Series joists.

**User Note:** Joists are suitable for the direct support of floors and roof slabs or decks. The K-Series joists are standardized in depths from 10 inches (254 mm) through 30 inches (762 mm), for spans up through 60 feet (18288 mm). The LH-Series joists are standardized in depths from 18 inches (457 mm) through 48 inches (1219 mm), for spans up through 96 feet (29261 mm). The DLH-Series joists are standardized in depths from 52 inches (1321 mm) through 120 inches (3048 mm), for spans up through 240 feet (73152 mm).

The K-Series, LH-Series and DLH-Series standard joist designations shall be established by their nominal depth, followed by the letters K, LH or DLH as appropriate, and then by the Section Number designation assigned. The Section Number designations shall range from 01 to 25. The K-Series, LH-Series and DLH-Series standard joist designations listed in the following Standard Load Tables shall support the uniformly distributed loads as provided in the applicable tables:

- Standard LRFD Load Table Open Web Steel Joists, K-Series – U.S. Customary Units
- Standard ASD Load Table Open Web Steel Joists, K-Series – U.S. Customary Units
- Standard LRFD Load Table Longspan Steel Joists, LH-Series – U.S. Customary Units
- Standard ASD Load Table Longspan Steel Joists, LH-Series – U.S. Customary Units
- Standard LRFD Load Table Deep Longspan Steel Joists, DLH-Series – U.S. Customary Units
- Standard ASD Load Table Deep Longspan Steel Joists, DLH-Series – U.S. Customary Units
- Standard LRFD Load Table Open Web Steel Joists, K-Series – S.I. Units
- Standard ASD Load Table Open Web Steel Joists, K-Series – S.I. Units
- Standard LRFD Load Table Longspan Steel Joists, LH-Series – S.I. Units
- Standard ASD Load Table Longspan Steel Joists, LH-Series – S.I. Units
- Standard LRFD Load Table Deep Longspan Steel Joists, DLH-Series – S.I. Units
- Standard ASD Load Table Deep Longspan Steel Joists, DLH-Series – S.I. Units

Wherever a standard SJI Section Number is specified in the joist designation (e.g. 18K4, 32LH10) and other design load cases are also specified for the joist, the steel joist shall be designed for the corresponding total load as shown in the Standard Load Tables as a minimum.

**User Note:** Six standard types of K-Series, LH-Series and DLH-Series joists are designed and manufactured. These types are underslung (top chord bearing) or square-ended (bottom chord bearing), with parallel chords or with single or double pitched top chords. The Standard Load Tables apply for a pitched top chord up to 1/2 inch per foot (1:24).

The steel joist or Joist Girder designation depth shall be the depth at mid-span.

An alternate method of specifying a standard K-Series, LH-Series, or DLH-Series joist shall be permitted by providing the designation in a “load/load” sequence. The format used shall be ddKt/ll, ddLHt/ll, or ddDLHt/ll where:

- dd is the nominal depth of the joist in inches (mm)
- tl is the total uniformly distributed load applied to the joist top chord, plf (kN/m)
- ll is the uniform live load for which the deflection shall be checked and limited as required by this Specification, plf (kN/m)





**User Note:** The load/load K-Series, LH-Series, or DLH-Series joists can be specified in depths from 10 inches (254 mm) through 120 inches (3048 mm) and spans up through 240 feet (73152 mm). The maximum uniformly distributed load-carrying capacity of 2400 plf (35.03 kN/m) in ASD and 3600 plf (52.54 kN/m) in LRFD has been established for this alternate K-Series, LH-Series, or DLH-Series format. The maximum capacity for any given load/load joist designation is a function of span, depth and chord member size. When requirements exceed the standard K-Series load table limitations for loading, span, and depth, an LH-Series designation is recommended to facilitate the proper determination of minimum seat depth, end anchorage, bridging size, deck attachment, etc. Thus, any joist exceeding a 30 inch depth, a span of 60 feet, an in-kip moment of Depth x 61 kips in ASD or Depth x 91.5 kips in LRFD, or an end reaction of 9.2 kips in ASD or 13.8 kips in LRFD should be designated as an LH-Series which allows for a cross-reference with a standard LH designation as listed in this Specification for seat, end anchorage, bridging, attachment tables, etc.

A KCS Joist is a particular type of K-Series joist, and shall be designed in accordance with this Specification based on an envelope of moment and shear capacity, rather than uniform load capacity, to support uniform plus concentrated loads or other non-uniform loads. The KCS Joists shall be selected from standardized depths from 10 inches (254 mm) through 30 inches (762 mm), for spans up through 60 feet (18288 mm). The maximum total safe uniformly distributed load-carrying capacity of a KCS Joist, K-Series, shall be 550 plf (8.02 kN/m) in ASD or 825 plf (12.03 kN/m) in LRFD. A KCS Joist shall be parallel chord only and shall be permitted to be underslung or bottom chord bearing.

The KCS Joists, K-Series, standard designations shall be established by their nominal depth, followed by the letters “KCS”, and then by the Section Number designation assigned. The Section Number designations shall range from 1 to 5. A KCS Joist shall not be designated using the alternate “load/load” method. The KCS Joists, K-Series, standard designations listed in the following Standard Load Tables shall provide the moment capacity and shear capacity as listed in the applicable tables:

- Standard LRFD Load Table for KCS Open Web Steel Joists – U.S. Customary Units
- Standard ASD Load Table for KCS Open Web Steel Joists – U.S. Customary Units
- Standard LRFD Load Table for KCS Open Web Steel Joists – S.I. Units
- Standard ASD Load Table for KCS Open Web Steel Joists – S.I. Units

Where an open web configuration becomes impractical, a Joist Substitute, K-Series, shall be designed in accordance with this Specification to support uniform loads when the span is less than 10 feet (3048 mm). The maximum total safe uniformly distributed load-carrying capacity of a Joist Substitute shall be 550 plf (8.02 kN/m) in ASD or 825 plf (12.03 kN/m) in LRFD.

The Joist Substitutes, K-Series, standard designations shall be established by their nominal depth, e.g. 2.5, followed by the letter “K” and then by the chord size designation assigned. The chord size designations shall range from 1 to 3. The Joist Substitutes, K-Series, standard designations listed in the following Load Tables shall support the uniformly distributed loads as provided in the applicable tables:

**User Note:** The Joist Substitutes, K-Series, are standardized as 2.5 inch (64 mm) deep sections for spans up through 10'-0" (3048 mm).

- LRFD Simple Span Load Table for 2.5 Inch K-Series Joist Substitutes – U.S. Customary Units
- ASD Simple Span Load Table for 2.5 Inch K-Series Joist Substitutes – U.S. Customary Units
- LRFD Simple Span Load Table for 64 mm K-Series Joist Substitutes – S.I. Units
- ASD Simple Span Load Table for 64 mm K-Series Joist Substitutes – S.I. Units

- LRFD Outriggers Load Table for 2.5 Inch K-Series Joist Substitutes – U.S. Customary Units
- ASD Outriggers Load Table for 2.5 Inch K-Series Joist Substitutes – U.S. Customary Units
- LRFD Outriggers Load Table for 64 mm K-Series Joist Substitutes – S.I. Units
- ASD Outriggers Load Table for 64 mm K-Series Joist Substitutes – S.I. Units

A Top Chord Extension or Extended End, K-series, shall be a joist accessory that shall be designed in accordance with this Specification to support uniform loads when one or both ends of an underslung joist needs to be cantilevered beyond its bearing seat.

**User Note:** The Top Chord Extensions and Extended Ends are standardized as an “S” Type (top chord angles extended only) and an “R” Type (top chord and bearing seat angles extended), respectively.



Standard designations for the “S” Type shall range from S1 to S12 for spans from 0’-6” to 4’-6” (152 to 1372 mm). Standard designations for the “R” Type shall range from R1 to R12 for spans from 0’-6” to 6’-0” (152 to 1829 mm). The maximum total safe uniformly distributed load-carrying capacity of either an “R” or “S” Type extension shall be 550 plf (8.02 kN/m) in ASD or 825 plf (12.03 kN/m) in LRFD. The “S” Type Top Chord Extensions and “R” Type Extended Ends listed in the following Standard Load Tables shall support the uniformly distributed loads as provided in the applicable tables:

- LRFD Top Chord Extension Load Table (S Type) – U.S. Customary Units
- ASD Top Chord Extension Load Table (S Type) – U.S. Customary Units
- LRFD Top Chord Extension Load Table (R Type) – U.S. Customary Units
- ASD Top Chord Extension Load Table (R Type) – U.S. Customary Units
- LRFD Top Chord Extension Load Table (S Type) – S.I. Units
- ASD Top Chord Extension Load Table (S Type) – S.I. Units
- LRFD Top Chord Extension Load Table (R Type) – S.I. Units
- ASD Top Chord Extension Load Table (R Type) – S.I. Units

**1.5 STRUCTURAL DESIGN DRAWINGS AND SPECIFICATIONS**

The structural design drawings and specifications shall meet the requirements in the *Code of Standard Practice for Steel Joists and Joist Girders*, except for deviations specifically identified in the design drawings and/or specifications.

**SECTION 2.**  
**REFERENCED**  
**SPECIFICATIONS, CODES**  
**AND STANDARDS**

**2.1 REFERENCES**

The standards listed below shall be considered as part of the requirements of this Specification. Where conflicts occur between this Specification and a referenced standard, the provisions of this Specification shall take precedence unless otherwise stated. This section lists the standards that are referenced in this Specification. The standards are listed in alphabetical order by name of standards developer organization, with the specific standard designations, title and dates of each of the referenced standards below.

American Institute of Steel Construction, Inc. (AISC), Chicago, IL

ANSI/AISC 360-10 *Specification for Structural Steel Buildings*

American Iron and Steel Institute (AISI), Washington, DC

ANSI/AISI S100-2012 *North American Specification for the Design of Cold-Formed Steel Structural Members*

American Society of Civil Engineers (ASCE), Reston, VA

SEI/ASCE 7-10 *Minimum Design Loads for Buildings and Other Structures*

American Society of Testing and Materials, ASTM International (ASTM), West Conshohocken, PA

ASTM A6/A6M-13A, *Standard Specification for General Requirements for Rolled Structural Steel Bars, Plates, Shapes, and Sheet Piling*



- ASTM A36/A36M-12, *Standard Specification for Carbon Structural Steel*
- ASTM A242/242M-13, *Standard Specification for High-Strength Low-Alloy Structural Steel*
- ASTM A307-12a, *Standard Specification for Carbon Steel Bolts and Studs, 60 000 PSI Tensile Strength*
- ASTM A325/325M-13, *Standard Specification for Structural Bolts, Steel, Heat Treated, 120/105 ksi [830 MPa] Minimum Tensile Strength*
- ASTM A370-12a, *Standard Test Methods and Definitions for Mechanical Testing of Steel Products*
- ASTM A500/A500M-13, *Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes*
- ASTM A501-07 *Standard Specification for Hot-Formed Welded and Seamless Carbon Steel Structural Tubing* ASTM A529/A529M-05(2009), *Standard Specification for High-Strength Carbon-Manganese Steel of Structural Quality* ASTM A572/A572M-13a, *Standard Specification for High-Strength Low-Alloy Columbium-Vanadium Structural Steel*
- ASTM A588/A588M-10, *Standard Specification for High-Strength Low-Alloy Structural Steel, up to 50 ksi [345 MPa] Minimum Yield Point, with Atmospheric Corrosion Resistance*
- ASTM A606/A606M-09a, *Standard Specification for Steel, Sheet and Strip, High-Strength, Low-Alloy, Hot-Rolled and Cold-Rolled, with Improved Atmospheric Corrosion Resistance*
- ASTM A992/A992M-11, *Standard Specification for Structural Steel Shapes*
- ASTM A1008/A1008M-13, *Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability, Solution Hardened, and Bake Hardenable*
- ASTM A1011/A1011M-13, *Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength*
- ASTM A1065/A1065M-09(2014) *Standard Specification for Cold-Formed Electric-Fusion (ARC) Welded High-Strength Low-Alloy Structural Tubing in Shapes with 50 ksi (345 MPA) Minimum Yield Point*
- ASTM A1085-13 *Standard Specification for Cold-Formed Welded Carbon Steel Hollow Structural Sections (HSS)*

American Welding Society (AWS), Miami, FL

- AWS A5.1/A5.1M-2012, *Specification for Carbon Steel Electrodes for Shielded Metal Arc Welding*
- AWS A5.5/A5.5M:2006, *Specification for Low-Alloy Steel Electrodes for Shielded Metal Arc Welding*
- AWS A5.17/A5.17M-97:R2007, *Specification for Carbon Steel Electrodes and Fluxes for Submerged Arc Welding*
- AWS A5.18/A5.18M:2005, *Specification for Carbon Steel Electrodes and Rods for Gas Shielded Arc Welding*
- AWS A5.20/A5.20M:2005, *Specification for Carbon Steel Electrodes for Flux Cored Arc Welding*
- AWS A5.23/A5.23M:2011, *Specification for Low-Alloy Steel Electrodes and Fluxes for Submerged Arc Welding*
- AWS A5.28/A5.28M:2005, *Specification for Low-Alloy Steel Electrodes and Rods for Gas Shielded Arc Welding*
- AWS A5.29/A5.29M:2010, *Specification for Low-Alloy Steel Electrodes for Flux Cored Arc Welding*
- AWS D1.1/D1.1M:2015, *Structural Welding Code - Steel*
- AWS D1.3/D1.3M:2008, *Structural Welding Code Sheet Steel*



**User Note:** The following informative references provide practical guidance in the use and application of this Specification:

Code of Federal Regulations (CFR), Occupational Safety and Health Administration (OSHA), 29 CFR Part 1926, Safety Standards for Steel Erection; Subpart R - Steel Erection; January 18, 2001, Washington, D.C.

Steel Joist Institute (SJI), Florence, SC

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The Society for Protective Coatings (SSPC), *Steel Structures Painting Manual, Volume 2, Systems and Specifications*, Paint Specification No. 15, Steel Joist Shop Primer, May 1, 1999, Pittsburgh, PA.

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## SECTION 3. **MATERIALS**

### 3.1 STEEL

The steel used in the manufacture of Joist Girders and K-Series, LH-Series, and DLH-Series joists shall conform to one of the following ASTM specifications:

ASTM A36/A36M, Carbon Structural Steel

ASTM A242/A242M, High-Strength Low-Alloy Structural Steel

ASTM A500/A500M, Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes

ASTM A529/A529M, High-Strength Carbon-Manganese Steel of Structural Quality

ASTM A572/A572M, High-Strength Low-Alloy Columbium-Vanadium Structural Steel

ASTM A588/A588M, High-Strength Low-Alloy Structural Steel up to 50 ksi [345 MPa] Minimum Yield Point with Atmospheric Corrosion Resistance

ASTM A606/A606M, Steel, Sheet and Strip, High-Strength, Low-Alloy, Hot-Rolled and Cold-Rolled, with Improved Atmospheric Corrosion Resistance

ASTM A992/A992M, Structural Steel Shapes

ASTM A1008/A1008M, Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, Solution Hardened, and Bake Hardenable



ASTM A1011/A1011M, Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength

ASTM A1018/A1018M, Steel, Sheet and Strip, Heavy Thickness Coils, Hot Rolled, Carbon, Structural, High-Strength Low-Alloy, Columbium or Vanadium, and High-Strength Low-Alloy with Improved Formability and Ultra-High Strength

EXCEPTION: Steel used in the manufacture of Joist Girders and K-Series, LH-Series, and DLH-Series joists shall be permitted to be of suitable quality ordered or produced to other than the listed ASTM specifications, provided that such material in the state used for final assembly and manufacture is weldable and is proven by tests performed by the producer or manufacturer to have properties, in accordance with Section 3.2.

### 3.2 MECHANICAL PROPERTIES

**3.2.1 Minimum Yield Strength:** Steel used for Joist Girders and K-Series, LH-Series, and DLH-Series joists shall have a minimum yield strength determined in accordance with one of the procedures specified in this section, which is equal to the yield strength assumed in the design.

**User note:** The term "Yield Strength" as used herein designates the yield level of a material as determined by the applicable method outlined in paragraph 13.1 "Yield Point", and in paragraph 13.2 "Yield Strength", of ASTM A370, *Standard Test Methods and Definitions for Mechanical Testing of Steel Products*, or as specified in Section 3.2.3.

Evidence that the steel furnished meets or exceeds the design yield strength shall, if requested, be provided in the form of an affidavit or by witnessed or certified test reports.

For material used without consideration of increase in yield strength resulting from cold forming, the specimens shall be taken from as-rolled material. In the case of such material, the mechanical properties of which conform to the requirements of one of the listed ASTM specifications in Section 3.1, the test specimens and procedures shall conform to those of the applicable ASTM specification and to ASTM A370.

**3.2.2 Other Materials:** For materials where the mechanical properties do not conform to the requirements of one of the ASTM specifications listed in Section 3.1, these materials shall conform to the following requirements:

- a) The specimens shall comply with ASTM A370,
- b) The specimens shall exhibit a yield strength equal to or exceeding the design yield strength,
- c) The specimens shall have an elongation of not less than 20 percent in 2 inches (51 mm) for sheet strip, or 18 percent in 8 inches (203 mm) for plates, shapes and bars with adjustments for thickness for plates, shapes and bars as prescribed in either ASTM A36/A36M, A242/A242M, A500/A500M, A529/A529M, A572/A572M, A588/A588M, or A992/A992M, whichever ASTM specification is applicable, on the basis of design yield strength.
- d) The number of tests for a), b), and c) above shall be as prescribed in ASTM A6/A6M for plates, shapes, and bars; and ASTM A606/A606M, A1008/A1008M and A1011/A1011M for sheet and strip.

**3.2.3 As-Formed Strength:** If as-formed strength is utilized, the test reports shall show the results of tests performed on full section specimens in accordance with the provisions of the AISI S100. The reports shall also indicate compliance with the following additional requirements:

- a) The yield strength calculated from the test data shall equal or exceed the design yield strength.
- b) Where tension tests are made for acceptance and control purposes, the tensile strength shall be at least 8 percent greater than the yield strength of the section.
- c) Where compression tests are used for acceptance and control purposes, the specimen shall withstand a gross shortening of 2 percent of its original length without cracking. The length of the specimen shall be not greater than 20 times the least radius of gyration.
- d) If any test specimen fails to pass the requirements of the subparagraphs (a), (b), or (c) above, as applicable, two retests shall be made of specimens from the same lot. Failure of one of the retest specimens to meet such requirements shall be the cause for rejection of the lot represented by the specimens.



### 3.3 WELDING ELECTRODES

**3.3.1 Welding Electrodes:** The welding electrodes used for arc welding shall be in accordance with the following:

- a) For connected members both having a specified minimum yield strength greater than 36 ksi (250 MPa), one of the following electrodes shall be used:

AWS A5.1: E70XX  
 AWS A5.5: E70XX-X  
 AWS A5.17: F7XX-EXXX, F7XX-ECXXX flux electrode combination  
 AWS A5.18: ER70S-X, E70C-XC, E70C-XM  
 AWS A5.20: E7XT-X, E7XT-XM  
 AWS A5.23: F7XX-EXXX-XX, F7XX-ECXXX-XX  
 AWS A5.28: ER70S-XXX, E70C-XXX  
 AWS A5.29: E7XTX-X, E7XTX-XM

- b) For connected members both having a specified minimum yield strength of 36 ksi (250 MPa) or one having a specified minimum yield strength of 36 ksi (250 MPa), and the other having a specified minimum yield strength greater than 36 ksi (250 MPa), one of the following electrodes shall be used:

AWS A5.1: E60XX  
 AWS A5.17: F6XX-EXXX, F6XX-ECXXX flux electrode combination  
 AWS A5.20: E6XT-X, E6XT-XM  
 AWS A5.29: E6XTX-X, E6XTX-XM  
 or any of those listed in Section 3.3.1(a).

**3.3.2 Other Welding Methods:** Other welding methods, providing equivalent strength as demonstrated by tests, shall be permitted to be used.

### 3.4 PAINT

The standard shop paint shall be considered an impermanent and provisional coating.

**User Note:** The standard shop paint is intended to protect the steel for only a short period of exposure in ordinary atmospheric conditions.

When specified, the standard shop paint shall conform to one of the following:

- a) The Society for Protective Coatings, SSPC Paint Specification No. 15.  
 b) Or, shall be a shop paint which meets the minimum performance requirements of SSPC Paint Specification No. 15.

## SECTION 4. **DESIGN AND MANUFACTURE**

### 4.1 METHOD

Joist Girders support steel joists or other secondary members and shall be designed in accordance with this Specification as simply-supported primary load-carrying members for in-plane loading. Steel joists shall be designed in accordance with this Specification as simply-supported trusses supporting a floor or roof deck so constructed as to brace the top chord of the steel joists against lateral buckling. Where any applicable design feature is not specifically covered herein, the design shall be in accordance with the following Specifications:

- a) Where the steel used consists of hot-rolled shapes, bars or plates, AISC 360.  
 b) For members which are cold-formed from sheet or strip steel, AISI S100.



**4.1.1 Design Basis:**

Steel joist and Joist Girder designs shall be in accordance with the provisions in this Specification using Load and Resistance Factor Design (LRFD) or Allowable Strength Design (ASD) as specified by the specifying professional for the project.

**4.1.2 Loads, Forces and Load Combinations:**

The loads and forces used for the steel joist and Joist Girder design shall be calculated by the specifying professional in accordance with the applicable building code and specified and provided on the structural drawings.

For nominal concentrated loads, which have been accounted for in the specified uniform loads, the addition of chord bending moments or an added shop or field web member due to these nominal concentrated loads shall not be required provided that the sum of the concentrated loads within a chord panel does not exceed 100 pounds and the attachments are concentric to the chord. When exact dimensional locations for concentrated loads which do not meet the above criteria are provided by the specifying professional, the joist shall be designed for the loads and load locations provided without the need for additional field applied web members at the specified locations.

The load combinations shall be specified by the specifying professional on the structural drawings in accordance with the applicable building code. In the absence of an applicable building code, the load combinations shall be those stipulated in SEI/ASCE 7 Section 2.3 and Section 2.4 as appropriate. For LRFD designs, the load combinations in SEI/ASCE 7, Section 2.3 shall apply. For ASD designs, the load combinations in SEI/ASCE 7, Section 2.4 shall apply.

**4.2 DESIGN AND ALLOWABLE STRESSES**

**4.2.1 Design Using Load and Resistance Factor Design (LRFD)**

Joists and Joist Girders shall have their components so proportioned that the required stresses,  $f_u$ , shall not exceed  $\phi F_n$  where

$f_u$	= required stress	ksi (MPa)
$F_n$	= nominal stress	ksi (MPa)
$\phi$	= resistance factor	
$\phi F_n$	= design stress	ksi (MPa)

**4.2.2 Design Using Allowable Strength Design (ASD)**

Joists and Joist Girders shall have their components so proportioned that the required stresses,  $f$ , shall not exceed  $F_n / \Omega$  where

$f$	= required stress	ksi (MPa)
$F_n$	= nominal stress	ksi (MPa)
$\Omega$	= safety factor	
$F_n / \Omega$	= allowable stress	ksi (MPa)

**4.2.3 Stresses:**

The calculation of design stress or allowable stress for chords shall be based on a yield strength,  $F_y$ , of the material used in manufacturing equal to 50 ksi (345 MPa). The calculation of design stress or allowable stress for all other joist elements shall be based on a yield strength,  $F_y$ , of the material used in manufacturing, but shall not be less than 36 ksi (250 MPa) nor greater than 50 ksi (345 MPa). Yield strengths greater than 50 ksi shall not be used for the design of any members.

**4.2.3.1 Tension:**  $\phi_t = 0.90$  (LRFD),  $\Omega_t = 1.67$  (ASD)

Design Stress =  $0.9F_y$  (LRFD) (4.2-1)

Allowable Stress =  $0.6F_y$  (ASD) (4.2-2)



**4.2.3.2 Compression:**  $\phi_c = 0.90$  (LRFD),  $\Omega_c = 1.67$  (ASD)

$$\text{Design Stress} = 0.9F_{cr} \text{ (LRFD)} \tag{4.2-3}$$

$$\text{Allowable Stress} = 0.6F_{cr} \text{ (ASD)} \tag{4.2-4}$$

Where:

For members with  $k\ell/r \leq 4.71\sqrt{E/QF_y}$

$$F_{cr} = Q \left[ 0.658 \left( \frac{QF_y}{F_e} \right) \right] F_y \tag{4.2-5}$$

For members with  $k\ell/r > 4.71\sqrt{E/QF_y}$

$$F_{cr} = 0.877F_e \tag{4.2-6}$$

Where  $F_e$  = Elastic buckling stress determined in accordance with Equation 4.2-7

$$F_e = \frac{\pi^2 E}{\left( \frac{k\ell}{r} \right)^2} \tag{4.2-7}$$

In the above equations,  $\ell$  is the length,  $k$  is the effective length factor, and  $r$  is the corresponding radius of gyration of the member as defined in Section 4.3.  $E$  is equal to 29,000 ksi (200,000 MPa).

For hot-rolled sections and cold-formed angles,  $Q$  shall be taken as the full reduction factor for slender compression members as determined in accordance with AISI 360-10.

Exception: Where a compression web member is a crimped-end angle member intersecting at the first bottom chord panel point, whether hot-rolled or cold-formed, then  $Q$  shall be determined as follows:

$$Q = [5.25/(w/t)] + t \leq 1.0 \tag{4.2-8a}$$

Where:  $w$  = angle leg length, inches  
 $t$  = angle leg thickness, inches

or,

$$Q = [5.25/(w/t)] + (t/25.4) \leq 1.0 \tag{4.2-8b}$$

Where:  $w$  = angle leg length, millimeters  
 $t$  = angle leg thickness, millimeters

For all other cold-formed sections the method of calculating the nominal compression strength shall be in accordance with AISI S100.

**4.2.3.3 Bending:**  $\phi_b = 0.90$  (LRFD),  $\Omega_b = 1.67$  (ASD)

Bending calculations shall be based on the elastic section modulus.





For chords and web members other than solid rounds:  $F_n = F_y$

$$\text{Design Stress} = \phi_b F_n = 0.9F_y \text{ (LRFD)} \quad (4.2-9)$$

$$\text{Allowable Stress} = F_n/\Omega_b = 0.6F_y \text{ (ASD)} \quad (4.2-10)$$

For web members of solid round cross section:  $F_n = 1.6 F_y$

$$\text{Design Stress} = \phi_b F_n = 1.45F_y \text{ (LRFD)} \quad (4.2-11)$$

$$\text{Allowable Stress} = F_n/\Omega_b = 0.95F_y \text{ (ASD)} \quad (4.2-12)$$

For bearing plates used in joist seats:  $F_n = 1.5 F_y$

$$\text{Design Stress} = \phi_b F_n = 1.35F_y \text{ (LRFD)} \quad (4.2-13)$$

$$\text{Allowable Stress} = F_n/\Omega_b = 0.90F_y \text{ (ASD)} \quad (4.2-14)$$

#### 4.2.3.4 Weld Strength:

Shear at throat of fillet welds, flare bevel groove welds, partial joint penetration groove welds, and plug/slot welds shall be determined as follows:

$$\text{Nominal Shear Stress} = F_{nw} = 0.6F_{exx} \quad (4.2-15)$$

**LRFD:**  $\phi_w = 0.75$

$$\text{Design Shear Strength} = \phi R_n = \phi_w F_{nw} A = 0.45F_{exx} A_w \quad (4.2-16)$$

**ASD:**  $\Omega_w = 2.0$

$$\text{Allowable Shear Strength} = R_n/\Omega_w = F_{nw}A/\Omega_w = 0.3F_{exx} A_w \quad (4.2-17)$$

Where:

$F_{exx}$  is determined as follows:

E70 series electrodes or F7XX-EXXX flux-electrode combinations  $F_{exx} = 70 \text{ ksi (483 MPa)}$

E60 series electrodes or F6XX-EXXX flux-electrode combinations  $F_{exx} = 60 \text{ ksi (414 MPa)}$

$A_w$  = effective throat area, where:

For fillet welds,  $A_w$  = effective throat area

Other design methods demonstrated to provide sufficient strength by testing shall be permitted to be used.

For flare bevel groove welds, the effective weld area is based on a weld throat width,  $T$ , where:

$$T \text{ (inches)} = 0.12D + 0.11 \quad (4.2-18a)$$

Where  $D$  = web diameter, inches

or,

$$T \text{ (mm)} = 0.12D + 2.8 \quad (4.2-18b)$$

Where  $D$  = web diameter, mm

For plug/slot welds,  $A_w$  = cross-sectional area of the hole or slot in the plane of the faying surface provided that the hole or slot meets the requirements of AISC 360.

**User Note:** For more on plugs/slot welds see Steel Joist Institute Technical Digest No. 8, "Welding of Open-Web Steel Joists and Joist Girders".



Strength of resistance welds and complete-joint-penetration groove or butt welds in tension or compression (only where the stress is normal to the weld axis) shall be equal to the base metal strength:

$$\phi_t = \phi_c = 0.90 \text{ (LRFD)} \quad \Omega_t = \Omega_c = 1.67 \text{ (ASD)}$$

$$\text{Design Stress} = 0.9 F_y \text{ (LRFD)} \tag{4.2-19}$$

$$\text{Allowable Stress} = 0.6 F_y \text{ (ASD)} \tag{4.2-20}$$

### 4.3 MAXIMUM SLENDERNESS RATIOS

The slenderness ratios,  $1.0\ell/r$  and  $1.0\ell_s/r$  of members as a whole or any component part shall not exceed the values given in Table 4.3-1, Part A.

**4.3.1 Effective Slenderness Ratios:** The effective slenderness ratio,  $k\ell/r$  to be used in calculating the nominal stresses,  $F_{cr}$  and  $F'_e$ , is the largest value as determined from Table 4.3-1, Part B and Part C, and modified where required with equation 4.3-1. The effective length  $k$  shall be taken as 1.0 for all components in Joist Girders.

**4.3.2 Compressive Members:** In compression members where fillers or ties are used, they shall be spaced so that the  $\ell_s/r_z$  ratio of each component does not exceed the governing  $\ell/r$  ratio of the member as a whole. The terms used in Table 4.3-1 shall be defined as follows:

- $\ell$  = length center-to-center of panel points, except  $\ell = 36$  inches (914 millimeters) for calculating  $\ell/r_y$  of the top chord member for joists, and for Joist Girders this distance shall be the unbraced length between joists which are positively attached to the top chord, in. (mm).
- $\ell_s$  = maximum length center-to-center between panel point and filler (tie), or between adjacent fillers (ties), in. (mm).
- $r_x$  = member radius of gyration about the horizontal axis of the joist or Joist Girder cross section, in. (mm).
- $r_y$  = member radius of gyration about the vertical axis of the joist or Joist Girder cross section, in. (mm).
- $r_z$  = least radius of gyration of a member component, in. (mm).

Compression web members shall be those web members subject to compressive axial loads under gravity loading.

**4.3.3 Tension Members:** Tension web members shall be those web members subject to tension axial loads under gravity loading, and which shall be permitted to be subject to compressive axial loads under alternate loading conditions

**User Note:** An example of a non-gravity alternate loading condition is net uplift.

**4.3.4 Top Chords:** For top chords, the end panel(s) shall be the panels between the bearing seat and the first primary interior panel point comprised of at least two intersecting web members.

**4.3.5 Built-Up Web Members:** For built-up web members composed of two interconnected shapes, where  $\ell_s/r_z > 40$ ,

a modified slenderness ratio  $\left(\frac{k\ell}{r_y}\right)_m$  shall replace  $\frac{k\ell}{r_y}$  in equations 4.2-5, 4.2-6, and 4.2-7, where:

$$\left(\frac{k\ell}{r_y}\right)_m = \sqrt{\left(\frac{k\ell}{r_y}\right)^2 + \left(\frac{k_i \ell_s}{r_z}\right)^2} \quad (4.3-1)$$

and,

$k_i = 0.50$  for angles back-to-back  
 $= 0.75$  for channels back-to-back

**TABLE 4.3-1**

**MAXIMUM AND EFFECTIVE SLENDERNESS RATIOS<sup>1</sup>**

Description		$k\ell/r_x$	$k\ell/r_y$	$k\ell/r_z$	$k\ell_s/r_z$
<b>I. TOP CHORD INTERIOR PANELS</b>					
A.	The slenderness ratios, $1.0\ell/r$ and $1.0\ell_s/r$ , of members as a whole or any component part shall not exceed 90.				
B.	The effective slenderness ratio for joists, $k\ell/r$ , to determine $F_{cr}$ where k is:				
1.	Two shapes with fillers or ties	0.75	0.94	---	1.0
2.	Two shapes without fillers or ties	---	---	0.75	---
3.	Single component members	0.75	0.94	---	---
C.	For bending, the effective slenderness ratio, $k\ell/r$ , to determine $F'_e$ where k is:				
		0.75	---	---	---
<b>II. TOP CHORD END PANELS</b>					
A.	The slenderness ratios, $1.0\ell/r$ and $1.0\ell_s/r$ , of members as a whole or any component part shall not exceed 120.				
B.	The effective slenderness ratio for joists, $k\ell/r$ , to determine $F_{cr}$ where k is:				
1.	Two shapes with fillers or ties	1.0	0.94	---	1.0
2.	Two shapes without fillers or ties	---	---	1.0	---
3.	Single component members	1.0	0.94	---	---
C.	For bending, the effective slenderness ratio, $k\ell/r$ , to determine $F'_e$ where k is:				
		1.0	---	---	---
<b>III. ALL BOTTOM CHORD PANELS</b>					
A.	The slenderness ratios, $1.0\ell/r$ and $1.0\ell_s/r$ , of members as a whole or any component part shall not exceed 240.				
B.	For members subject to compression, the effective slenderness ratio for joists, $k\ell/r$ , to determine $F_{cr}$ where k is:				
1.	Two shapes with fillers or ties	0.9	0.94	---	1.0
2.	Two shapes without fillers or ties	---	---	0.9	---
3.	Single component members	0.9	0.94	---	---
C.	For bending, the effective slenderness ratio, $k\ell/r$ , to determine $F'_e$ where k is:				
		0.9	---	---	---
<b>IV. WEB MEMBERS</b>					
A.	The slenderness ratios, $1.0\ell/r$ and $1.0\ell_s/r$ , of members as a whole or any component part shall not exceed 240 for a tension member or 200 for a compression member.				
B.	For members subject to compression, the effective slenderness ratio for joists, $k\ell/r$ , to determine $F_{cr}$ where k is:				
1.	Two shapes with fillers or ties	0.75	1.0	---	1.0
2.	Two shapes without fillers or ties	---	---	1.0	---
3.	Single component members	0.75	0.9*	---	---
*For end tension web members subject to compression, k shall equal 0.8					
<b>(<sup>1</sup>) The effective length k shall equal 1.0 for all components of Joist Girders.</b>					



## 4.4 MEMBERS

### 4.4.1 Chords

The joist and Joist Girder bottom chord shall be designed as an axially loaded tension member.

For Joist Girders, the radius of gyration of the bottom chord about its vertical axis shall not be less than  $\ell/240$  where  $\ell$  is the distance between lines of bracing. The radius of gyration of a Joist Girder top chord about the vertical axis shall not be less than  $\text{Span}/575$ .

For steel joists, the radius of gyration of the top chord about its vertical axis shall not be less than the results of equation 4.4-1 or 4.4-2:

$$r_y \geq \ell_{br} / \left( 124 + 0.67 d_j + 28 \frac{d_j}{L} \right), \text{ in.} \quad (4.4-1a)$$

$$r_y \geq \ell_{br} / \left( 124 + 0.026 d_j + 0.34 \frac{d_j}{L} \right), \text{ mm} \quad (4.4-1b)$$

or,

$$r_y \geq \ell_{br} / 170 \quad (4.4-2)$$

Where:

$d_j$  is the steel joist depth, in. (mm)

$L$  is the joist span length, ft. (m)

$r_y$  is the radius of gyration of the top chord about the vertical axis of the joist cross section, in. (mm)

$\ell_{br}$  is the spacing in inches (millimeters) between lines of bridging as specified in Section 5.5.3.1.

A steel joist top chord shall be considered as laterally braced by the floor slab or roof deck provided the requirements of Section 5.9 are met.

A Joist Girder top chord shall be considered as laterally braced by the steel joists provided positive attachment is made. The outstanding part of the top chord member shall be designed such that the allowable reaction from a single joist shall not exceed equation 4.4-3 or 4.4-4:

$$\phi P_p \text{ and } \phi P_p (1.6 - f_{au}/\phi Q F_y) \quad (\text{LRFD, } \phi = 0.9) \quad (4.4-3)$$

$$P_p/\Omega \text{ and } P_p/\Omega (1.6 - \Omega f_a/Q F_y) \quad (\text{ASD, } \Omega = 1.67) \quad (4.4-4)$$

Where:

$F_y$  = Specified minimum yield strength, ksi (MPa)

$P_p$  = Plastic failure mode =  $[(t^2 F_y)/[2(b-k)]] [g + 5.66(b-k)]$ , kips (N)

$Q$  = Form factor defined in Section 4.2.3.2

$b$  = width of the outstanding part of the top chord member, in. (mm)

$f_{au}$  =  $P_u/A$  = Required compressive stress, ksi (MPa)

$f_a$  =  $P/A$  = Required compressive stress, ksi (MPa)

$g$  = width of bearing seat, in. (mm)

$k$  = value from angle properties or similar dimension for other members, in (mm)

$t$  = thickness of the outstanding part of the top chord member, in. (mm)

The top chord of a steel joist or Joist Girder shall be designed as a continuous member subject to combined axial and bending stresses, except a Joist Girder loaded only at panel points shall be designed as an axial loaded compression member. For combined stresses the top chord shall be so proportioned that:



For **LRFD**:

at the panel point:

$$f_{au} + f_{bu} \leq 0.9F_y \quad (4.4-5)$$

at the mid panel:

for,  $\frac{f_{au}}{\phi_c F_{cr}} \geq 0.2$ ,

$$\frac{f_{au}}{\phi_c F_{cr}} + \frac{8}{9} \left[ \frac{C_m f_{bu}}{\left[ 1 - \left( \frac{f_{au}}{\phi_c F'_e} \right) \right] Q \phi_b F_y} \right] \leq 1.0 \quad (4.4-6)$$

for,  $\frac{f_{au}}{\phi_c F_{cr}} < 0.2$ ,

$$\frac{f_{au}}{2\phi_c F_{cr}} + \left[ \frac{C_m f_{bu}}{\left[ 1 - \left( \frac{f_{au}}{\phi_c F'_e} \right) \right] Q \phi_b F_y} \right] \leq 1.0 \quad (4.4-7)$$

- $f_{au}$  =  $P_u/A$  = Required compressive stress using LRFD load combinations, ksi (MPa)
- $P_u$  = Required axial strength using LRFD load combinations, kips (N)
- $A$  = Area of the top chord, in.<sup>2</sup> (mm<sup>2</sup>)
- $f_{bu}$  =  $M_u/S$  = Required bending stress at the location under consideration using LRFD load combinations, ksi (MPa)
- $M_u$  = Required flexural strength using LRFD load combinations, kip-in. (N-mm)
- $S$  = Elastic Section Modulus, in.<sup>3</sup> (mm<sup>3</sup>)
- $F_{cr}$  = Nominal axial compressive stress in ksi (MPa) based on  $k\ell/r$  as defined in Section 4.3
- $C_m$  =  $1 - 0.3 f_{au}/\phi_c F'_e$  for end panels
- $C_m$  =  $1 - 0.4 f_{au}/\phi_c F'_e$  for interior panels
- $Q$  = Form factor defined in Section 4.2.3.2
- $\phi_c$  = Resistance factor for compression = 0.9
- $\phi_b$  = Resistance factor for flexure = 0.9
- $F_y$  = Specified minimum yield strength, ksi (MPa)
- $F'_e = \frac{\pi^2 E}{(k\ell/r_x)^2}$ , ksi (MPa),  
 where  $\ell$  is the length,  $k$  is the effective length factor, and  $r_x$  is the corresponding radius of gyration of the member as defined in Section 4.3
- $E$  = Modulus of elasticity, 29,000 ksi (200,000 MPa)



For **ASD**:

at the panel point:

$$f_a + f_b \leq 0.6F_y \quad (4.4-8)$$

at the mid panel:

for,  $\frac{f_a}{F_a} \geq 0.2,$

$$\frac{f_a}{F_a} + \frac{8}{9} \left[ \frac{C_m f_b}{\left[ 1 - \left( \frac{1.67f_a}{F'_e} \right) \right] QF_b} \right] \leq 1.0 \quad (4.4-9)$$

for  $\frac{f_a}{F_a} < 0.2,$

$$\left( \frac{f_a}{2F_a} \right) + \left[ \frac{C_m f_b}{\left[ 1 - \left( \frac{1.67f_a}{F'_e} \right) \right] QF_b} \right] \leq 1.0 \quad (4.4-10)$$

- $f_a$  = P/A required compressive stress using ASD load combinations, ksi (MPa)
- A = Area of the top chord, in.<sup>2</sup> (mm<sup>2</sup>)
- P = Required axial strength using ASD load combinations, kips (N)
- $f_b$  = M/S = required bending stress at the location under consideration using ASD load combinations, ksi (MPa)
- S = Elastic Section Modulus, in.<sup>3</sup> (mm<sup>3</sup>)
- M = Required flexural strength using ASD load combinations, k-in. (N-mm)
- $F_a$  = Allowable axial compressive stress based on  $k\ell/r$  as defined in Section 4.3;  $0.6F_{cr}$ , ksi (MPa)
- $F_b$  = Allowable bending stress;  $0.6F_y$ , ksi (MPa)
- $C_m$  =  $1 - 0.50 f_a/F'_e$  for end panels
- $C_m$  =  $1 - 0.67 f_a/F'_e$  for interior panels
- Q = Form factor defined in Section 4.2.3.2
- $F'_e$  =  $\frac{\pi^2 E}{(k\ell/r_x)^2}$ , ksi (MPa),  
 where  $\ell$  is the length,  $k$  is the effective length factor, and  $r_x$  is the corresponding radius of gyration of the member as defined in Section 4.3
- E = Modulus of elasticity, 29,000 ksi (200,000 MPa)



The top chord and bottom chord shall be designed such that at each joint complies with equation 4.4-11 or 4.4-12:

$$f_{vmod} \leq \phi_v F_n \quad (\text{LRFD, } \phi_v = 1.00) \quad (4.4-11)$$

$$f_{vmod} \leq F_n / \Omega_v \quad (\text{ASD, } \Omega_v = 1.50) \quad (4.4-12)$$

$F_n$  = nominal shear stress =  $0.6F_y$ , ksi (MPa)

$f_t$  = axial stress =  $P/A$ , ksi (MPa)

$f_v$  = shear stress =  $V/bt$ , ksi (MPa)

$f_{vmod}$  = modified shear stress =  $(\frac{1}{2})\sqrt{f_t^2 + 4f_v^2}$

$b$  = length of vertical part(s) of cross section, in. (mm)

$t$  = thickness of vertical part(s) of cross section, in. (mm)

It shall not be necessary to design the top chord and bottom chord for the modified shear stress,  $f_{vmod}$ , where a round bar web member is continuous through a joint. The minimum required shear of section 4.4.2 (25 percent of the maximum end reaction) shall not be required when evaluating Equation 4.4-11 or 4.4-12.

KCS Joist, K-Series, chords shall be designed for a flat positive bending moment envelope where the moment capacity is constant at all interior panels. The top chord end panel(s) shall be designed for an axial load based on the force in the first tension web resulting from the specified shear. A uniform load of 550 plf (8.02 kN/m) in ASD or 825 plf (12.03 kN/m) in LRFD shall be used to check bending in the end panel(s). The top chord interior panels shall be designed for an axial stress resulting from the constant moment capacity plus the bending stress. The bending stress shall be determined from the smaller uniform load derived from the constant moment and constant shear, not to exceed 550 plf (ASD) or 825 plf (LRFD). The constant moment and shear shall be those values as listed in the Standard Load Table for KCS Steel Joists.

#### 4.4.2 Web

The vertical shears to be used in the design of the web members shall be determined by including all loads, but such vertical shears shall be not less than 25 percent of the maximum end reaction from the design load combinations.

**4.4.2.1 Redundant Web Members:** Redundant web members used in modified Warren type web systems shall be designed to resist the gravity loads supported by the member plus an additional axial load of  $\frac{1}{2}$  of 1.0 percent of the top chord axial force. For a **Joist Girder**, this total axial load shall not be less than 2 percent of the top chord axial force.

**4.4.2.2 Joist Girders:** For Joist Girders, the tension web members shall be designed to resist at least 25 percent of their axial force in compression.

**4.4.2.3 KCS Joist Web Forces:** KCS Joist web forces shall be determined based on a flat shear envelope, and the following:

- a) All webs shall be designed for a vertical shear equal to the specified shear capacity.
- b) All webs shall be designed for 100 percent stress reversal except for the first tension web which remains in tension under all simple span gravity loads.

**4.4.2.4 Single Component Web Member:** In those cases where a single component web member is attached to the outside of the stem of a tee or double angle chord or any other orientation of a single web member which creates an out-of-plane moment, the web member design shall account for the stresses due to eccentricity.





#### 4.4.2.4.1 Uncrimped Single Angle Web Members

For 1 inch uncrimped single angle web members where one leg is placed flat against one chord member in the gap, the resulting eccentricities and the effects in loading shall be considered in the design. A minimum of 50 percent of the required weld shall be deposited to each chord angle.

For angles subjected to tensile loading, the following requirements shall be met:

For **LRFD**: combined axial and bending stresses shall be proportioned in accordance with Eq. 4.4-5.

For **ASD**: combined axial and bending stresses shall be proportioned in accordance with Eq. 4.4-8.

For angles subjected to compression loading, the following requirements shall be met:

For **LRFD**:

at the panel point, combined axial and bending stresses shall be proportioned in accordance with Eq. 4.4-5.

at the mid length, the strength shall meet Eqs. 4.4-6 or 4.4-7, and 4.4-13:

$$\frac{f_{au}}{\phi_c F_{crz}} \leq 1.0 \quad (4.4-13)$$

where

$f_{au}$  =  $P_u/A$  = Required tensile or compressive stress, ksi (MPa)

$P_u$  = Required axial strength using LRFD load combinations, kips (N)

$A$  = Area of the uncrimped angle web, in.<sup>2</sup>, (mm<sup>2</sup>)

$f_{bu}$  =  $M_u/S$  = required bending stress, ksi (MPa)

$M_u$  = Required flexural strength =  $0.5 P_u \left( \frac{\text{chord gap}}{2} - \bar{y} \right)$ , kip-in. (N-mm)

$S$  = Minimum Elastic Section Modulus, in.<sup>3</sup> (mm<sup>3</sup>)

$F_{cr}$  =  $F_{crx}$ , ksi (MPa)

$F_{crx}$  = Nominal axial compressive stress in ksi (MPa) based on  $k\ell/r_x$ , where  $\ell$  is the length,  $k$  is the effective length factor, and  $r_x$  is the corresponding radius of gyration of the member as defined in Section 4.3

$F_{crz}$  = Nominal axial compressive stress in ksi (MPa) based on  $k\ell/r_z$  where  $k = 1.0$

$C_m$  = 1.0

$F_y$  = Specified minimum yield strength, ksi (MPa)

$F'_c = \frac{\pi^2 E}{(k\ell/r_x)^2}$ , ksi (MPa)

$Q$  = Form factor defined in Section 4.2.3.2



For **ASD**:

at the panel point, combined axial and bending stresses shall be proportioned in accordance with Eq. 4.4-8.

at the mid length the strength shall meet Eqs. 4.4-9 or 4.4-10, and 4.4-14:

$$\frac{f_a}{F_{az}} \leq 1.0 \quad (4.4-14)$$

where

$f_a$  =  $P/A$  = Required tensile or compressive stress, ksi (MPa)

$P$  = Required axial strength using ASD load combinations, kips (N)

$A$  = Area of the uncrimped angle web, in.<sup>2</sup>, (mm<sup>2</sup>)

$f_b$  =  $M/S$  = required bending stress, ksi (MPa)

$S$  = Minimum Elastic Section Modulus, in.<sup>3</sup> (mm<sup>3</sup>)

$M$  = Required flexural strength =  $0.5P \left( \frac{\text{chord gap}}{2} - \bar{y} \right)$ , kip-in. (N-mm)

$F_a$  =  $F_{ax}$ , ksi (MPa)

$F_{ax}$  = Nominal axial compressive stress in ksi (MPa) based on  $k\ell/r_x$ ,  
where  $\ell$  is the length,  $k$  is the effective length factor, and  $r_x$  is the corresponding radius of gyration of the member as defined in Section 4.3

$F_{az}$  = Nominal axial compressive stress in ksi (MPa) based on  $K\ell/r_z$ ,  
where  $k = 1.0$

$F_b$  = Allowable bending stress;  $0.6F_y$ , ksi (MPa)

Alternate methods of design shall be permitted provided they provide strength equal to or greater than those given. Alternate design procedures shall be submitted to the Steel Joist Institute's consulting engineer for approval.

#### 4.4.3 Fillers and Ties

Fillers or ties added on chord or web compression members shall be designed and connected for a force equal to 2 percent of the required member axial force.

#### 4.4.4 Joist and Joist Girder Extensions

Joist and Joist Girder extensions shall be designated as one of three extension types, as follows: top chord extensions (TCX), extended ends, or full depth cantilevers.

Design criteria for joist extensions shall be specified using one of the following methods:

- a) A joist top chord extension (TCX), extended end, or full depth cantilevered end shall be designed for the load from the Standard Load Tables based on the design length and designation of the specified joist. In the absence of other design information, the joist manufacturer shall design the joist extension for this loading as a default.
- b) A loading diagram shall be provided for the joist extension, extended end, or full depth cantilevered end. The diagram shall include the magnitude and location of the loads to be supported, as well as the applicable load combinations.



- c) 2½" deep steel joist extensions shall be permitted to be specified using extension designations found in the Top Chord Extension Load Table (S Type) for TCXs or the Top Chord Extension Load Table (R Type) for extended ends.

Any deflection requirements or limits due to the accompanying loads and load combinations on the steel joist or Joist Girder extension shall be provided by the specifying professional, regardless of the method used to specify the extension. Unless otherwise specified, the joist manufacturer shall check the extension for the specified deflection limit under uniform live load acting simultaneously on both the joist base span and the extension.

The joist manufacturer shall consider the effects of steel joist or Joist Girder extension loading on the base span of the steel joist or Joist Girder. This shall include carrying the design bending moment due to the loading on the extension into the top chord end panel(s), and the effect on the overall steel joist or Joist Girder chord and web axial forces. In the case of a K-Series Standard Type 'R' Extended End or 'S' TCX, the design bending moment shall be determined by the tabulated extension section modulus (S) multiplied by the appropriate allowable (ASD) or design (LRFD) flexural stress.

Bracing of extensions shall be clearly indicated on the structural drawings.

## 4.5 CONNECTIONS

### 4.5.1 Methods

Member connections and splices shall be made by attaching the members to one another by arc or resistance welding or other accredited methods in accordance with the following:

- a) Steel joist and Joist Girder arc welded joints shall be in accordance with the American Welding Society, "Structural Welding Code-Steel", D1.1, and/or the "Structural Welding Code Sheet Steel", D1.3 with the following seven modified acceptance criteria as permitted by AWS D1.1 Clause 6.8:

- 1) Undercut shall not exceed 1/16 inch (2 mm) for welds oriented parallel to the principal stress.

**User Note:** The typical diagonal web member connection to one leg of a chord angle is considered to be parallel to the principal stress.

- 2) Discontinuities outside of the weld design length shall be permitted provided no cracks exist and undercut does not exceed the limits of item 1).

**User Note:** The weld design length is the minimum weld length needed for the connection force and weld thickness. Portions of the actual weld length with imperfections or discontinuities such as porosity or lack of a full profile are not included when comparing the actual weld length to the weld design length.

- 3) One unrepaired arc strike shall be permitted per joint provided it does not result in other unacceptable defects.

**User Note:** Minor arc strikes do not reduce the strength of AWS Group II materials (refer to Van Malssen, 1984).

- 4) The effective throat for flare bevel groove welds shall be calculated in accordance with equation 4.2-18.

**User Note:** The effective weld throat used by the SJI with round bars is based on SJI research and is more conservative than AWS D1.1 for GMAW for round bars in excess of 9/16" (14 mm). See Steel Joist Institute Technical Digest 8, "Welding of Open Web Steel Joists and Joist Girders".



- 5) Tack welds that are discontinuous from other welds shall meet the criteria for undercut, but shall be exempt from all other acceptance criteria.

**User Note:** Joist manufacturers use tack welds in the assembly process, and so long as they do not diminish the strength of the base metal and are not incorporated into the final weld for strength, they are not required to meet other inspection criteria.

- 6) The weld profile shall be considered acceptable provided neither the weld leg nor the weld throat is undersized less than AWS D1.1 limits within the weld design length.
- 7) For material with thickness less than 1/8", AWS D1.1 or D1.3 shall be considered appropriate.

**User Note:** AWS D1.1 does not address thicknesses less than 1/8" for hot rolled material and AWS D1.3 does not address hot rolled material, thus SJI has extended the ranges to include these material thicknesses.

- b) Steel joist and Joist Girder resistance welded joints shall follow a preproduction validation procedure and a production checking procedure and shall meet the strength requirements of this Specification.

**User Note:** Spot, flash or upset resistance welds should have a written welding procedure qualification record and a systematic quality plan. For further information, see Steel Joist Institute Technical Digest 8, "Welding of Open Web Steel Joists and Joist Girders".

- c) Welded Connections for Crimped-End Angle Web Members

- 1) The connection of each end of a crimped angle web member to each side of the chord shall consist of a weld group made of more than a single line of weld. The design weld length shall include an end return of no less than two times the nominal weld size.

- d) Welding Program

- 1) The manufacturer's welders shall be qualified in accordance with either AWS D1.1 or AWS D1.3 for the applicable weld type, position, and material.
- 2) Manufacturers shall have a program for establishing weld procedures and operator qualification, and for weld sampling and testing. Each manufacturing facility shall have trained inspectors, and an engineer responsible for all welding procedures.

- e) Weld Inspection by Outside Agencies (See Section 5.14)

- 1) The agency shall arrange for visual inspection to determine that welds meet the acceptance standards of Section 4.5.1.

**User Note:** Ultrasonic, X-ray, and magnetic particle testing are inappropriate for joists due to the configurations of the components and welds.

#### 4.5.2 Strength

**4.5.2.1 Joint Connections:** Joint connections shall develop the maximum force due to any of the design loads, but not less than 50 percent of the strength of the member in tension or compression, whichever force is the controlling factor in the selection of the member.



**4.5.2.2 Shop Splices:** Shop splices shall be permitted to occur at any point in chord or web members. Splices shall be designed for the member force, but not less than 50 percent of the member strength. All component parts comprising the cross section of the chord or web member (including reinforcing plates, rods, etc.) at the point of the splice shall develop a nominal tensile strength of at least 1.2 times the product of the yield strength and the full design area of the chord or web. The “full design area” shall be defined as the minimum required area such that the required stress will be less than the design (LRFD) or allowable (ASD) stress.

**User Note:** For more information on welding, see Steel Joist Institute Technical Digest 8, “Welding of Open Web Steel Joists and Joist Girders”.

**4.5.3 Field Splices**

Field Splices shall be designed by the manufacturer and shall be either bolted or welded. Splices shall be designed for the member force, but not less than 50 percent of the member strength.

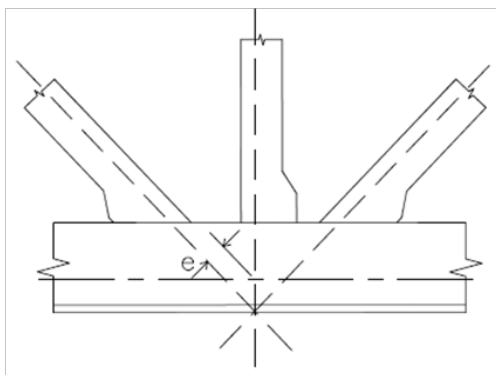
**4.5.4 Eccentricity**

Members connected at a joint shall have their center of gravity lines meet at a point, where practical. Ends of joists or Joist Girders shall be proportioned to resist bending produced by eccentricity at the support.

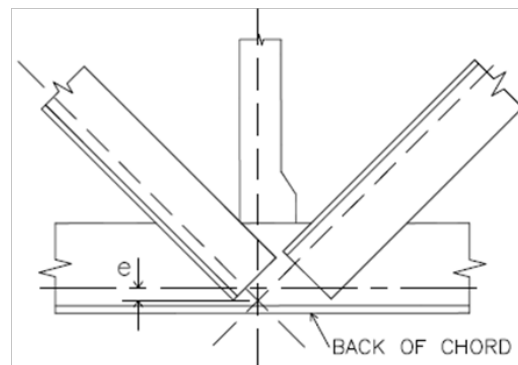
For a single component web member, the eccentricity shall be permitted to be neglected where it does not exceed the lesser of three-quarters of the over-all dimension of the chord or 2” (51 mm). This eccentricity, measured in the plane of the joist, shall be the perpendicular distance from the centroidal axis of that web member to the point on the centroidal axis of the chord which is vertically above or below the intersection of the centroidal axis of the web member(s) forming the joint in accordance with Figure 4.5-1.

For a web member composed of at least two shapes, the eccentricity on either side of the neutral axis of chord members, measured in the plane of the joist at the joint work point, shall be permitted to be neglected where the web intersect point does not exceed one and one-half times the distance between the neutral axis and the back of the chord in accordance with Figure 4.5-2.

If these limits are exceeded, provision shall be made for the stresses due to eccentricity.



**FIGURE 4.5-1**



**FIGURE 4.5-2**

#### 4.6 CAMBER

Steel joists and Joist Girders 100'-0" or less shall have a manufactured camber in accordance with Table 4.6-1:

**TABLE 4.6-1**

TOP CHORD LENGTH		APPROXIMATE CAMBER	
20'-0"	(6096 mm)	1/4"	(6 mm)
30'-0"	(9144 mm)	3/8"	(10 mm)
40'-0"	(12192 mm)	5/8"	(16 mm)
50'-0"	(15240 mm)	1"	(25 mm)
60'-0"	(18288 mm)	1 1/2"	(38 mm)
70'-0"	(21336 mm)	2"	(51 mm)
80'-0"	(24384 mm)	2 3/4"	(70 mm)
90'-0"	(27432 mm)	3 1/2"	(89 mm)
100'-0"	(30480 mm)	4 1/4"	(108 mm)

For lengths exceeding 100'-0", manufactured camber equal to Span/300 shall be used.

**User Note:** The specifying professional shall give consideration to coordinating this approximate camber with adjacent framing.

#### 4.7 VERIFICATION OF DESIGN AND MANUFACTURE

**User Note:** This Section is included as part of this Specification since the verification of design and manufacture is a requirement of any Steel Joist Institute member company in order to be in compliance with this Specification. This Section applies only to a Steel Joist Institute member manufacturer.

##### 4.7.1 Design Calculations

Companies manufacturing any K-Series, LH-Series, DLH-Series Joists or Joist Girders shall submit design data to the Steel Joist Institute, or an independent agency approved by the Steel Joist Institute, for verification of compliance with this Specification. Design data shall be submitted in detail and in the format specified by the Steel Joist Institute.

##### 4.7.2 Tests of Chord and Web Members

Each manufacturer shall, at the time of design review by the Steel Joist Institute, verify by tests that the design, in accordance with Section 4.1 through Section 4.5, provides the theoretical strength of critical members. Such tests shall be evaluated considering the actual yield strength of the members of the test joists.

Material tests for determining mechanical properties of component members shall be conducted.

##### 4.7.3 Tests of Joints and Connections

Each manufacturer shall, at the time of design review by the Steel Joist Institute, verify by shear tests on representative joints of typical joists that connections will meet the provision of Section 4.5.2. Chord and web members shall be permitted to be reinforced for such tests.



#### 4.7.4 In-Plant Inspections

Each manufacturer shall verify their ability to manufacture K-Series, LH-Series, DLH-Series Joists and Joist Girders through periodic In-Plant Inspections. Inspections shall be performed by an independent agency approved by the Steel Joist Institute. The frequency, manner of inspection, and manner of reporting shall be determined by the Steel Joist Institute. The plant inspections shall not represent a guarantee of the quality of any specific joists; this responsibility shall lie fully and solely with the individual manufacturer.

## SECTION 5. APPLICATION

### 5.1 USAGE

**5.1.1 Scope:** This Specification shall apply to any type of structure where floors or roofs are to be supported directly by steel joists installed as hereinafter specified or where steel joists are to be supported directly by Joist Girders installed as hereinafter specified. Where joists or Joist Girders are used other than on simple spans under uniformly distributed loading for joists, or under equal concentrated gravity loading for Joist Girders, as prescribed in Section 4.1, they shall be designed to limit the required stresses to those listed in Section 4.2. The magnitude and location of all loads and forces to be considered in the joist or Joist Girder design shall be provided on the structural drawings.

**5.1.2 Continuous Frame Action:** Where a rigid connection of the bottom chord is to be made to a column or other structural support, the steel joist or Joist Girder is then no longer simply-supported, and the system shall be investigated for continuous frame action by the specifying professional. The specifying professional shall design the supporting structure, including the design of columns, connections, and moment plates. This design shall account for the stresses caused by lateral forces and the stresses due to connecting the bottom chord to the column or other structural support.

The designed detail of a rigid type connection and moment plates shall be shown on the structural drawings by the specifying professional. The moment plates shall be furnished by other than the joist manufacturer.

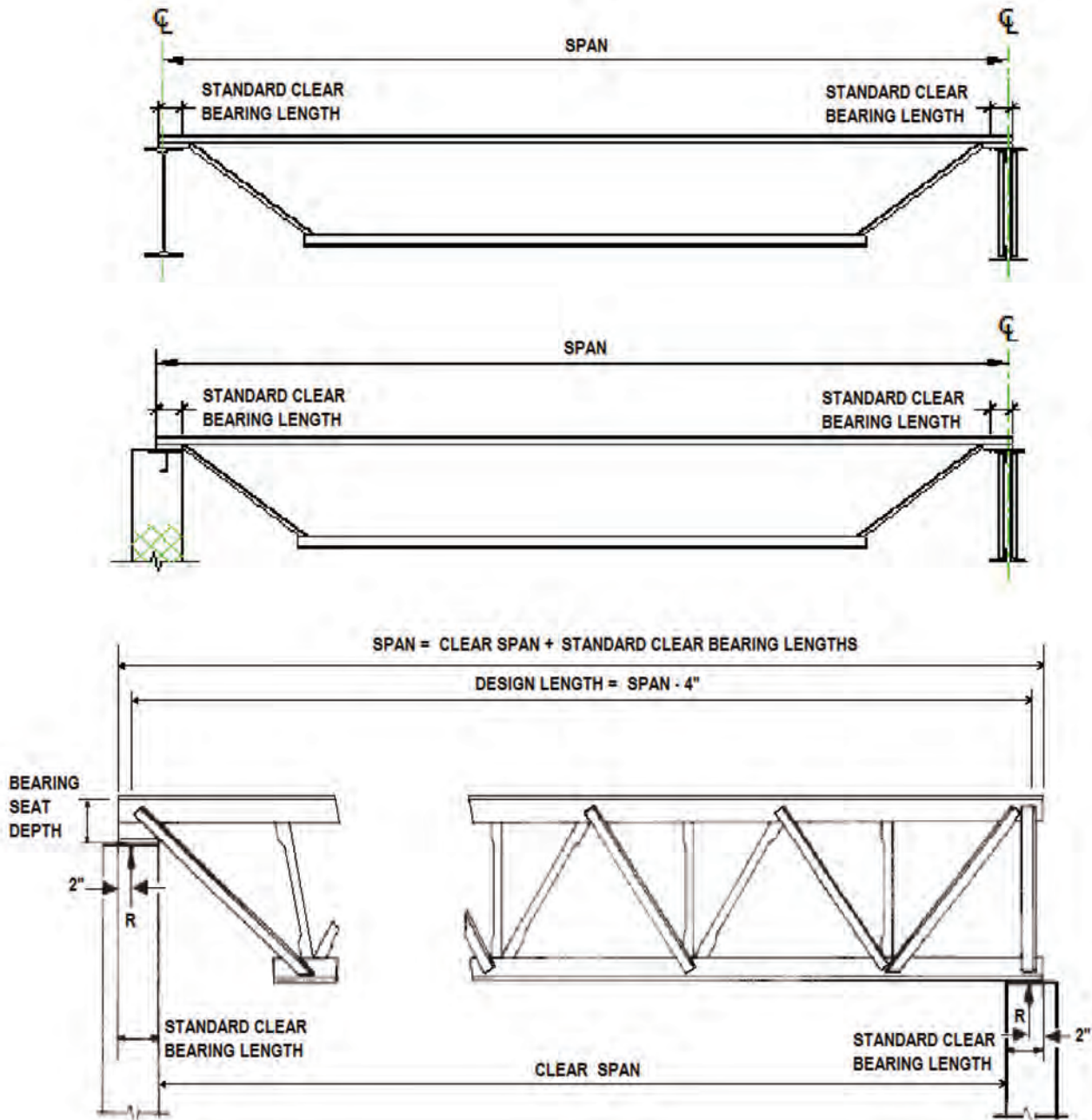
**User Note:** For further reference concerning continuous frame action and their connections, refer to Steel Joist Institute Technical Digest No. 11, "Design of Lateral Load Resisting Frames Using Steel Joists and Joist Girders".

### 5.2 SPAN

Except for joist substitutes, the span of a joist or Joist Girder shall not exceed 24 times the depth. Design length shall equal the span minus 4 inches (102 mm) as shown in Figure 5.2-1 "Definition of Span".



**Figure 5.2-1**  
**DEFINITION OF SPAN**  
**(U. S. Customary Units)**



- NOTES:
- 1) DESIGN LENGTH = SPAN - 4"
  - 2) MINIMUM BEARING LENGTHS SHALL MEET THE REQUIREMENTS OF SECTION 5.4. BEARING LENGTHS SHOWN MAY VARY BETWEEN STANDARD CLEAR BEARING AND MINIMUM BEARING LENGTH.
  - 3) PARALLEL CHORD JOISTS INSTALLED TO A SLOPE GREATER THAN 1/2 INCH PER FOOT SHALL USE A SPAN DEFINED BY THE LENGTH ALONG THE SLOPE.



### 5.3 DEPTH

Steel joists or Joist Girders shall have either parallel chords or a top chord pitch of up to 1/2 inch per foot (1:24). The steel joist or Joist Girder designation depth or nominal depth shall be the depth at mid-span, except for double pitched joists which shall be the depth at the ridge.

### 5.4 END SUPPORTS

Consideration of the reactions, vertical and lateral, shall be taken by the specifying professional in the design of the steel support, or the steel bearing plate on masonry or concrete. The standard location of the end reaction shall be 2" (51 mm) from the end of the span (exclusive of extensions) at each end of the steel joist or Joist Girder as shown in Figure 5.2-1 "Definition of Span". The standard end reaction location shall require the minimum bearing lengths shown in Table 5.4-1.

**TABLE 5.4-1**

JOIST SECTION NUMBER <sup>1</sup>	STANDARD CLEAR BEARING LENGTH	MINIMUM BEARING LENGTH ON STEEL
K1-12	4" (102 mm)	2 ½" (64 mm)
LH02-06	6" (152 mm)	2 ½" (64 mm)
LH07-17, DLH10-17, JG	6" (152 mm)	4" (102 mm)
LH/DLH18-25, JG <sup>2</sup>	6" (152 mm)	6" (152 mm)
<sup>(1)</sup> Last digit(s) of joist designation shown in Load Table. <sup>(2)</sup> <b>Joist Girders</b> with a self weight greater than 50 plf (0.73 kN/m).		

If the specifying professional requires the end reaction to be located at a distance from the face of support more than the standard clear bearing length values shown in Table 5.4-1 minus 2" (51 mm), the structural drawings shall indicate the required special location of the end reaction. The seat depth shall also be increased to the special minimum bearing seat depth per Table 5.4-3.

#### 5.4.1 Masonry and Concrete

**5.4.1.1 Scope:** A K-Series, LH-Series, DLH-Series Joist or Joist Girder end supported by masonry or concrete shall bear on steel bearing plates and shall be designed as steel bearing.

**5.4.1.2 Bearing Length:** The ends of K-Series Joists shall extend a distance of not less than 4 inches (102 mm) over the face of masonry or concrete support unless it is deemed necessary to bear less than 4 inches (102 mm) over the support. The ends of LH-Series, DLH-Series Joists and Joist Girders shall extend a distance of not less than 6 inches (152 mm) over the face of masonry or concrete support unless it is deemed necessary to bear less than 6 inches (152 mm) over the support.

**5.4.1.3 Anchorage:** K-Series, LH-Series, DLH-Series Joists and **Joist Girders** shall be anchored to the steel bearing plate per Section 5.7.

The steel bearing plate shall be located not more than 1/2 inch (13 mm) from the face of the wall. If the steel bearing plate is located more than 1/2 inch (13 mm) from the face of the wall, or the minimum bearing over the masonry or concrete support cannot be provided as shown in Table 5.4-1, special consideration shall be given to the design of the steel bearing plate and the masonry or concrete by the specifying professional.

The steel bearing plate width shall not be less than that shown in Table 5.4-2 perpendicular to the length of the joist. The plate is to be designed by the specifying professional and shall be furnished by other than the joist manufacturer.



**TABLE 5.4-2**

JOIST SECTION NUMBER <sup>1</sup>	MINIMUM BEARING PLATE WIDTH
K1-12, LH02-06	7" (178 mm)
LH07-17, DLH10-17, JG	9" (229 mm)
LH/DLH18-25, JG <sup>2</sup>	14" (356 mm)
<sup>(1)</sup> Last digit(s) of joist designation shown in Load Table.	
<sup>(2)</sup> Joist Girders with a self weight greater than 50 plf (0.73 kN/m).	

**5.4.2 Steel**

The ends of K-Series, LH-Series, DLH-Series Joists and Joist Girders shall be anchored to the support per Section 5.7.

**5.4.3 Bearing Depth**

The standard non-sloping bearing seat depths shall be as shown in Table 5.4-3. If the steel joist slopes 3/8 inch per foot or greater, the high end bearing seat shall require additional depth due to the slope.

**User Note:** The Steel Joist Institute Code of Standard Practice provides guidance for determining additional seat depth requirements for sloped joists.

**TABLE 5.4-3**

JOIST SECTION NUMBER <sup>1</sup>	STANDARD BEARING SEAT DEPTH	STANDARD CLEAR BEARING LENGTH	SPECIAL MINIMUM BEARING SEAT DEPTH <sup>2</sup>
K1-12	2 ½" (64 mm)	4" (102 mm)	0.6 x (RP + 2 ½" (64 mm))
LH02-17, DLH10-17	5" (127 mm)	6" (152 mm)	0.6 x (RP + 4" (102 mm))
LH/DLH18-25	7 ½" (191 mm)	6" (152 mm)	0.6 x (RP + 4" (102 mm)) + 2 ½" (64 mm)
JG	7 ½" (191 mm)	6" (152 mm)	RP + 4" (102 mm)
<sup>(1)</sup> Last digit(s) of joist designation shown in Load Table.			
<sup>(2)</sup> RP is equal to the distance the reaction is to occur from the face of the wall or leading edge of support member. The equation is not applicable for the high end of a sloped joist or Joist Girder.			

When the specifying professional requires the steel joist or Joist Girder reaction to occur at or near the centerline of the wall or other support, a special bearing seat depth shall be required and a note shall be placed on the structural drawings identifying where the reaction is to occur. The specified bearing seat depth shall be increased according to Table 5.4-3 to allow for this special requirement.

**5.5 BRIDGING or BRACING**

**Joist Girders** shall be proportioned such that they can be erected without bridging. Therefore, the following requirements shall be met:

- a) The ends of the bottom chord shall be restrained from lateral movement to brace the girder from overturning. For Joist Girders at columns in steel frames, restraint shall be provided by a stabilizer plate on the column.
- b) No other loads shall be placed on the Joist Girder until the steel joists bearing on the Joist Girder are in place and positively attached to the Joist Girder.



**User Note:** See Section 5.12 for bridging or bracing required for uplift forces.

Steel joist top and bottom chord bridging shall be required and shall consist of one or both of either horizontal or diagonal bridging.

### 5.5.1 Horizontal Bridging

Horizontal bridging lines shall consist of continuous horizontal steel members. The  $\ell/r$  ratio of the bridging member shall not exceed 300, where  $\ell$  is the distance in inches (millimeters) between attachments and  $r$  is the least radius of gyration of the bridging member.

### 5.5.2 Diagonal Bridging

Diagonal bridging lines shall consist of cross-bracing with a  $\ell/r$  ratio of not more than 200, where  $\ell$  is the distance in inches (millimeters) between connections and  $r$  is the least radius of gyration of the bracing member. Where cross-bracing members are connected at their point of intersection, the  $\ell$  distance shall be taken as the distance in inches (millimeters) between connections at the point of intersection of the bridging members and the connections to the chords of the joists.

#### 5.5.2.1 Diagonal Erection Bridging

**User Note:** Joists exhibit varying degrees of stability dependent upon the span, depth, member sizes, self weight and other parameters. Bolted diagonal Erection Bridging which must be installed prior to releasing hoisting cables may be required.

Where required as identified below, bolted diagonal Erection Bridging shall be required and shall be in accordance with the following:

- (a) For joist spans up through and including 60 feet (18288 mm) in length;

Welded horizontal bridging shall be permitted except where the row of bridging nearest the center is required to be bolted diagonal Erection Bridging as indicated by the **Red shaded area** in the Load Tables. Hoisting cables shall not be released until this row of bolted diagonal Erection Bridging is completely installed and anchored.

Bolted diagonal Erection Bridging shall be provided as required in the SJI Load Tables wherever a standard SJI Section Number designation is specified. For spans 60 feet (18288mm) or less, in the absence of a standard SJI Section Number designation, minimum bolted diagonal Erection Bridging requirements shall be determined by:

- 1) Matching the joist design to an equivalent standard SJI Section Number designation to determine the span at which Erection Bridging is needed as designated in the tables; or
- 2) Using Equation 5.5-1 to determine the joist stability and the need for Erection Bridging.

$$W = \frac{-b + \sqrt{b^2 - 4 \cdot a \cdot c}}{2 \cdot a} ; \quad \text{If } \frac{w_u}{w_{actual}} > 1.00 \text{ Erection Bridging is not required.} \quad (5.5-1)$$

$$a = \left( \frac{\pi^2 + 3}{24} \right)^2$$

$$b = P \cdot \frac{\pi^2 + 3}{12} \cdot \frac{\pi^2 + 4}{16} - \frac{\pi^4 \cdot E \cdot I_y}{2 \cdot (k \cdot L)^3} \cdot \left[ \beta_x \cdot \left( \frac{\pi^2 - 3}{24} \right) - \frac{y_o}{2} \right]$$

$$c = (P)^2 \left( \frac{\pi^2 + 4}{16} \right)^2 - \frac{\pi^4 \cdot E \cdot I_y}{2 \cdot (k \cdot L)^3} \cdot \left[ P \cdot \left( \beta_x \cdot \frac{\pi^2 - 4}{16} - a_e \right) + \frac{\pi^4 \cdot E \cdot C_w}{2 \cdot (k \cdot L)^3} + \frac{\pi^2 \cdot G \cdot J}{2 \cdot k \cdot L} \right]$$



Where:

$P$	= Factored weight of erector = 1.2 x (assumed weight of 250 lbs.) = 300 lbs. (1334 N)	
$E$	= Modulus of elasticity= 29,000,000 psi (200,000 MPa)	
$I_y$	= Joist moment of inertia about y-axis, in. <sup>4</sup> (mm <sup>4</sup> )	$I_y = I_{yt} + I_{yb}$
$I_{yt}$	= Top chord moment of inertia about y-axis, in. <sup>4</sup> (mm <sup>4</sup> )	
$I_{yb}$	= Bottom chord moment of inertia about y-axis, in. <sup>4</sup> (mm <sup>4</sup> )	
$L$	= Joist Span, in. (mm)	
$k$	= Effective length factor = 0.85	
$\beta_x$	= Cross-Sectional parameter	$\beta_x = \frac{1}{I_x} [A_b \cdot (d_e - y)^3 - A_t \cdot y^3] - 2 \cdot y_o$
$A_b$	= Area of bottom chord, in. <sup>2</sup> (mm <sup>2</sup> )	
$A_t$	= Area of top chord, in. <sup>2</sup> (mm <sup>2</sup> )	
$d_e$	= Joist effective depth, in. (mm)	$d_e = d - y_t - y_b$
$y_t$	= Neutral axis of top chord, in. (mm)	
$y_b$	= Neutral axis of bottom chord, in. (mm)	
$y$	= Distance from centroid of top chord to centroid of cross section, in. (mm)	$y = \frac{A_b \cdot d_e}{A_t + A_b}$
$I_x$	= Joist moment of inertia about x-axis, in. <sup>4</sup> (mm <sup>4</sup> )	$I_x = A_t y^2 + A_b (d_e - y)^2$
$y_o$	= Distance from centroid of cross section to shear center, in. (mm)	$y_o = -y + \frac{I_{yb} \cdot d_e}{I_y}$
$a_e$	= Vertical location of load P from shear center (locate at joist center of gravity), in. (mm), where $a_e = y_o$	
$C_w$	= Warping constant	$C_w = \frac{d_e^2 \cdot I_{yb} \cdot I_{yt}}{I_y}$
$G$	= Shear modulus, psi (MPa)	$G = 0.385E$
$J$	= St. Venant torsion constant, in. <sup>4</sup> (mm <sup>4</sup> )	$J = \frac{1}{3} (A_t \cdot t_t^2 + A_b \cdot t_b^2)$
$t_t$	= Thickness of top chord, in. (mm)	
$t_b$	= Thickness of top chord, in. (mm)	
$w_u$	= Ultimate lateral buckling load	$w_u = \frac{W \cdot 12}{L}$ , plf $w_u = \frac{W}{L}$ , (kN/m)
$w_{actual}$	= Joist self-weight, plf (kN/m)	

- b) For joist spans greater than 60 feet (18288 mm) in length; Bolted diagonal Erection Bridging shall be used as indicated by the **Blue and Gray shaded areas** of the Load Tables. Hoisting cables shall not be released until all rows of bolted diagonal Erection Bridging are completely installed and anchored. Where the joist spacing is less than 0.70 x joist depth, bolted horizontal bridging shall be used in addition to bolted diagonal Erection Bridging.
- c) The bolted diagonal Erection Bridging determined by Section 5.5.2.1a and Section 5.5.2.1b shall be considered a minimum. This bolted diagonal Erection Bridging shall be indicated on the placement plans.

**User Note:** Joists with special profiles having a higher center of gravity as compared to a parallel chord joist, joists which are canted, or joists having any condition which may create instability, may require additional bridging and/or special erection methods.

### 5.5.3 Quantity and Spacing of Bridging

**5.5.3.1 Scope:** Bridging shall be properly spaced and anchored to support the decking and the employees prior to the attachment of the deck to the top chord. The maximum spacing between lines of bridging,  $\ell_{brmax}$  shall be the lesser of,

$$\ell_{brmax} = \left( 124 + 0.67 d_j + 28 \frac{d_j}{L} \right) r_y, \text{ in.} \quad (5.5-2a)$$

$$\ell_{brmax} = \left( 124 + 0.026 d_j + 0.34 \frac{d_j}{L} \right) r_y, \text{ mm} \quad (5.5-2b)$$

or, 
$$\ell_{brmax} = 170 r_y \quad (5.5-3)$$

Where:

$d_j$  is the steel joist depth, in. (mm)

$L$  is the joist span length, ft. (m)

$r_y$  is the radius of gyration of the top chord about the vertical axis of the joist cross section, in. (mm)

**5.5.3.2 Number of Rows:** The number of rows of top chord bridging shall not be less than as shown in Table 5.5-1 and the spacing shall meet the requirements of Equations 5.5-2 and 5.5-3. The number of rows of bottom chord bridging, including bridging required per Section 5.12, shall not be less than the number of top chord rows. Rows of bottom chord bridging shall be permitted to be spaced independently of rows of top chord bridging. The spacing of rows of bottom chord bridging shall meet the slenderness requirement of Section 4.3 and any specified strength requirements.

**5.5.3.3 DLH Joist Section 21 and Greater:** For DLH-Series joist Section Number 21 and greater, bridging shall be installed near a bottom chord panel point or an extra web member shall be furnished to brace the bottom chord for the vertical component of the bridging force equal to the horizontal bracing force.

**TABLE 5.5-1**

U.S. CUSTOMARY UNITS

**NUMBER OF ROWS OF TOP CHORD BRIDGING<sup>2</sup>**

Section Number <sup>1</sup>	Joist Depth	1 Row	2 Rows	3 Rows	4 Rows	5 Rows	6 Rows	7 Rows	8 Rows	9 Rows
K1	All	17	>17 to 26	>26 to 28						
K2	All	21	>21 to 30	>30 to 32						
K3	All	18	>18 to 26	>26 to 40						
K4	All	20	>20 to 30	>30 to 41	>41 to 48					
K5	12K to 24K	20	>20 to 30	>30 to 42	>42 to 48					
	26K	28	>28 to 41	> 41 to 52						
K6	14K to 24K	20	>20 to 31	>31 to 42	>42 to 48					
	26K & 28K	28	>28 to 41	>41 to 54	>54 to 56					
K7	16K to 24K	23	>23 to 34	>34 to 48						
	26K to 30K	29	>29 to 44	>44 to 60						
K8	24K	25	>25 to 39	>39 to 48						
	26K to 30K	29	>29 to 44	>44 to 60						
K9	16K to 24K	22	>22 to 34	>34 to 48						
	26K to 30K	29	>29 to 44	>44 to 60						
K10	18K to 24K	22	>22 to 38	>38 to 48						
	26K to 30K	29	>29 to 48	>48 to 60						
K11	22K	24	>24 to 39	>39 to 44						
	30K	34	>34 to 49	>49 to 60						
K12	24K	25	>25 to 43	>43 to 48						
	26K to 30K	29	>29 to 47	>47 to 60						
LH02-03	All	20	>20 to 30	>30 to 40	>40					
LH04-05	All	22	>22 to 33	>33 to 44	>44 to 55	>55				
LH06-08	All	26	>26 to 45	>45 to 60	>60 to 75	>75				
LH09	All	26	>26 to 48	>48 to 64	>64 to 80	>80				
LH/DLH10	All	28	>28 to 54	>54 to 72	>72 to 90	>90				
LH/DLH11	All	30	>30 to 54	>54 to 72	>72 to 90	>90 to 108	>108			
LH/DLH12	All	34	>34 to 55	>55 to 74	>74 to 92	>92 to 111	>111			
LH/DLH13	All	36	>36 to 63	>63 to 84	>84 to 105	>105 to 126	>126			
LH/DLH14	All	38	>38 to 64	>64 to 86	>86 to 107	>107 to 129	>129			
LH/DLH15	All	42	>42 to 73	>73 to 98	>98 to 122	>122 to 147	>147			
LH/DLH 16-17	All	44	>44 to 75	>75 to 100	>100 to 125	>125 to 150	>150 to 175	>175		
LH/DLH 18-20	All	52	>52 to 78	>78 to 104	>104 to 130	>130 to 156	>156 to 182	>182 to 208	>208 to 234	>234
LH/DLH 21-25	All	60	>60 to 90	>90 to 120	>120 to 150	>150 to 180	>180 to 210	>210		

(1) Last digit(s) of joist designation shown in Load Table.

(2) Distances are Joist Span lengths in feet – See “Definition of Span” Figure 5.2-1. Refer to the Joist Load Table and Specification Section 6 for required bolted diagonal bridging and additional stability requirements. See Section 5.12 for additional bridging required for uplift design.



### 5.5.4 Sizing of Bridging

Horizontal and diagonal bridging shall be capable of resisting the nominal unfactored horizontal compressive force,  $P_{br}$  given in Equation 5.5-4.

$$P_{br} = 0.0025 n A_t F_{\text{construction}}, \text{ kips (N)} \quad (5.5-4)$$

Where:

$n = 8$  for horizontal bridging

$n = 2$  for diagonal bridging

$A_t$  = cross sectional area of joist top chord, in.<sup>2</sup> (mm<sup>2</sup>)

$F_{\text{construction}}$  = assumed ultimate stress in top chord to resist construction loads, determined in accordance with the following:

$$F_{\text{construction}} = \left( \frac{\pi^2 E}{\left( \frac{0.9 \ell_{brmax}}{r_y} \right)^2} \right) \geq 12.2 \text{ ksi} \quad (5.5-5a)$$

$$F_{\text{construction}} = \left( \frac{\pi^2 E}{\left( \frac{0.9 \ell_{brmax}}{r_y} \right)^2} \right) \geq 84.1 \text{ MPa} \quad (5.5-5b)$$

Where:

$E$  = Modulus of Elasticity of steel = 29,000 ksi (200,000 MPa)

and  $\frac{\ell_{brmax}}{r_y}$  is determined from Equations 5.5-2 or 5.5-3

The bridging nominal horizontal unfactored compressive forces,  $P_{br}$ , shall be in accordance with Table 5.5-2.

**TABLE 5.5-2**

<b>BRIDGING NOMINAL HORIZONTAL UNFACTORED COMPRESSIVE FORCE</b>					
<b>JOIST SECTION NUMBER<sup>1</sup></b>	<b>HORIZONTAL BRIDGING P<sub>br</sub> (n=8)</b>		<b>REQUIRED BRIDGING CONNECTION WELD<sup>2</sup></b>	<b>DIAGONAL BRIDGING P<sub>br</sub> (n=2)</b>	
	<b>Lbs.</b>	<b>(N)</b>	<b>In.</b>	<b>Lbs.</b>	<b>(N)</b>
K1-8	340	(1512)	1/8" x 1" (3mm x 25mm)	85	(378)
K9-10, LH02-03	450	(2002)		113	(503)
K11-12, LH04-05	560	(2491)		140	(623)
LH06-08	750	(3336)		188	(836)
LH09	850	(3781)		213	(945)
LH/DLH10	900	(4003)		225	(1001)
LH/DLH11	950	(4226)		238	(1056)
LH/DLH12	1100	(4893)		275	(1223)
LH/DLH13	1200	(5338)		300	(1334)
LH/DLH14	1300	(5783)		325	(1446)
LH/DLH15	1450	(6450)		363	(1612)
LH/DLH16-17	1850	(8229)	1/8" x 1 1/2" (3mm x 38mm)	463	(2057)
LH/DLH18-20	2350	(10453)		585	(2602)
LH/DLH21-22	3150	(14012)	1/8" x 2" (3mm x 51mm)	790	(3514)
LH/DLH23-24	4130	(18371)		1035	(4604)
LH/DLH25	4770	(21218)	1/8" x 3" (3mm x 76mm)	1195	(5316)

(1) Last digit(s) of joist designation shown in Load Table.  
(2) Or other connection type designed for the required force.

**5.5.5 Connections**

Connections to the joist chords shall be made by welding or mechanical means and shall be capable of resisting the unfactored or nominal horizontal force, P<sub>br</sub>, of Equation 5.5-4 but not less than 700 pounds (3114 N).

**5.5.6 Bottom Chord Bearing Joists**

Where bottom chord bearing joists are utilized, a row of diagonal bridging shall be provided near the support(s). This bridging shall be installed and anchored before the hoisting cable(s) is released.

**5.6 INSTALLATION OF BRIDGING**

Bridging shall support the top and bottom chords against lateral movement during the construction period and shall hold the steel joists in the approximate position as shown on the joist placement plans.

The ends of all bridging lines terminating at walls or beams shall be anchored thereto.





## 5.7 BEARING SEAT ATTACHMENTS

### 5.7.1 Masonry and Concrete

Ends of K-Series, LH-Series, and DLH-Series Joists and Joist Girders resting on steel bearing plates on masonry or structural concrete shall be attached thereto, as shown in Table 5.7-1, with a minimum of two fillet welds, or with two bolts, or the equivalent.

### 5.7.2 Steel

Ends of K-Series, LH-Series, and DLH-Series Joists and Joist Girders resting on steel supports shall be attached thereto, as shown in Table 5.7-1, with a minimum of two fillet welds, or with two bolts, or the equivalent. Where K-Series, LH-Series and DLH-Series Joists and Joist Girders are used to provide lateral stability to the supporting member, the final connection shall be made by welding or as designated by the specifying professional.

**TABLE 5.7-1**

JOIST SECTION NUMBER <sup>1</sup>	MINIMUM FILLET WELD	MINIMUM BEARING SEAT BOLTS FOR ERECTION
K1-12	2– 1/8" x 2 1/2" (3 x 64 mm)	2– 1/2" (13 mm) A307
LH02-06	2– 3/16" x 2 1/2" (5 x 64 mm)	
LH07-17, DLH10-17, JG	2– 1/4" x 2 1/2" (6 x 64 mm)	2– 3/4" (19 mm) A307
LH/ DLH18-25, JG <sup>2</sup>	2– 1/4" x 4" (6 x 102 mm)	2– 3/4" (19 mm) A325
<sup>(1)</sup> Last digit(s) of joist designation shown in load table. <sup>(2)</sup> Joist Girders with a self weight greater than 50 plf (0.73 kN/m).		

### 5.7.3 Uplift

Where uplift forces are a design consideration, roof joists shall be anchored to resist such forces and shall meet the requirements of Section 5.12.

## 5.8 JOIST SPACING

Joists shall be spaced so that the loading on each joist does not exceed the design load (LRFD or ASD) for the particular joist designation and span as shown in the applicable load tables.

## 5.9 FLOOR AND ROOF DECKS

### 5.9.1 Material

Floor and roof decks shall be permitted to consist of cast-in-place or pre-cast concrete or gypsum, cold-formed steel, wood, or other suitable material capable of supporting the required load at the specified joist spacing.

### 5.9.2 Thickness

Cast-in-place slabs shall be not less than 2 inches (51 mm) thick.



**5.9.3 Centering**

Centering for cast-in-place slabs shall be permitted to be ribbed metal lath, corrugated steel sheets, paper-backed welded wire fabric, removable centering or any other suitable material capable of supporting the slab at the designated joist spacing.

Centering shall not cause lateral displacement or damage to the top chord of joists during installation or removal of the centering or placing of the concrete.

**5.9.4 Bearing**

Slabs or decks shall bear uniformly along the top chords of the joists.

**5.9.5 Attachments**

The spacing of attachments along the joist top chord shall not exceed 36 inches (914 mm). Such attachments of the slab or deck to the top chords of joists shall be capable of resisting the forces given in Table 5.9-1.

**TABLE 5.9-1**

JOIST SECTION NUMBER <sup>1</sup>	NOMINAL FORCE REQUIRED <sup>2</sup>
K1-12	100 lbs/ft. (1.46 kN/m)
LH02-04	120 lbs/ft. (1.75 kN/m)
LH05-09	150 lbs/ft. (2.19 kN/m)
LH/DLH10-17	200 lbs/ft. (2.92 kN/m)
LH/DLH18-19	250 lbs/ft. (3.65 kN/m)
LH/DLH20-21	300 lbs/ft. (4.38 kN/m)
LH/DLH22-24	420 lbs/ft. (6.13 kN/m)
LH/DLH25	520 lbs/ft. (7.59 kN/m)
<sup>(1)</sup> Last digit(s) of joist designation shown in Load Table.	
<sup>(2)</sup> Nominal bracing force is unfactored.	

**5.9.6 Wood Nailers**

Where wood nailers are used, such nailers in conjunction with deck or slab shall be firmly attached to the top chords of the joists in conformance with Section 5.9.5.

**5.9.7 Joist With Standing Seam Roofing or Laterally Unbraced Top Chords**

Where the roof systems do not provide lateral stability for the steel joists in accordance with Section 5.9.5 sufficient stability shall be provided to brace the steel joists laterally under the full design load. For this condition, the compression chord design shall include the effects of both the in-plane and out-of-plane buckling of the steel joist (e.g., buckling about the vertical axis of the steel joist cross section). In any case where the attachment requirement of Section 5.9.5 is not achieved, out-of-plane strength shall be achieved by adjusting the bridging spacing and/or increasing the compression chord area and the y-axis radius of gyration. The effective slenderness ratio about the vertical axis equals  $0.94 L/r_y$ ; where L is the bridging spacing in inches (millimeters) and  $r_y$  is the radius of gyration of the top chord in inches (millimeters). The maximum bridging spacing shall not exceed that specified in Section 5.5.3.

**User Note:** Some examples of roof systems which may not provide adequate top chord lateral stability may be standing seam roofs, skylights, or other openings which do not provide top chord attachments per Section 5.9.5.



Horizontal bridging members attached to the compression chords and their anchorages shall be designed for a compressive axial force,  $P_{br}$ , given in Equation 5.9-1.

$$P_{br} = 0.001nP + 0.004P\sqrt{n} \geq 0.0025nP, \text{ kips (N)} \quad (5.9-1)$$

Where  $n$  is the number of joists between end anchors and  $P$  is the chord design force in kips (N)

The attachment force between the horizontal bridging member and the compression chord shall be  $0.01P$ . Horizontal bridging attached to the tension chords shall be proportioned so that the slenderness ratio between attachments does not exceed 300. Diagonal bridging shall be proportioned so that the slenderness ratio between attachments does not exceed 200.

### 5.10 DEFLECTION

The deflection due to the design live load shall not exceed the following:

**Floors:** 1/360 of span.

**Roofs:** 1/360 of span where a plaster ceiling is attached or suspended, or  
1/240 of span for all other cases.

The specifying professional shall give consideration to the effects of deflection and vibration in the selection of joists.

**User Note:** For further information on vibration, refer to Steel Joist Institute Technical Digest 5, "Vibration of Steel Joist-Concrete Slab Floors".

### 5.11 PONDING

The ponding investigation shall be performed by the specifying professional.

**User Note:** For further reference, refer to Steel Joist Institute Technical Digest 3, "Structural Design of Steel Joist Roofs to Resist Ponding Loads" and AISC 360.

### 5.12 UPLIFT

Where uplift forces due to wind are a design requirement, these forces shall be indicated on the structural drawings in terms of NET uplift in pounds per square foot (Pascals). The structural drawings shall indicate if the net uplift is based upon an LRFD or ASD load combination. When these forces are specified, they shall be considered in the design of joists, Joist Girders, and required bridging or bracing. Wherever uplift due to wind forces is a design consideration, the following shall be required:

- a) For joists, a single line of **bottom chord** bridging shall be provided near the first bottom chord panel points.
- b) For **Joist Girders**, if the ends of the bottom chord are not strutted and extended to column stabilizer plates, bracing shall be provided near the first bottom chord panel points.

**User Note:** For further reference, refer to Steel Joist Institute Technical Digest 6, "Structural Design of Steel Joist Roofs to Resist Uplift Loads".

### 5.13 DIAPHRAGMS AND COLLECTORS

Where diaphragm collector forces due to wind or seismic forces are a design requirement, these forces shall be indicated on the structural drawings. The structural drawings shall indicate the nominal (unfactored) forces. The structural drawings shall also indicate the Seismic Design Category, and the Seismic Force Resisting System type, and applicable seismic design coefficients. When this data is specified, joist collectors or chords in horizontal diaphragm systems, shall be designed in conformance with the provisions of Section 4 through Section 6. End connections and splices in joists incorporated into Seismic Force Resisting System (SFRS) as horizontal diaphragms as collectors or chords shall adhere to the requirements stipulated by the applicable building code.



## 5.14 INSPECTION

Joists shall be inspected by the manufacturer before shipment to verify compliance of materials and workmanship with the requirements of this Specification.

**User Note:** If the purchaser requires an inspection of the steel joists or Joist Girders by someone other than the manufacturer's own inspectors, they shall be permitted to reserve the right to do so in their "Invitation to Bid" or the accompanying "Job Specifications". Arrangements shall be made with the manufacturer for such inspection of the joists or Joist Girders at the manufacturing shop by the purchaser's inspectors at purchaser's expense.

## 5.15 PARALLEL CHORD SLOPED JOISTS AND JOIST GIRDERS

The span of a parallel chord sloped joist or Joist Girder shall be defined by the length along the slope. Minimum depth, load-carrying capacity, and bridging requirements shall be determined by the sloped definition of span. The Load Table capacity shall be the component normal to the joist.

# SECTION 6 ERECTION STABILITY AND HANDLING

As a minimum, erection stability and handling of joists and Joist Girders shall meet the requirements of this Section 6.

**User Note:** Additional requirements for erection of steel joists and Joist Girders can be found in Steel Joist Institute Technical Digest No. 9, "Handling and Erection of Steel Joists and Joist Girders".

## 6.1 STABILITY REQUIREMENTS

**User Note:** It is not recommended that an erector climb on unbridged joists, extreme caution shall be exercised since unbridged joists exhibit some degree of instability under the erector's weight.

- a) In steel framing, where joists/Joist Girders are utilized at column lines, the joist/Joist Girder shall be field-bolted at the column. Before hoisting cables are released and before an employee is allowed on the joists/Joist Girder the following conditions shall be met:
  - 1) The seat at each end of the joist/Joist Girder is attached in accordance with Section 5.7. Where a bolted seat connection is used for erection purposes, as a minimum, the bolts shall be snug tightened. The snug tight condition shall be defined as the tightness that exists where all plies of a joint are in firm contact. This shall be attained by a few impacts of an impact wrench or the full effort of an employee using an ordinary spud wrench.
  - 2) Where stabilizer plates are required the joist/Joist Girder bottom chord shall engage the stabilizer plate.

During the construction period, the contractor shall provide means for the adequate distribution of loads so that the carrying capacity of any joist or Joist Girder is not exceeded.

- b) Before an employee is allowed on the steel joist: BOTH ends of joists at columns (or joists designated as column joists) shall be attached to its supports. For all other joists a minimum of one end shall be attached before the employee is allowed on the joist. The attachment shall be in accordance with Section 5.7.

Where a bolted seat connection is used for erection purposes, as a minimum, the bolts shall be snug tightened. The snug tight condition shall be defined as the tightness that exists where all plies of a joint are in firm contact. This shall be attained by a few impacts of an impact wrench or the full effort of an employee using an ordinary spud wrench.



- c) On steel joists that do not require erection bridging as shown by either the unshaded area of the Load Tables or as determined by Section 5.5.2.1, only one employee shall be allowed on the steel joist until all bridging is installed and anchored.
- d) Where the span of the steel joist is within the **Red shaded area** of the Load Table, or in the absence of a standard SJI Section Number designation and Erection Bridging is required in accordance with Section 5.5.2.1, the following shall apply:
  - 1) The row of bridging nearest the midspan of the steel joist shall be bolted diagonal Erection Bridging; and
  - 2) Hoisting cables shall not be released until this bolted diagonal Erection Bridging is installed and anchored, unless an alternate method of stabilizing the joist has been provided; and
  - 3) No more than one employee shall be allowed on these spans until all other bridging is installed and anchored.
- e) Where the span of the steel joist is within the **Blue shaded area** of the Load Table, the following shall apply:
  - 1) All rows of bridging shall be bolted diagonal bridging; and
  - 2) Hoisting cables shall not be released until the two rows of bolted diagonal Erection Bridging nearest the third points of the steel joist are installed and anchored; and
  - 3) No more than two employees shall be allowed on these spans until all bridging is installed and anchored.
- f) Where the span of the steel joist is in the **Gray shaded area** of the Load Table, the following shall apply:
  - 1) All rows of bridging shall be bolted diagonal bridging; and
  - 2) Hoisting cables shall not be released until all bridging is installed and anchored; and
  - 3) No more than two employees shall be allowed on these spans until all other bridging is installed and anchored.
- g) Where permanent bridging terminus points cannot be used during erection, additional temporary bridging terminus points shall be required to provide lateral stability.
- h) In the case of bottom chord bearing joists, the ends of the joist shall be restrained laterally per Section 5.5.6 before releasing the hoisting cables.
- i) After the joist is straightened and plumbed, and all bridging is completely installed and anchored, the ends of the joists shall be fully connected to the supports in accordance with Section 5.7.

## 6.2 LANDING AND PLACING LOADS

- a) Except as stated in Section 6.2(d), no "construction loads" shall be allowed on the steel joists until all bridging is installed and anchored, and all joist bearing ends are attached.

**User Note:** For definition of "construction load" see Code of Federal Regulations (CFR), Occupational Safety and Health Administration (OSHA), 29 CFR Part 1926, Safety Standards for Steel Erection; Subpart R - Steel Erection, §1926.751 Definitions; January 18, 2001, Washington, D.C.

- b) During the construction period, loads placed on the steel joists shall be distributed so as not to exceed the capacity of the steel joists.
- c) The weight of a bundle of joist bridging shall not exceed a total of 1000 pounds (454 kilograms). The bundle of joist bridging shall be placed on a minimum of three steel joists that are secured at one end. The edge of the bridging bundle shall be positioned within 1 foot (0.30 m) of the secured end.
- d) No bundle of deck shall be placed on steel joists until all bridging has been installed and anchored and all joist bearing ends attached, unless the following conditions are met:
  - 1) The contractor has first determined from a "qualified person" and documented in a site-specific erection plan that the structure or portion of the structure is capable of supporting the load;
  - 2) The bundle of decking is placed on a minimum of three steel joists;



- 3) The joists supporting the bundle of decking are attached at both ends;
- 4) At least one row of bridging is installed and anchored;
- 5) The total weight of the decking does not exceed 4000 pounds (1816 kilograms); and
- 6) The edge of the bundle of decking is placed within 1 foot (0.30 meters) of the bearing surface of the joist end.

**User Note:** For definition of “qualified person” see Code of Federal Regulations (CFR), Occupational Safety and Health Administration (OSHA), 29 CFR Part 1926, Safety Standards for Steel Erection; Subpart R - Steel Erection, §1926.751 Definitions; January 18, 2001, Washington, D.C.

- e) The edge of the construction load shall be placed within 1 foot (0.30 meters) of the bearing surface of the joist end.

### 6.3 FIELD WELDING

All field welding shall be performed in accordance with the structural drawings. Field welding shall not damage the joists or Joist Girders.

On cold-formed steel members whose yield strength has been attained by cold working, and whose as-formed strength is used in the design, the total length of weld at any one point shall not exceed 50 percent of the overall developed width of the cold-formed section.

### 6.4 HANDLING

Particular attention shall be considered for the handling and erection of K-Series, LH-Series, DLH-Series steel joists and Joist Girders. Damage to the joists and accessories shall be avoided. Hoisting cables shall be attached at panel point locations and those locations shall be selected to minimize erection stresses.

Each joist shall be adequately braced laterally before any loads are applied. If lateral support is provided by bridging, the bridging lines as defined in Section 6.1(c), 6.1(d), 6.1(e), and 6.1(f) shall be anchored to prevent lateral movement.

### 6.5 FALL ARREST SYSTEMS

Steel joists and Joist Girders shall not be used as anchorage points for a fall arrest system unless written direction to do so is obtained from a “qualified person”.

**User Note:** For definition of “qualified person” see Code of Federal Regulations (CFR), Occupational Safety and Health Administration (OSHA), 29 CFR Part 1926, Safety Standards for Steel Erection; Subpart R - Steel Erection, §1926.751 Definitions; January 18, 2001, Washington, D.C.



# STANDARD LRFD LOAD TABLE

## OPEN WEB STEEL JOISTS, K-SERIES

Based on a 50 ksi (345 MPa) Maximum Yield Strength  
 Adopted by the Steel Joist Institute May 1, 2000  
 Revised to May 18, 2010 – Effective December 31, 2010

The **BLACK** figures in the Load Table give the TOTAL safe factored uniformly distributed load-carrying capacities, in pounds per linear foot, of **LRFD** K-Series Steel Joists.

The approximate joist weights, in pounds per linear foot (kiloNewtons per meter), given in the Load Table may be added to the other building weights to determine the unfactored DEAD load. In all cases the factored DEAD load, including the joist self-weight, must be deducted from the TOTAL load to determine the factored LIVE load. The approximate joist weights do not include accessories.

The **RED** figures in the Load Table represent the unfactored uniform load, in pounds per linear foot (kiloNewtons per meter), which will produce an approximate joist deflection of 1/360 of the span. This load can be linearly prorated to obtain the unfactored uniform load for supplementary deflection criteria (i.e. an unfactored uniform load which will produce a joist deflection of 1/240 of the span may be obtained by multiplying the **RED** figures by 360/240). In no case shall the prorated, unfactored load exceed the unfactored TOTAL load-carrying capacity of the joist as given in the Standard **ASD** Load Table for Open Web Steel Joists, K-Series.

Where the joist span is in the **RED SHADED** area of the Load Table, the row of bridging nearest the mid span shall be diagonal bridging with bolted connections at chords and intersections. Hoisting cables shall not be released until this row of bolted diagonal bridging is completely installed. The **RED SHADED** area extends up through 60'-0" (18288 mm).

The approximate gross moment of inertia (not adjusted for shear deformation) of a standard joist listed in the Load Table may be determined as follows:

$$I_j = 26.767(W)(L^3)(10^{-6}) \text{ in}^4 \quad \text{or} \quad 2.6953(W)(L^3)(10^{-5}) \text{ mm}^4, \text{ where } W = \text{RED figure in the Load Table, and}$$

$$L = (\text{span} - 0.33) \text{ in feet} \quad \text{or} \quad (\text{span} - 102) \text{ in millimeters}$$

The TOTAL safe factored uniformly distributed load-carrying capacities, in pounds per linear foot (kiloNewtons per meter), of **LRFD** K-Series Steel Joists shall not exceed 825 plf (12.03 kN/m) for spans shorter than what is explicitly shown in the Load Table. The maximum prorated unfactored RED load shall not exceed 550 plf (8.02 kN/m) (the TOTAL load-carrying capacity of the joist as given in the Standard **ASD** Load Table for Open Web Steel Joists, K-Series).

Loads for span increments not explicitly given in the Load Table may be determined using linear interpolation between the load values given in adjacent span columns.

For the proper handling of concentrated and/or varying loads, see Section 2.4 in the Code of Standard Practice for Steel Joist and Joist Girders.



# LRFD

**STANDARD LOAD TABLE FOR OPEN WEB STEEL JOISTS, K-SERIES**  
Based On A 50 ksi Maximum Yield Strength - Loads Shown In Pounds Per Linear Foot (plf)

Joist Designation	10K1	12K1	12K3	12K5	14K1	14K3	14K4	14K6	16K2	16K3	16K4	16K5	16K6	16K7	16K9
Depth (in.)	10	12	12	12	14	14	14	14	16	16	16	16	16	16	16
Approx. Wt (lbs./ft.)	5.0	5.0	5.7	7.1	5.2	6.0	6.7	7.7	5.5	6.3	7.0	7.5	8.1	8.6	10.0
Span (ft.)															
10	825 550														
11	825 542														
12	825 455	825 550	825 550	825 550											
13	718 363	825 510	825 510	825 510											
14	618 289	750 425	825 463	825 463	825 550	825 550	825 550	825 550							
15	537 234	651 344	814 428	825 434	766 475	825 507	825 507	825 507							
16	469 192	570 282	714 351	825 396	672 390	825 467	825 467	825 467	825 550	825 550	825 550	825 550	825 550	825 550	825 550
17	415 159	504 234	630 291	825 366	592 324	742 404	825 443	825 443	768 488	825 526	825 526	825 526	825 526	825 526	825 526
18	369 134	448 197	561 245	760 317	528 272	661 339	795 397	825 408	684 409	762 456	825 490	825 490	825 490	825 490	825 490
19	331 113	402 167	502 207	681 269	472 230	592 287	712 336	825 383	612 347	682 386	820 452	825 455	825 455	825 455	825 455
20	298 97	361 142	453 177	613 230	426 197	534 246	642 287	787 347	552 297	615 330	739 386	825 426	825 426	825 426	825 426
21		327 123	409 153	555 198	385 170	483 212	582 248	712 299	499 255	556 285	670 333	754 373	822 405	825 406	825 406
22		298 106	373 132	505 172	351 147	439 184	529 215	648 259	454 222	505 247	609 289	687 323	747 351	825 385	825 385
23		271 93	340 116	462 150	321 128	402 160	483 188	592 226	415 194	462 216	556 252	627 282	682 307	760 339	825 363
24		249 81	312 101	423 132	294 113	367 141	442 165	543 199	381 170	424 189	510 221	576 248	627 269	697 298	825 346
25					270 100	339 124	408 145	501 175	351 150	390 167	469 195	529 219	576 238	642 263	771 311
26					249 88	313 110	376 129	462 156	324 133	360 148	433 173	489 194	532 211	592 233	711 276
27					231 79	289 98	349 115	427 139	300 119	334 132	402 155	453 173	493 188	549 208	658 246
28					214 70	270 88	324 103	397 124	279 106	310 118	373 138	421 155	459 168	510 186	612 220
29									259 95	289 106	348 124	391 139	427 151	475 167	570 198
30									241 86	270 96	324 112	366 126	399 137	444 151	532 178
31									226 78	252 87	304 101	342 114	373 124	415 137	498 161
32									213 71	237 79	285 92	321 103	349 112	388 124	466 147





# LRFD

**STANDARD LOAD TABLE FOR OPEN WEB STEEL JOISTS, K-SERIES**  
Based On A 50 ksi Maximum Yield Strength - Loads Shown In Pounds Per Linear Foot (plf)

Joist Designation	18K3	18K4	18K5	18K6	18K7	18K9	18K10	20K3	20K4	20K5	20K6	20K7	20K9	20K10	22K4	22K5	22K6	22K7	22K9	22K10	22K11
Depth (In.)	18	18	18	18	18	18	18	20	20	20	20	20	20	20	22	22	22	22	22	22	22
Approx. Wt. (lbs./ft.)	6.4	7.2	7.7	8.4	8.9	10.1	11.6	6.5	7.2	7.7	8.4	8.9	10.1	11.6	7.3	7.7	8.5	9.0	10.2	11.7	11.9
Span (ft.)																					
↓																					
18	825 550	825 550	825 550	825 550	825 550	825 550	825 550														
19	771 494	825 523	825 523	825 523	825 523	825 523	825 523	825 550	825 550	825 550	825 550	825 550	825 550	825 550							
20	694 423	825 490	825 490	825 490	825 490	825 490	825 490	775 517	825 550	825 550	825 550	825 550	825 550	825 550							
21	630 364	759 426	825 460	825 460	825 460	825 460	825 460	702 453	825 520	825 520	825 520	825 520	825 520	825 520	825 550	825 550	825 550	825 550	825 550	825 550	825 550
22	573 316	690 370	777 414	825 438	825 438	825 438	825 438	639 393	771 461	825 490	825 490	825 490	825 490	825 490	825 548	825 548	825 548	825 548	825 548	825 548	825 548
23	523 276	630 323	709 362	774 393	825 418	825 418	825 418	583 344	703 402	793 451	825 468	825 468	825 468	825 468	777 491	825 518	825 518	825 518	825 518	825 518	825 518
24	480 242	577 284	651 318	709 345	789 382	825 396	825 396	535 302	645 353	727 396	792 430	825 448	825 448	825 448	712 431	804 483	825 495	825 495	825 495	825 495	825 495
25	441 214	532 250	600 281	652 305	727 337	825 377	825 377	493 266	594 312	669 350	729 380	811 421	825 426	825 426	657 381	739 427	805 464	825 474	825 474	825 474	825 474
26	408 190	492 222	553 249	603 271	672 299	807 354	825 361	456 236	549 277	618 310	673 337	750 373	825 405	825 405	606 338	682 379	744 411	825 454	825 454	825 454	825 454
27	378 169	454 198	513 222	558 241	622 267	747 315	825 347	421 211	508 247	573 277	624 301	694 333	825 389	825 389	561 301	633 337	688 367	768 406	825 432	825 432	825 432
28	351 151	423 177	477 199	519 216	577 239	694 282	822 331	391 189	472 221	532 248	579 269	645 298	775 353	825 375	522 270	588 302	640 328	712 364	825 413	825 413	825 413
29	327 136	394 159	444 179	483 194	538 215	646 254	766 298	364 170	439 199	495 223	540 242	601 268	723 317	825 359	486 242	547 272	597 295	664 327	798 387	825 399	825 399
30	304 123	367 144	414 161	451 175	502 194	603 229	715 269	340 153	411 179	462 201	504 218	561 242	675 286	799 336	453 219	511 245	556 266	619 295	745 349	825 385	825 385
31	285 111	343 130	387 146	421 158	469 175	564 207	669 243	318 138	384 162	433 182	471 198	525 219	631 259	748 304	424 198	478 222	520 241	580 267	697 316	825 369	825 369
32	267 101	322 118	363 132	396 144	441 159	529 188	627 221	298 126	360 147	406 165	442 179	492 199	592 235	702 276	397 180	448 201	489 219	544 242	654 287	775 337	823 355
33	252 92	303 108	342 121	372 131	414 145	498 171	589 201	280 114	339 134	381 150	415 163	463 181	556 214	660 251	373 164	421 183	459 199	511 221	615 261	729 307	798 334
34	237 84	285 98	321 110	349 120	390 132	468 156	555 184	264 105	318 122	358 137	391 149	435 165	523 195	621 229	352 149	397 167	432 182	481 202	579 239	687 280	774 314
35	223 77	268 90	303 101	330 110	367 121	441 143	523 168	249 96	300 112	339 126	369 137	411 151	493 179	585 210	331 137	373 153	408 167	454 185	546 219	648 257	741 292
36	211 70	253 82	286 92	312 101	348 111	417 132	495 154	235 88	283 103	319 115	348 125	388 139	466 164	553 193	313 126	354 141	385 153	429 169	516 201	612 236	700 269
37								222 81	268 95	303 106	330 115	367 128	441 151	523 178	297 116	334 130	364 141	406 156	487 185	579 217	663 247
38								211 74	255 87	286 98	312 106	348 118	418 139	496 164	280 107	316 119	345 130	384 144	462 170	549 200	628 228
39								199 69	241 81	271 90	297 98	330 109	397 129	471 151	267 98	300 110	327 120	364 133	438 157	520 185	595 211
40								190 64	229 75	258 84	282 91	313 101	376 119	447 140	253 91	285 102	310 111	346 123	417 146	495 171	565 195
41															241 85	271 95	295 103	330 114	396 135	471 159	538 181
42															229 79	259 88	282 96	313 106	378 126	448 148	513 168
43															219 73	247 82	268 89	300 99	360 117	427 138	489 157
44															208 68	235 76	256 83	286 92	343 109	408 128	466 146



# LRFD

**STANDARD LOAD TABLE FOR OPEN WEB STEEL JOISTS, K-SERIES**  
Based On A 50 ksi Maximum Yield Strength - Loads Shown In Pounds Per Linear Foot (plf)

Joist Designation	24K4	24K5	24K6	24K7	24K8	24K9	24K10	24K12	26K5	26K6	26K7	26K8	26K9	26K10	26K12
Depth (In.)	24	24	24	24	24	24	24	24	26	26	26	26	26	26	26
Approx. Wt. (lbs./ft.)	7.8	7.9	8.5	9.0	9.4	10.3	11.7	13.5	8.1	8.6	9.0	9.7	10.4	11.8	13.7
Span (ft.)															
↓															
23	825 550	825 550	825 550	825 550	825 550	825 550	825 550	825 550							
24	780 516	825 544	825 544	825 544	825 544	825 544	825 544	825 544							
25	718 456	810 511	825 520	825 520	825 520	825 520	825 520	825 520	825 550	825 550	825 550	825 550	825 550	825 550	825 550
26	663 405	748 453	814 493	825 499	825 499	825 499	825 499	825 499	813 535	825 541	825 541	825 541	825 541	825 541	825 541
27	615 361	693 404	754 439	825 479	825 479	825 479	825 479	825 479	753 477	820 519	825 522	825 522	825 522	825 522	825 522
28	571 323	643 362	700 393	781 436	825 456	825 456	825 456	825 456	699 427	762 464	825 501	825 501	825 501	825 501	825 501
29	531 290	600 325	652 354	727 392	804 429	825 436	825 436	825 436	651 384	709 417	790 463	825 479	825 479	825 479	825 479
30	496 262	559 293	609 319	679 353	750 387	816 419	825 422	825 422	607 346	661 377	738 417	816 457	825 459	825 459	825 459
31	465 237	523 266	570 289	636 320	702 350	765 379	825 410	825 410	568 314	619 341	690 378	763 413	825 444	825 444	825 444
32	435 215	490 241	535 262	595 290	658 318	717 344	823 393	823 393	534 285	580 309	648 343	715 375	778 407	823 431	823 431
33	409 196	462 220	502 239	559 265	619 289	673 313	798 368	798 368	501 259	546 282	609 312	672 342	732 370	798 404	798 404
34	385 179	435 201	472 218	526 242	582 264	634 286	753 337	774 344	472 237	514 257	573 285	633 312	688 338	774 378	774 378
35	363 164	409 184	445 200	496 221	549 242	598 262	709 308	751 324	445 217	484 236	540 261	597 286	649 310	751 356	751 356
36	343 150	387 169	421 183	469 203	519 222	565 241	670 283	730 306	420 199	457 216	510 240	564 263	613 284	729 334	730 334
37	324 138	366 155	399 169	444 187	490 205	534 222	634 260	711 290	397 183	433 199	483 221	534 242	580 262	690 308	711 315
38	307 128	346 143	378 156	421 172	465 189	507 204	601 240	691 275	376 169	411 184	457 204	505 223	550 241	654 284	691 299
39	292 118	328 132	358 144	399 159	441 174	480 189	570 222	673 261	357 156	390 170	433 188	480 206	522 223	619 262	673 283
40	277 109	312 122	340 133	379 148	420 161	456 175	541 206	657 247	340 145	370 157	412 174	456 191	496 207	589 243	657 269
41	264 101	297 114	324 124	361 137	399 150	435 162	516 191	640 235	322 134	352 146	393 162	433 177	472 192	561 225	640 256
42	252 94	283 106	309 115	343 127	379 139	414 151	490 177	625 224	307 125	336 136	373 150	412 164	450 178	534 210	625 244
43	240 88	270 98	294 107	328 118	363 130	394 140	468 165	609 213	294 116	319 126	357 140	394 153	429 166	508 195	610 232
44	229 82	258 92	280 100	313 110	346 121	376 131	447 154	580 199	280 108	306 118	340 131	376 143	409 155	486 182	597 222
45	219 76	246 86	268 93	298 103	330 113	360 122	427 144	555 185	268 101	291 110	325 122	360 133	391 145	465 170	583 212
46	208 71	235 80	256 87	286 97	316 106	345 114	408 135	531 174	256 95	279 103	310 114	343 125	375 135	444 159	570 203
47	199 67	225 75	246 82	274 90	303 99	330 107	391 126	508 163	246 89	267 96	298 107	328 117	358 127	426 149	553 192
48	192 63	216 70	235 77	262 85	291 93	316 101	375 118	487 153	235 83	256 90	285 100	315 110	343 119	408 140	529 180
49									225 78	246 85	274 94	303 103	330 112	391 131	508 169
50									216 73	235 80	262 89	291 97	316 105	375 124	487 159
51									208 69	226 75	252 83	279 91	304 99	361 116	469 150
52									199 65	217 71	243 79	268 86	292 93	346 110	451 142



# LRFD

**STANDARD LOAD TABLE/OPEN WEB STEEL JOISTS, K-SERIES**  
Based On A 50 ksi Maximum Yield Strength - Loads Shown In Pounds Per Linear Foot (plf)

Joist Designation	28K6	28K7	28K8	28K9	28K10	28K12	30K7	30K8	30K9	30K10	30K11	30K12
Depth (In.)	28	28	28	28	28	28	30	30	30	30	30	30
Approx. Wt. (lbs./ft.)	8.9	9.2	9.8	10.5	11.8	14.5	9.6	10.0	10.6	11.9	13.3	15.0
Span (ft.)												
↓												
27	825 550	825 550	825 550	825 550	825 550	825 550						
28	822 541	825 543	825 543	825 543	825 543	825 543						
29	766 486	825 522	825 522	825 522	825 522	825 522	825 550	825 550	825 550	825 550	825 550	825 550
30	715 439	796 486	825 500	825 500	825 500	825 500	825 543	825 543	825 543	825 543	825 543	825 543
31	669 397	745 440	825 480	825 480	825 480	825 480	801 508	825 520	825 520	825 520	825 520	825 520
32	627 361	699 400	772 438	823 463	823 463	823 463	751 461	823 500	823 500	823 500	823 500	823 500
33	589 329	657 364	726 399	790 432	798 435	798 435	706 420	780 460	798 468	798 468	798 468	798 468
34	555 300	618 333	684 364	744 395	774 410	774 410	664 384	735 420	774 441	774 441	774 441	774 441
35	523 275	583 305	645 333	702 361	751 389	751 389	627 351	693 384	751 415	751 415	751 415	751 415
36	495 252	550 280	609 306	663 332	730 366	730 366	592 323	654 353	712 383	730 392	730 392	730 392
37	468 232	522 257	576 282	627 305	711 344	711 344	559 297	619 325	673 352	711 374	711 374	711 374
38	444 214	493 237	546 260	594 282	691 325	691 325	531 274	586 300	639 325	691 353	691 353	691 353
39	420 198	469 219	519 240	564 260	670 306	673 308	504 253	556 277	606 300	673 333	673 333	673 333
40	399 183	445 203	492 222	535 241	636 284	657 291	478 234	529 256	576 278	657 315	657 315	657 315
41	379 170	424 189	468 206	510 224	606 263	640 277	454 217	502 238	547 258	640 300	640 300	640 300
42	361 158	403 175	445 192	486 208	576 245	625 264	433 202	480 221	522 240	619 282	625 284	625 284
43	345 147	385 163	426 179	463 194	550 228	610 252	414 188	457 206	498 223	591 263	610 270	610 270
44	330 137	367 152	406 167	442 181	525 212	597 240	394 176	436 192	475 208	564 245	597 258	597 258
45	315 128	351 142	388 156	423 169	501 198	583 229	376 164	417 179	454 195	538 229	583 246	583 246
46	301 120	336 133	372 146	405 158	480 186	570 219	361 153	399 168	435 182	516 214	570 236	570 236
47	288 112	321 125	355 136	387 148	459 174	558 210	345 144	382 157	415 171	493 201	558 226	558 226
48	276 105	309 117	340 128	370 139	441 163	547 201	331 135	366 148	399 160	472 188	543 215	547 216
49	265 99	295 110	327 120	355 130	423 153	535 193	318 127	351 139	382 150	454 177	520 202	535 207
50	255 93	283 103	313 113	342 123	405 144	525 185	304 119	337 130	367 141	436 166	499 190	525 199
51	244 88	273 97	301 106	328 115	390 136	507 175	292 112	324 123	352 133	418 157	480 179	514 192
52	235 83	262 92	289 100	315 109	375 128	487 165	282 106	312 116	339 126	402 148	462 169	504 184
53	226 78	252 87	279 95	304 103	360 121	469 156	271 100	300 109	327 119	387 140	444 159	495 177
54	217 74	243 82	268 89	292 97	348 114	451 147	261 94	288 103	313 112	373 132	427 150	486 170
55	210 70	234 77	259 85	282 92	334 108	435 139	252 89	277 98	303 106	360 125	412 142	468 161
56	202 66	226 73	249 80	271 87	322 102	420 132	243 84	268 92	292 100	346 118	397 135	451 153
57							234 80	259 88	282 95	334 112	384 128	435 145
58							226 76	250 83	271 90	322 106	370 121	420 137
59							219 72	241 79	262 86	312 101	358 115	406 130
60							211 69	234 75	253 81	301 96	346 109	393 124



# LRFD

**METRIC LOAD TABLE FOR OPEN WEB STEEL JOISTS, K-SERIES**  
Based On A 345 MPa Maximum Yield Strength - Loads Shown In Kilonewtons Per Meter (kN/m)

Joist Designation	10K1	12K1	12K3	12K5	14K1	14K3	14K4	14K6	16K2	16K3	16K4	16K5	16K6	16K7	16K9
Depth (mm)	254	305	305	305	356	356	356	356	406	406	406	406	406	406	406
Approx. Wt (kN/m)	0.07	0.07	0.08	0.10	0.08	0.09	0.10	0.11	0.08	0.09	0.10	0.11	0.12	0.13	0.15
Span (mm)															
3048	12.03 8.02														
3353	12.03 7.90														
3658	12.03 6.64	12.03 8.02	12.03 8.02	12.03 8.02											
3962	10.48 5.29	12.03 7.44	12.03 7.44	12.03 7.44											
4267	9.01 4.21	10.94 6.20	12.03 6.75	12.03 6.75	12.03 8.02	12.03 8.02	12.03 8.02	12.03 8.02							
4572	7.83 3.41	9.50 5.02	11.88 6.24	12.03 6.33	11.18 6.93	12.03 7.39	12.03 7.39	12.03 7.39							
4877	6.85 2.80	8.31 4.11	10.42 5.12	12.03 5.77	9.80 5.69	12.03 6.81	12.03 6.81	12.03 6.81	12.03 8.02	12.03 8.02	12.03 8.02	12.03 8.02	12.03 8.02	12.03 8.02	12.03 8.02
5182	6.06 2.32	7.35 3.41	9.19 4.24	12.03 5.34	8.64 4.72	10.83 5.89	12.03 6.46	12.03 6.46	11.20 7.12	12.03 7.67	12.03 7.67	12.03 7.67	12.03 7.67	12.03 7.67	12.03 7.67
5486	5.38 1.95	6.54 2.87	8.18 3.57	11.09 4.62	7.70 3.96	9.65 4.94	11.60 5.79	12.03 5.95	9.98 5.96	11.12 6.65	12.03 7.15	12.03 7.15	12.03 7.15	12.03 7.15	12.03 7.15
5791	4.83 1.64	5.86 2.43	7.33 3.02	9.93 3.92	6.89 3.35	8.64 4.18	10.39 4.90	12.03 5.58	8.93 5.06	9.96 5.63	11.97 6.59	12.03 6.64	12.03 6.64	12.03 6.64	12.03 6.64
6096	4.35 1.41	5.27 2.07	6.61 2.58	8.95 3.35	6.21 2.87	7.79 3.59	9.36 4.18	11.49 5.06	8.05 4.33	8.97 4.81	10.79 5.63	12.03 6.21	12.03 6.21	12.03 6.21	12.03 6.21
6401		4.77 1.79	5.97 2.23	8.09 2.88	5.62 2.48	7.04 3.09	8.49 3.61	10.39 4.36	7.28 3.72	8.12 4.15	9.78 4.85	11.01 5.44	11.99 5.91	12.03 5.92	12.03 5.92
6706		4.35 1.54	5.45 1.92	7.37 2.51	5.12 2.14	6.41 2.68	7.72 3.13	9.45 3.77	6.63 3.23	7.37 3.60	8.88 4.21	10.02 4.71	10.90 5.12	12.03 5.61	12.03 5.61
7010		3.96 1.35	4.96 1.69	6.74 2.18	4.68 1.86	5.86 2.33	7.04 2.74	8.64 3.29	6.06 2.83	6.74 3.15	8.12 3.67	9.15 4.11	9.96 4.48	11.09 4.94	12.03 5.29
7315		3.63 1.18	4.55 1.47	6.17 1.92	4.29 1.64	5.36 2.05	6.45 2.40	7.92 2.90	5.56 2.48	6.19 2.75	7.44 3.22	8.40 3.61	9.15 3.92	10.17 4.34	12.03 5.04
7620					3.94 1.45	4.94 1.80	5.95 2.11	7.31 2.55	5.12 2.18	5.69 2.43	6.85 2.84	7.72 3.19	8.40 3.47	9.36 3.83	11.25 4.53
7925					3.63 1.28	4.57 1.60	5.49 1.88	6.74 2.27	4.72 1.94	5.25 2.15	6.32 2.52	7.13 2.83	7.77 3.07	8.64 3.40	10.37 4.02
8230					3.37 1.15	4.22 1.43	5.10 1.67	6.23 2.02	4.37 1.73	4.88 1.92	5.86 2.26	6.61 2.52	7.20 2.74	8.01 3.03	9.61 3.59
8534					3.13 1.02	3.94 1.28	4.72 1.50	5.80 1.80	4.07 1.54	4.53 1.72	5.45 2.01	6.15 2.26	6.69 2.45	7.44 2.71	8.93 3.21
8839									3.78 1.38	4.22 1.54	5.07 1.80	5.71 2.02	6.23 2.20	6.93 2.43	8.31 2.88
9144									3.52 1.25	3.94 1.40	4.72 1.63	5.34 1.83	5.82 1.99	6.47 2.20	7.77 2.59
9449									3.30 1.13	3.67 1.26	4.44 1.47	4.99 1.66	5.45 1.80	6.06 1.99	7.26 2.34
9754									3.10 1.03	3.45 1.15	4.15 1.34	4.68 1.50	5.10 1.63	5.66 1.80	6.80 2.14



# LRFD

**METRIC LOAD TABLE FOR OPEN WEB STEEL JOISTS, K-SERIES**  
Based On A 345 MPa Maximum Yield Strength - Loads Shown In Kilonewtons Per Meter (kN/m)

Joist Designation	18K3	18K4	18K5	18K6	18K7	18K9	18K10	20K3	20K4	20K5	20K6	20K7	20K9	20K10	22K4	22K5	22K6	22K7	22K9	22K10	22K11
Depth (mm)	457	457	457	457	457	457	457	508	508	508	508	508	508	508	559	559	559	559	559	559	559
Approx. Wt. (kN/m)	0.09	0.11	0.11	0.12	0.13	0.15	0.17	0.09	0.11	0.11	0.12	0.13	0.15	0.17	0.11	0.11	0.12	0.13	0.15	0.17	0.17
Span (mm)																					
↓																					
5486	12.03 8.02	12.03 8.02	12.03 8.02	12.03 8.02	12.03 8.02	12.03 8.02	12.03 8.02														
5791	11.25 7.20	12.03 7.63	12.03 7.63	12.03 7.63	12.03 7.63	12.03 7.63	12.03 7.63	12.03 8.02	12.03 8.02	12.03 8.02	12.03 8.02	12.03 8.02	12.03 8.02	12.03 8.02							
6096	10.13 6.17	12.03 7.15	12.03 7.15	12.03 7.15	12.03 7.15	12.03 7.15	12.03 7.15	11.31 7.54	12.03 8.02	12.03 8.02	12.03 8.02	12.03 8.02	12.03 8.02	12.03 8.02							
6401	9.19 5.31	11.07 6.21	12.03 6.71	12.03 6.71	12.03 6.71	12.03 6.71	12.03 6.71	10.24 6.61	12.03 7.58	12.03 7.58	12.03 7.58	12.03 7.58	12.03 7.58	12.03 7.58	12.03 8.02	12.03 8.02	12.03 8.02	12.03 8.02	12.03 8.02	12.03 8.02	12.03 8.02
6706	8.36 4.61	10.06 5.39	11.33 6.04	12.03 6.39	12.03 6.39	12.03 6.39	12.03 6.39	9.32 5.73	11.25 6.72	12.03 7.15	12.03 7.15	12.03 7.15	12.03 7.15	12.03 7.15	12.03 7.99	12.03 7.99	12.03 7.99	12.03 7.99	12.03 7.99	12.03 7.99	12.03 7.99
7010	7.63 4.02	9.19 4.71	10.35 5.28	11.29 5.73	12.03 6.10	12.03 6.10	12.03 6.10	8.51 5.02	10.26 5.86	11.58 6.58	12.03 6.82	12.03 6.82	12.03 6.82	12.03 6.82	11.33 7.16	12.03 7.55	12.03 7.55	12.03 7.55	12.03 7.55	12.03 7.55	12.03 7.55
7315	7.00 3.53	8.42 4.14	9.50 4.64	10.35 5.03	11.51 5.57	12.03 5.77	12.03 5.77	7.81 4.40	9.41 5.15	10.61 5.77	11.55 6.27	12.03 6.53	12.03 6.53	12.03 6.53	10.39 6.28	11.73 7.04	12.03 7.22	12.03 7.22	12.03 7.22	12.03 7.22	12.03 7.22
7620	6.43 3.12	7.77 3.64	8.75 4.10	9.52 4.45	10.61 4.91	12.03 5.50	12.03 5.50	7.20 3.88	8.66 4.55	9.76 5.10	10.63 5.54	11.84 6.14	12.03 6.21	12.03 6.21	9.58 5.56	10.79 6.23	11.75 6.77	12.03 6.91	12.03 6.91	12.03 6.91	12.03 6.91
7925	5.95 2.77	7.18 3.23	8.07 3.63	8.80 3.95	9.80 4.36	11.77 5.16	12.03 5.26	6.65 3.44	8.01 4.04	9.01 4.52	9.82 4.91	10.94 5.44	12.03 5.91	12.03 5.91	8.84 4.93	9.96 5.53	10.85 5.99	12.03 6.62	12.03 6.62	12.03 6.62	12.03 6.62
8230	5.51 2.46	6.63 2.88	7.48 3.23	8.14 3.51	9.08 3.89	10.90 4.59	12.03 5.06	6.15 3.07	7.42 3.60	8.36 4.04	9.10 4.39	10.13 4.85	12.03 5.67	12.03 5.67	8.18 4.39	9.23 4.91	10.04 5.35	11.20 5.92	12.03 6.30	12.03 6.30	12.03 6.30
8534	5.12 2.20	6.17 2.58	6.96 2.90	7.57 3.15	8.42 3.48	10.13 4.11	11.99 4.83	5.71 2.75	6.89 3.22	7.77 3.61	8.44 3.92	9.41 4.34	11.31 5.15	12.03 5.47	7.61 3.94	8.58 4.40	9.34 4.78	10.39 5.31	12.03 6.02	12.03 6.02	12.03 6.02
8839	4.77 1.98	5.75 2.32	6.47 2.61	7.04 2.83	7.85 3.13	9.43 3.70	11.18 4.34	5.31 2.48	6.41 2.90	7.22 3.25	7.88 3.53	8.77 3.91	10.55 4.62	12.03 5.23	7.09 3.53	7.99 3.96	8.71 4.30	9.69 4.77	11.64 5.64	12.03 5.82	12.03 5.82
9144	4.44 1.79	5.36 2.10	6.04 2.34	6.58 2.55	7.33 2.83	8.80 3.34	10.44 3.92	4.96 2.23	5.99 2.61	6.74 2.93	7.35 3.18	8.18 3.53	9.85 4.17	11.66 4.90	6.61 3.19	7.46 3.57	8.12 3.88	9.04 4.30	10.87 5.09	12.03 5.61	12.03 5.61
9449	4.15 1.61	5.01 1.89	5.64 2.13	6.15 2.30	6.85 2.55	8.23 3.02	9.76 3.54	4.64 2.01	5.60 2.36	6.32 2.65	6.87 2.88	7.66 3.19	9.21 3.77	10.92 4.43	6.19 2.88	6.98 3.23	7.59 3.51	8.47 3.89	10.17 4.61	12.03 5.38	12.03 5.38
9754	3.89 1.47	4.70 1.72	5.29 1.92	5.77 2.10	6.43 2.32	7.72 2.74	9.15 3.22	4.35 1.83	5.25 2.14	5.93 2.40	6.45 2.61	7.18 2.90	8.64 3.42	10.24 4.02	5.80 2.62	6.54 2.93	7.13 3.19	7.94 3.53	9.54 4.18	11.31 4.91	12.01 5.18
10058	3.67 1.34	4.42 1.57	4.99 1.76	5.42 1.91	6.04 2.11	7.26 2.49	8.60 2.93	4.09 1.66	4.94 1.95	5.56 2.18	6.06 2.37	6.76 2.64	8.12 3.12	9.63 3.66	5.45 2.39	6.15 2.67	6.69 2.90	7.46 3.22	8.97 3.80	10.63 4.48	11.64 4.87
10363	3.45 1.22	4.15 1.43	4.68 1.60	5.10 1.75	5.69 1.92	6.82 2.27	8.09 2.68	3.85 1.53	4.64 1.78	5.23 1.99	5.71 2.17	6.34 2.40	7.63 2.84	9.06 3.34	5.14 2.17	5.80 2.43	6.30 2.65	7.02 2.94	8.44 3.48	10.02 4.08	11.29 4.58
10668	3.26 1.12	3.91 1.31	4.42 1.47	4.81 1.60	5.36 1.76	6.43 2.08	7.63 2.45	3.63 1.40	4.37 1.63	4.94 1.83	5.38 1.99	5.99 2.20	7.20 2.61	8.53 3.06	4.83 1.99	5.45 2.23	5.95 2.43	6.63 2.69	7.96 3.19	9.45 3.75	10.81 4.26
10973	3.08 1.02	3.69 1.19	4.18 1.34	4.55 1.47	5.07 1.61	6.08 1.92	7.22 2.24	3.43 1.28	4.13 1.50	4.66 1.67	5.07 1.82	5.66 2.02	6.80 2.39	8.07 2.81	4.57 1.83	5.16 2.05	5.62 2.23	6.26 2.46	7.53 2.93	8.93 3.44	10.22 3.92
11278								3.23 1.18	3.91 1.38	4.42 1.54	4.81 1.67	5.36 1.86	6.43 2.20	7.63 2.59	4.33 1.69	4.88 1.89	5.31 2.05	5.93 2.27	7.11 2.69	8.44 3.16	9.67 3.60
11582								3.08 1.07	3.72 1.26	4.18 1.43	4.55 1.54	5.07 1.72	6.10 2.02	7.24 2.39	4.09 1.56	4.61 1.73	5.03 1.89	5.60 2.10	6.74 2.48	8.01 2.91	9.17 3.32
11887								2.91 1.00	3.52 1.18	3.96 1.31	4.33 1.43	4.81 1.59	5.80 1.88	6.87 2.20	3.89 1.43	4.37 1.60	4.77 1.75	5.31 1.94	6.39 2.29	7.59 2.69	8.69 3.07
12192								2.78 0.93	3.34 1.09	3.76 1.22	4.11 1.32	4.57 1.47	5.49 1.73	6.52 2.04	3.69 1.32	4.15 1.48	4.53 1.61	5.05 1.79	6.08 2.13	7.22 2.49	8.25 2.84
12497															3.52 1.24	3.96 1.38	4.31 1.50	4.81 1.66	5.77 1.97	6.87 2.32	7.85 2.64
12802															3.34 1.15	3.78 1.28	4.11 1.40	4.57 1.54	5.51 1.83	6.54 2.15	7.48 2.45
13106															3.19 1.06	3.61 1.19	3.91 1.29	4.37 1.44	5.25 1.70	6.23 2.01	7.13 2.29
13411															3.04 0.99	3.43 1.10	3.74 1.21	4.18 1.34	5.01 1.59	5.95 1.86	6.80 2.13



# LRFD

**METRIC LOAD TABLE FOR OPEN WEB STEEL JOISTS, K-SERIES**  
Based On A 345 MPa Maximum Yield Strength - Loads Shown In Kilonewtons Per Meter (kN/m)

Joist Designation	24K4	24K5	24K6	24K7	24K8	24K9	24K10	24K12	26K5	26K6	26K7	26K8	26K9	26K10	26K12
Depth (mm)	610	610	610	610	610	610	610	610	660	660	660	660	660	660	660
Approx. Wt. (kN/m)	0.11	0.12	0.12	0.13	0.14	0.15	0.17	0.20	0.12	0.13	0.13	0.14	0.15	0.17	0.20
Span (mm)															
↓															
7010	12.03 8.02	12.03 8.02	12.03 8.02	12.03 8.02	12.03 8.02	12.03 8.02	12.03 8.02	12.03 8.02							
7315	11.38 7.53	12.03 7.93	12.03 7.93	12.03 7.93	12.03 7.93	12.03 7.93	12.03 7.93	12.03 7.93							
7620	10.48 6.65	11.82 7.45	12.03 7.58	12.03 7.58	12.03 7.58	12.03 7.58	12.03 7.58	12.03 7.58	12.03 8.02	12.03 8.02	12.03 8.02	12.03 8.02	12.03 8.02	12.03 8.02	12.03 8.02
7925	9.67 5.91	10.92 6.61	11.88 7.19	12.03 7.28	12.03 7.28	12.03 7.28	12.03 7.28	12.03 7.28	11.86 7.80	12.03 7.89	12.03 7.89	12.03 7.89	12.03 7.89	12.03 7.89	12.03 7.89
8230	8.97 5.26	10.11 5.89	11.01 6.40	12.03 6.99	12.03 6.99	12.03 6.99	12.03 6.99	12.03 6.99	10.98 6.96	11.97 7.57	12.03 7.61	12.03 7.61	12.03 7.61	12.03 7.61	12.03 7.61
8534	8.34 4.71	9.39 5.28	10.22 5.73	11.40 6.36	12.03 6.65	12.03 6.65	12.03 6.65	12.03 6.65	10.20 6.23	11.12 6.77	12.03 7.31	12.03 7.31	12.03 7.31	12.03 7.31	12.03 7.31
8839	7.74 4.23	8.75 4.74	9.52 5.16	10.61 5.72	11.73 6.26	12.03 6.36	12.03 6.36	12.03 6.36	9.50 5.60	10.35 6.08	11.53 6.75	12.03 6.99	12.03 6.99	12.03 6.99	12.03 6.99
9144	7.24 3.82	8.16 4.27	8.88 4.65	9.91 5.15	10.94 5.64	11.90 6.11	12.03 6.15	12.03 6.15	8.86 5.04	9.65 5.50	10.77 6.08	11.90 6.66	12.03 6.69	12.03 6.69	12.03 6.69
9449	6.78 3.45	7.63 3.88	8.31 4.21	9.28 4.67	10.24 5.10	11.16 5.53	12.03 5.98	12.03 5.98	8.29 4.58	9.04 4.97	10.06 5.51	11.14 6.02	12.03 6.47	12.03 6.47	12.03 6.47
9754	6.34 3.13	7.15 3.51	7.81 3.82	8.69 4.23	9.61 4.64	10.46 5.02	12.01 5.73	12.01 5.73	7.79 4.15	8.47 4.50	9.45 5.00	10.44 5.47	11.36 5.93	12.01 6.28	12.01 6.28
10058	5.97 2.86	6.74 3.21	7.33 3.48	8.16 3.86	9.04 4.21	9.82 4.56	11.64 5.37	11.64 5.37	7.31 3.77	7.96 4.11	8.88 4.55	9.80 4.99	10.68 5.39	11.64 5.89	11.64 5.89
10363	5.62 2.61	6.34 2.93	6.89 3.18	7.68 3.53	8.49 3.85	9.25 4.17	10.98 4.91	11.29 5.02	6.89 3.45	7.50 3.75	8.36 4.15	9.23 4.55	10.04 4.93	11.29 5.51	11.29 5.51
10668	5.29 2.39	5.97 2.68	6.50 2.91	7.24 3.22	8.01 3.53	8.73 3.82	10.35 4.49	10.96 4.72	6.50 3.16	7.07 3.44	7.88 3.80	8.71 4.17	9.47 4.52	10.96 5.19	10.96 5.19
10973	5.01 2.18	5.64 2.46	6.15 2.67	6.85 2.96	7.57 3.23	8.25 3.51	9.78 4.13	10.66 4.46	6.12 2.90	6.67 3.15	7.44 3.50	8.23 3.83	8.95 4.14	10.63 4.87	10.66 4.87
11278	4.72 2.01	5.34 2.26	5.82 2.46	6.47 2.72	7.15 2.99	7.79 3.23	9.25 3.79	10.37 4.23	5.80 2.67	6.32 2.90	7.04 3.22	7.79 3.53	8.47 3.82	10.06 4.49	10.37 4.59
11582	4.48 1.86	5.05 2.08	5.51 2.27	6.15 2.51	6.78 2.75	7.39 2.97	8.77 3.50	10.09 4.01	5.49 2.46	5.99 2.68	6.67 2.97	7.37 3.25	8.03 3.51	9.54 4.14	10.09 4.36
11887	4.26 1.72	4.79 1.92	5.23 2.10	5.82 2.32	6.43 2.53	7.00 2.75	8.31 3.23	9.82 3.80	5.21 2.27	5.69 2.48	6.32 2.74	7.00 3.00	7.61 3.25	9.04 3.82	9.82 4.13
12192	4.04 1.59	4.55 1.78	4.96 1.94	5.53 2.15	6.12 2.34	6.65 2.55	7.90 3.00	9.58 3.60	4.96 2.11	5.40 2.29	6.01 2.53	6.65 2.78	7.24 3.02	8.60 3.54	9.58 3.92
12497	3.85 1.47	4.33 1.66	4.72 1.80	5.27 1.99	5.82 2.18	6.34 2.36	7.53 2.78	9.34 3.42	4.70 1.95	5.14 2.13	5.73 2.36	6.32 2.58	6.89 2.80	8.18 3.28	9.34 3.73
12802	3.67 1.37	4.13 1.54	4.50 1.67	5.01 1.85	5.53 2.02	6.04 2.20	7.15 2.58	9.12 3.26	4.48 1.82	4.90 1.98	5.45 2.18	6.01 2.39	6.56 2.59	7.79 3.06	9.12 3.56
13106	3.50 1.28	3.94 1.43	4.29 1.56	4.79 1.72	5.29 1.89	5.75 2.04	6.82 2.40	8.88 3.10	4.29 1.69	4.66 1.83	5.21 2.04	5.75 2.23	6.26 2.42	7.42 2.84	8.90 3.38
13411	3.34 1.19	3.76 1.34	4.09 1.45	4.57 1.60	5.05 1.76	5.49 1.91	6.52 2.24	8.47 2.90	4.09 1.57	4.46 1.72	4.96 1.91	5.49 2.08	5.97 2.26	7.09 2.65	8.71 3.23
13716	3.19 1.10	3.59 1.25	3.91 1.35	4.35 1.50	4.81 1.64	5.25 1.78	6.23 2.10	8.09 2.69	3.91 1.47	4.24 1.60	4.75 1.78	5.25 1.94	5.71 2.11	6.78 2.48	8.51 3.09
14021	3.04 1.03	3.43 1.16	3.74 1.26	4.18 1.41	4.61 1.54	5.03 1.66	5.95 1.97	7.74 2.53	3.74 1.38	4.07 1.50	4.53 1.66	5.01 1.82	5.47 1.97	6.47 2.32	8.31 2.96
14326	2.91 0.97	3.28 1.09	3.59 1.19	4.00 1.31	4.42 1.44	4.81 1.56	5.71 1.83	7.42 2.37	3.59 1.29	3.89 1.40	4.35 1.56	4.79 1.70	5.23 1.85	6.21 2.17	8.07 2.80
14630	2.80 0.91	3.15 1.02	3.43 1.12	3.83 1.24	4.24 1.35	4.61 1.47	5.47 1.72	7.11 2.23	3.43 1.21	3.74 1.31	4.15 1.45	4.59 1.60	5.01 1.73	5.95 2.04	7.72 2.62
14935									3.28 1.13	3.59 1.24	4.00 1.37	4.42 1.50	4.81 1.63	5.71 1.91	7.42 2.46
15240									3.15 1.06	3.43 1.16	3.83 1.29	4.24 1.41	4.61 1.53	5.47 1.80	7.11 2.32
15545									3.04 1.00	3.30 1.09	3.67 1.21	4.07 1.32	4.44 1.44	5.27 1.69	6.85 2.18
15850									2.91 0.94	3.17 1.03	3.54 1.15	3.91 1.25	4.26 1.35	5.05 1.60	6.58 2.07



# LRFD

METRIC LOAD TABLE FOR OPEN WEB STEEL JOISTS, K-SERIES  
Based On A 345 MPa Maximum Yield Strength - Loads Shown In Kilonewtons Per Meter (kN/m)

Joist Designation	28K6	28K7	28K8	28K9	28K10	28K12	30K7	30K8	30K9	30K10	30K11	30K12
Depth (mm)	711	711	711	711	711	711	762	762	762	762	762	762
Approx. Wt. (kN/m)	0.13	0.13	0.14	0.15	0.17	0.21	0.14	0.15	0.15	0.17	0.19	0.22
Span (mm)												
↓												
8230	12.03 8.02	12.03 8.02	12.03 8.02	12.03 8.02	12.03 8.02	12.03 8.02						
8534	11.99 7.89	12.03 7.92	12.03 7.92	12.03 7.92	12.03 7.92	12.03 7.92						
8839	11.18 7.09	12.03 7.61	12.03 7.61	12.03 7.61	12.03 7.61	12.03 7.61	12.03 8.02	12.03 8.02	12.03 8.02	12.03 8.02	12.03 8.02	12.03 8.02
9144	10.44 6.40	11.62 7.09	12.03 7.29	12.03 7.29	12.03 7.29	12.03 7.29	12.03 7.92	12.03 7.92	12.03 7.92	12.03 7.92	12.03 7.92	12.03 7.92
9449	9.76 5.79	10.87 6.42	12.03 7.00	12.03 7.00	12.03 7.00	12.03 7.00	11.68 7.41	12.03 7.58	12.03 7.58	12.03 7.58	12.03 7.58	12.03 7.58
9754	9.15 5.26	10.20 5.83	11.27 6.39	12.01 6.75	12.01 6.75	12.01 6.75	10.96 6.72	12.01 7.29	12.01 7.29	12.01 7.29	12.01 7.29	12.01 7.29
10058	8.60 4.80	9.58 5.31	10.59 5.82	11.53 6.30	11.64 6.34	11.64 6.34	10.31 6.12	11.38 6.71	11.64 6.82	11.64 6.82	11.64 6.82	11.64 6.82
10363	8.09 4.37	9.01 4.85	9.98 5.31	10.85 5.76	11.29 5.98	11.29 5.98	9.69 5.60	10.72 6.12	11.29 6.43	11.29 6.43	11.29 6.43	11.29 6.43
10668	7.63 4.01	8.51 4.45	9.41 4.85	10.24 5.26	10.96 5.67	10.96 5.67	9.15 5.12	10.11 5.60	10.96 6.05	10.96 6.05	10.96 6.05	10.96 6.05
10973	7.22 3.67	8.03 4.08	8.88 4.46	9.67 4.84	10.66 5.34	10.66 5.34	8.64 4.71	9.54 5.15	10.39 5.58	10.66 5.72	10.66 5.72	10.66 5.72
11278	6.82 3.38	7.61 3.75	8.40 4.11	9.15 4.45	10.37 5.02	10.37 5.02	8.16 4.33	9.04 4.74	9.82 5.13	10.37 5.45	10.37 5.45	10.37 5.45
11582	6.47 3.12	7.20 3.45	7.96 3.79	8.66 4.11	10.09 4.74	10.09 4.74	7.74 3.99	8.55 4.37	9.32 4.74	10.09 5.15	10.09 5.15	10.09 5.15
11887	6.12 2.88	6.85 3.19	7.57 3.50	8.23 3.79	9.78 4.46	9.82 4.49	7.35 3.69	8.12 4.04	8.84 4.37	9.82 4.85	9.82 4.85	9.82 4.85
12192	0.09 2.67	6.50 2.96	7.18 3.23	7.81 3.51	9.28 4.14	9.58 4.24	6.98 3.41	7.72 3.73	8.40 4.05	9.58 4.59	9.58 4.59	9.58 4.59
12497	5.53 2.48	6.19 2.75	6.82 3.00	7.44 3.26	8.84 3.83	9.34 4.04	6.63 3.16	7.33 3.47	7.99 3.76	9.34 4.37	9.34 4.37	9.34 4.37
12802	5.27 2.30	5.88 2.55	6.50 2.80	7.09 3.03	8.40 3.57	9.12 3.85	6.32 2.94	7.00 3.22	7.61 3.50	9.04 4.11	9.12 4.14	9.12 4.14
13106	5.03 2.14	5.62 2.37	6.21 2.61	6.76 2.83	8.03 3.32	8.90 3.67	6.04 2.74	6.67 3.00	7.26 3.25	8.62 3.83	8.90 3.94	8.90 3.94
13411	4.81 1.99	5.36 2.21	5.93 2.43	6.45 2.64	7.66 3.09	8.71 3.50	5.75 2.56	6.37 2.80	6.93 3.03	8.23 3.57	8.71 3.76	8.71 3.76
13716	4.59 1.86	5.12 2.07	5.66 2.27	6.17 2.46	7.31 2.88	8.51 3.34	5.49 2.39	6.08 2.61	6.63 2.84	7.85 3.34	8.51 3.59	8.51 3.59
14021	4.40 1.75	4.90 1.94	5.42 2.13	5.91 2.30	7.00 2.71	8.31 3.19	5.27 2.23	5.82 2.45	6.34 2.65	7.53 3.12	8.31 3.44	8.31 3.44
14326	4.20 1.63	4.68 1.82	5.18 1.98	5.64 2.15	6.69 2.53	8.14 3.06	5.03 2.10	5.58 2.29	6.06 2.49	7.20 2.93	8.14 3.29	8.14 3.29
14630	4.02 1.53	4.50 1.70	4.96 1.86	5.40 2.02	6.43 2.37	7.99 2.93	4.83 1.97	5.34 2.15	5.82 2.33	6.89 2.74	7.92 3.13	7.99 3.15
14935	3.87 1.44	4.31 1.60	4.77 1.75	5.18 1.89	6.17 2.23	7.81 2.81	4.64 1.85	5.12 2.02	5.58 2.18	6.63 2.58	7.59 2.94	7.81 3.02
15240	3.72 1.35	4.13 1.50	4.57 1.64	4.99 1.79	5.91 2.10	7.66 2.69	4.44 1.73	4.92 1.89	5.36 2.05	6.37 2.42	7.28 2.77	7.66 2.90
15545	3.56 1.28	3.98 1.41	4.40 1.54	4.79 1.67	5.69 1.98	7.39 2.55	4.26 1.63	4.72 1.79	5.14 1.94	6.10 2.29	7.00 2.61	7.50 2.80
15850	3.43 1.21	3.83 1.34	4.22 1.45	4.59 1.59	5.47 1.86	7.11 2.40	4.11 1.54	4.55 1.69	4.94 1.83	5.86 2.15	6.74 2.46	7.35 2.68
16154	3.30 1.13	3.67 1.26	4.07 1.38	4.44 1.50	5.25 1.76	6.85 2.27	3.96 1.45	4.37 1.59	4.77 1.73	5.64 2.04	6.47 2.32	7.22 2.58
16459	3.17 1.07	3.54 1.19	3.91 1.29	4.26 1.41	5.07 1.66	6.58 2.14	3.80 1.37	4.20 1.50	4.57 1.63	5.45 1.92	6.23 2.18	7.09 2.48
16764	3.06 1.02	3.41 1.12	3.78 1.24	4.11 1.34	4.88 1.57	6.34 2.02	3.67 1.29	4.04 1.43	4.42 1.54	5.25 1.82	6.01 2.07	6.82 2.34
17069	2.95 0.96	3.30 1.06	3.63 1.16	3.96 1.26	4.70 1.48	6.12 1.92	3.54 1.22	3.91 1.34	4.26 1.45	5.05 1.72	5.80 1.97	6.58 2.23
17374							3.41 1.16	3.78 1.28	4.11 1.38	4.88 1.63	5.60 1.86	6.34 2.11
17678							3.30 1.10	3.65 1.21	3.96 1.31	4.70 1.54	5.40 1.76	6.12 1.99
17983							3.19 1.05	3.52 1.15	3.83 1.25	4.55 1.47	5.23 1.67	5.93 1.89
18288							3.08 1.00	3.41 1.09	3.69 1.18	4.40 1.40	5.05 1.59	5.73 1.80



# STANDARD **ASD** LOAD TABLE

## OPEN WEB STEEL JOISTS, K-SERIES

Based on a 50 ksi (345 MPa) Maximum Yield Strength  
 Adopted by the Steel Joist Institute November 4, 1985  
 Revised to May 18, 2010 – Effective December 31, 2010

The **BLACK** figures in the Load Table give the TOTAL safe uniformly distributed load-carrying capacities, in pounds per linear foot (kiloNewtons per meter), of **ASD** K-Series Steel Joists.

The approximate joist weights, in pounds per linear foot (kiloNewtons per meter), given in the Load Table may be added to the other building weights to determine the DEAD load. In all cases the DEAD load, including the joist self-weight, must be deducted from the TOTAL load to determine the LIVE load. The approximate joist weights do not include accessories.

The **RED** figures in the Load Table represent the uniform load, in pounds per linear foot (kiloNewtons per meter), which will produce an approximate joist deflection of 1/360 of the span. This load can be linearly prorated to obtain the uniform load for supplementary deflection criteria (i.e. a uniform load which will produce a joist deflection of 1/240 of the span may be obtained by multiplying the **RED** figure by 360/240). In no case shall the prorated load exceed the TOTAL load-carrying capacity of the joist.

Where the joist span is in the **RED SHADED** area of the Load Table, the row of bridging nearest the mid span shall be diagonal bridging with bolted connections at chords and intersections. Hoisting cables shall not be released until this row of bolted diagonal bridging is completely installed. The **RED SHADED** area extends up through 60'-0" (18288 mm).

The approximate gross moment of inertia (not adjusted for shear deformation) of a standard joist listed in the Load Table may be determined as follows:

$$I_j = 26.767(W)(L^3)(10^{-6}) \text{ in}^4 \quad \text{or} \quad 2.6953(W)(L^3)(10^{-5}) \text{ mm}^4, \text{ where } W = \text{RED figure in the Load Table, and}$$

$$L = (\text{span} - 0.33) \text{ in feet} \quad \text{or} \quad (\text{span} - 102) \text{ in millimeters}$$

The TOTAL safe uniformly distributed load-carrying capacities, in pounds per linear foot (kiloNewtons per meter), of **ASD** K-Series Steel Joists shall not exceed 550 plf (8.02 kN/m) for spans shorter than what is explicitly shown in the Load Table. The maximum prorated RED load shall not exceed 550 plf (8.02 kN/m) (the TOTAL load-carrying capacity of the joist as given in the Standard **ASD** Load Table for Open Web Steel Joists, K-Series).

Loads for span increments not explicitly given in the Load Table may be determined using linear interpolation between the load values given in adjacent span columns.

For the proper handling of concentrated and/or varying loads, see Section 2.4 in the Code of Standard Practice for Steel Joist and Joist Girders.





# ASD

**STANDARD LOAD TABLE FOR OPEN WEB STEEL JOISTS, K-SERIES**  
Based on a 50 ksi Maximum Yield Strength - Loads Shown In Pounds Per Linear Foot (plf)

Joist Designation	10K1	12K1	12K3	12K5	14K1	14K3	14K4	14K6	16K2	16K3	16K4	16K5	16K6	16K7	16K9
Depth (in.)	10	12	12	12	14	14	14	14	16	16	16	16	16	16	16
Approx. Wt (lbs./ft.)	5.0	5.0	5.7	7.1	5.2	6.0	6.7	7.7	5.5	6.3	7.0	7.5	8.1	8.6	10.0
Span (ft.)															
10	550 550														
11	550 542														
12	550 455	550 550	550 550	550 550											
13	479 363	550 510	550 510	550 510											
14	412 289	500 425	550 463	550 463	550 550	550 550	550 550	550 550							
15	358 234	434 344	543 428	550 434	511 475	550 507	550 507	550 507							
16	313 192	380 282	476 351	550 396	448 390	550 467	550 467	550 467	550 550	550 550	550 550	550 550	550 550	550 550	550 550
17	277 159	336 234	420 291	550 366	395 324	495 404	550 443	550 443	512 488	550 526	550 526	550 526	550 526	550 526	550 526
18	246 134	299 197	374 245	507 317	352 272	441 339	530 397	550 408	456 409	508 456	550 490	550 490	550 490	550 490	550 490
19	221 113	268 167	335 207	454 269	315 230	395 287	475 336	550 383	408 347	455 386	547 452	550 455	550 455	550 455	550 455
20	199 97	241 142	302 177	409 230	284 197	356 246	428 287	525 347	368 297	410 330	493 386	550 426	550 426	550 426	550 426
21		218 123	273 153	370 198	257 170	322 212	388 248	475 299	333 255	371 285	447 333	503 373	548 405	550 406	550 406
22		199 106	249 132	337 172	234 147	293 184	353 215	432 259	303 222	337 247	406 289	458 323	498 351	550 385	550 385
23		181 93	227 116	308 150	214 128	268 160	322 188	395 226	277 194	308 216	371 252	418 282	455 307	507 339	550 363
24		166 81	208 101	282 132	196 113	245 141	295 165	362 199	254 170	283 189	340 221	384 248	418 269	465 298	550 346
25					180 100	226 124	272 145	334 175	234 150	260 167	313 195	353 219	384 238	428 263	514 311
26					166 88	209 110	251 129	308 156	216 133	240 148	289 173	326 194	355 211	395 233	474 276
27					154 79	193 98	233 115	285 139	200 119	223 132	268 155	302 173	329 188	366 208	439 246
28					143 70	180 88	216 103	265 124	186 106	207 118	249 138	281 155	306 168	340 186	408 220
29									173 95	193 106	232 124	261 139	285 151	317 167	380 198
30									161 86	180 96	216 112	244 126	266 137	296 151	355 178
31									151 78	168 87	203 101	228 114	249 124	277 137	332 161
32									142 71	158 79	190 92	214 103	233 112	259 124	311 147



## STANDARD LOAD TABLE FOR OPEN WEB STEEL JOISTS, K-SERIES Based on a 50 ksi Maximum Yield Strength - Loads Shown In Pounds Per Linear Foot (plf)

Joist Designation	18K3	18K4	18K5	18K6	18K7	18K9	18K10	20K3	20K4	20K5	20K6	20K7	20K9	20K10	22K4	22K5	22K6	22K7	22K9	22K10	22K11
Depth (in.)	18	18	18	18	18	18	18	20	20	20	20	20	20	20	22	22	22	22	22	22	22
Approx. Wt. (lbs./ft.)	6.4	7.2	7.7	8.4	8.9	10.1	11.6	6.5	7.2	7.7	8.4	8.9	10.1	11.6	7.3	7.7	8.5	9.0	10.2	11.7	11.9
Span (ft.)																					
18	550	550	550	550	550	550	550														
19	514 494	550 523	550 523	550 523	550 523	550 523	550 523	550 550	550 550	550 550	550 550	550 550	550 550	550 550							
20	463 423	550 490	550 490	550 490	550 490	550 490	550 490	517 517	550 550	550 550	550 550	550 550	550 550	550 550							
21	420 364	506 426	550 460	550 460	550 460	550 460	550 460	468 453	550 520	550 520	550 520	550 520	550 520	550 520	550	550	550	550	550	550	550
22	382 316	460 370	518 414	550 438	550 438	550 438	550 438	426 393	514 461	550 490	550 490	550 490	550 490	550 490	550 548	550 548	550 548	550 548	550 548	550 548	550 548
23	349 276	420 323	473 362	516 393	550 418	550 418	550 418	389 344	469 402	529 451	550 468	550 468	550 468	550 468	518 491	550 518	550 518	550 518	550 518	550 518	550 518
24	320 242	385 284	434 318	473 345	526 382	550 396	550 396	357 302	430 353	485 396	528 430	550 448	550 448	550 448	475 431	536 483	550 495	550 495	550 495	550 495	550 495
25	294 214	355 250	400 281	435 305	485 337	550 377	550 377	329 266	396 312	446 350	486 380	541 421	550 426	550 426	438 381	493 427	537 464	550 474	550 474	550 474	550 474
26	272 190	328 222	369 249	402 271	448 299	538 354	550 361	304 236	366 277	412 310	449 337	500 373	550 405	550 405	404 338	455 379	496 411	550 454	550 454	550 454	550 454
27	252 169	303 198	342 222	372 241	415 267	498 315	550 347	281 211	339 247	382 277	416 301	463 333	550 389	550 389	374 301	422 337	459 367	512 406	550 432	550 432	550 432
28	234 151	282 177	318 199	346 216	385 239	463 282	548 331	261 189	315 221	355 248	386 269	430 298	517 353	550 375	348 270	392 302	427 328	475 364	550 413	550 413	550 413
29	218 136	263 159	296 179	322 194	359 215	431 254	511 298	243 170	293 199	330 223	360 242	401 268	482 317	550 359	324 242	365 272	398 295	443 327	532 387	550 399	550 399
30	203 123	245 144	276 161	301 175	335 194	402 229	477 269	227 153	274 179	308 201	336 218	374 242	450 286	533 336	302 219	341 245	371 266	413 295	497 349	550 385	550 385
31	190 111	229 130	258 146	281 158	313 175	376 207	446 243	212 138	256 162	289 182	314 198	350 219	421 259	499 304	283 198	319 222	347 241	387 267	465 316	550 369	550 369
32	178 101	215 118	242 132	264 144	294 159	353 188	418 221	199 126	240 147	271 165	295 179	328 199	395 235	468 276	265 180	299 201	326 219	363 242	436 287	517 337	549 355
33	168 92	202 108	228 121	248 131	276 145	332 171	393 201	187 114	226 134	254 150	277 163	309 181	371 214	440 251	249 164	281 183	306 199	341 221	410 261	486 307	532 334
34	158 84	190 98	214 110	233 120	260 132	312 156	370 184	176 105	212 122	239 137	261 149	290 165	349 195	414 229	235 149	265 167	288 182	321 202	386 239	458 280	516 314
35	149 77	179 90	202 101	220 110	245 121	294 143	349 168	166 96	200 112	226 126	246 137	274 151	329 179	390 210	221 137	249 153	272 167	303 185	364 219	432 257	494 292
36	141 70	169 82	191 92	208 101	232 111	278 132	330 154	157 88	189 103	213 115	232 125	259 139	311 164	369 193	209 126	236 141	257 153	286 169	344 201	408 236	467 269
37								148 81	179 95	202 106	220 115	245 128	294 151	349 178	198 116	223 130	243 141	271 156	325 185	386 217	442 247
38								141 74	170 87	191 98	208 106	232 118	279 139	331 164	187 107	211 119	230 130	256 144	308 170	366 200	419 228
39								133 69	161 81	181 90	198 98	220 109	265 129	314 151	178 98	200 110	218 120	243 133	292 157	347 185	397 211
40								127 64	153 75	172 84	188 91	209 101	251 119	298 140	169 91	190 102	207 111	231 123	278 146	330 171	377 195
41															161 85	181 95	197 103	220 114	264 135	314 159	359 181
42															153 79	173 88	188 96	209 106	252 126	299 148	342 168
43															146 73	165 82	179 89	200 99	240 117	285 138	326 157
44															139 68	157 76	171 83	191 92	229 109	272 128	311 146



## STANDARD LOAD TABLE FOR OPEN WEB STEEL JOISTS, K-SERIES Based on a 50 ksi Maximum Yield Strength - Loads Shown In Pounds Per Linear Foot (plf)

Joist Designation	24K4	24K5	24K6	24K7	24K8	24K9	24K10	24K12	26K5	26K6	26K7	26K8	26K9	26K10	26K12
Depth (In.)	24	24	24	24	24	24	24	24	26	26	26	26	26	26	26
Approx. Wt. (lbs./ft.)	7.8	7.9	8.5	9.0	9.4	10.3	11.7	13.5	8.1	8.6	9.0	9.7	10.4	11.8	13.7
Span (ft.)															
↓															
23	550 550	550 550	550 550	550 550	550 550	550 550	550 550	550 550							
24	520 516	550 544	550 544	550 544	550 544	550 544	550 544	550 544							
25	479 456	540 511	550 520	550 520	550 520	550 520	550 520	550 520	550 550	550 550	550 550	550 550	550 550	550 550	550 550
26	442 405	499 453	543 493	550 499	550 499	550 499	550 499	550 499	542 535	550 541	550 541	550 541	550 541	550 541	550 541
27	410 361	462 404	503 439	550 479	550 479	550 479	550 479	550 479	502 477	547 519	550 522	550 522	550 522	550 522	550 522
28	381 323	429 362	467 393	521 436	550 456	550 456	550 456	550 456	466 427	508 464	550 501	550 501	550 501	550 501	550 501
29	354 290	400 325	435 354	485 392	536 429	550 436	550 436	550 436	434 384	473 417	527 463	550 479	550 479	550 479	550 479
30	331 262	373 293	406 319	453 353	500 387	544 419	550 422	550 422	405 346	441 377	492 417	544 457	550 459	550 459	550 459
31	310 237	349 266	380 289	424 320	468 350	510 379	550 410	550 410	379 314	413 341	460 378	509 413	550 444	550 444	550 444
32	290 215	327 241	357 262	397 290	439 318	478 344	549 393	549 393	356 285	387 309	432 343	477 375	519 407	549 431	549 431
33	273 196	308 220	335 239	373 265	413 289	449 313	532 368	532 368	334 259	364 282	406 312	448 342	488 370	532 404	532 404
34	257 179	290 201	315 218	351 242	388 264	423 286	502 337	516 344	315 237	343 257	382 285	422 312	459 338	516 378	516 378
35	242 164	273 184	297 200	331 221	366 242	399 262	473 308	501 324	297 217	323 236	360 261	398 286	433 310	501 356	501 356
36	229 150	258 169	281 183	313 203	346 222	377 241	447 283	487 306	280 199	305 216	340 240	376 263	409 284	486 334	487 334
37	216 138	244 155	266 169	296 187	327 205	356 222	423 260	474 290	265 183	289 199	322 221	356 242	387 262	460 308	474 315
38	205 128	231 143	252 156	281 172	310 189	338 204	401 240	461 275	251 169	274 184	305 204	337 223	367 241	436 284	461 299
39	195 118	219 132	239 144	266 159	294 174	320 189	380 222	449 261	238 156	260 170	289 188	320 206	348 223	413 262	449 283
40	185 109	208 122	227 133	253 148	280 161	304 175	361 206	438 247	227 145	247 157	275 174	304 191	331 207	393 243	438 269
41	176 101	198 114	216 124	241 137	266 150	290 162	344 191	427 235	215 134	235 146	262 162	289 177	315 192	374 225	427 256
42	168 94	189 106	206 115	229 127	253 139	276 151	327 177	417 224	205 125	224 136	249 150	275 164	300 178	356 210	417 244
43	160 88	180 98	196 107	219 118	242 130	263 140	312 165	406 213	196 116	213 126	238 140	263 153	286 166	339 195	407 232
44	153 82	172 92	187 100	209 110	231 121	251 131	298 154	387 199	187 108	204 118	227 131	251 143	273 155	324 182	398 222
45	146 76	164 86	179 93	199 103	220 113	240 122	285 144	370 185	179 101	194 110	217 122	240 133	261 145	310 170	389 212
46	139 71	157 80	171 87	191 97	211 106	230 114	272 135	354 174	171 95	186 103	207 114	229 125	250 135	296 159	380 203
47	133 67	150 75	164 82	183 90	202 99	220 107	261 126	339 163	164 89	178 96	199 107	219 117	239 127	284 149	369 192
48	128 63	144 70	157 77	175 85	194 93	211 101	250 118	325 153	157 83	171 90	190 100	210 110	229 119	272 140	353 180
49									150 78	164 85	183 94	202 103	220 112	261 131	339 169
50									144 73	157 80	175 89	194 97	211 105	250 124	325 159
51									139 69	151 75	168 83	186 91	203 99	241 116	313 150
52									133 65	145 71	162 79	179 86	195 93	231 110	301 142



## STANDARD LOAD TABLE FOR OPEN WEB STEEL JOISTS, K-SERIES Based on a 50 ksi Maximum Yield Strength - Loads Shown In Pounds Per Linear Foot (plf)

Joist Designation	28K6	28K7	28K8	28K9	28K10	28K12	30K7	30K8	30K9	30K10	30K11	30K12
Depth (In.)	28	28	28	28	28	28	30	30	30	30	30	30
Approx. Wt. (lbs./ft.)	8.9	9.2	9.8	10.5	11.8	14.5	9.6	10.0	10.6	11.9	13.3	15.0
Span (ft.)												
27	550 550	550 550	550 550	550 550	550 550	550 550						
28	548 541	550 543	550 543	550 543	550 543	550 543						
29	511 486	550 522	550 522	550 522	550 522	550 522	550 550	550 550	550 550	550 550	550 550	550 550
30	477 439	531 486	550 500	550 500	550 500	550 500	550 543	550 543	550 543	550 543	550 543	550 543
31	446 397	497 440	550 480	550 480	550 480	550 480	550 508	550 520	550 520	550 520	550 520	550 520
32	418 361	466 400	515 438	549 463	549 463	549 463	501 461	549 500	549 500	549 500	549 500	549 500
33	393 329	438 364	484 399	527 432	532 435	532 435	471 420	520 460	532 468	532 468	532 468	532 468
34	370 300	412 333	456 364	496 395	516 410	516 410	443 384	490 420	516 441	516 441	516 441	516 441
35	349 275	389 305	430 333	468 361	501 389	501 389	418 351	462 384	501 415	501 415	501 415	501 415
36	330 252	367 280	406 306	442 332	487 366	487 366	395 323	436 353	475 383	487 392	487 392	487 392
37	312 232	348 257	384 282	418 305	474 344	474 344	373 297	413 325	449 352	474 374	474 374	474 374
38	296 214	329 237	364 260	396 282	461 325	461 325	354 274	391 300	426 325	461 353	461 353	461 353
39	280 198	313 219	346 240	376 260	447 306	449 308	336 253	371 277	404 300	449 333	449 333	449 333
40	266 183	297 203	328 222	357 241	424 284	438 291	319 234	353 256	384 278	438 315	438 315	438 315
41	253 170	283 189	312 206	340 224	404 263	427 277	303 217	335 238	365 258	427 300	427 300	427 300
42	241 158	269 175	297 192	324 208	384 245	417 264	289 202	320 221	348 240	413 282	417 284	417 284
43	230 147	257 163	284 179	309 194	367 228	407 252	276 188	305 206	332 223	394 263	407 270	407 270
44	220 137	245 152	271 167	295 181	350 212	398 240	263 176	291 192	317 208	376 245	398 258	398 258
45	210 128	234 142	259 156	282 169	334 198	389 229	251 164	278 179	303 195	359 229	389 246	389 246
46	201 120	224 133	248 146	270 158	320 186	380 219	241 153	266 168	290 182	344 214	380 236	380 236
47	192 112	214 125	237 136	258 148	306 174	372 210	230 144	255 157	277 171	329 201	372 226	372 226
48	184 105	206 117	227 128	247 139	294 163	365 201	221 135	244 148	266 160	315 188	362 215	365 216
49	177 99	197 110	218 120	237 130	282 153	357 193	212 127	234 139	255 150	303 177	347 202	357 207
50	170 93	189 103	209 113	228 123	270 144	350 185	203 119	225 130	245 141	291 166	333 190	350 199
51	163 88	182 97	201 106	219 115	260 136	338 175	195 112	216 123	235 133	279 157	320 179	343 192
52	157 83	175 92	193 100	210 109	250 128	325 165	188 106	208 116	226 126	268 148	308 169	336 184
53	151 78	168 87	186 95	203 103	240 121	313 156	181 100	200 109	218 119	258 140	296 159	330 177
54	145 74	162 82	179 89	195 97	232 114	301 147	174 94	192 103	209 112	249 132	285 150	324 170
55	140 70	156 77	173 85	188 92	223 108	290 139	168 89	185 98	202 106	240 125	275 142	312 161
56	135 66	151 73	166 80	181 87	215 102	280 132	162 84	179 92	195 100	231 118	265 135	301 153
57							156 80	173 88	188 95	223 112	256 128	290 145
58							151 76	167 83	181 90	215 106	247 121	280 137
59							146 72	161 79	175 86	208 101	239 115	271 130
60							141 69	156 75	169 81	201 96	231 109	262 124



**METRIC LOAD TABLE FOR OPEN WEB STEEL JOISTS, K-SERIES**  
Based On A 345 MPa Maximum Yield Strength - Loads Shown In Kilonewtons Per Meter (kN/m)

Joist Designation	10K1	12K1	12K3	12K5	14K1	14K3	14K4	14K6	16K2	16K3	16K4	16K5	16K6	16K7	16K9
Depth (mm)	254	305	305	305	356	356	356	356	406	406	406	406	406	406	406
Approx. Wt (kN/m)	0.07	0.07	0.08	0.10	0.08	0.09	0.10	0.11	0.08	0.09	0.10	0.11	0.12	0.13	0.15
Span (mm)															
3048	8.02 8.02														
3353	8.02 7.90														
3658	8.02 6.64	8.02 8.02	8.02 8.02	8.02 8.02											
3962	6.99 5.29	8.02 7.44	8.02 7.44	8.02 7.44											
4267	6.01 4.21	7.29 6.20	8.02 6.75	8.02 6.75	8.02 8.02	8.02 8.02	8.02 8.02	8.02 8.02							
4572	5.22 3.41	6.33 5.02	7.92 6.24	8.02 6.33	7.45 6.93	8.02 7.39	8.02 7.39	8.02 7.39							
4877	4.56 2.80	5.54 4.11	6.94 5.12	8.02 5.77	6.53 5.69	8.02 6.81	8.02 6.81	8.02 6.81	8.02 8.02	8.02 8.02	8.02 8.02	8.02 8.02	8.02 8.02	8.02 8.02	8.02 8.02
5182	4.04 2.32	4.90 3.41	6.12 4.24	8.02 5.34	5.76 4.72	7.22 5.89	8.02 6.46	8.02 6.46	7.47 7.12	8.02 7.67	8.02 7.67	8.02 7.67	8.02 7.67	8.02 7.67	8.02 7.67
5486	3.59 1.95	4.36 2.87	5.45 3.57	7.39 4.62	5.13 3.96	6.43 4.94	7.73 5.79	8.02 5.95	6.65 5.96	7.41 6.65	8.02 7.15	8.02 7.15	8.02 7.15	8.02 7.15	8.02 7.15
5791	3.22 1.64	3.91 2.43	4.88 3.02	6.62 3.92	4.59 3.35	5.76 4.18	6.93 4.90	8.02 5.58	5.95 5.06	6.64 5.63	7.98 6.59	8.02 6.64	8.02 6.64	8.02 6.64	8.02 6.64
6096	2.90 1.41	3.51 2.07	4.40 2.58	5.96 3.35	4.14 2.87	5.19 3.59	6.24 4.18	7.66 5.06	5.37 4.33	5.98 4.81	7.19 5.63	8.02 6.21	8.02 6.21	8.02 6.21	8.02 6.21
6401		3.18 1.79	3.98 2.23	5.39 2.88	3.75 2.48	4.69 3.09	5.66 3.61	6.93 4.36	4.85 3.72	5.41 4.15	6.52 4.85	7.34 5.44	7.99 5.91	8.02 5.92	8.02 5.92
6706		2.90 1.54	3.63 1.92	4.91 2.51	3.41 2.14	4.27 2.68	5.15 3.13	6.30 3.77	4.42 3.23	4.91 3.60	5.92 4.21	6.68 4.71	7.26 5.12	8.02 5.61	8.02 5.61
7010		2.64 1.35	3.31 1.69	4.49 2.18	3.12 1.86	3.91 2.33	4.69 2.74	5.76 3.29	4.04 2.83	4.49 3.15	5.41 3.67	6.10 4.11	6.64 4.48	7.39 4.94	8.02 5.29
7315		2.42 1.18	3.03 1.47	4.11 1.92	2.86 1.64	3.57 2.05	4.30 2.40	5.28 2.90	3.70 2.48	4.13 2.75	4.96 3.22	5.60 3.61	6.10 3.92	6.78 4.34	8.02 5.04
7620					2.62 1.45	3.29 1.80	3.96 2.11	4.87 2.55	3.41 2.18	3.79 2.43	4.56 2.84	5.15 3.19	5.60 3.47	6.24 3.83	7.50 4.53
7925					2.42 1.28	3.05 1.60	3.66 1.88	4.49 2.27	3.15 1.94	3.50 2.15	4.21 2.52	4.75 2.83	5.18 3.07	5.76 3.40	6.91 4.02
8230					2.24 1.15	2.81 1.43	3.40 1.67	4.15 2.02	2.91 1.73	3.25 1.92	3.91 2.26	4.40 2.52	4.80 2.74	5.34 3.03	6.40 3.59
8534					2.08 1.02	2.62 1.28	3.15 1.50	3.86 1.80	2.71 1.54	3.02 1.72	3.63 2.01	4.10 2.26	4.46 2.45	4.96 2.71	5.95 3.21
8839									2.52 1.38	2.81 1.54	3.38 1.80	3.80 2.02	4.15 2.20	4.62 2.43	5.54 2.88
9144									2.34 1.25	2.62 1.40	3.15 1.63	3.56 1.83	3.88 1.99	4.31 2.20	5.18 2.59
9449									2.20 1.13	2.45 1.26	2.96 1.47	3.32 1.66	3.63 1.80	4.04 1.99	4.84 2.34
9754									2.07 1.03	2.30 1.15	2.77 1.34	3.12 1.50	3.40 1.63	3.77 1.80	4.53 2.14



# ASD

## METRIC LOAD TABLE FOR OPEN WEB STEEL JOISTS, K-SERIES Based On A 345 MPa Maximum Yield Strength - Loads Shown In Kilonewtons Per Meter (kN/m)

Joist Designation	18K3	18K4	18K5	18K6	18K7	18K9	18K10	20K3	20K4	20K5	20K6	20K7	20K9	20K10	22K4	22K5	22K6	22K7	22K9	22K10	22K11
Depth (mm)	457	457	457	457	457	457	457	508	508	508	508	508	508	508	559	559	559	559	559	559	559
Approx. Wt. (kN/m)	0.09	0.11	0.11	0.12	0.13	0.15	0.17	0.09	0.11	0.11	0.12	0.13	0.15	0.17	0.11	0.11	0.12	0.13	0.15	0.17	0.17
Span (mm) ↓																					
5486	8.02 8.02	8.02 8.02	8.02 8.02	8.02 8.02	8.02 8.02	8.02 8.02	8.02 8.02														
5791	7.50 7.20	8.02 7.63	8.02 7.63	8.02 7.63	8.02 7.63	8.02 7.63	8.02 7.63	8.02 8.02	8.02 8.02	8.02 8.02	8.02 8.02	8.02 8.02	8.02 8.02	8.02 8.02							
6096	6.75 6.17	8.02 7.15	8.02 7.15	8.02 7.15	8.02 7.15	8.02 7.15	8.02 7.15	7.54 7.54	8.02 8.02	8.02 8.02	8.02 8.02	8.02 8.02	8.02 8.02	8.02 8.02							
6401	6.12 5.31	7.38 6.21	8.02 6.71	8.02 6.71	8.02 6.71	8.02 6.71	8.02 6.71	6.82 6.61	8.02 7.58	8.02 7.58	8.02 7.58	8.02 7.58	8.02 7.58	8.02 7.58	8.02 8.02	8.02 8.02	8.02 8.02	8.02 8.02	8.02 8.02	8.02 8.02	8.02 8.02
6706	5.57 4.61	6.71 5.39	7.55 6.04	8.02 6.39	8.02 6.39	8.02 6.39	8.02 6.39	6.21 5.73	7.50 6.72	8.02 7.15	8.02 7.15	8.02 7.15	8.02 7.15	8.02 7.15	8.02 7.99	8.02 7.99	8.02 7.99	8.02 7.99	8.02 7.99	8.02 7.99	8.02 7.99
7010	5.09 4.02	6.12 4.71	6.90 5.28	7.53 5.73	8.02 6.10	8.02 6.10	8.02 6.10	5.67 5.02	6.84 5.86	7.72 6.58	8.02 6.82	8.02 6.82	8.02 6.82	8.02 6.82	7.55 7.16	8.02 7.55	8.02 7.55	8.02 7.55	8.02 7.55	8.02 7.55	8.02 7.55
7315	4.67 3.53	5.61 4.14	6.33 4.64	6.90 5.03	7.67 5.57	8.02 5.77	8.02 5.77	5.21 4.40	6.27 5.15	7.07 6.27	7.70 6.27	8.02 6.53	8.02 6.53	8.02 6.53	6.93 6.28	7.82 7.04	8.02 7.22	8.02 7.22	8.02 7.22	8.02 7.22	8.02 7.22
7620	4.29 3.12	5.18 3.64	5.83 4.10	6.34 4.45	7.07 4.91	8.02 5.50	8.02 5.50	4.80 3.88	5.77 4.55	7.09 5.10	7.89 5.54	8.02 6.14	8.02 6.21	8.02 6.21	6.39 5.56	7.19 6.23	8.02 6.77	8.02 6.91	8.02 6.91	8.02 6.91	8.02 6.91
7925	3.96 2.77	4.78 3.23	5.38 3.63	5.86 3.95	6.53 4.36	7.85 5.16	8.02 5.26	4.43 3.44	5.34 4.04	6.01 4.52	6.55 4.91	7.29 5.44	8.02 5.91	8.02 5.91	5.89 4.93	6.64 5.53	7.23 5.99	8.02 6.62	8.02 6.62	8.02 6.62	8.02 6.62
8230	3.67 2.46	4.42 2.88	4.99 3.23	5.42 3.51	6.05 3.89	7.26 4.59	8.02 5.06	4.10 3.07	4.94 3.60	5.57 4.04	6.07 4.39	6.75 4.85	8.02 5.67	8.02 5.67	5.45 4.39	6.15 4.91	6.69 5.35	7.47 5.92	8.02 6.30	8.02 6.30	8.02 6.30
8534	3.41 2.20	4.11 2.58	4.64 2.90	5.04 3.15	5.61 3.48	6.75 4.11	7.99 4.83	3.80 2.75	4.59 3.22	5.18 3.61	5.63 3.92	6.27 4.34	7.54 5.15	8.02 5.47	5.07 3.94	5.72 4.40	6.23 4.78	6.93 5.31	8.02 6.02	8.02 6.02	8.02 6.02
8839	3.18 1.98	3.83 2.32	4.31 2.61	4.69 2.83	5.23 3.13	6.28 3.70	7.45 4.34	3.54 2.48	4.27 2.90	4.81 3.25	5.25 3.53	5.85 3.91	7.03 4.62	8.02 5.23	4.72 3.53	5.32 3.96	5.80 4.30	6.46 4.77	7.76 5.64	8.02 5.82	8.02 5.82
9144	2.96 1.79	3.57 2.10	4.02 2.34	4.39 2.55	4.88 2.83	5.86 3.34	6.96 3.92	3.31 2.23	3.99 2.61	4.49 2.93	4.90 3.18	5.45 3.53	6.56 4.17	7.77 4.90	4.40 3.19	4.97 3.57	5.41 3.88	6.02 4.30	7.25 5.09	8.02 5.61	8.02 5.61
9449	2.77 1.61	3.34 1.89	3.76 2.13	4.10 2.30	4.56 2.55	5.48 3.02	6.50 3.54	3.09 2.01	3.73 2.36	4.21 2.65	4.58 2.88	5.10 3.19	6.14 3.77	7.28 4.43	4.13 2.88	4.65 3.23	5.06 3.51	5.64 3.89	6.78 4.61	8.02 5.38	8.02 5.38
9754	2.59 1.47	3.13 1.72	3.53 1.92	3.85 2.10	4.29 2.32	5.15 2.74	6.10 3.22	2.90 1.83	3.50 2.14	3.95 2.40	4.30 2.61	4.78 2.90	5.76 3.42	6.82 4.02	3.86 2.62	4.36 2.93	4.75 3.19	5.29 3.53	6.36 4.18	7.54 4.91	8.01 5.18
10058	2.45 1.34	2.94 1.57	3.32 1.76	3.61 1.91	4.02 2.11	4.84 2.49	5.73 2.93	2.72 1.66	3.29 1.95	3.70 2.18	4.04 2.37	4.50 2.64	5.41 3.12	6.42 3.66	3.63 2.39	4.10 2.67	4.46 3.08	4.97 3.22	5.98 3.80	7.09 4.48	7.76 4.87
10363	2.30 1.22	2.77 1.43	3.12 1.60	3.40 1.75	3.79 1.92	4.55 2.27	5.39 2.68	2.56 1.53	3.09 1.78	3.48 1.99	3.80 2.17	4.23 2.40	5.09 2.84	6.04 3.34	3.42 2.17	3.86 2.43	4.20 2.65	4.68 2.94	5.63 3.48	6.68 4.08	7.53 4.58
10668	2.17 1.12	2.61 1.31	2.94 1.47	3.21 1.60	3.57 1.76	4.29 2.08	5.09 2.45	2.42 1.40	2.91 1.63	3.29 1.83	3.59 1.99	3.99 2.20	4.80 2.61	5.69 3.06	3.22 1.99	3.63 2.23	3.96 2.43	4.42 2.69	5.31 3.19	6.30 3.75	7.20 4.26
10973	2.05 1.02	2.46 1.19	2.78 1.34	3.03 1.47	3.38 1.61	4.05 1.92	4.81 2.24	2.29 1.28	2.75 1.50	3.10 1.67	3.38 1.82	3.77 2.02	4.53 2.39	5.38 2.81	3.05 1.83	3.44 2.05	3.75 2.23	4.17 2.46	5.02 2.93	5.95 3.44	6.81 3.92
11278								2.15 1.18	2.61 1.38	2.94 1.54	3.21 1.67	3.57 1.86	4.29 2.20	5.09 2.59	2.88 1.69	3.25 1.89	3.54 2.05	3.95 2.27	4.74 2.69	5.63 3.16	6.45 3.60
11582								2.05 1.07	2.48 1.26	2.78 1.43	3.03 1.54	3.38 1.72	4.07 2.02	4.83 2.39	2.72 1.56	3.07 1.73	3.35 1.89	3.73 2.10	4.49 2.48	5.34 2.91	6.11 3.32
11887								1.94 1.00	2.34 1.18	2.64 1.31	2.88 1.43	3.21 1.59	3.86 1.88	4.58 2.20	2.59 1.43	2.91 1.60	3.18 1.75	3.54 1.94	4.26 2.29	5.06 2.69	5.79 3.07
12192								1.85 0.93	2.23 1.09	2.51 1.22	2.74 1.32	3.05 1.47	3.66 1.73	4.34 2.04	2.46 1.32	2.77 1.48	3.02 1.61	3.37 1.79	4.05 2.13	4.81 2.49	5.50 2.84
12497															2.34 1.24	2.64 1.38	2.87 1.50	3.21 1.66	3.85 1.97	4.58 2.32	5.23 2.64
12802															2.23 1.15	2.52 1.28	2.74 1.40	3.05 1.54	3.67 1.83	4.36 2.15	4.99 2.45
13106															2.13 1.06	2.40 1.19	2.61 1.29	2.91 1.44	3.50 1.70	4.15 2.01	4.75 2.29
13411															2.02 0.99	2.29 1.10	2.49 1.21	2.78 1.34	3.34 1.59	3.96 1.86	4.53 2.13



**METRIC LOAD TABLE FOR OPEN WEB STEEL JOISTS, K-SERIES**  
 Based On A 345 MPa Maximum Yield Strength - Loads Shown In Kilonewtons Per Meter (kN/m)

Joist Designation	24K4	24K5	24K6	24K7	24K8	24K9	24K10	24K12	26K5	26K6	26K7	26K8	26K9	26K10	26K12
Depth (mm)	610	610	610	610	610	610	610	610	660	660	660	660	660	660	660
Approx. Wt. (kN/m)	0.11	0.12	0.12	0.13	0.14	0.15	0.17	0.20	0.12	0.13	0.13	0.14	0.15	0.17	0.20
Span (mm)															
7010	8.02 8.02	8.02 8.02	8.02 8.02	8.02 8.02	8.02 8.02	8.02 8.02	8.02 8.02	8.02 8.02							
7315	7.58 7.53	8.02 7.93	8.02 7.93	8.02 7.93	8.02 7.93	8.02 7.93	8.02 7.93	8.02 7.93							
7620	6.99 6.65	7.88 7.45	8.02 7.58	8.02 7.58	8.02 7.58	8.02 7.58	8.02 7.58	8.02 7.58	8.02 8.02	8.02 8.02	8.02 8.02	8.02 8.02	8.02 8.02	8.02 8.02	8.02 8.02
7925	6.45 5.91	7.28 6.61	7.92 7.19	8.02 7.28	8.02 7.28	8.02 7.28	8.02 7.28	8.02 7.28	7.90 7.80	8.02 7.89	8.02 7.89	8.02 7.89	8.02 7.89	8.02 7.89	8.02 7.89
8230	5.98 5.26	6.74 5.89	7.34 6.40	8.02 6.99	8.02 6.99	8.02 6.99	8.02 6.99	8.02 6.99	7.32 6.96	7.98 7.57	8.02 7.61	8.02 7.61	8.02 7.61	8.02 7.61	8.02 7.61
8534	5.56 4.71	6.26 5.28	6.81 5.73	7.60 6.36	8.02 6.65	8.02 6.65	8.02 6.65	8.02 6.65	6.80 6.23	7.41 6.77	8.02 7.31	8.02 7.31	8.02 7.31	8.02 7.31	8.02 7.31
8839	5.16 4.23	5.83 4.74	6.34 5.16	7.07 5.72	7.82 6.26	8.02 6.36	8.02 6.36	8.02 6.36	6.33 5.60	6.90 6.08	7.69 6.75	8.02 6.99	8.02 6.99	8.02 6.99	8.02 6.99
9144	4.83 3.82	5.44 4.27	5.92 4.65	6.61 5.15	7.29 5.64	7.93 6.11	8.02 6.15	8.02 6.15	5.91 5.04	6.43 5.50	7.18 6.08	7.93 6.66	8.02 6.69	8.02 6.69	8.02 6.69
9449	4.52 3.45	5.09 3.88	5.54 4.21	6.18 4.67	6.82 5.10	7.44 5.53	8.02 5.98	8.02 5.98	5.53 4.58	6.02 4.97	6.71 5.51	7.42 6.02	8.02 6.47	8.02 6.47	8.02 6.47
9754	4.23 3.13	4.77 3.51	5.21 3.82	5.79 4.23	6.40 4.64	6.97 5.02	8.01 5.73	8.01 5.73	5.19 4.15	5.64 4.50	6.30 5.00	6.96 5.47	7.57 5.93	8.01 6.28	8.01 6.28
10058	3.98 2.86	4.49 3.21	4.88 3.48	5.44 3.86	6.02 4.21	6.55 4.56	7.76 5.37	7.76 5.37	4.87 3.77	5.31 4.11	5.92 4.55	6.53 4.99	7.12 5.39	7.76 5.89	7.76 5.89
10363	3.75 2.61	4.23 2.93	4.59 3.18	5.12 3.53	5.66 3.85	6.17 4.17	7.32 4.91	7.53 5.02	4.59 3.45	5.00 3.75	5.57 4.15	6.15 4.55	6.69 4.93	7.53 5.51	7.53 5.51
10668	3.53 2.39	3.98 2.68	4.33 2.91	4.83 3.22	5.34 3.53	5.82 3.82	6.90 4.49	7.31 4.72	4.33 3.16	4.71 3.44	5.25 3.80	5.80 4.17	6.31 4.52	7.31 5.19	7.31 5.19
10973	3.34 2.18	3.76 2.46	4.10 2.67	4.56 2.96	5.04 3.23	5.50 3.51	6.52 4.13	7.10 4.46	4.08 2.90	4.45 3.15	4.96 3.50	5.48 3.83	5.96 4.14	7.09 4.87	7.10 4.87
11278	3.15 2.01	3.56 2.26	3.88 2.46	4.31 2.72	4.77 2.99	5.19 3.23	6.17 3.79	6.91 4.23	3.86 2.67	4.21 2.90	4.69 3.22	5.19 3.53	5.64 3.82	6.71 4.49	6.91 4.59
11582	2.99 1.86	3.37 2.08	3.67 2.27	4.10 2.51	4.52 2.75	4.93 2.97	5.85 3.50	6.72 4.01	3.66 2.46	3.99 2.68	4.45 2.97	4.91 3.25	5.35 3.51	6.36 4.14	6.72 4.36
11887	2.84 1.72	3.19 1.92	3.48 2.10	3.88 2.32	4.29 2.53	4.67 2.75	5.54 3.23	6.55 3.80	3.47 2.27	3.79 2.48	4.21 2.74	4.67 3.00	5.07 3.25	6.02 3.82	6.55 4.13
12192	2.69 1.59	3.03 1.78	3.31 1.94	3.69 2.15	4.08 2.34	4.43 2.55	5.26 3.00	6.39 3.60	3.31 2.11	3.60 2.29	4.01 2.53	4.43 2.78	4.83 3.02	5.73 3.54	6.39 3.92
12497	2.56 1.47	2.88 1.66	3.15 1.80	3.51 1.99	3.88 2.18	4.23 2.36	5.02 2.78	6.23 3.42	3.13 1.95	3.42 2.13	3.82 2.36	4.21 2.58	4.59 2.80	5.45 3.28	6.23 3.73
12802	2.45 1.37	2.75 1.54	3.00 1.67	3.34 1.85	3.69 2.02	4.02 2.20	4.77 2.58	6.08 3.26	2.99 1.82	3.26 1.98	3.63 2.18	4.01 2.39	4.37 2.59	5.19 3.06	6.08 3.56
13106	2.33 1.28	2.62 1.43	2.86 1.56	3.19 1.72	3.53 1.89	3.83 2.04	4.55 2.40	5.92 3.10	2.86 1.69	3.10 1.83	3.47 2.04	3.83 2.23	4.17 2.42	4.94 2.84	5.93 3.38
13411	2.23 1.19	2.51 1.34	2.72 1.45	3.05 1.60	3.37 1.76	3.66 1.91	4.34 2.24	5.64 2.90	2.72 1.57	2.97 1.72	3.31 1.91	3.66 2.08	3.98 2.26	4.72 2.65	5.80 3.23
13716	2.13 1.10	2.39 1.25	2.61 1.35	2.90 1.50	3.21 1.64	3.50 1.78	4.15 2.10	5.39 2.69	2.61 1.47	2.83 1.60	3.16 1.78	3.50 1.94	3.80 2.11	4.52 2.48	5.67 3.09
14021	2.02 1.03	2.29 1.16	2.49 1.26	2.78 1.41	3.07 1.54	3.35 1.66	3.96 1.97	5.16 2.53	2.49 1.38	2.71 1.50	3.02 1.66	3.34 1.82	3.64 1.97	4.31 2.32	5.54 2.96
14326	1.94 0.97	2.18 1.09	2.39 1.19	2.67 1.31	2.94 1.44	3.21 1.56	3.80 1.83	4.94 2.37	2.39 1.29	2.59 1.40	2.90 1.56	3.19 1.70	3.48 1.85	4.14 2.17	5.38 2.80
14630	1.86 0.91	2.10 1.02	2.29 1.12	2.55 1.24	2.83 1.35	3.07 1.47	3.64 1.72	4.74 2.23	2.29 1.21	2.49 1.31	2.77 1.45	3.06 1.60	3.34 1.73	3.96 2.04	5.15 2.62
14935									2.18 1.13	2.39 1.24	2.67 1.37	2.94 1.50	3.21 1.63	3.80 1.91	4.94 2.46
15240									2.10 1.06	2.29 1.16	2.55 1.29	2.83 1.41	3.07 1.53	3.64 1.80	4.74 2.32
15545									2.02 1.00	2.20 1.09	2.45 1.21	2.71 1.32	2.96 1.44	3.51 1.69	4.56 2.18
15850									1.94 0.94	2.11 1.03	2.36 1.15	2.61 1.25	2.84 1.35	3.37 1.60	4.39 2.07



**METRIC LOAD TABLE FOR OPEN WEB STEEL JOISTS, K-SERIES**  
Based On A 345 MPa Maximum Yield Strength - Loads Shown In Kilonewtons Per Meter (kN/m)

Joist Designation	28K6	28K7	28K8	28K9	28K10	28K12	30K7	30K8	30K9	30K10	30K11	30K12
Depth (mm)	711	711	711	711	711	711	762	762	762	762	762	762
Approx. Wt. (kN/m)	0.13	0.13	0.14	0.15	0.17	0.21	0.14	0.15	0.15	0.17	0.19	0.22
Span (mm)												
8230	8.02 8.02	8.02 8.02	8.02 8.02	8.02 8.02	8.02 8.02	8.02 8.02						
8534	7.99 7.89	8.02 7.92	8.02 7.92	8.02 7.92	8.02 7.92	8.02 7.92						
8839	7.45 7.09	8.02 7.61	8.02 7.61	8.02 7.61	8.02 7.61	8.02 7.61	8.02 8.02	8.02 8.02	8.02 8.02	8.02 8.02	8.02 8.02	8.02 8.02
9144	6.96 6.40	7.74 7.09	8.02 7.29	8.02 7.29	8.02 7.29	8.02 7.29	8.02 7.92	8.02 7.92	8.02 7.92	8.02 7.92	8.02 7.92	8.02 7.92
9449	6.50 5.79	7.25 6.42	8.02 7.00	8.02 7.00	8.02 7.00	8.02 7.00	7.79 7.41	8.02 7.58	8.02 7.58	8.02 7.58	8.02 7.58	8.02 7.58
9754	6.10 5.26	6.80 5.83	7.51 6.39	8.01 6.75	8.01 6.75	8.01 6.75	7.31 6.72	8.01 7.29	8.01 7.29	8.01 7.29	8.01 7.29	8.01 7.29
10058	5.73 4.80	6.39 5.31	7.06 5.82	7.69 6.30	7.76 6.34	7.76 6.34	6.87 6.12	7.58 6.71	7.76 6.82	7.76 6.82	7.76 6.82	7.76 6.82
10363	5.39 4.37	6.01 4.85	6.65 5.31	7.23 5.76	7.53 5.98	7.53 5.98	6.46 5.60	7.15 6.12	7.53 6.43	7.53 6.43	7.53 6.43	7.53 6.43
10668	5.09 4.01	5.67 4.45	6.27 4.85	6.82 5.26	7.31 5.67	7.31 5.67	6.10 5.12	6.74 5.60	7.31 6.05	7.31 6.05	7.31 6.05	7.31 6.05
10973	4.81 3.67	5.35 4.08	5.92 4.46	6.45 4.84	7.10 5.34	7.10 5.34	5.76 4.71	6.36 5.15	6.93 5.58	7.10 5.72	7.10 5.72	7.10 5.72
11278	4.55 3.38	5.07 3.75	5.60 4.11	6.10 4.45	6.91 5.02	6.91 5.02	5.44 4.33	6.02 4.74	6.55 5.13	6.91 5.45	6.91 5.45	6.91 5.45
11582	4.31 3.12	4.80 3.45	5.31 3.79	5.77 4.11	6.72 4.74	6.72 4.74	5.16 3.99	5.70 4.37	6.21 4.74	6.72 5.15	6.72 5.15	6.72 5.15
11887	4.08 2.88	4.56 3.19	5.04 3.50	5.48 3.79	6.52 4.46	6.55 4.49	4.90 3.69	5.41 4.04	5.89 4.37	6.55 4.85	6.55 4.85	6.55 4.85
12192	3.88 2.67	4.33 2.96	4.78 3.23	5.21 3.51	6.18 4.14	6.39 4.24	4.65 3.41	5.15 3.73	5.60 4.05	6.39 4.59	6.39 4.59	6.39 4.59
12497	3.69 2.48	4.13 2.75	4.55 3.00	4.96 3.26	5.89 3.83	6.23 4.04	4.42 3.16	4.88 3.47	5.32 3.76	6.23 4.37	6.23 4.37	6.23 4.37
12802	3.51 2.30	3.92 2.55	4.33 2.80	4.72 3.03	5.60 3.57	6.08 3.85	4.21 2.94	4.67 3.22	5.07 3.50	6.02 4.11	6.08 4.14	6.08 4.14
13106	3.35 2.14	3.75 2.37	4.14 2.61	4.50 2.83	5.35 3.32	5.93 3.67	4.02 2.74	4.45 3.00	4.84 3.25	5.74 3.83	5.93 3.94	5.93 3.94
13411	3.21 1.99	3.57 2.21	3.95 2.43	4.30 2.64	5.10 3.09	5.80 3.50	3.83 2.56	4.24 2.80	4.62 3.03	5.48 3.57	5.80 3.76	5.80 3.76
13716	3.06 1.86	3.41 2.07	3.77 2.27	4.11 2.46	4.87 2.88	5.67 3.34	3.66 2.39	4.05 2.61	4.42 2.84	5.23 3.34	5.67 3.59	5.67 3.59
14021	2.93 1.75	3.26 1.94	3.61 2.13	3.94 2.30	4.67 2.71	5.54 3.19	3.51 2.23	3.88 2.45	4.23 2.65	5.02 3.12	5.54 3.44	5.54 3.44
14326	2.80 1.63	3.12 1.82	3.45 1.98	3.76 2.15	4.46 2.53	5.42 3.06	3.35 2.10	3.72 2.29	4.04 2.49	4.80 2.93	5.42 3.29	5.42 3.29
14630	2.68 1.53	3.00 1.70	3.31 1.86	3.60 2.02	4.29 2.37	5.32 2.93	3.22 1.97	3.56 2.15	3.88 2.33	4.59 2.74	5.28 3.13	5.32 3.15
14935	2.58 1.44	2.87 1.60	3.18 1.75	3.45 1.89	4.11 2.23	5.21 2.81	3.09 1.85	3.41 2.02	3.72 2.18	4.42 2.58	5.06 2.94	5.21 3.02
15240	2.48 1.35	2.75 1.50	3.05 1.64	3.32 1.79	3.94 2.10	5.10 2.69	2.96 1.73	3.28 1.89	3.57 2.05	4.24 2.42	4.85 2.77	5.10 2.90
15545	2.37 1.28	2.65 1.41	2.93 1.54	3.19 1.67	3.79 1.98	4.93 2.55	2.84 1.63	3.15 1.79	3.42 1.94	4.07 2.29	4.67 2.61	5.00 2.80
15850	2.29 1.21	2.55 1.34	2.81 1.45	3.06 1.59	3.64 1.86	4.74 2.40	2.74 1.54	3.03 1.69	3.29 1.83	3.91 2.15	4.49 2.46	4.90 2.68
16154	2.20 1.13	2.45 1.26	2.71 1.38	2.96 1.50	3.50 1.76	4.56 2.27	2.64 1.45	2.91 1.59	3.18 1.73	3.76 2.04	4.31 2.32	4.81 2.58
16459	2.11 1.07	2.36 1.19	2.61 1.29	2.84 1.41	3.38 1.66	4.39 2.14	2.53 1.37	2.80 1.50	3.05 1.63	3.63 1.92	4.15 2.18	4.72 2.48
16764	2.04 1.02	2.27 1.12	2.52 1.24	2.74 1.34	3.25 1.57	4.23 2.02	2.45 1.29	2.69 1.43	2.94 1.54	3.50 1.82	4.01 2.07	4.55 2.34
17069	1.97 0.96	2.20 1.06	2.42 1.16	2.64 1.26	3.13 1.48	4.08 1.92	2.36 1.22	2.61 1.34	2.84 1.45	3.37 1.72	3.86 1.97	4.39 2.23
17374							2.27 1.16	2.52 1.28	2.74 1.38	3.25 1.63	3.73 1.86	4.23 2.11
17678							2.20 1.10	2.43 1.21	2.64 1.31	3.13 1.54	3.60 1.76	4.08 1.99
17983							2.13 1.05	2.34 1.15	2.55 1.25	3.03 1.47	3.48 1.67	3.95 1.89
18288							2.05 1.00	2.27 1.09	2.46 1.18	2.93 1.40	3.37 1.59	3.82 1.80





# STANDARD LRFD LOAD TABLE

## FOR KCS JOISTS

Based on a 50 ksi (345 MPa) Maximum Yield Strength  
Adopted by the Steel Joist Institute May 1, 2000  
Revised to May 18, 2010 – Effective December 31, 2010

The figures in the following table give the Moment Capacity (kip-in.)(N/m) and Shear Capacity (lbs)(kN). The maximum uniformly distributed load capacity in **LRFD** shall not exceed 825 plf (12.03 kN/M) and a single concentrated load cannot exceed the shear capacity. Sloped parallel-chord KCS Joists shall use the appropriate moment and shear capacity for the span as defined by the length along the slope.

The approximate KCS Joist weights per linear foot (kiloNewtons per meter) shown in this table do not include accessories.

The KCS Joist designation is not used to establish bridging requirements. The Bridging Table Section Numbers given in the KCS Standard Load Table indicate the equivalent K-Series joist of the same depth to be used for determination of the number of bridging rows, the size of horizontal bridging, and the need for erection stability bridging. While the need for erection stability bridging (diagonal bridging with bolted connections at the chords and intersections), can be determined from the **RED** shaded portion of the Standard Load Table, Open Web Steel Joists, K-Series, for convenience the KCS Load Table also includes a column for erection stability bridging. Where the span of the KCS Joist designation exceeds the length in ft. (mm) listed, the row of bridging nearest the joist midspan shall be erection stability bridging. Where “NA” is listed in the column, the KCS Joist designation does not require bolted diagonal erection bridging regardless of span.

For the proper handling of concentrated and/or varying loads, see Section 2.4 in the Code of Standard Practice for Steel Joists and Joist Girders.



# LRFD

## STANDARD LOAD TABLE FOR KCS OPEN WEB STEEL JOISTS

Based on a 50 ksi Maximum Yield Strength

JOIST DESIGNATION	DEPTH (in.)	MOMENT CAPACITY (k-in.)	SHEAR CAPACITY* (lbs)	APPROX. WEIGHT** (lbs/ft.)	GROSS MOMENT OF INERTIA (in. <sup>4</sup> )	ERECTION STABILITY BRIDGING REQ'D (ft.)	BRIDGING TABLE SECTION NUMBER
10KCS1	10	258	3000	6.0	29	NA	1
10KCS2	10	337	3750	7.5	37	NA	1
10KCS3	10	444	4500	10.0	47	NA	1
12KCS1	12	313	3600	6.0	43	NA	3
12KCS2	12	411	4500	8.0	55	NA	5
12KCS3	12	543	5250	10.0	71	NA	5
14KCS1	14	370	4350	6.5	59	NA	4
14KCS2	14	486	5100	8.0	77	NA	6
14KCS3	14	642	5850	10.0	99	NA	6
16KCS2	16	523	6000	8.5	99	NA	6
16KCS3	16	705	7200	10.5	128	NA	9
16KCS4	16	1080	7950	14.5	192	NA	9
16KCS5	16	1401	8700	18.0	245	NA	9
18KCS2	18	592	7050	9.0	127	35-0	6
18KCS3	18	798	7800	11.0	164	NA	9
18KCS4	18	1225	8550	15.0	247	NA	10
18KCS5	18	1593	9300	18.5	316	NA	10
20KCS2	20	663	7800	9.5	159	36-0	6
20KCS3	20	892	9000	11.5	205	39-0	9
20KCS4	20	1371	11850	16.5	308	NA	10
20KCS5	20	1786	12600	20.0	396	NA	10
22KCS2	22	732	8850	10.0	194	36-0	6
22KCS3	22	987	9900	12.5	251	40-0	9
22KCS4	22	1518	11850	16.5	377	NA	11
22KCS5	22	1978	12900	20.5	485	NA	11
24KCS2	24	801	9450	10.0	232	39-0	6
24KCS3	24	1080	10800	12.5	301	44-0	9
24KCS4	24	1662	12600	16.5	453	NA	12
24KCS5	24	2172	13350	20.5	584	NA	12
26KCS2	26	870	9900	10.0	274	39-0	6
26KCS3	26	1174	11700	12.5	355	44-0	9
26KCS4	26	1809	12750	16.5	536	NA	12
26KCS5	26	2364	13800	20.5	691	NA	12
28KCS2	28	939	10350	10.5	320	40-0	6
28KCS3	28	1269	12000	12.5	414	45-0	9
28KCS4	28	1954	12750	16.5	626	53-0	12
28KCS5	28	2556	13800	20.5	808	53-0	12
30KCS3	30	1362	12000	13.0	478	45-0	9
30KCS4	30	2100	12750	16.5	722	54-0	12
30KCS5	30	2749	13800	21.0	934	54-0	12

\*Maximum uniformly distributed load capacity is 825 plf and single concentrated load cannot exceed shear capacity

\*\*Does not include accessories



# LRFD

## METRIC LOAD TABLE FOR KCS OPEN WEB STEEL JOISTS

Based on 345 MPa Maximum Yield Strength

JOIST DESIGNATION	DEPTH (mm)	MOMENT CAPACITY (kN-m)	SHEAR CAPACITY* (kN)	APPROX. WEIGHT** (kN/m)	GROSS MOMENT OF INERTIA (cm <sup>4</sup> )	ERECTION STABILITY BRIDGING REQ'D (mm)	BRIDGING TABLE SECTION NUMBER
10KCS1	254	29.1	13.3	0.09	1200	NA	1
10KCS2	254	38.1	16.6	0.11	1540	NA	1
10KCS3	254	50.1	20.0	0.15	1950	NA	1
12KCS1	305	35.4	16.0	0.09	1780	NA	3
12KCS2	305	46.4	20.0	0.12	2280	NA	5
12KCS3	305	61.3	23.3	0.15	2950	NA	5
14KCS1	356	41.8	19.3	0.09	2450	NA	4
14KCS2	356	54.9	22.6	0.12	3200	NA	6
14KCS3	356	72.5	26.0	0.15	4120	NA	6
16KCS2	406	59.1	26.6	0.12	4120	NA	6
16KCS3	406	79.6	32.0	0.15	5320	NA	9
16KCS4	406	122.0	35.3	0.21	7990	NA	9
16KCS5	406	158.2	38.6	0.26	10190	NA	9
18KCS2	457	66.9	31.3	0.13	5280	10668	6
18KCS3	457	90.1	34.6	0.16	6820	NA	9
18KCS4	457	138.4	38.0	0.22	10280	NA	10
18KCS5	457	179.9	41.3	0.27	13150	NA	10
20KCS2	508	74.9	34.6	0.14	6610	10973	6
20KCS3	508	100.7	40.0	0.17	8530	11887	9
20KCS4	508	154.9	52.7	0.24	12810	NA	10
20KCS5	508	201.8	56.0	0.29	16480	NA	10
22KCS2	559	82.7	39.3	0.15	8070	10973	6
22KCS3	559	111.5	44.0	0.18	10440	12192	9
22KCS4	559	171.5	52.7	0.24	15690	NA	11
22KCS5	559	223.5	57.3	0.30	20180	NA	11
24KCS2	610	90.5	42.0	0.15	9650	11887	6
24KCS3	610	122.0	48.0	0.18	12520	13411	9
24KCS4	610	187.7	56.0	0.24	18850	NA	12
24KCS5	610	245.4	59.3	0.30	24300	NA	12
26KCS2	660	98.2	44.0	0.15	11400	11887	6
26KCS3	660	132.7	52.0	0.18	14770	13411	9
26KCS4	660	204.3	56.7	0.24	22310	NA	12
26KCS5	660	267.0	61.3	0.30	28760	NA	12
28KCS2	711	106.0	46.0	0.15	13310	12192	6
28KCS3	711	143.3	53.3	0.18	17230	13716	9
28KCS4	711	220.8	56.7	0.24	26050	16154	12
28KCS5	711	288.7	61.3	0.30	33630	16154	12
30KCS3	762	153.8	53.3	0.19	19890	13716	9
30KCS4	762	237.2	56.7	0.24	30050	16459	12
30KCS5	762	310.6	61.3	0.31	38870	16459	12

\*Maximum uniformly distributed load capacity is 8.02 kN/m and single concentrated load cannot exceed shear capacity

\*\*Does not include accessories



# STANDARD ASD LOAD TABLE

## FOR KCS JOISTS

Based on a 50 ksi (345 MPa) Maximum Yield Strength  
Adopted by the Steel Joist Institute May 2, 1994  
Revised to May 18, 2010 – Effective December 31, 2010

The figures in the following table give the Moment Capacity (kip-in.)(N/m) and Shear Capacity (lbs)(N). The maximum uniformly distributed load capacity in **ASD** shall not exceed 550 plf (8.02 kN/m) and a single concentrated load cannot exceed the shear capacity. Sloped parallel-chord KCS Joists shall use the appropriate moment and shear capacity for the span as defined by the length along the slope.

The approximate KCS Joist weights per linear foot shown in the table do not include accessories.

The KCS Joist designation is not used to establish bridging requirements. The Bridging Table Section Numbers given in the KCS Standard Load Table indicate the equivalent K-Series joist of the same depth to be used for determination of the number of bridging rows, the size of horizontal bridging, and the need for erection stability bridging. While the need for erection stability bridging (diagonal bridging with bolted connections at the chords and intersections), can be determined from the **RED** shaded portion of the Standard Load Table, Open Web Steel Joists, K-Series, for convenience the KCS Load Table also includes a column for erection stability bridging. Where the span of the KCS Joist designation exceeds the length in ft. (mm) listed, the row of bridging nearest the joist midspan shall be erection stability bridging. Where “NA” is listed in the column, the KCS Joist designation does not require bolted diagonal erection bridging regardless of span.

For the proper handling of concentrated and/or varying loads, see Section 2.4 in the Code of Standard Practice for Steel Joists and Joist Girders.



## STANDARD LOAD TABLE FOR KCS OPEN WEB STEEL JOISTS

Based on a 50 ksi Maximum Yield Strength

JOIST DESIGNATION	DEPTH (in.)	MOMENT CAPACITY (k-in.)	SHEAR CAPACITY* (lbs)	APPROX. WEIGHT** (lbs/ft.)	GROSS MOMENT OF INERTIA (in. <sup>4</sup> )	ERECTION STABILITY BRIDGING REQ'D (ft.)	BRIDGING TABLE SECTION NUMBER
10KCS1	10	172	2000	6.0	29	NA	1
10KCS2	10	225	2500	7.5	37	NA	1
10KCS3	10	296	3000	10.0	47	NA	1
12KCS1	12	209	2400	6.0	43	NA	3
12KCS2	12	274	3000	8.0	55	NA	5
12KCS3	12	362	3500	10.0	71	NA	5
14KCS1	14	247	2900	6.5	59	NA	4
14KCS2	14	324	3400	8.0	77	NA	6
14KCS3	14	428	3900	10.0	99	NA	6
16KCS2	16	349	4000	8.5	99	NA	6
16KCS3	16	470	4800	10.5	128	NA	9
16KCS4	16	720	5300	14.5	192	NA	9
16KCS5	16	934	5800	18.0	245	NA	9
18KCS2	18	395	4700	9.0	127	35-0	6
18KCS3	18	532	5200	11.0	164	NA	9
18KCS4	18	817	5700	15.0	247	NA	10
18KCS5	18	1062	6200	18.5	316	NA	10
20KCS2	20	442	5200	9.5	159	36-0	6
20KCS3	20	595	6000	11.5	205	39-0	9
20KCS4	20	914	7900	16.5	308	NA	10
20KCS5	20	1191	8400	20.0	396	NA	10
22KCS2	22	488	5900	10.0	194	36-0	6
22KCS3	22	658	6600	12.5	251	40-0	9
22KCS4	22	1012	7900	16.5	377	NA	11
22KCS5	22	1319	8600	20.5	485	NA	11
24KCS2	24	534	6300	10.0	232	39-0	6
24KCS3	24	720	7200	12.5	301	44-0	9
24KCS4	24	1108	8400	16.5	453	NA	12
24KCS5	24	1448	8900	20.5	584	NA	12
26KCS2	26	580	6600	10.0	274	39-0	6
26KCS3	26	783	7800	12.5	355	44-0	9
26KCS4	26	1206	8500	16.5	536	NA	12
26KCS5	26	1576	9200	20.5	691	NA	12
28KCS2	28	626	6900	10.5	320	40-0	6
28KCS3	28	846	8000	12.5	414	45-0	9
28KCS4	28	1303	8500	16.5	626	53-0	12
28KCS5	28	1704	9200	20.5	808	53-0	12
30KCS3	30	908	8000	13.0	478	45-0	9
30KCS4	30	1400	8500	16.5	722	54-0	12
30KCS5	30	1833	9200	21.0	934	54-0	12

\*Maximum uniformly distributed load capacity is 550 plf and single concentrated load cannot exceed shear capacity

\*\*Does not include accessories



## METRIC LOAD TABLE FOR KCS OPEN WEB STEEL JOISTS

Based on 345 MPa Maximum Yield Strength

JOIST DESIGNATION	DEPTH (mm)	MOMENT CAPACITY (kN-m)	SHEAR CAPACITY* (kN)	APPROX. WEIGHT** (kN/m)	GROSS MOMENT OF INERTIA (cm <sup>4</sup> )	ERECTION STABILITY BRIDGING REQ'D (mm)	BRIDGING TABLE SECTION NUMBER
10KCS1	254	19.4	8.8	0.09	1200	NA	1
10KCS2	254	25.4	11.1	0.11	1540	NA	1
10KCS3	254	33.4	13.3	0.15	1950	NA	1
12KCS1	305	23.6	10.6	0.09	1780	NA	3
12KCS2	305	31.0	13.3	0.12	2280	NA	5
12KCS3	305	40.9	15.5	0.15	2950	NA	5
14KCS1	356	27.9	12.8	0.09	2450	NA	4
14KCS2	356	36.6	15.1	0.12	3200	NA	6
14KCS3	356	48.4	17.3	0.15	4120	NA	6
16KCS2	406	39.4	17.7	0.12	4120	NA	6
16KCS3	406	53.1	21.3	0.15	5320	NA	9
16KCS4	406	81.3	23.5	0.21	7990	NA	9
16KCS5	406	105.5	25.7	0.26	10190	NA	9
18KCS2	457	44.6	20.9	0.13	5280	10668	6
18KCS3	457	60.1	23.1	0.16	6820	NA	9
18KCS4	457	92.3	25.3	0.22	10280	NA	10
18KCS5	457	120.0	27.5	0.27	13150	NA	10
20KCS2	508	49.9	23.1	0.14	6610	10973	6
20KCS3	508	67.2	26.6	0.17	8530	11887	9
20KCS4	508	103.3	35.1	0.24	12810	NA	10
20KCS5	508	134.6	37.3	0.29	16480	NA	10
22KCS2	559	55.1	26.2	0.15	8070	10973	6
22KCS3	559	74.3	29.3	0.18	10440	12192	9
22KCS4	559	114.3	35.1	0.24	15690	NA	11
22KCS5	559	149.0	38.2	0.30	20180	NA	11
24KCS2	610	60.3	28.0	0.15	9650	11887	6
24KCS3	610	81.3	32.0	0.18	12520	13411	9
24KCS4	610	125.2	37.3	0.24	18850	NA	12
24KCS5	610	163.6	39.5	0.30	24300	NA	12
26KCS2	660	65.5	29.3	0.15	11400	11887	6
26KCS3	660	88.5	34.6	0.18	14770	13411	9
26KCS4	660	136.3	37.8	0.24	22310	NA	12
26KCS5	660	178.1	40.9	0.30	28760	NA	12
28KCS2	711	70.7	30.6	0.15	13310	12192	6
28KCS3	711	95.6	35.5	0.18	17230	13716	9
28KCS4	711	147.2	37.8	0.24	26050	16154	12
28KCS5	711	192.5	40.9	0.30	33630	16154	12
30KCS3	762	102.6	35.5	0.19	19890	13716	9
30KCS4	762	158.2	37.8	0.24	30050	16459	12
30KCS5	762	207.1	40.9	0.31	38870	16459	12

\*Maximum uniformly distributed load capacity is 8.02 kN/m and single concentrated load cannot exceed shear capacity

\*\*Does not include accessories



# ECONOMY LOAD TABLES

## OPEN WEB STEEL JOISTS, K-SERIES

Based on a 50 ksi (345 MPa) Maximum Yield Strength  
Adopted by the Steel Joist Institute November 4, 1985  
Revised to May 18, 2010 – Effective December 31, 2010

The tables on the following pages are provided as an aid to the designer in selecting the most economical K-Series Joists for the loads and spans required. Although considerable care has been taken in developing this chart, it must be realized that each joist manufacturer has his own unique cost; consequently, the Steel Joist Institute cannot guaranty the accuracy of this Table.

The K-Series Joists are arranged in accordance with their weight per foot/millimeter; where two or more joists weigh the same, they are arranged according to their depth.

To utilize these tables, determine the span (ft/mm) and load (plf/kN/M) required; go to the required span in the left hand column, then read across until a load equal to or greater than the required load is reached. The first joist that satisfies this loading is the most economical joist for those conditions. If this joist is too deep or too shallow, or does not satisfy the deflection limitations, continue on horizontally to the right until a joist is found that satisfies the depth requirements as well as the load and deflection requirements.

### ASD EXAMPLE (in U.S. Customary Units):

Floor joists @ 2'-6" on center, supporting a structural concrete slab. (Section 5.10 of the K-Series Specifications limits the deflection due to the design live load to 1/360 of the span).

Span = 30'- 0"

Maximum joist depth allowed = 20"

DL = 48 psf (includes joist weight)

LL = 100 psf

TL = 148 psf

$$W_{TL} = 148 \times 2.5 = 370 \text{ plf}$$

$$W_{LL} = 100 \times 2.5 = 250 \text{ plf}$$

A 22K6 at a span of 30 feet can carry 371 plf of Total Load and possesses a RED figure of 266 plf (RED figure load produces a deflection of approximately 1/360 of span). However, it exceeds the maximum depth limitation of 20 inches. A 20K7 fulfills the Total Load requirement but possesses a RED figure of only 242 plf. It is then found that a 20K9 is the most economical joist that satisfies all the requirements of Total Load, Live Load deflection, and maximum depth limitation.

**Where the joist span exceeds the unshaded area** of the table, the row of bridging nearest the midspan shall be diagonal bridging with bolted connections at chords and midspan.



**LRFD EXAMPLE (in U.S. Customary Units):**

Floor joists @ 2'-6" on center, supporting a structural concrete slab. (Section 5.10 of the K-Series Specifications limits the deflection due to the design live load to 1/360 of the span).

Span = 30'- 0"

Load factors per ASCE 7-Minimum Design Loads for Buildings and Other Structures

Maximum joist depth allowed = 20"

Factored DL =  $48 \times 1.2 = 58$  psf (includes joist weight)

Factored LL =  $100 \times 1.6 = 160$  psf

Factored TL = 218 psf

$$\begin{aligned} \text{Factored } W_{TL} &= 218 \times 2.5 = 545 \text{ plf} \\ \text{Unfactored } W_{LL} &= 100 \times 2.5 = 250 \text{ plf} \end{aligned}$$

A 22K6 at a span of 30 feet can carry 566 plf of Factored Total Load and possesses a RED figure of 266 plf (RED figure load produces a deflection of approximately of 1/360 of span). However, it exceeds the maximum depth limitation of 20 inches. A 20K7 fulfills the Factored Total Load requirement but possesses a RED figure of only 242 plf. It is then found that a 20K9 is the most economical joist that satisfies all the requirements of Factored Total Load, Live Load deflection, and maximum depth limitation.

**Where the joist span exceeds the unshaded area** of the table, the row of bridging nearest the midspan shall be diagonal bridging with bolted connections at chords and midspan.





# LRFD

LRFD K-SERIES ECONOMY TABLE - STANDARD UNITS

Joist Designation	10K1	12K1	14K1	16K2	12K3	14K3	16K3	18K3	20K3	14K4	16K4	12K5	18K4	20K4	22K4	16K5
Depth (In.)	10	12	14	16	12	14	16	18	20	14	16	12	18	20	22	16
Approx. Wt. (lbs./ft)	5.0	5.0	5.2	5.5	5.7	6.0	6.3	6.4	6.5	6.7	7.0	7.1	7.2	7.2	7.3	7.5
Span (ft)																
10	825 550															
11	825 542															
12	825 455	825 550			825 550							825 550				
13	718 363	825 510			825 510							825 510				
14	618 289	750 425	825 550		825 463	825 550				825 550		825 463				
15	537 234	651 344	766 475		814 428	825 507				825 507		825 434				
16	469 192	570 282	672 390	825 550	714 351	825 467	825 550			825 467	825 550	825 396				825 550
17	415 159	504 234	592 324	768 488	630 291	742 404	825 526			825 443	825 526	825 366				825 526
18	369 134	448 197	528 272	684 409	561 245	661 339	762 456	825 550		795 397	825 490	760 317	825 550			825 490
19	331 113	402 167	472 230	612 347	502 207	592 287	682 386	771 494	825 550	712 336	820 452	681 269	825 523	825 550		825 455
20	298 97	361 142	426 197	552 297	453 177	534 246	615 330	694 423	775 517	642 287	739 386	613 230	825 490	825 550		825 426
21		327 123	385 170	499 255	409 153	483 212	556 285	630 364	702 453	582 248	670 333	555 198	759 426	825 520	825 550	754 373
22		298 106	351 147	454 222	373 132	439 184	505 247	573 316	639 393	529 215	609 289	505 172	690 370	771 461	825 548	687 323
23		271 93	321 128	415 194	340 116	402 160	462 216	523 276	583 344	483 188	556 252	462 150	630 323	703 402	777 491	627 282
24		249 81	294 113	381 170	312 101	367 141	424 189	480 242	535 302	442 165	510 221	423 132	577 284	645 353	712 431	576 248
25			270 100	351 150		339 124	390 167	441 214	493 266	408 145	469 195		532 250	594 312	657 381	529 219
26			249 88	324 133		313 110	360 148	408 190	456 236	376 129	433 173		492 222	549 277	606 338	489 194
27			231 79	300 119		289 98	334 132	378 169	421 211	349 115	402 155		454 198	508 247	561 301	453 173
28			214 70	279 106		270 88	310 118	351 151	391 189	324 103	373 138		423 177	472 221	522 270	421 155
29				259 95			289 106	327 136	364 170		232 124		394 159	439 199	486 242	391 139
30				241 86			270 96	304 123	340 153		216 112		367 144	411 179	453 219	366 126
31				226 78			252 87	285 111	318 138		203 101		343 130	384 162	424 198	342 114
32				213 71			237 79	267 101	298 126		190 92		322 118	360 147	397 180	321 103
33								252 92	280 114				303 108	339 134	373 164	
34								237 84	264 105				285 98	318 122	352 149	
35								223 77	249 96				268 90	300 112	331 137	
36								211 70	235 88				253 82	283 103	313 126	
37									222 81					268 95	297 116	
38									211 74					255 87	280 107	
39									199 69					241 81	267 98	
40									190 64					229 75	253 91	
41															241 85	
42															229 79	
43															219 73	
44															208 68	



# LRFD

LRFD K-SERIES ECONOMY TABLE - STANDARD UNITS

Joist Designation	14K6	18K5	20K5	22K5	24K4	24K5	16K6	26K5	18K6	20K6	22K6	24K6	16K7	26K6	18K7	20K7
Depth (In.)	14	18	20	22	24	24	16	26	18	20	22	24	16	26	18	20
Approx. Wt. (lbs./ft)	7.7	7.7	7.7	7.7	7.8	7.9	8.1	8.1	8.4	8.4	8.5	8.5	8.6	8.6	8.9	8.9
Span (ft)																
14	825 550															
15	825 507															
16	825 467						825 550						825 550			
17	825 443						825 526						825 526			
18	825 408	825 550					825 490		825 550				825 490		825 550	
19	825 383	825 523	825 550				825 455	825 523	825 550				825 455	825 523	825 550	825 550
20	787 347	825 490	825 550				825 426	825 490	825 550				825 426	825 490	825 550	825 550
21	712 299	825 460	825 520	825 550			822 405	825 460	825 520	825 550			825 406	825 460	825 520	825 520
22	648 259	777 414	825 490	825 548			747 351	825 438	825 490	825 548			825 385	825 438	825 490	825 490
23	592 226	709 362	793 451	825 518	825 550	825 550	682 307	774 393	825 468	825 518	825 550	825 339	760 339	825 418	825 468	825 468
24	543 199	651 318	727 396	804 483	780 516	825 544	627 269	709 345	792 430	825 495	825 544	697 298	825 298	789 382	825 448	825 448
25	501 175	600 281	669 350	739 427	718 456	810 511	576 238	825 550	652 305	729 380	805 464	825 520	642 263	825 550	727 337	811 421
26	462 156	553 249	618 310	682 379	663 405	748 453	532 211	813 535	603 271	673 337	744 411	814 493	592 233	825 541	672 299	750 373
27	427 139	513 222	573 277	633 337	615 361	693 404	493 188	753 477	558 241	624 301	688 367	754 439	549 208	820 519	622 267	694 333
28	397 124	477 199	532 248	588 302	571 323	643 362	459 168	699 427	519 216	579 269	640 328	700 393	510 186	762 464	577 239	645 298
29		444 179	495 223	547 272	531 290	600 325	427 151	651 384	483 194	540 242	597 295	652 354	475 167	709 417	538 215	601 268
30		414 161	462 201	511 245	496 262	559 293	399 137	607 346	451 175	504 218	556 266	609 319	444 151	661 377	502 194	561 242
31		387 146	433 182	478 222	465 237	523 266	373 124	568 314	421 158	471 198	520 241	570 289	415 137	619 341	469 175	525 219
32		363 132	406 165	448 201	435 215	490 241	349 112	534 285	396 144	442 179	489 219	535 262	388 124	580 309	441 159	492 199
33		342 121	381 150	421 183	409 196	462 220		501 259	248 131	415 163	459 199	502 239		546 282	414 145	463 181
34		321 110	358 137	397 167	385 179	435 201		472 237	233 120	391 149	432 182	472 218		514 257	390 132	435 165
35		303 101	339 126	373 153	363 164	409 184		445 217	330 110	369 137	408 167	445 200		484 236	367 121	411 151
36		286 92	319 115	354 141	343 150	387 169		420 199	312 101	348 125	385 153	421 183		457 216	348 111	388 139
37			303 106	334 130	324 138	366 155		397 183		330 115	364 141	399 169		433 199		367 128
38			286 98	316 119	307 128	346 143		376 169		312 106	345 130	378 156		411 184		348 118
39			271 90	300 110	292 118	328 132		357 156		297 98	327 120	358 144		390 170		330 109
40			258 84	285 102	277 109	312 122		340 145		282 91	310 111	340 133		370 157		313 101
41				271 95	264 101	297 114		322 134			295 103	324 124		352 146		
42				259 88	252 94	283 106		307 125			282 96	309 115		336 136		
43				247 82	240 88	270 98		294 116			268 89	294 107		319 126		
44				235 76	229 82	258 92		280 108			256 83	280 100		306 118		
45					219 76	246 86		268 101				268 93		291 110		
46					208 71	235 80		256 95				256 87		279 103		
47					199 67	225 75		246 89				246 82		267 96		
48					192 63	216 70		235 83				235 77		256 90		
49								225 78						246 85		
50								216 73						235 80		
51								208 69						226 75		
52								199 65						217 71		



# LRFD

LRFD K-SERIES ECONOMY TABLE - STANDARD UNITS

Joist Designation	28K6	22K7	24K7	26K7	28K7	24K8	30K7	26K8	28K8	16K9	30K8	18K9	20K9	22K9	24K9	26K9
Depth (In.)	28	22	24	26	28	24	30	26	28	16	30	18	20	22	24	26
Approx. Wt (lbs./ft.)	8.9	9.0	9.0	9.0	9.2	9.4	9.6	9.7	9.8	10.0	10.0	10.1	10.1	10.2	10.3	10.4
Span (ft.)																
16										825						
17										550						
18										825						
19										526						
20										825		825				
21										490		550				
22										825		825	825			
23										455		523	550			
24										825		825	825	825		
25										426		490	550			
26										825		825	825	825		
27										406		460	520	550		
28										825		825	825	825		
29										385		438	490	548		
30										825		825	825	825	825	
31										363		418	468	518	550	
32										825		825	825	825	825	
33										346		396	448	495	544	
34										825		825	825	825	825	825
35										771		825	825	825	825	825
36										311		377	426	474	520	550
37										825		825	825	825	825	825
38										711		807	825	825	825	825
39										276		354	405	454	499	541
40										825		825	825	825	825	825
41										658		747	825	825	825	825
42										522		615	689	732	775	825
43										825		825	825	825	825	825
44										501		543	582	625	668	711
45										825		825	825	825	825	825
46										479		522	564	607	649	692
47										570		612	654	696	738	780
48										825		825	825	825	825	825
49										198		240	282	324	366	408
50										500		542	584	626	668	710
51										825		825	825	825	825	825
52										178		219	260	301	342	383
53										498		539	580	621	662	703
54										825		825	825	825	825	825
55										466		507	548	589	630	671
56										823		823	823	823	823	823
57										529		569	609	649	689	729
58										823		823	823	823	823	823
59										272		312	352	392	432	472
60										780		820	860	900	940	980



# LRFD

## LRFD K-SERIES ECONOMY TABLE - STANDARD UNITS

Joist Designation	28K9	30K9	18K10	20K10	22K10	24K10	26K10	28K10	22K11	30K10	30K11	24K12	26K12	28K12	30K12
Depth (In.)	28	30	18	20	22	24	26	28	22	30	30	24	26	28	30
Approx. Wt. (lbs/ft)	10.5	10.6	11.6	11.6	11.7	11.7	11.8	11.8	11.9	11.9	13.3	13.5	13.7	14.5	15.0
Span (ft.)															
18			825 550												
19			825 523	825 550											
20			825 490	825 550											
21			825 460	825 520	825 550				825 550						
22			825 438	825 490	825 548				825 548						
23			825 418	825 468	825 518	825 550			825 518			825 550			
24			825 396	825 448	825 495	825 544			825 495			825 544			
25			825 377	825 426	825 474	825 520	825 550		825 474			825 520	825 550		
26			825 361	825 405	825 454	825 499	825 541		825 454			825 499	825 541		
27	825 550		825 347	825 389	825 432	825 479	825 522	825 550	825 432			825 479	825 522	825 550	
28	825 543		822 331	825 375	825 413	825 456	825 501	825 543	825 413			825 456	825 501	825 543	
29	825 522	825 550	766 298	825 359	825 399	825 436	825 479	825 522	825 399	825 550	825 550	825 436	825 479	825 522	825 550
30	825 500	825 543	715 269	799 336	825 385	825 422	825 459	825 500	825 385	825 543	825 543	825 422	825 459	825 500	825 543
31	825 480	825 520	669 243	748 304	825 369	825 410	825 444	825 480	825 369	825 520	825 520	825 410	825 444	825 480	825 520
32	823 463	823 500	627 221	702 276	775 337	823 393	823 431	823 463	823 355	823 500	823 500	823 393	823 431	823 463	823 500
33	790 432	798 468	589 201	660 251	729 307	798 368	798 404	798 435	798 334	798 468	798 468	798 368	798 404	798 435	798 468
34	744 395	774 441	555 184	621 229	687 280	753 337	774 378	774 410	774 344	774 441	774 441	774 344	774 378	774 410	774 441
35	702 361	751 415	523 168	585 210	648 257	709 308	751 356	751 389	751 315	751 415	751 415	751 315	751 356	751 389	751 415
36	663 332	712 383	495 154	553 193	612 236	670 283	729 334	730 366	700 269	730 392	730 392	730 306	730 334	730 366	730 392
37	627 305	673 352		523 178	579 217	634 260	690 308	711 344	663 247	711 374	711 374	711 290	711 315	711 344	711 374
38	594 282	639 325		496 164	549 200	601 240	654 284	691 325	628 228	691 353	691 353	691 275	691 299	691 325	691 353
39	564 260	606 300		471 151	520 185	570 222	619 262	670 306	595 211	670 333	670 333	670 261	670 283	670 308	670 333
40	535 241	576 278		447 140	495 171	541 206	589 243	636 284	565 195	657 315	657 315	657 247	657 269	657 291	657 315
41	510 224	547 258			471 159	516 191	561 225	606 263	538 181	640 300	640 300	640 235	640 256	640 277	640 300
42	486 208	522 240			448 148	490 177	534 210	576 245	513 168	619 282	619 282	619 224	619 244	619 264	619 284
43	463 194	498 223			427 138	468 165	508 195	550 228	489 157	591 263	591 263	591 213	591 232	591 252	591 270
44	442 181	475 208			408 128	447 154	486 182	525 212	466 146	564 245	564 245	564 199	564 222	564 240	564 258
45	423 169	454 195			427 144	465 170	501 198	538 229	501 229	570 246	570 246	570 185	570 212	570 229	570 246
46	405 158	435 182			408 135	444 159	480 186	516 214	480 214	550 236	550 236	550 174	550 203	550 219	550 236
47	387 148	415 171			391 126	426 149	459 174	493 201	459 201	525 226	525 226	525 163	525 192	525 210	525 226
48	370 139	399 160			375 118	408 140	441 163	472 188	441 188	500 215	500 215	500 153	500 180	500 201	500 216
49	355 130	382 150					391 131	423 153	423 153	454 177	454 177	454 202	454 169	454 193	454 207
50	342 123	367 141					375 124	405 144	405 144	436 166	436 166	436 190	436 159	436 185	436 199
51	328 115	352 133					361 116	390 136	390 136	418 157	418 157	418 179	418 150	418 175	418 192
52	315 109	339 126					346 110	375 128	375 128	402 148	402 148	402 169	402 142	402 165	402 184
53	304 103	327 119						360 121	360 121	387 140	387 140	387 159		387 156	387 177
54	292 97	313 112						348 114	348 114	373 132	373 132	373 150		373 147	373 170
55	282 92	303 106						334 108	334 108	360 125	360 125	360 142		360 139	360 161
56	271 87	292 100						322 102	322 102	346 118	346 118	346 135		346 132	346 153
57		282 95								334 112	334 112	334 128			334 145
58		271 90								322 106	322 106	322 121			322 137
59		262 86								312 101	312 101	312 115			312 130
60		253 81								301 96	301 96	301 109			301 124



# LRFD

LRFD K-SERIES ECONOMY TABLE - METRIC UNITS

Joist Designation	10K1	12K1	14K1	16K2	12K3	14K3	16K3	18K3	20K3	14K4	16K4	12K5	18K4	20K4	22K4	16K5
Depth (mm)	254	305	356	406	305	356	406	457	508	356	406	305	457	508	559	406
Approx. Wt. (kN/m)	0.07	0.07	0.08	0.08	0.08	0.09	0.09	0.09	0.09	0.10	0.10	0.10	0.11	0.11	0.11	0.11
Span (mm)																
3048	12.03 8.02															
3353	12.03 7.90															
3658	12.03 6.64	12.03 8.02			12.03 8.02							12.03 8.02				
3962	10.48 5.29	12.03 7.44			12.03 7.44							12.03 7.44				
4267	9.01 4.21	10.94 6.20	12.03 8.02		12.03 6.75	12.03 8.02				12.03 8.02		12.03 6.75				
4572	7.83 3.41	9.50 5.02	11.18 6.93		11.88 6.24	12.03 7.39				12.03 7.39		12.03 6.33				
4877	6.85 2.80	8.31 4.11	9.80 5.69	12.03 8.02	10.42 5.12	12.03 6.81	12.03 8.02			12.03 6.81	12.03 8.02	12.03 5.77				12.03 8.02
5182	6.06 2.32	7.35 3.41	8.64 4.72	11.20 7.12	9.19 4.24	10.83 5.89	12.03 7.67			12.03 6.46	12.03 7.67	12.03 5.34				12.03 7.67
5486	5.38 1.95	6.54 2.87	7.70 3.96	9.98 5.96	8.18 3.57	9.65 4.94	11.12 6.65	12.03 8.02		11.60 5.79	12.03 7.15	11.09 4.62	12.03 8.02			12.03 7.15
5791	4.83 1.64	5.86 2.43	6.89 3.35	8.93 5.06	7.33 3.02	8.64 4.18	9.96 5.63	11.25 7.20	12.03 8.02	10.39 4.90	11.97 6.59	9.93 3.92	12.03 7.63	12.03 8.02		12.03 6.64
6096	4.35 1.41	5.27 2.07	6.21 2.87	8.05 4.33	6.61 2.58	7.79 3.59	8.97 4.81	10.13 6.17	11.31 7.54	9.36 4.18	10.79 5.63	8.95 3.35	12.03 7.15	12.03 8.02		12.03 6.21
6401		4.77 1.79	5.62 2.48	7.28 3.72	5.97 2.23	7.04 3.09	8.12 4.15	9.19 5.31	10.24 6.61	8.49 3.61	9.78 4.85	8.09 2.88	11.07 6.21	12.03 7.58	12.03 8.02	12.03 5.44
6706		4.35 1.54	5.12 2.14	6.63 3.23	5.45 1.92	6.41 2.68	7.37 3.60	8.36 4.61	9.32 5.73	7.72 3.13	8.88 4.21	7.37 2.51	10.06 5.39	11.25 6.72	12.03 7.99	10.02 4.71
7010		3.96 1.35	4.68 1.86	6.06 2.83	4.96 1.69	5.86 2.33	6.74 3.15	7.63 4.02	8.51 5.02	7.04 2.74	8.12 3.67	6.74 2.18	9.19 4.71	10.26 5.86	11.33 7.16	9.15 4.11
7315		3.63 1.18	4.29 1.64	5.56 2.48	4.55 1.47	5.36 2.05	6.19 2.75	7.00 3.53	7.81 4.40	6.45 2.40	7.44 3.22	6.17 1.92	8.42 4.14	9.41 5.15	10.39 6.28	8.40 3.61
7620			3.94 1.45	5.12 2.18		4.94 1.80	5.69 2.43	6.43 3.12	7.20 3.88	5.95 2.11	6.85 2.84		7.77 3.64	8.66 4.55	9.58 5.56	7.72 3.19
7925			3.63 1.28	4.72 1.94		4.57 1.60	5.25 2.15	5.95 2.77	6.65 3.44	5.49 1.88	6.32 2.52		7.18 3.23	8.01 4.04	8.84 4.93	7.13 2.83
8230			3.37 1.15	4.37 1.73		4.22 1.43	4.88 1.92	5.51 2.46	6.15 3.07	5.10 1.67	5.86 2.26		6.63 2.88	7.42 3.60	8.18 4.39	6.61 2.52
8534			3.13 1.02	4.07 1.54		3.94 1.28	4.53 1.72	5.12 2.20	5.71 2.75	4.72 1.50	5.45 2.01		6.17 2.58	6.89 3.22	7.61 3.94	6.15 2.26
8839				3.78 1.38			4.22 1.54	4.77 1.98	5.31 2.48		5.07 1.80		5.75 2.32	6.41 2.90	7.09 3.53	5.71 2.02
9144				3.52 1.25			3.94 1.40	4.44 1.79	4.96 2.23		4.72 1.63		5.36 2.10	5.99 2.61	6.61 3.19	5.34 1.83
9449				3.30 1.13			3.67 1.26	4.15 1.61	4.64 2.01		4.44 1.47		5.01 1.89	5.60 2.36	6.19 2.88	4.99 1.66
9754				3.10 1.03			3.45 1.15	3.89 1.47	4.35 1.83		4.15 1.34		4.70 1.72	5.25 2.14	5.80 2.62	4.68 1.50
10058								3.67 1.34	4.09 1.66				4.42 1.57	4.94 1.95	5.45 2.39	
10363								3.45 1.22	3.85 1.53				4.15 1.43	4.64 1.78	5.14 2.17	
10668								3.26 1.12	3.63 1.40				3.91 1.31	4.37 1.63	4.83 1.99	
10973								3.08 1.02	3.43 1.28				3.69 1.19	4.13 1.50	4.57 1.83	
11278									3.23 1.18					3.91 1.38	4.33 1.69	
11582									3.08 1.07					3.72 1.26	4.09 1.56	
11887									2.91 1.00					3.52 1.18	3.89 1.43	
12192									2.78 0.93					3.34 1.09	3.69 1.32	
12497															3.52 1.24	
12802															3.34 1.15	
13106															3.19 1.06	
13411															3.04 0.99	



# LRFD

## LRFD K-SERIES ECONOMY TABLE - METRIC UNITS

Joist Designation	14K6	18K5	20K5	22K5	24K4	24K5	16K6	26K5	18K6	20K6	22K6	24K6	16K7	26K6	18K7	20K7
Depth (mm)	356	457	508	559	610	610	406	660	457	508	559	610	406	660	457	508
Approx. Wt. (kN/m)	0.11	0.11	0.11	0.11	0.11	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.13	0.13	0.13	0.13
Span (mm)																
4267	12.03 8.02															
4572	12.03 7.39															
4877	12.03 6.81						12.03 8.02						12.03 8.02			
5182	12.03 6.46						12.03 7.67						12.03 7.67			
5486	12.03 5.95	12.03 8.02					12.03 7.15		12.03 8.02				12.03 7.15		12.03 8.02	
5791	12.03 5.58	12.03 7.63	12.03 8.02				12.03 6.64		12.03 7.63	12.03 8.02			12.03 6.64		12.03 7.63	12.03 8.02
6096	11.49 5.06	12.03 7.15	12.03 8.02				12.03 6.21		12.03 7.15	12.03 8.02			12.03 6.21		12.03 7.15	12.03 8.02
6401	10.39 4.36	12.03 6.71	12.03 7.58	12.03 8.02			11.99 5.91		12.03 6.71	12.03 7.58	12.03 8.02		12.03 5.92		12.03 6.71	12.03 7.58
6706	9.45 3.77	11.33 6.04	12.03 7.15	12.03 7.99			10.90 5.12		12.03 6.39	12.03 7.15	12.03 7.99		12.03 5.61		12.03 6.39	12.03 7.15
7010	8.64 3.29	10.35 5.28	11.58 6.58	12.03 7.55	12.03 8.02	12.03 8.02	9.96 4.48		11.29 5.73	12.03 6.82	12.03 7.55	12.03 8.02	11.09 4.94		12.03 6.10	12.03 6.82
7315	7.92 2.90	9.50 4.64	10.61 5.77	11.73 7.04	11.38 7.53	12.03 7.93	9.15 3.92		10.35 5.03	11.55 6.27	12.03 7.22	12.03 7.93	10.17 4.34		11.51 5.57	12.03 6.53
7620	7.31 2.55	8.75 4.10	9.76 5.10	10.79 6.23	10.48 6.65	11.82 7.45	8.40 3.47	12.03 8.02	9.52 4.45	10.63 5.54	11.75 6.77	12.03 7.58	9.36 3.83	12.03 8.02	10.61 4.91	11.84 6.14
7925	6.74 2.27	8.07 3.63	9.01 4.52	9.96 5.53	9.67 5.91	10.92 6.61	7.77 3.07	11.86 7.80	8.80 3.95	9.82 4.91	10.85 5.99	11.88 7.19	8.64 3.40	12.03 7.89	9.80 4.36	10.94 5.44
8230	6.23 2.02	7.48 3.23	8.36 4.04	9.23 4.91	8.97 5.26	10.11 5.89	7.20 2.74	10.98 6.96	8.14 3.51	9.10 4.39	10.04 5.35	11.01 6.40	8.01 3.03	11.97 7.57	9.08 3.89	10.13 4.85
8534	5.80 1.80	6.96 2.90	7.77 3.61	8.58 4.40	8.34 4.71	9.39 5.28	6.69 2.45	10.20 6.23	7.57 3.15	8.44 3.92	9.34 4.78	10.22 5.73	7.44 2.71	11.12 6.77	8.42 3.48	9.41 4.34
8839		6.47 2.61	7.22 3.25	7.99 3.96	7.74 4.23	8.75 4.74	6.23 2.20	9.50 5.60	7.04 2.83	7.88 3.53	8.71 4.30	9.52 5.16	6.93 2.43	10.35 6.08	7.85 3.13	8.77 3.91
9144		6.04 2.34	6.74 2.93	7.46 3.57	7.24 3.82	8.16 4.27	5.82 1.99	8.86 5.04	6.58 2.55	7.35 3.18	8.12 3.88	8.88 4.65	6.47 2.20	9.65 5.50	7.33 2.83	8.18 3.53
9449		5.64 2.13	6.32 2.65	6.98 3.23	6.78 3.45	7.63 3.88	5.45 1.80	8.29 4.58	6.15 2.30	6.87 2.88	7.59 3.51	8.31 4.21	6.06 1.99	9.04 4.97	6.85 2.55	7.66 3.19
9754		5.29 1.92	5.93 2.40	6.54 2.93	6.34 3.13	7.15 3.51	5.10 1.63	7.79 4.15	5.77 2.10	6.45 2.61	7.13 3.19	7.81 3.82	5.66 1.80	8.47 4.50	6.43 2.32	7.18 2.90
10058		4.99 1.76	5.56 2.18	6.15 2.67	5.87 2.86	6.74 3.21		7.31 3.77	5.42 1.91	6.06 2.37	6.69 2.90	7.33 3.48		7.96 4.11	6.04 2.11	6.76 2.64
10363		4.68 1.60	5.23 1.99	5.80 2.43	5.62 2.61	6.34 2.93		6.89 3.45	5.10 1.75	5.71 2.17	6.30 2.65	6.89 3.18		7.50 3.75	5.69 1.92	6.34 2.40
10668		4.42 1.47	4.94 1.83	5.45 2.23	5.29 2.39	5.97 2.68		6.50 3.16	4.81 1.60	5.38 1.99	5.95 2.43	6.50 2.91		7.07 3.44	5.36 1.76	5.99 2.20
10973		4.18 1.34	4.66 1.67	5.16 2.05	5.01 2.18	5.64 2.46		6.12 2.90	4.55 1.47	5.07 1.82	5.62 2.23	6.15 2.67		6.67 3.15	5.07 1.61	5.66 2.02
11278			4.42 1.54	4.88 1.89	4.72 2.01	5.34 2.26		5.80 2.67		4.81 1.67	5.31 2.05	5.82 2.46		6.32 2.90		5.36 1.86
11582			4.18 1.43	4.61 1.73	4.48 1.86	5.05 2.08		5.49 2.46		4.55 1.54	5.03 1.89	5.51 2.27		5.99 2.68		5.07 1.72
11887			3.96 1.31	4.37 1.60	4.26 1.72	4.79 1.92		5.21 2.27		4.33 1.43	4.77 1.75	5.23 2.10		5.69 2.48		4.81 1.59
12192			3.76 1.22	4.15 1.48	4.04 1.59	4.55 1.78		4.96 2.11		4.11 1.32	4.53 1.61	4.96 1.94		5.40 2.29		4.57 1.47
12497				3.96 1.38	3.85 1.47	4.33 1.66		4.70 1.95			4.31 1.50	4.72 1.80		5.14 2.13		
12802				3.78 1.28	3.67 1.37	4.13 1.54		4.48 1.82			4.11 1.40	4.50 1.67		4.90 1.98		
13106				3.61 1.19	3.50 1.28	3.94 1.43		4.29 1.69			3.91 1.29	4.29 1.56		4.66 1.83		
13411				3.43 1.10	3.34 1.19	3.76 1.34		4.09 1.57			3.74 1.21	4.09 1.45		4.46 1.72		
13716					3.19 1.10	3.59 1.25		3.91 1.47				3.91 1.35		4.24 1.60		
14021					3.04 1.03	3.43 1.16		3.74 1.38				3.74 1.26		4.07 1.50		
14326					2.91 0.97	3.28 1.09		3.59 1.29				3.59 1.19		3.89 1.40		
14630					2.80 0.91	3.15 1.02		3.43 1.21				3.43 1.12		3.74 1.31		
14935								3.28 1.13						3.59 1.24		
15240								3.15 1.06						3.43 1.16		
15545								3.04 1.00						3.30 1.09		
15850								2.91 0.94						3.17 1.03		



# LRFD

LRFD K-SERIES ECONOMY TABLE - METRIC UNITS

Joist Designation	28K6	22K7	24K7	26K7	28K7	24K8	30K7	26K8	28K8	16K9	30K8	18K9	20K9	22K9	24K9	26K9
Depth (mm)	711	559	610	660	711	610	762	660	711	406	762	457	508	559	610	660
Approx. Wt (kN/m)	0.13	0.13	0.13	0.13	0.13	0.14	0.14	0.14	0.14	0.15	0.15	0.15	0.15	0.15	0.15	0.15
Span (mm)																
4877										12.03						
5182										8.02						
5486										12.03		12.03				
5791										7.15		8.02				
6096										12.03		12.03	12.03			
6401		12.03								6.64		7.63	8.02			
6706		12.03								5.92		6.71	7.58	8.02		
7010		12.03	12.03			12.03				5.61		6.39	7.15	7.99		12.03
7315		12.03	12.03			12.03				5.29		6.10	6.82	7.55	8.02	
7620		12.03	12.03	12.03		12.03		12.03		5.04		5.77	6.53	7.22	7.93	
7925		12.03	12.03	12.03		12.03		12.03		4.02		4.77	5.51	6.22	7.28	7.89
8230	12.03	11.20	12.03	12.03	12.03	12.03		12.03	12.03	9.61		10.90	12.03	12.03	12.03	12.03
8534	11.99	10.39	11.40	12.03	12.03	12.03		12.03	12.03	8.93		10.13	11.31	12.03	12.03	12.03
8839	11.18	9.69	10.61	11.53	12.03	11.73	12.03	12.03	12.03	8.31	12.03	9.43	10.55	11.64	12.03	12.03
9144	10.44	9.04	9.91	10.77	11.62	10.94	12.03	11.90	12.03	7.77	12.03	8.80	9.85	10.87	11.90	12.03
9449	9.76	8.47	9.28	10.06	10.87	10.24	11.68	11.14	12.03	7.26	12.03	8.23	9.21	10.17	11.16	12.03
9754	9.15	7.94	8.69	9.45	10.20	9.61	10.96	10.44	11.27	6.80	12.01	7.72	8.64	9.54	10.46	11.36
10058	8.60	7.46	8.16	8.88	9.58	9.04	10.31	9.80	10.59			11.38	7.26	8.12	8.97	9.82
10363	8.09	7.02	7.68	8.36	9.01	8.49	9.69	9.23	9.98			10.72	6.82	7.63	8.44	9.25
10668	7.63	6.63	7.24	7.88	8.51	8.01	9.15	8.71	9.41			10.11	6.27	7.20	7.96	8.73
10973	7.22	6.26	6.85	7.44	8.03	7.57	8.64	8.23	8.88			9.54	6.08	6.80	7.53	8.25
11278	6.82	5.93	6.47	7.04	7.61	7.15	8.16	7.79	8.40			9.04	6.43	7.11	7.79	8.47
11582	6.47	5.60	6.15	6.67	7.20	6.78	7.74	7.37	7.96			8.55	6.10	6.74	7.39	8.03
11887	6.12	5.31	5.82	6.32	6.85	6.43	7.35	7.00	7.57			8.12	5.80	6.39	7.00	7.61
12192	0.09	5.05	5.53	6.01	6.50	6.12	6.98	6.65	7.18			7.72	5.49	6.08	6.65	7.24
12497	5.53	4.81	5.27	5.73	6.19	5.82	6.63	6.32	6.82			7.33	5.49	6.08	6.65	7.24
12802	5.27	4.57	5.01	5.45	5.88	5.53	6.32	6.01	6.50			7.00		5.51	6.04	6.56
13106	5.03	4.37	4.79	5.21	5.62	5.29	6.04	5.75	6.21			6.67		5.25	5.75	6.26
13411	4.81	4.18	4.57	4.96	5.36	5.05	5.75	5.49	5.93			6.37		5.01	5.49	5.97
13716	4.59	3.95	4.35	4.75	5.12	4.81	5.49	5.25	5.66			6.08			5.25	5.71
14021	4.40	3.78	4.18	4.53	4.90	4.61	5.27	5.01	5.42			5.82			5.03	5.47
14326	4.20	3.58	4.00	4.35	4.68	4.42	5.03	4.79	5.18			5.58			4.81	5.23
14630	4.02	3.41	3.83	4.15	4.50	4.24	4.83	4.59	4.96			5.34			4.61	5.01
14935	3.87	3.27	3.69	4.00	4.31	4.04	4.64	4.42	4.77			5.12				4.81
15240	3.72	3.12	3.54	3.83	4.13	3.86	4.44	4.24	4.57			4.92				4.61
15545	3.56	2.96	3.38	3.67	3.98	3.71	4.26	4.07	4.40			4.72				4.44
15850	3.43	2.83	3.25	3.54	3.83	3.56	4.11	3.91	4.22			4.55				4.26
16154	3.30	2.72	3.14	3.43	3.72	3.45	3.96	3.75	4.07			4.37				4.07
16459	3.17	2.62	3.04	3.33	3.62	3.35	3.80	3.61	3.91			4.20				3.91
16764	3.06	2.51	2.93	3.22	3.51	3.24	3.67	3.48	3.78			4.04				3.78
17069	2.95	2.40	2.82	3.11	3.40	3.13	3.54	3.35	3.63			3.91				3.63
17374	2.84	2.29	2.71	3.00	3.29	3.02	3.43	3.24	3.52			3.78				3.52
17678	2.73	2.18	2.60	2.89	3.18	2.91	3.32	3.13	3.41			3.65				3.41
17983	2.62	2.07	2.49	2.78	3.07	2.80	3.21	3.02	3.30			3.52				3.30
18288	2.51	1.96	2.38	2.67	2.96	2.69	3.10	2.91	3.19			3.39				3.19



# LRFD

## LRFD K-SERIES ECONOMY TABLE - METRIC UNITS

Joist Designation	28K9	30K9	18K10	20K10	22K10	24K10	26K10	28K10	22K11	30K10	30K11	24K12	26K12	28K12	30K12
Depth (mm)	711	762	457	508	559	610	660	711	559	762	762	610	660	711	762
Approx. Wt. (kN/m)	0.15	0.15	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.19	0.20	0.20	0.21	0.22
Span (mm)															
5486			12.03 8.02												
5791			12.03 7.63	12.03 8.02											
6096			12.03 7.15	12.03 8.02											
6401			12.03 6.71	12.03 7.58	12.03 8.02				12.03 8.02						
6706			12.03 6.39	12.03 7.15	12.03 7.99				12.03 7.99						
7010			12.03 6.10	12.03 6.82	12.03 7.55	12.03 8.02			12.03 7.55			12.03 8.02			
7315			12.03 5.77	12.03 6.53	12.03 7.22	12.03 7.93			12.03 7.22			12.03 7.93			
7620			12.03 5.50	12.03 6.21	12.03 6.91	12.03 7.58	12.03 8.02		12.03 6.91			12.03 7.58	12.03 8.02		
7925			12.03 5.26	12.03 5.91	12.03 6.62	12.03 7.28	12.03 7.89		12.03 6.62			12.03 7.28	12.03 7.89		
8230	12.03 8.02		12.03 5.06	12.03 5.67	12.03 6.30	12.03 6.99	12.03 7.61	12.03 8.02	12.03 6.30			12.03 6.99	12.03 7.61	12.03 8.02	
8534	12.03 7.92		11.99 4.83	12.03 5.47	12.03 6.02	12.03 6.65	12.03 7.31	12.03 7.92	12.03 6.02			12.03 6.65	12.03 7.31	12.03 7.92	
8839	12.03 7.61	12.03 8.02	11.18 4.34	12.03 5.23	12.03 5.82	12.03 6.36	12.03 6.99	12.03 7.61	12.03 5.82	12.03 8.02	12.03 8.02	12.03 6.36	12.03 6.99	12.03 7.61	12.03 8.02
9144	12.03 7.29	12.03 7.92	10.44 3.92	11.66 4.90	12.03 5.61	12.03 6.15	12.03 6.69	12.03 7.29	12.03 5.61	12.03 7.92	12.03 7.92	12.03 6.15	12.03 6.69	12.03 7.29	12.03 7.92
9449	12.03 7.00	12.03 7.58	9.76 3.54	10.92 4.43	12.03 5.38	12.03 5.98	12.03 6.47	12.03 7.00	12.03 5.38	12.03 7.58	12.03 7.58	12.03 5.98	12.03 6.47	12.03 7.00	12.03 7.58
9754	12.01 6.75	12.01 7.29	9.15 3.22	10.24 4.02	11.31 4.91	12.01 5.73	12.01 6.28	12.01 6.75	12.01 5.18	12.01 7.29	12.01 7.29	12.01 5.73	12.01 6.28	12.01 6.75	12.01 7.29
10058	11.53 6.30	11.64 6.82	8.60 2.93	9.63 3.66	10.63 4.48	11.64 5.37	11.64 5.89	11.64 6.34	11.64 4.87	11.64 6.82	11.64 6.82	11.64 5.37	11.64 5.89	11.64 6.34	11.64 6.82
10363	10.85 5.76	11.29 6.43	8.09 2.68	9.06 3.34	10.02 4.08	10.98 4.91	11.29 5.51	11.29 5.98	11.29 4.58	11.29 6.43	11.29 6.43	11.29 5.02	11.29 5.51	11.29 5.98	11.29 6.43
10668	10.24 5.26	10.96 6.05	7.63 2.45	8.53 3.06	9.45 3.75	10.35 4.49	10.96 5.19	10.96 5.67	10.81 4.26	10.96 6.05	10.96 6.05	10.96 4.72	10.96 5.19	10.96 5.67	10.96 6.05
10973	9.67 4.84	10.39 5.58	7.22 2.24	8.07 2.81	8.93 3.44	9.78 4.13	10.63 4.87	10.66 5.34	10.22 3.92	10.66 5.72	10.66 5.72	10.66 4.46	10.66 4.87	10.66 5.34	10.66 5.72
11278	9.15 4.45	9.82 5.13		7.63 2.59	8.44 3.16	9.25 3.79	10.06 4.49	10.37 5.02	9.67 3.60	10.37 5.45	10.37 5.45	10.37 4.23	10.37 4.59	10.37 5.02	10.37 5.45
11582	8.66 4.11	9.32 4.74		7.24 2.39	8.01 2.91	8.77 3.50	9.54 4.14	10.09 4.74	9.17 3.32	10.09 5.15	10.09 5.15	10.09 4.01	10.09 4.36	10.09 4.74	10.09 5.15
11887	8.23 3.79	8.84 4.37		6.87 2.2	7.59 2.69	8.31 3.23	9.04 3.82	9.78 4.46	8.69 3.07	9.82 4.85	9.82 4.85	9.82 3.80	9.82 4.13	9.82 4.49	9.82 4.85
12192	7.81 3.51	8.40 4.05		6.52 2.04	7.22 2.49	7.90 3.00	8.60 3.54	9.28 4.14	8.25 2.84	9.58 4.59	9.58 4.59	9.58 3.60	9.58 3.92	9.58 4.24	9.58 4.59
12497	7.44 3.26	7.99 3.76			6.87 2.32	7.53 2.78	8.18 3.28	8.84 3.83	7.85 2.64	9.34 4.37	9.34 4.37	9.34 3.42	9.34 3.73	9.34 4.04	9.34 4.37
12802	7.09 3.03	7.61 3.50			6.54 2.15	7.15 2.58	7.79 3.06	8.40 3.57	7.48 2.45	9.04 4.11	9.12 4.14	9.12 3.26	9.12 3.56	9.12 3.85	9.12 4.14
13106	6.76 2.83	7.26 3.25			6.23 2.01	6.82 2.40	7.42 2.84	8.03 3.32	7.13 2.29	8.62 3.83	8.88 3.94	8.88 3.10	8.88 3.38	8.88 3.67	8.88 3.94
13411	6.45 2.64	6.93 3.03			5.95 1.86	6.52 2.24	7.09 2.65	7.66 3.09	6.80 2.13	8.23 3.57	8.71 3.76	8.71 2.90	8.71 3.23	8.71 3.50	8.71 3.76
13716	6.17 2.46	6.63 2.84			6.23 2.10	6.78 2.48	7.31 2.88	7.85 3.34	7.31 2.88	7.85 3.34	8.09 3.59	8.09 2.69	8.09 3.09	8.09 3.34	8.09 3.59
14021	5.91 2.30	6.34 2.65			5.95 1.97	6.47 2.32	7.00 2.71	7.53 3.12	7.00 2.71	7.53 3.12	8.31 3.44	8.31 2.53	8.31 2.96	8.31 3.19	8.31 3.44
14326	5.64 2.15	6.06 2.49			5.71 1.83	6.21 2.17	6.69 2.53	7.20 2.93	6.69 2.93	7.20 2.93	8.14 3.29	8.14 2.37	8.14 2.80	8.14 3.06	8.14 3.29
14630	5.40 2.02	5.82 2.33			5.47 1.72	5.95 2.04	6.43 2.37	6.89 2.74	6.43 2.74	6.89 2.74	7.92 3.13	7.92 2.23	7.92 2.62	7.92 2.93	7.92 3.15
14935	5.18 1.89	5.58 2.18				5.71 1.91	6.17 2.23	6.63 2.58	6.17 2.58	6.63 2.58	7.59 2.94	7.59 2.94	7.59 2.46	7.59 2.81	7.59 3.02
15240	4.99 1.79	5.36 2.05				5.47 1.80	5.91 2.10	6.37 2.42	5.91 2.42	6.37 2.42	7.28 2.77	7.28 2.77	7.28 2.32	7.28 2.69	7.28 2.90
15545	4.79 1.67	5.14 1.94				5.27 1.69	5.69 1.98	6.10 2.29	5.69 2.29	6.10 2.29	7.00 2.61	7.00 2.61	7.00 2.18	7.00 2.55	7.00 2.80
15850	4.59 1.59	4.94 1.83				5.05 1.60	5.47 1.86	5.86 2.15	5.47 2.15	5.86 2.15	6.74 2.46	6.74 2.46	6.74 2.07	6.74 2.40	6.74 2.68
16154	4.44 1.50	4.77 1.73				5.25 1.76	5.64 2.04	6.03 2.32	5.64 2.32	6.03 2.32	6.85 2.63	6.85 2.63	6.85 2.18	6.85 2.51	6.85 2.78
16459	4.26 1.41	4.57 1.63				5.07 1.66	5.45 1.92	5.83 2.18	5.45 2.18	5.83 2.18	6.64 2.47	6.64 2.47	6.64 2.02	6.64 2.34	6.64 2.61
16764	4.11 1.34	4.42 1.54				4.88 1.57	5.26 1.82	5.64 2.07	5.26 2.07	5.64 2.07	6.45 2.36	6.45 2.36	6.45 1.92	6.45 2.24	6.45 2.51
17069	3.96 1.26	4.26 1.45				4.70 1.48	5.08 1.74	5.46 2.00	5.08 2.00	5.46 2.00	6.27 2.25	6.27 2.25	6.27 1.81	6.27 2.13	6.27 2.45
17374		4.11 1.38									4.88 1.63	5.60 1.86			6.34 2.11
17678		3.96 1.31									4.70 1.54	5.40 1.76			6.12 1.99
17983		3.83 1.25									4.55 1.47	5.23 1.67			5.93 1.89
18288		3.69 1.18									4.40 1.40	5.05 1.59			5.73 1.80





## ASD K-SERIES ECONOMY TABLE - STANDARD UNITS

Joist Designation	10K1	12K1	14K1	16K2	12K3	14K3	16K3	18K3	20K3	14K4	16K4	12K5	18K4	20K4	22K4	16K5
Depth (In.)	10	12	14	16	12	14	16	18	20	14	16	12	18	20	22	16
Approx. Wt. (lbs./ft)	5.0	5.0	5.2	5.5	5.7	6.0	6.3	6.4	6.5	6.7	7.0	7.1	7.2	7.2	7.3	7.5
Span (ft)																
10	550															
	550															
11	550															
	542															
12	550	550			550							550				
	455	550			550							550				
13	479	550			550							550				
	363	510			510							510				
14	412	500	550		550	550				550		550				
	289	425	550		463	550				550		463				
15	358	434	511		543	550				550		550				
	234	344	475		428	507				507		434				
16	313	380	448	550	476	550	550			550	550	550				550
	192	282	390	550	351	467	550			467	550	396				550
17	277	336	395	512	420	495	550			550	550	550				550
	159	234	324	488	291	404	526			443	526	366				526
18	246	299	352	456	374	441	508	550		530	550	507	550			550
	134	197	272	409	245	339	456	550		397	490	317	550			490
19	221	268	315	408	335	395	455	514	550	475	547	454	550	550		550
	113	167	230	347	207	287	386	494	550	336	452	269	523	550		455
20	199	241	284	368	302	356	410	463	517	428	493	409	550	550		550
	97	142	197	297	177	246	330	423	517	287	386	230	490	550		426
21		218	257	333	273	322	371	420	468	388	447	370	506	550	550	503
		123	170	255	153	212	285	364	453	248	333	198	426	520	550	373
22		199	234	303	249	293	337	382	426	353	406	337	460	514	550	458
		106	147	222	132	184	247	316	393	215	289	172	370	461	548	323
23		181	214	277	227	268	308	349	389	322	371	308	420	469	518	418
		93	128	194	116	160	216	276	344	188	252	150	323	402	491	282
24		166	196	254	208	245	283	320	357	295	340	282	385	430	475	384
		81	113	170	101	141	189	242	302	165	221	132	284	353	431	248
25			180	234		226	260	294	329	272	313		355	396	438	353
			100	150		124	167	214	266	145	195		250	312	381	219
26			166	216		209	240	272	304	251	289		328	366	404	326
			88	133		110	148	190	236	129	173		222	277	338	194
27			154	200		193	223	252	281	233	268		303	339	374	302
			79	119		98	132	169	211	115	155		198	247	301	173
28			143	186		180	207	234	261	216	249		282	315	348	281
			70	106		88	118	151	189	103	138		177	221	270	155
29				173			193	218	243		232		263	293	324	261
				95			106	136	170		124		159	199	242	139
30				161			180	203	227		216		245	274	302	244
				86			96	123	153		112		144	179	219	126
31				151			168	190	212		203		229	256	283	228
				78			87	111	138		101		130	162	198	114
32				142			158	178	199		190		215	240	265	214
				71			79	101	126		92		118	147	180	103
33								168	187				202	226	249	
								92	114				108	134	164	
34								158	176				190	212	235	
								84	105				98	122	149	
35								149	166				179	200	221	
								77	96				90	112	137	
36								141	157				169	189	209	
								70	88				82	103	126	
37									148					179	198	
									81					95	116	
38									141					170	187	
									74					87	107	
39									133					161	178	
									69					81	98	
40									127					153	169	
									64					75	91	
41															161	
															85	
42															153	
															79	
43															146	
															73	
44															139	
															68	



## ASD K-SERIES ECONOMY TABLE - STANDARD UNITS

Joist Designation	14K6	18K5	20K5	22K5	24K4	24K5	16K6	26K5	18K6	20K6	22K6	24K6	16K7	26K6	18K7	20K7
Depth (In.)	14	18	20	22	24	24	16	26	18	20	22	24	16	26	18	20
Approx. Wt. (lbs./ft)	7.7	7.7	7.7	7.7	7.8	7.9	8.1	8.1	8.4	8.4	8.5	8.5	8.6	8.6	8.9	8.9
Span (ft)																
14	550															
15	550															
16	550						550						550			
17	550						550						550			
18	550	550					550		550				550		550	
19	550	550	550				550		550	550			550		550	550
20	525	550	550				550		550	550			550		550	550
21	475	550	550	550			548		550	550	550		550		550	550
22	432	518	550	550			498		550	550	550		550		550	550
23	395	473	529	550	550	550	455		516	550	550	550	507		550	550
24	362	434	485	536	520	550	418		473	528	550	550	465		526	550
25	334	400	446	493	479	540	384	550	435	486	537	550	428	550	485	541
26	308	369	412	455	442	499	355	542	402	449	496	543	395	550	448	500
27	285	342	382	422	410	462	329	502	372	416	459	503	366	547	415	463
28	265	318	355	392	381	429	306	466	346	386	427	467	340	508	385	430
29	242	296	330	365	354	400	285	434	322	360	398	435	317	473	359	401
30	228	276	308	341	331	373	266	405	301	336	371	406	296	441	335	374
31	214	258	289	319	310	349	249	379	281	314	347	380	277	413	313	350
32	200	242	271	299	290	327	233	356	264	295	326	357	259	387	294	328
33	186	228	254	281	273	308	219	334	248	277	306	335	248	364	276	309
34	172	214	239	265	257	290	205	315	233	261	288	315	234	343	260	290
35	158	202	226	249	242	273	191	297	220	246	272	297	219	323	245	274
36	144	191	213	236	229	258	177	280	208	232	257	281	200	305	232	259
37	130	177	202	223	216	244	163	265	199	225	253	283	183	289	216	245
38	116	163	186	207	200	228	149	251	185	211	237	263	169	274	203	232
39	102	150	171	191	184	211	135	238	171	198	218	239	155	260	190	220
40	88	136	157	177	170	198	121	224	157	188	207	227	141	247	177	209
41	74	122	143	163	156	184	107	210	143	175	194	214	127	235	163	191
42	60	108	129	149	142	170	93	196	129	163	182	201	113	224	150	177
43	46	94	115	135	128	156	79	182	115	151	170	189	99	213	139	165
44	32	80	101	121	114	142	65	168	101	137	156	175	85	202	128	153
45	18	66	87	107	100	128	51	154	87	123	142	161	71	191	117	141
46	4	52	73	93	86	114	37	140	73	109	128	147	57	180	106	131
47		38	59	79	72	100	23	126	59	95	114	133	43	169	95	120
48		24	45	65	58	86	9	112	45	81	100	119	29	158	81	106
49		10	31	51	44	72		98	31	67	86	105	15	147	67	92
50			17	37	30	58		84	17	53	72	91	1	136	53	78
51			3	23	16	44		70	3	39	58	77		125	39	64
52				9	2	30		56		25	44	63		114	25	50



# ASD

## ASD K-SERIES ECONOMY TABLE - STANDARD UNITS

Joist Designation	28K6	22K7	24K7	26K7	28K7	24K8	30K7	26K8	28K8	16K9	30K8	18K9	20K9	22K9	24K9	26K9
Depth (In.)	28	22	24	26	28	24	30	26	28	16	30	18	20	22	24	26
Approx. Wt (lbs./ft.)	8.9	9.0	9.0	9.0	9.2	9.4	9.6	9.7	9.8	10.0	10.0	10.1	10.1	10.2	10.3	10.4
Span (ft.)																
16										550						
17										550						
18										550		550				
19										550		550	550			
20										550		550	550			
21		550								550		550	550	550		
22		550								550		550	550	550		
23		550	550				550			550		550	550	550	550	
24		550	550				550			550		550	550	550	550	
25		550	550	550			550			550		550	550	550	550	550
26		550	550	550			550			550		550	550	550	550	550
27	550	512	550	550	550	550	550	550	550	439		498	550	550	550	550
28	548	475	521	550	550	550	550	550	550	550		463	517	550	550	550
29	511	443	485	527	550	536	550	550	550	380	550	431	482	532	550	550
30	477	413	453	492	531	500	550	544	550	355	550	402	450	497	544	550
31	446	387	424	460	497	468	534	509	550	332	550	376	421	465	510	550
32	418	363	397	432	466	439	501	477	515	311	549	353	395	436	478	519
33	393	341	373	406	438	413	471	448	484		520	332	371	410	449	488
34	370	321	351	382	412	388	443	422	456		490	312	349	386	423	459
35	349	303	331	360	389	366	418	398	430		462	294	329	364	399	433
36	330	286	313	340	367	346	395	376	406		436	278	311	344	377	409
37	312	271	296	322	348	327	373	356	384		413		294	325	356	387
38	296	256	281	305	329	310	354	337	364		391		279	308	338	367
39	280	243	266	289	313	294	336	320	346		371		265	292	320	348
40	266	231	253	275	297	280	319	304	328		353		251	278	304	331
41	253	220	241	262	283	266	303	289	312		335		264	290	315	340
42	241	209	229	249	269	253	289	275	297		320		252	276	300	324
43	230	200	219	238	257	242	276	263	284		305		240	263	286	310
44	220	191	209	227	245	231	263	251	271		291		229	251	273	300
45	210	189	207	224	241	227	257	245	263		278		217	240	261	286
46	201	181	199	216	233	220	250	238	256		266		206	230	250	275
47	192	173	191	208	225	212	242	230	248		255		195	219	239	264
48	184	165	183	199	215	202	231	219	237		244		184	204	224	249
49	177	156	174	189	205	192	220	208	226		234		173	193	213	233
50	170	147	165	180	196	183	211	199	217		225		162	182	202	222
51	163	138	156	171	187	174	200	188	206		216		151	171	191	211
52	157	129	147	162	177	164	194	182	199		208		140	160	180	200
53	151	120	138	153	168	155	189	177	194		200		130	150	170	190
54	145	111	129	144	159	146	182	170	187		199		120	140	160	180
55	140	102	120	135	150	137	176	164	181		195		110	130	150	170
56	135	93	111	126	141	128	170	158	175		190		100	120	140	160
57	130	84	102	117	132	119	164	152	169		185		90	110	130	150
58	125	75	93	108	123	110	158	146	163		180		80	100	120	140
59	120	66	84	99	114	101	152	140	157		175		70	90	110	130
60	115	57	75	90	105	92	146	134	151		170		60	80	100	120



## ASD K-SERIES ECONOMY TABLE - STANDARD UNITS

Joist Designation	28K9	30K9	18K10	20K10	22K10	24K10	26K10	28K10	22K11	30K10	30K11	24K12	26K12	28K12	30K12
Depth (In.)	28	30	18	20	22	24	26	28	22	30	30	24	26	28	30
Approx. Wt. (lbs/ft)	10.5	10.6	11.6	11.6	11.7	11.7	11.8	11.8	11.9	11.9	13.3	13.5	13.7	14.5	15.0
Span (ft.)															
18			550												
			550												
19			550	550											
			523	550											
20			550	550											
			490	550											
21			550	550	550				550						
			460	520	550				550						
22			550	550	550				550						
			438	490	548				548						
23			550	550	550	550			550			550			
			418	468	518	550			518			550			
24			550	550	550	550			550			550			
			396	448	495	544			495			544			
25			550	550	550	550	550		550			550	550		
			377	426	474	520	550		474			520	550		
26			550	550	550	550	550		550			550	550		
			361	405	454	499	541		454			499	541		
27	550		550	550	550	550	550	550	550			550	550	550	
	550		347	389	432	479	522	550	432			479	522	550	
28	550		548	550	550	550	550	550	550			550	550	550	
	543		331	375	413	456	501	543	413			456	501	543	
29	550	550	511	550	550	550	550	550	550	550	550	550	550	550	550
	522	550	298	359	399	436	479	522	399	550	550	436	479	522	550
30	550	550	477	533	550	550	550	550	550	550	550	550	550	550	550
	500	543	269	336	385	422	459	500	385	543	543	422	459	500	543
31	550	550	446	499	550	550	550	550	550	550	550	550	550	550	550
	480	520	243	304	369	410	444	480	369	520	520	410	444	480	520
32	549	549	418	468	517	549	549	549	549	549	549	549	549	549	549
	463	500	221	276	337	393	431	463	355	500	500	393	431	463	500
33	527	532	393	440	486	532	532	532	532	532	532	532	532	532	532
	432	468	201	251	307	368	404	435	334	468	468	368	404	435	468
34	496	516	370	414	458	502	516	516	516	516	516	516	516	516	516
	395	441	184	229	280	337	378	410	314	441	441	344	378	410	441
35	468	501	349	390	432	473	501	501	494	501	501	501	501	501	501
	361	415	168	210	257	308	356	389	292	415	415	324	356	389	415
36	442	475	330	369	408	447	486	487	467	487	487	487	487	487	487
	332	383	154	193	236	283	334	366	269	392	392	306	334	366	392
37	418	449	349	386	423	460	474	474	442	474	474	474	474	474	474
	305	352	178	217	260	308	344	344	247	374	374	290	315	344	374
38	396	426	331	366	401	436	461	419	461	461	461	461	461	461	461
	282	325	164	200	240	284	325	228	353	353	353	275	299	325	353
39	376	404	314	347	380	413	447	397	449	449	449	449	449	449	449
	260	300	151	185	222	262	306	211	333	333	333	261	283	308	333
40	357	384	298	330	361	393	424	377	438	438	438	438	438	438	438
	241	278	140	171	206	243	284	195	315	315	315	247	269	291	315
41	340	365		314	344	374	404	359	427	427	427	427	427	427	427
	224	258		159	191	225	263	181	300	300	300	235	256	277	300
42	324	348		299	327	356	384	342	413	417	417	417	417	417	417
	208	240		148	177	210	245	168	282	284	284	224	244	264	284
43	309	332		285	312	339	367	326	394	407	406	407	407	407	407
	194	223		138	165	195	228	157	263	270	213	232	252	270	270
44	295	317		272	298	324	350	311	376	398	387	398	398	398	398
	181	208		128	154	182	212	146	245	258	199	222	240	258	258
45	282	303		285	310	334	359	310	359	389	370	389	389	389	389
	169	195		144	170	198	229	159	229	246	185	212	229	246	246
46	270	290		272	296	320	344	320	344	380	354	380	380	380	380
	158	182		135	159	186	214	159	214	236	174	203	219	236	236
47	258	277		261	284	306	329	284	329	372	339	369	372	372	372
	148	171		126	149	174	201	149	201	226	163	192	210	226	226
48	247	266		250	272	294	315	272	315	362	325	353	365	365	365
	139	160		118	140	163	188	140	188	215	153	180	201	216	216
49	237	255					261	261	303	347	339	357	357	357	357
	130	150					131	153	177	202	169	193	207	207	207
50	228	245					250	270	291	333	325	350	350	350	350
	123	141					124	144	166	190	159	185	199	199	199
51	219	235					241	260	279	320	313	338	343	343	343
	115	133					116	136	157	179	150	175	192	192	192
52	210	226					231	250	268	308	301	325	336	336	336
	109	126					110	128	148	169	142	165	184	184	184
53	203	218						240	258	296			313	330	330
	103	119						121	140	159			156	177	177
54	195	209						232	249	285			301	324	324
	97	112						114	132	150			147	170	170
55	188	202						223	240	275			290	312	312
	92	106						108	125	142			139	161	161
56	181	195						215	231	265			280	301	301
	87	100						102	118	135			132	153	153
57		188							223	256			290	312	312
		95							112	128			145	165	165
58		181							215	247			280	301	301
		90							106	121			137	157	157
59		175							208	239			271	291	291
		86							101	115			130	149	149
60		169							201	231			262	282	282
		81							96	109			124	144	144

## ASD K-SERIES ECONOMY TABLE - METRIC UNITS

Joist Designation	10K1	12K1	14K1	16K2	12K3	14K3	16K3	18K3	20K3	14K4	16K4	12K5	18K4	20K4	22K4	16K5
Depth (MM)	254	305	356	406	305	356	406	457	508	356	406	305	457	508	559	406
Approx. Wt. (kN/m)	0.07	0.07	0.08	0.08	0.08	0.09	0.09	0.09	0.09	0.10	0.10	0.10	0.11	0.11	0.11	0.11
Span (mm)																
3048	8.02 8.02															
3353	8.02 7.90															
3658	8.02 6.64	8.02 8.02			8.02 8.02							8.02 8.02				
3962	6.99 5.29	8.02 7.44			8.02 7.44							8.02 7.44				
4267	6.01 4.21	7.29 6.20	8.02 8.02		8.02 6.75	8.02 8.02				8.02 8.02		8.02 6.75				
4572	5.22 3.41	6.33 5.02	7.45 6.93		7.92 6.24	8.02 7.39				8.02 7.39		8.02 6.33				
4877	4.56 2.80	5.54 4.11	6.53 5.69	8.02 8.02	6.94 5.12	8.02 6.81	8.02 8.02			8.02 6.81	8.02 8.02	8.02 5.77				8.02 8.02
5182	4.04 2.32	4.90 3.41	5.76 4.72	7.47 7.12	6.12 4.24	7.22 5.89	8.02 7.67			8.02 6.46	8.02 7.67	8.02 5.34				8.02 7.67
5486	3.59 1.95	4.36 2.87	5.13 3.96	6.65 5.96	5.45 3.57	6.43 4.94	7.41 6.65	8.02 8.02		7.73 5.79	8.02 7.15	7.39 4.62	8.02 8.02			8.02 7.15
5791	3.22 1.64	3.91 2.43	4.59 3.35	5.95 5.06	4.88 3.02	5.76 4.18	6.64 5.63	7.50 7.20	8.02 8.02	6.93 4.90	7.98 6.59	6.62 3.92	8.02 7.63	8.02 8.02		8.02 6.64
6096	2.90 1.41	3.51 2.07	4.14 2.87	5.37 4.33	4.40 2.58	5.19 3.59	5.98 4.81	6.75 6.17	7.54 7.54	6.24 4.18	7.19 5.63	5.96 3.35	8.02 7.15	8.02 8.02		8.02 6.21
6401		3.18 1.79	3.75 2.48	4.85 3.72	3.98 2.23	4.69 3.09	5.41 4.15	6.12 5.31	6.82 6.61	5.66 3.61	6.52 4.85	5.39 2.88	7.38 6.21	8.02 7.58	8.02 8.02	7.34 5.44
6706		2.90 1.54	3.41 2.14	4.42 3.23	3.63 1.92	4.27 2.68	4.91 3.60	5.57 4.61	6.21 5.73	5.15 3.13	5.92 4.21	4.91 2.51	6.71 5.39	7.50 6.72	8.02 7.99	6.68 4.71
7010		2.64 1.35	3.12 1.86	4.04 2.83	3.31 1.69	3.91 2.33	4.49 3.15	5.09 4.02	5.67 5.02	4.69 2.74	5.41 3.67	4.49 2.18	6.12 4.71	6.84 5.86	7.55 7.16	6.10 4.11
7315		2.42 1.18	2.86 1.64	3.70 2.48	3.03 1.47	3.57 2.05	4.13 2.75	4.67 3.53	5.21 4.40	4.30 2.40	4.96 3.22	4.11 1.92	5.61 4.14	6.27 5.15	6.93 6.28	5.60 3.61
7620			2.62 1.45	3.41 2.18		3.29 1.80	3.79 2.43	4.29 3.12	4.80 3.88	3.96 2.11	4.56 2.84		5.18 3.64	5.77 4.55	6.39 5.56	5.15 3.19
7925			2.42 1.28	3.15 1.94		3.05 1.60	3.50 2.15	3.96 2.77	4.43 3.44	3.66 1.88	4.21 2.52		4.78 3.23	5.34 4.04	5.89 4.93	4.75 2.83
8230			2.24 1.15	2.91 1.73		2.81 1.43	3.25 1.92	3.67 2.46	4.10 3.07	3.40 1.67	3.91 2.26		4.42 2.88	4.94 3.60	5.45 4.39	4.40 2.52
8534			2.08 1.02	2.71 1.54		2.62 1.28	3.02 1.72	3.41 2.20	3.80 2.75	3.15 1.50	3.63 2.01		4.11 2.58	4.59 3.22	5.07 3.94	4.10 2.26
8839				2.52 1.38		2.81 1.54	3.18 1.98	3.54 2.48		3.38 1.80	3.38 1.80		3.83 2.32	4.27 2.90	4.72 3.53	3.80 2.02
9144				2.34 1.25		2.62 1.40	2.96 1.79	3.31 2.23		3.15 1.63	3.15 1.63		3.57 2.10	3.99 2.61	4.40 3.19	3.56 1.83
9449				2.20 1.13		2.45 1.26	2.77 1.61	3.09 2.01		2.96 1.47	2.96 1.47		3.34 1.89	3.73 2.36	4.13 2.88	3.32 1.66
9754				2.07 1.03		2.30 1.15	2.59 1.47	2.90 1.83		2.77 1.34	2.77 1.34		3.13 1.72	3.50 2.14	3.86 2.62	3.12 1.50
10058								2.45 1.34	2.72 1.66				2.94 1.57	3.29 1.95	3.63 2.39	
10363								2.30 1.22	2.56 1.53				2.77 1.43	3.09 1.78	3.42 2.17	
10668								2.17 1.12	2.42 1.40				2.61 1.31	2.91 1.63	3.22 1.99	
10973								2.05 1.02	2.29 1.28				2.46 1.19	2.75 1.50	3.05 1.83	
11278									2.15 1.18					2.61 1.38	2.88 1.69	
11582									2.05 1.07					2.48 1.26	2.72 1.56	
11887									1.94 1.00					2.34 1.18	2.59 1.43	
12192									1.85 0.93					2.23 1.09	2.46 1.32	
12497															2.34 1.24	
12802															2.23 1.15	
13106															2.13 1.06	
13411															2.02 0.99	



## ASD K-SERIES ECONOMY TABLE - METRIC UNITS

Joist Designation	14K6	18K5	20K5	22K5	24K4	24K5	16K6	26K5	18K6	20K6	22K6	24K6	16K7	26K6	18K7	20K7
Depth (mm)	356	457	508	559	610	610	406	660	457	508	559	610	406	660	457	508
Approx. Wt. (kN/m)	0.11	0.11	0.11	0.11	0.11	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.13	0.13	0.13	0.13
Span (mm)																
4267	8.02															
4572	8.02															
4877	8.02						8.02						8.02			
5182	8.02						8.02						8.02			
5486	8.02	8.02					8.02		8.02				8.02		8.02	
5791	8.02	8.02	8.02				8.02		8.02	8.02			8.02		8.02	8.02
6096	7.66	8.02	8.02				8.02		8.02	8.02			8.02		8.02	8.02
6401	6.93	8.02	8.02	8.02			7.99		8.02	8.02	8.02		8.02		8.02	8.02
6706	6.30	7.55	8.02	8.02			7.26		8.02	8.02	8.02		8.02		8.02	8.02
7010	5.76	6.90	7.72	8.02	8.02	8.02	6.64		7.53	8.02	8.02	8.02	7.39		8.02	8.02
7315	5.28	6.33	7.07	7.82	7.58	8.02	6.10		6.90	7.70	8.02	8.02	6.78		7.67	8.02
7620	4.87	5.83	6.50	7.19	6.99	7.88	5.60	8.02	6.34	7.09	7.83	8.02	6.24	8.02	7.07	7.89
7925	4.49	5.38	6.01	6.64	6.45	7.28	5.18	7.90	5.86	6.55	7.23	7.92	5.76	8.02	6.53	7.29
8230	4.15	4.99	5.57	6.15	5.98	6.74	4.80	7.32	5.42	6.07	6.69	7.34	5.34	7.98	6.05	6.75
8534	3.86	4.64	5.18	5.72	5.56	6.26	4.46	6.80	5.04	5.63	6.23	6.81	4.96	7.41	5.61	6.27
8839	3.41	4.21	4.81	5.32	5.16	5.83	4.15	6.33	4.69	5.25	5.80	6.34	4.62	6.90	5.23	5.85
9144	3.07	3.87	4.47	5.07	4.91	5.58	3.80	5.96	4.28	4.84	5.40	5.96	4.28	6.40	5.03	5.61
9449	2.73	3.53	4.13	4.73	4.57	5.24	3.46	5.62	4.02	4.58	5.14	5.70	4.02	6.02	4.56	5.10
9754	2.40	3.20	3.80	4.40	4.24	4.91	3.13	5.29	3.75	4.30	4.86	5.42	3.75	5.67	4.97	5.51
10058	2.07	2.87	3.47	4.07	3.91	4.58	2.80	4.96	3.42	3.98	4.54	5.10	3.42	5.31	4.02	4.50
10363	1.74	2.54	3.14	3.74	3.58	4.25	2.47	4.63	3.09	3.65	4.21	4.77	3.09	5.00	3.79	4.23
10668	1.41	2.21	2.81	3.41	3.25	3.92	2.14	4.30	2.76	3.32	3.88	4.44	2.76	4.71	3.57	3.99
10973	1.08	1.88	2.48	3.08	2.92	3.59	1.81	4.00	2.43	3.00	3.56	4.12	2.43	4.45	3.38	3.77
11278	0.75	1.55	2.15	2.75	2.59	3.26	1.48	3.67	2.10	2.67	3.23	3.79	2.10	4.15	3.13	3.57
11582	0.42	1.22	1.82	2.42	2.26	2.93	1.15	3.34	1.73	2.29	2.85	3.41	1.73	3.88	2.96	3.38
11887	0.09	0.89	1.49	2.09	1.93	2.60	0.82	3.01	1.40	1.96	2.52	3.08	1.40	3.59	2.73	3.21
12192		0.56	1.16	1.76	1.60	2.27	0.49	2.68	1.07	1.63	2.19	2.75	1.07	3.26	2.50	3.05
12497			0.83	1.43	1.27	1.94	0.16	2.35	0.74	1.30	1.86	2.42	0.74	2.91	2.27	2.77
12802				0.50	0.34	1.01		2.02	0.41	0.97	1.53	2.09	0.41	2.56	2.33	2.89
13106					0.17	0.74		1.69		0.58	1.14	1.70		2.22	2.09	2.65
13411						0.41		1.32		0.25	0.80	1.36		1.89	1.76	2.32
13716								0.95			0.46	1.01		1.56	1.43	1.99
14021											0.10	0.64		1.20	1.07	1.63
14326												0.29		0.88	0.75	1.29
14630														0.55	0.42	0.89
14935															0.18	0.23
15240																0.13
15545																0.08
15850																0.03



## ASD K-SERIES ECONOMY TABLE - METRIC UNITS

Joist Designation	28K6	22K7	24K7	26K7	28K7	24K8	30K7	26K8	28K8	16K9	30K8	18K9	20K9	22K9	24K9	26K9
Depth (mm)	711	559	610	660	711	610	762	660	711	406	762	457	508	559	610	660
Approx. Wt (kN/m)	0.13	0.13	0.13	0.13	0.13	0.14	0.14	0.14	0.14	0.15	0.15	0.15	0.15	0.15	0.15	0.15
Span (mm)																
4877										8.02						
5182										8.02						
5486										7.67						
5791										8.02		8.02				
6096										6.64		7.63	8.02			
6401		8.02								6.21		7.15	8.02			
6706		8.02								5.92		6.71	7.58	8.02		
7010		8.02	8.02			8.02				5.61		6.39	7.15	7.99		
7315		8.02	8.02			8.02				5.29		6.10	6.82	7.55	8.02	
7620		8.02	8.02	8.02		8.02		8.02		7.50		8.02	8.02	8.02	8.02	8.02
7925		8.02	8.02	8.02		8.02		8.02		4.53		5.50	6.21	6.91	7.58	8.02
8230	8.02	7.47	8.02	8.02	8.02	8.02		8.02	8.02	6.40		7.26	8.02	8.02	8.02	8.02
8534	7.99	6.93	7.60	8.02	8.02	8.02		8.02	8.02	3.59		4.59	5.67	6.30	6.99	7.61
8839	7.45	6.46	7.07	7.69	8.02	7.82	8.02	8.02	8.02	5.54	8.02	6.28	7.03	7.76	8.02	8.02
9144	6.96	6.02	6.61	7.18	7.74	7.29	8.02	7.93	8.02	5.18	8.02	5.86	6.56	7.25	7.93	8.02
9449	6.50	5.64	6.18	6.71	7.25	6.82	7.79	7.42	8.02	4.84	8.02	5.48	6.14	6.78	7.44	8.02
9754	6.10	5.29	5.79	6.30	6.80	6.40	7.31	6.96	7.51	4.53	8.01	5.15	5.76	6.36	6.97	7.57
10058	5.73	4.97	5.44	5.92	6.39	6.02	6.87	6.53	7.06	4.24	7.58	4.84	5.41	5.98	6.55	7.12
10363	5.39	4.68	5.12	5.57	6.01	5.66	6.46	6.15	6.65	3.95	7.15	4.55	5.09	5.63	6.17	6.69
10668	5.09	4.42	4.83	5.25	5.67	5.34	6.10	5.80	6.27	3.66	6.74	4.29	4.80	5.31	5.82	6.31
10973	4.81	4.17	4.56	4.96	5.35	5.04	5.76	5.48	5.92	3.37	6.36	4.05	4.53	5.02	5.50	5.96
11278	4.55	3.95	4.31	4.69	5.07	4.77	5.44	5.19	5.60	3.08	6.02	3.79	4.29	4.74	5.19	5.64
11582	4.31	3.73	4.10	4.45	4.80	4.52	5.16	4.91	5.31	2.79	5.70	3.52	4.07	4.49	4.93	5.35
11887	4.08	3.54	3.88	4.21	4.56	4.29	4.90	4.67	5.04	2.50	5.41	3.26	3.86	4.26	4.67	5.07
12192	3.88	3.37	3.69	4.01	4.33	4.08	4.65	4.43	4.78	2.21	5.15	3.00	3.66	4.05	4.43	4.83
12497	3.69	3.21	3.51	3.82	4.13	3.88	4.42	4.21	4.55	1.92	4.88	2.74	3.42	3.81	4.23	4.61
12802	3.51	3.05	3.34	3.63	3.92	3.69	4.21	4.01	4.33	1.63	4.67	2.47	3.16	3.55	3.94	4.33
13106	3.35	2.91	3.19	3.47	3.75	3.53	4.02	3.83	4.14	1.34	4.45	2.20	2.89	3.28	3.67	4.06
13411	3.21	2.78	3.05	3.31	3.57	3.37	3.83	3.66	3.95	1.05	4.24	2.00	2.69	3.08	3.47	3.86
13716	3.06	2.60	2.89	3.16	3.41	3.21	3.66	3.50	3.77	0.76	4.05	1.74	2.43	2.82	3.21	3.60
14021	2.93	2.48	2.78	3.02	3.26	3.07	3.51	3.34	3.61	0.47	3.88	1.50	2.19	2.58	2.97	3.36
14326	2.80	2.35	2.65	2.90	3.12	2.94	3.35	3.19	3.45	0.18	3.72	1.25	2.00	2.39	2.78	3.17
14630	2.68	2.23	2.53	2.77	3.00	2.83	3.22	3.06	3.31	0.00	3.56	1.00	1.73	2.12	2.51	2.90
14935	2.58	2.13	2.43	2.67	2.87	2.70	3.09	2.94	3.18		3.41	0.75	1.50	1.89	2.28	2.67
15240	2.48	2.03	2.33	2.57	2.75	2.58	2.96	2.83	3.05		3.28	0.50	1.25	1.64	2.03	2.42
15545	2.37	1.88	2.18	2.42	2.60	2.43	2.84	2.71	2.93		3.15	0.25	1.00	1.39	1.78	2.17
15850	2.29	1.80	2.10	2.34	2.52	2.35	2.74	2.61	2.81		3.03	0.00	0.75	1.14	1.53	1.92
16154	2.20	1.71	2.01	2.25	2.43	2.26	2.64	2.51	2.71		2.91		0.50	0.89	1.28	1.67
16459	2.11	1.62	1.92	2.16	2.34	2.17	2.53	2.40	2.61		2.80		0.25	0.64	1.03	1.42
16764	2.04	1.53	1.83	2.07	2.25	2.08	2.45	2.32	2.52		2.69		0.00	0.39	0.78	1.17
17069	1.97	1.44	1.74	1.98	2.16	2.00	2.36	2.23	2.42		2.61			0.14	0.53	0.92
17374	1.97	1.35	1.65	1.89	2.07	1.91	2.27	2.14	2.34		2.52				0.38	0.77
17678											2.43					
17983											2.34					
18288											2.27					



## ASD K-SERIES ECONOMY TABLE - METRIC UNITS

Joist Designation	28K9	30K9	18K10	20K10	22K10	24K10	26K10	28K10	22K11	30K10	30K11	24K12	26K12	28K12	30K12
Depth (mm)	711	762	457	508	559	610	660	711	559	762	762	610	660	711	762
Approx. Wt. (kN/m)	0.15	0.15	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.19	0.20	0.20	0.21	0.22
Span (mm)															
5486			8.02												
5791			8.02	8.02											
6096			7.63	8.02											
6401			8.02	8.02	8.02				8.02						
6706			6.71	7.58	8.02				8.02						
7010			8.02	8.02	8.02	8.02			8.02			8.02			
7315			6.10	6.82	7.55	8.02			7.55			8.02			
7620			8.02	8.02	8.02	8.02	8.02		8.02			8.02	8.02		
7925			5.50	6.21	6.91	7.58	8.02		6.91			7.58	8.02		
8230	8.02		8.02	8.02	8.02	8.02	8.02	8.02	8.02			8.02	8.02	8.02	
8534	8.02		5.06	5.67	6.30	6.99	7.61	8.02	6.30			6.99	7.61	8.02	
8839	7.92		7.99	8.02	8.02	8.02	8.02	8.02	8.02			8.02	8.02	8.02	8.02
9144	8.02	8.02	4.83	5.47	6.02	6.65	7.31	7.92	6.02	8.02	8.02	8.02	8.02	8.02	8.02
9449	7.61	8.02	7.45	8.02	8.02	8.02	8.02	8.02	8.02	8.02	8.02	8.02	8.02	8.02	8.02
9754	8.02	8.02	4.34	5.23	5.82	6.36	6.99	7.61	5.82	8.02	8.02	8.02	8.02	8.02	8.02
10058	7.29	8.02	6.96	7.77	8.02	8.02	8.02	8.02	8.02	8.02	8.02	8.02	8.02	8.02	8.02
10363	7.00	7.58	3.92	4.90	5.61	6.15	6.69	7.29	5.61	7.92	7.92	6.15	6.69	7.29	7.92
10668	8.02	8.02	6.50	7.28	8.02	8.02	8.02	8.02	8.02	8.02	8.02	8.02	8.02	8.02	8.02
10973	7.00	7.58	3.54	4.43	5.38	5.98	6.47	7.00	5.38	7.58	7.58	5.98	6.47	7.00	7.58
11278	6.75	7.29	3.22	4.02	4.91	5.73	6.28	6.75	5.18	7.29	7.29	5.73	6.28	6.75	7.29
11582	7.69	7.76	5.73	6.42	7.09	7.76	7.76	7.76	7.76	7.76	7.76	7.76	7.76	7.76	7.76
11887	6.30	6.82	2.93	3.66	4.48	5.37	5.89	6.34	4.87	6.82	6.82	5.37	5.89	6.34	6.82
12192	7.23	7.53	5.39	6.04	6.68	7.32	7.53	7.53	7.53	7.53	7.53	7.53	7.53	7.53	7.53
12497	5.76	6.43	2.68	3.34	4.08	4.91	5.51	5.98	4.58	6.43	6.43	5.02	5.51	5.98	6.43
12802	6.82	7.31	5.09	5.69	6.30	6.90	7.31	7.31	7.20	7.31	7.31	7.31	7.31	7.31	7.31
13106	5.26	6.05	2.45	3.06	3.75	4.49	5.19	5.67	4.26	6.05	6.05	4.72	5.19	5.67	6.05
13411	6.45	6.93	4.81	5.38	5.95	6.52	7.09	7.10	6.81	7.10	7.10	7.10	7.10	7.10	7.10
13716	4.84	5.58	2.24	2.81	3.44	4.13	4.87	5.34	3.92	5.72	5.72	4.46	4.87	5.34	5.72
14021	6.10	6.55		5.09	5.63	6.17	6.71	6.91	6.45	6.91	6.91	6.91	6.91	6.91	6.91
14326	4.45	5.13		2.59	3.16	3.79	4.49	5.02	3.60	5.45	5.45	4.23	4.59	5.02	5.45
14630	5.77	6.21		4.83	5.34	5.85	6.36	6.72	6.11	6.72	6.72	6.72	6.72	6.72	6.72
14935	4.11	4.74		2.39	2.91	3.50	4.14	4.74	3.32	5.15	5.15	4.01	4.36	4.74	5.15
15240	5.48	5.89		4.58	5.06	5.54	6.02	6.52	5.79	6.55	6.55	6.55	6.55	6.55	6.55
15545	3.79	4.37		2.20	2.69	3.23	3.82	4.46	3.07	4.85	4.85	3.80	4.13	4.49	4.85
15850	5.21	5.60		4.34	4.81	5.26	5.73	6.18	5.50	6.39	6.39	6.39	6.39	6.39	6.39
16154	3.51	4.05		2.04	2.49	3.00	3.54	4.14	2.84	4.59	4.59	3.60	3.92	4.24	4.59
16459	4.96	5.32		4.58	5.02	5.45	5.89	6.32	5.23	6.23	6.23	6.23	6.23	6.23	6.23
16764	3.26	3.76		2.32	2.78	3.28	3.83	4.37	2.64	4.37	4.37	3.42	3.73	4.04	4.37
17069	4.72	5.07		4.36	4.77	5.19	5.60	6.02	4.99	6.02	6.02	6.02	6.02	6.02	6.02
17374	3.03	3.50		2.15	2.58	3.06	3.57	4.11	2.45	4.11	4.11	3.26	3.56	3.85	4.14
17678	4.50	4.84			4.15	4.55	4.94	5.35	4.75	5.74	5.93	5.92	5.93	5.93	5.93
17983	2.83	3.25		2.01	2.40	2.84	3.32	3.83	2.29	3.83	3.94	3.10	3.38	3.67	3.94
18288	4.30	4.62		3.96	4.34	4.72	5.10	5.43	4.53	5.48	5.80	5.64	5.80	5.80	5.80
	2.64	3.03		1.86	2.24	2.65	3.09	3.57	2.13	3.57	3.76	2.90	3.23	3.50	3.76
	4.11	4.42			4.15	4.52	4.87	5.23		5.23	5.67	5.39	5.67	5.67	5.67
	2.46	2.84			2.10	2.48	2.88			3.34	3.59	2.69	3.09	3.34	3.59
	3.94	4.23			3.96	4.31	4.67			5.02	5.54	5.16	5.54	5.54	5.54
	2.30	2.65			1.97	2.32	2.71			3.12	3.44	2.53	2.96	3.19	3.44
	3.76	4.04			3.80	4.14	4.46			4.80	5.42	4.94	5.38	5.42	5.42
	2.15	2.49			1.83	2.17	2.53			2.93	3.29	2.37	2.80	3.06	3.29
	3.60	3.88			3.64	3.96	4.29			4.59	5.28	4.74	5.15	5.32	5.32
	2.02	2.33			1.72	2.04	2.37			2.74	3.13	2.23	2.62	2.93	3.15
	3.45	3.72				3.80	4.11			4.42	5.06		4.94	5.21	5.21
	1.89	2.18				1.91	2.23			2.58	2.94		2.46	2.81	3.02
	3.32	3.57				3.64	3.94			4.24	4.85		4.74	5.10	5.10
	1.79	2.05				1.80	2.10			2.42	2.77		2.32	2.69	2.90
	3.19	3.42				3.51	3.79			4.07	4.67		4.56	4.93	5.00
	1.67	1.94				1.69	1.98			2.29	2.61		2.18	2.55	2.80
	3.06	3.29				3.37	3.64			3.91	4.49		4.39	4.74	4.90
	1.59	1.83				1.60	1.86			2.15	2.46		2.07	2.40	2.68
	2.96	3.18					3.50			3.76	4.31			4.56	4.81
	1.50	1.73					1.76			2.04	2.32			2.27	2.58
	2.84	3.05					3.38			3.63	4.15			4.39	4.72
	1.41	1.63					1.66			1.92	2.18			2.14	2.48
	2.74	2.94					3.25			3.50	4.01			4.23	4.55
	1.34	1.54					1.57			1.82	2.07			2.02	2.34
	2.64	2.84					3.13			3.37	3.86			4.08	4.39
	1.26	1.45					1.48			1.72	1.97			1.92	2.23
		2.74								3.25	3.73				4.23
		1.38								1.63	1.86				2.11
		2.64								3.13	3.60				4.08
		1.31								1.54	1.76				1.99
		2.55								3.03	3.48				3.95
		1.25								1.47	1.67				1.89
		2.46								2.93	3.37				3.82
		1.18								1.40	1.59				1.80





# STANDARD ASD LOAD TABLE

# STANDARD LRFD LOAD TABLE

## FOR TOP CHORD EXTENSIONS (S TYPE) and (R TYPE)

Based on a 50 ksi (345 MPa) Maximum Yield Strength  
 ASD Load Table adopted by the Steel Joist Institute November 15, 1989  
 LRFD Load Table adopted by the Steel Joist Institute May 1, 2000  
 Revised to May 18, 2010 – Effective December 31, 2010

Joist extensions are commonly furnished to support a variety of overhang conditions. Two types are pictured below. The first is the TOP CHORD EXTENSION or "S" TYPE, which has only the top chord angles extended. The second is the EXTENDED END or "R" TYPE in which the standard 2½", (64 mm) end bearing depth is maintained over the entire length of the extension. The "S" TYPE extension is so designated because of its Simple nature whereas the "R" TYPE involves Reinforcing the top chord angles. The Specifying Professional should be aware that an "S" TYPE is more economical and should be specified whenever possible.

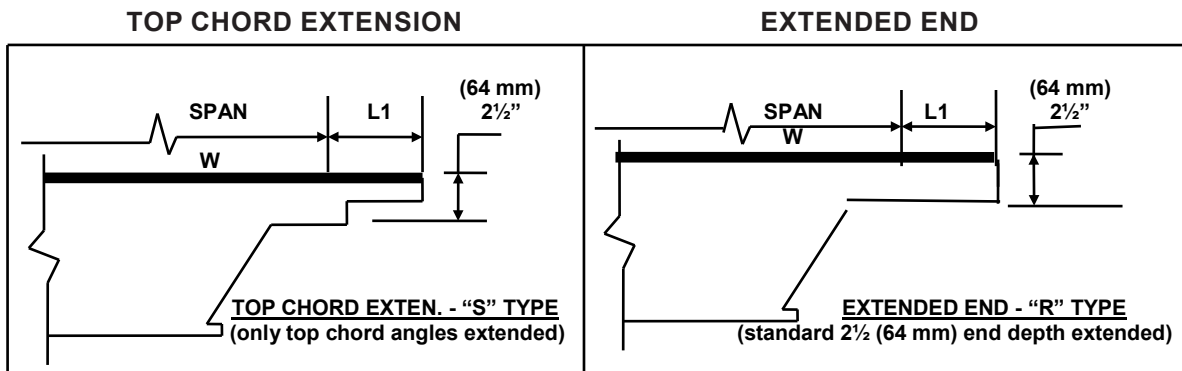
The following load tables are for K-Series TOP CHORD EXTENSIONS and EXTENDED ENDS for **ASD** and **LRFD** methods of design. The tabulated values are the maximum allowable uniform load in pounds per linear foot (kiloNewton/meter). The "S" and "I" numbers shown in the load tables are the Elastic Section Modulus and Moment of Inertia of the extension (Section) number with which they are associated.

In cases where it is not possible to meet specific job requirements with a 2½" (64 mm) deep "R" type extension (refer to "S" and "I" values in the Extended End Load Table), the depth of the extension must be increased to provide greater load-carrying capacity.

The "S" and "R" extension numbers are intended to be associated with Standard K-Series Joist Sizes of matching Section Number. When possible, the extension number should be limited to no more than the Standard K-Series Joist Section Number, for optimum economy.

When TOP CHORD EXTENSIONS or EXTENDED ENDS are specified the bracing requirements must be considered by the specifying professional.

It should be noted that an "R" TYPE extension must be specified when building details dictate a 2½", (64 mm) depth at the end of the extension. In the absence of specific instructions, the joist manufacturer may provide either type.



W = Uniform Load    L1 = Length of Extension    SPAN = See K-Series Standard Specification for Definition of Span



# LRFD

**TOP CHORD EXTENSION LOAD TABLE (R TYPE)**  
Based on a Yield Strength of 50 ksi  
Pounds Per Linear Foot

TYPE	"S" (in. <sup>3</sup> )	"I" (in. <sup>4</sup> )	LENGTH (L1)											
			0'-6"	1'-0"	1'-6"	2'-0"	2'-6"	3'-0"	3'-6"	4'-0"	4'-6"	5'-0"	5'-6"	6'-0"
R1	0.895	1.119	825	825	825	825	825	669	498	385	307	250	208	175
R2	0.923	1.157	825	825	825	825	825	690	514	399	318	259	216	181
R3	1.039	1.299	825	825	825	825	825	777	579	448	358	292	243	205
R4	1.147	1.433	825	825	825	825	825	825	639	495	394	321	267	225
R5	1.249	1.561	825	825	825	825	825	825	696	538	429	349	291	246
R6	1.352	1.690	825	825	825	825	825	825	753	583	465	379	315	265
R7	1.422	1.802	825	825	825	825	825	825	792	613	489	399	331	279
R8	1.558	1.948	825	825	825	825	825	825	825	672	535	436	363	306
R9	1.673	2.091	825	825	825	825	825	825	825	721	576	469	390	328
R10	1.931	2.414	825	825	825	825	825	825	825	825	664	541	450	379
R11	2.183	2.729	825	825	825	825	825	825	825	825	751	612	508	430
R12	2.413	3.016	825	825	825	825	825	825	825	825	825	676	562	475

# LRFD

**TOP CHORD EXTENSION LOAD TABLE (S TYPE)**  
Based on a Yield Strength of 50 ksi  
Pounds Per Linear Foot

TYPE	"S" (in. <sup>3</sup> )	"I" (in. <sup>4</sup> )	LENGTH (L1)											
			0'-6"	1'-0"	1'-6"	2'-0"	2'-6"	3'-0"	3'-6"	4'-0"	4'-6"			
S1	0.099	0.088	825	544	267	157								
S2	0.127	0.138	825	700	343	202								
S3	0.144	0.156	825	793	388	229								
S4	0.160	0.172	825	825	432	255	168							
S5	0.176	0.188	825	825	474	280	184							
S6	0.192	0.204	825	825	517	306	202							
S7	0.241	0.306	825	825	649	384	253	180						
S8	0.266	0.332	825	825	717	424	280	198						
S9	0.288	0.358	825	825	777	459	303	214	160					
S10	0.380	0.544	825	825	825	606	400	283	211	163				
S11	0.438	0.622	825	825	825	699	460	327	243	189	150			
S12	0.494	0.696	825	825	825	789	520	369	274	213	169			



# ASD

**TOP CHORD EXTENSION LOAD TABLE (R TYPE)**  
Based on a Yield Strength of 50 ksi  
Pounds Per Linear Foot

TYPE	"S" (in. <sup>3</sup> )	"I" (in. <sup>4</sup> )	LENGTH (L1)											
			0'-6"	1'-0"	1'-6"	2'-0"	2'-6"	3'-0"	3'-6"	4'-0"	4'-6"	5'-0"	5'-6"	6'-0"
R1	0.895	1.119	550	550	550	550	550	446	332	257	205	167	139	117
R2	0.923	1.157	550	550	550	550	550	460	343	266	212	173	144	121
R3	1.039	1.299	550	550	550	550	550	518	386	299	239	195	162	137
R4	1.147	1.433	550	550	550	550	550	550	426	330	263	214	178	150
R5	1.249	1.561	550	550	550	550	550	550	464	359	286	233	194	164
R6	1.352	1.690	550	550	550	550	550	550	502	389	310	253	210	177
R7	1.422	1.802	550	550	550	550	550	550	528	409	326	266	221	186
R8	1.558	1.948	550	550	550	550	550	550	550	448	357	291	242	204
R9	1.673	2.091	550	550	550	550	550	550	550	481	384	313	260	219
R10	1.931	2.414	550	550	550	550	550	550	550	550	443	361	300	253
R11	2.183	2.729	550	550	550	550	550	550	550	550	501	408	339	287
R12	2.413	3.016	550	550	550	550	550	550	550	550	550	451	375	317

# ASD

**TOP CHORD EXTENSION LOAD TABLE (S TYPE)**  
Based on a Yield Strength of 50 ksi  
Pounds Per Linear Foot

TYPE	"S" (in. <sup>3</sup> )	"I" (in. <sup>4</sup> )	LENGTH (L1)											
			0'-6"	1'-0"	1'-6"	2'-0"	2'-6"	3'-0"	3'-6"	4'-0"	4'-6"			
S1	0.099	0.088	550	363	178	105								
S2	0.127	0.138	550	467	229	135								
S3	0.144	0.156	550	529	259	153								
S4	0.160	0.172	550	550	288	170	112							
S5	0.176	0.188	550	550	316	187	123							
S6	0.192	0.204	550	550	345	204	135							
S7	0.241	0.306	550	550	433	256	169	120						
S8	0.266	0.332	550	550	478	283	187	132						
S9	0.288	0.358	550	550	518	306	202	143	107					
S10	0.380	0.544	550	550	550	404	267	189	141	109				
S11	0.438	0.622	550	550	550	466	307	218	162	126	100			
S12	0.494	0.696	550	550	550	526	347	246	183	142	113			



# LRFD

**TOP CHORD EXTENSION METRIC LOAD TABLE (R TYPE)**  
Based on a Yield Strength of 345 Mpa  
Kilonewtons Per Meter (kN/m)

TYPE	"S" (mm <sup>3</sup> )	"I" (mm <sup>4</sup> )	LENGTH (L1)											
			152	305	457	610	762	914	1067	1219	1372	1524	1676	1829
R1	14666	465762	12.03	12.03	12.03	12.03	12.03	9.76	7.26	5.63	4.49	3.65	3.03	2.55
R2	15125	481579	12.03	12.03	12.03	12.03	12.03	10.06	7.50	5.82	4.64	3.78	3.15	2.64
R3	17026	540684	12.03	12.03	12.03	12.03	12.03	11.33	8.44	6.54	5.22	4.26	3.54	2.99
R4	18795	596459	12.03	12.03	12.03	12.03	12.03	12.03	9.32	7.22	5.74	4.68	3.89	3.28
R5	20467	649737	12.03	12.03	12.03	12.03	12.03	12.03	10.15	7.85	6.26	5.10	4.24	3.59
R6	22155	703431	12.03	12.03	12.03	12.03	12.03	12.03	10.98	8.51	6.78	5.54	4.59	3.87
R7	23302	750049	12.03	12.03	12.03	12.03	12.03	12.03	11.55	8.94	7.13	5.82	4.83	4.07
R8	25531	810818	12.03	12.03	12.03	12.03	12.03	12.03	12.03	9.80	7.82	6.36	5.29	4.46
R9	27415	870339	12.03	12.03	12.03	12.03	12.03	12.03	12.03	10.52	8.40	6.84	5.69	4.79
R10	31643	1004782	12.03	12.03	12.03	12.03	12.03	12.03	12.03	12.03	9.69	7.89	6.56	5.54
R11	35772	1135895	12.03	12.03	12.03	12.03	12.03	12.03	12.03	12.03	10.96	8.93	7.41	6.27
R12	39541	1255353	12.03	12.03	12.03	12.03	12.03	12.03	12.03	12.03	12.03	9.87	8.20	6.93

# LRFD

**TOP CHORD EXTENSION METRIC LOAD TABLE (S TYPE)**  
Based on a Yield Strength of 345 Mpa  
Kilonewtons Per Meter (kN/m)

TYPE	"S" (mm <sup>3</sup> )	"I" (mm <sup>4</sup> )	LENGTH (L1)											
			152	305	457	610	762	914	1067	1219	1372			
S1	1622	36628	12.03	7.93	3.89	2.29								
S2	2081	57439	12.03	10.21	5.00	2.94								
S3	2359	64932	12.03	11.57	5.66	3.34								
S4	2621	71591	12.03	12.03	6.30	3.72	2.45							
S5	2884	78251	12.03	12.03	6.91	4.08	2.68							
S6	3146	84911	12.03	12.03	7.54	4.46	2.94							
S7	3949	127366	12.03	12.03	9.47	5.60	3.69	2.62						
S8	4358	138188	12.03	12.03	10.46	6.18	4.08	2.88						
S9	4719	149010	12.03	12.03	11.33	6.69	4.42	3.12	2.33					
S10	6227	226429	12.03	12.03	12.03	8.84	5.83	4.13	3.07	2.37				
S11	7177	258895	12.03	12.03	12.03	10.20	6.71	4.77	3.54	2.75	2.18			
S12	8095	289697	12.03	12.03	12.03	11.51	7.58	5.38	3.99	3.10	2.46			



# ASD

**TOP CHORD EXTENSION METRIC LOAD TABLE (R TYPE)**  
Based on a Yield Strength of 345 MPa  
Kilonewtons Per Meter (kN/m)

TYPE	"S" (mm <sup>3</sup> )	"I" (mm <sup>4</sup> )	LENGTH (L1)											
			152	305	457	610	762	914	1067	1219	1372	1524	1676	1829
R1	14666	465762	8.02	8.02	8.02	8.02	8.02	6.50	4.84	3.75	2.99	2.43	2.02	1.70
R2	15125	481579	8.02	8.02	8.02	8.02	8.02	6.71	5.00	3.88	3.09	2.52	2.10	1.76
R3	17026	540684	8.02	8.02	8.02	8.02	8.02	7.55	5.63	4.36	3.48	2.84	2.36	1.98
R4	18796	596459	8.02	8.02	8.02	8.02	8.02	8.02	6.21	4.81	3.83	3.12	2.59	2.18
R5	20467	649737	8.02	8.02	8.02	8.02	8.02	8.02	6.77	5.23	4.17	3.40	2.83	2.39
R6	22155	703431	8.02	8.02	8.02	8.02	8.02	8.02	7.32	5.67	4.52	3.69	3.06	2.58
R7	23302	750049	8.02	8.02	8.02	8.02	8.02	8.02	7.70	5.96	4.75	3.88	3.22	2.71
R8	25531	810818	8.02	8.02	8.02	8.02	8.02	8.02	8.02	6.53	5.21	4.24	3.53	2.97
R9	27415	870339	8.02	8.02	8.02	8.02	8.02	8.02	8.02	7.01	5.60	4.56	3.79	3.19
R10	31643	1004782	8.02	8.02	8.02	8.02	8.02	8.02	8.02	8.02	6.46	5.26	4.37	3.69
R11	35773	1135895	8.02	8.02	8.02	8.02	8.02	8.02	8.02	8.02	7.31	5.95	4.94	4.18
R12	39542	1255353	8.02	8.02	8.02	8.02	8.02	8.02	8.02	8.02	8.02	6.58	5.47	4.62

# ASD

**TOP CHORD EXTENSION METRIC LOAD TABLE (S TYPE)**  
Based on a Yield Strength of 345 MPa  
Kilonewtons Per Meter (kN/m)

TYPE	"S" (mm <sup>3</sup> )	"I" (mm <sup>4</sup> )	LENGTH (L1)											
			152	305	457	610	762	914	1067	1219	1372			
S1	1622	36628	8.02	5.29	2.59	1.53								
S2	2081	57439	8.02	6.81	3.34	1.97								
S3	2359	64932	8.02	7.72	3.77	2.23								
S4	2621	71591	8.02	8.02	4.20	2.48	1.63							
S5	2884	78251	8.02	8.02	4.61	2.72	1.79							
S6	3146	84911	8.02	8.02	5.03	2.97	1.97							
S7	3949	127366	8.02	8.02	6.31	3.73	2.46	1.75						
S8	4358	138188	8.02	8.02	6.97	4.13	2.72	1.92						
S9	4719	149010	8.02	8.02	7.55	4.46	2.94	2.08	1.56					
S10	6227	226429	8.02	8.02	8.02	5.89	3.89	2.75	2.05	1.59				
S11	7177	258895	8.02	8.02	8.02	6.80	4.48	3.18	2.36	1.83	1.45			
S12	8095	289697	8.02	8.02	8.02	7.67	5.06	3.59	2.67	2.07	1.64			



# STANDARD ASD LOAD TABLE

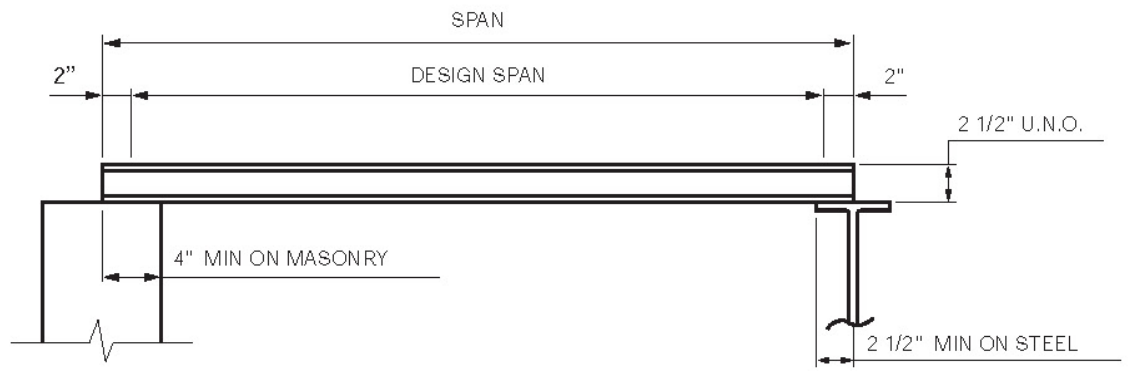
# STANDARD LRFD LOAD TABLE

## FOR JOIST SUBSTITUTES AND OUTRIGGERS

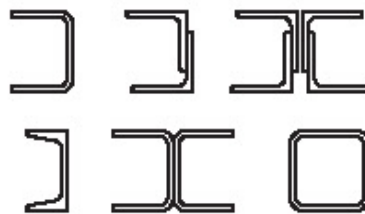
Based on a 50 ksi (345 MPa) Maximum Yield Strength  
 LRFD Load Table adopted by the Steel Joist Institute May 1, 2001  
 Revised to May 18, 2010 – Effective December 31, 2010

### JOIST SUBSTITUTES, SIMPLE SPAN LOAD TABLES

Joist substitutes are 2.5 inch (64 mm) deep sections intended for use in very short spans (less than 10 feet (3.05 m)) where Open Web Steel Joists are impractical. They are commonly specified to span over hallways and short spans in skewed bays.



Joist substitutes are solid members that can be manufactured from material conforming to the Steel Joist Institute Standard Specifications and can be made of hot rolled or cold-formed channels or HSS as shown below.



Full lateral support to the compressive flange is provided by attachments to the deck. Caution must be exercised during erection since joist substitutes exhibit some degree of instability. After erection and before loads of any description are placed on the joist substitutes, the ends must be attached to the supports per the SJI Standard Specification for Open Web Steel Joists, K-Series and the deck installed and attached to the top flange.

The Simple Span Joist Substitutes Load Tables list uniform loads based on **LRFD** and **ASD** methods of design and are shown in U.S. Customary Units.

The **BLACK** figures in the **LRFD** Load Table gives the TOTAL safe factored uniformly distributed load-carrying capacity in pounds per linear foot, of 2.5 Inch Joist Substitutes. The **BLACK** figures in the **ASD** Load Table gives the TOTAL safe unfactored uniformly distributed load-carrying capacity in pounds per linear foot, of 2.5 Inch Joist Substitutes.

The **RED** figures in the Load Table represent the unfactored, uniform load, in pounds per linear foot, which will produce an approximate joist substitute deflection of 1/360 of the span. This load can be linearly prorated to obtain the unfactored, uniform load for supplementary deflection criteria (e.g. an unfactored uniform load which will produce a joist substitute deflection of 1/240 of the span may be obtained by multiplying the **RED** figure by 360/240). In no case shall the prorated, unfactored load exceed the unfactored TOTAL load-carrying capacity of the joist substitute as given in the **ASD** Load Table for 2.5 Inch Simple Span Joist Substitutes, **K-Series**.

Minimum section properties shall be provided for the particular 2.5K type specified even at shorter spans where the developed load capacity may exceed 550 plf (**ASD**) or 825 plf (**LRFD**).

<b>2.5K JOIST SUBSTITUTES PROPERTIES</b>			
<b>2.5K TYPE</b>	<b>2.5K1</b>	<b>2.5K2</b>	<b>2.5K3</b>
<b>S in<sup>3</sup></b>	0.62	0.86	1.20
<b>I in<sup>4</sup></b>	0.77	1.07	1.50
<b>Approx. Wt. (lbs/ft)</b>	3.0	4.2	6.4

**LRFD**

<b>LOAD TABLES FOR 2.5 INCH SIMPLE SPAN JOIST SUBSTITUTES, K-SERIES</b>			
Based on a Yield Strength of 50 ksi			
<b>Designation</b>	<b>2.5K1</b>	<b>2.5K2</b>	<b>2.5K3</b>
<b>Span (ft-in)</b>	<b>Pounds per Linear Foot</b>		
<b>4'-0"</b>	825	825	825
	<b>550</b>	<b>550</b>	<b>550</b>
<b>5'-0"</b>	825	825	825
	<b>326</b>	<b>452</b>	<b>550</b>
<b>6'-0"</b>	579	803	825
	<b>182</b>	<b>253</b>	<b>354</b>
<b>7'-0"</b>	419	581	810
	<b>112</b>	<b>155</b>	<b>218</b>
<b>8'-0"</b>	316	439	612
	<b>73</b>	<b>102</b>	<b>143</b>
<b>9'-0"</b>	0	343	479
	<b>0</b>	<b>71</b>	<b>99</b>
<b>10'-0"</b>	0	0	385
	<b>0</b>	<b>0</b>	<b>71</b>

**ASD**

<b>LOAD TABLES FOR 2.5 INCH SIMPLE SPAN JOIST SUBSTITUTES, K-SERIES</b>			
Based on a Yield Strength of 50 ksi			
<b>Designation</b>	<b>2.5K1</b>	<b>2.5K2</b>	<b>2.5K3</b>
<b>Span (ft-in)</b>	<b>Pounds per Linear Foot</b>		
<b>4'-0"</b>	550	550	550
	<b>550</b>	<b>550</b>	<b>550</b>
<b>5'-0"</b>	550	550	550
	<b>326</b>	<b>452</b>	<b>550</b>
<b>6'-0"</b>	386	536	550
	<b>182</b>	<b>253</b>	<b>354</b>
<b>7'-0"</b>	279	387	540
	<b>112</b>	<b>155</b>	<b>218</b>
<b>8'-0"</b>	211	293	408
	<b>73</b>	<b>102</b>	<b>143</b>
<b>9'-0"</b>	0	229	320
	<b>0</b>	<b>71</b>	<b>99</b>
<b>10'-0"</b>	0	0	257
	<b>0</b>	<b>0</b>	<b>71</b>



The Simple Span Joist Substitutes Load Tables list uniform loads based on **LRFD** and **ASD** methods of design and are shown in S.I. Metric Units.

The **BLACK** figures in the **LRFD** Load Table gives the TOTAL safe factored uniformly distributed load-carrying capacity in kiloNewtons per meter, of 64 mm Joist Substitutes. The **BLACK** figures in the **ASD** Load Table gives the TOTAL safe unfactored uniformly distributed load-carrying capacity in kiloNewtons per meter, of 64 mm Joist Substitutes.

The **RED** figures in the Load Table represent the unfactored, uniform load, in kiloNewtons per meter, which will produce an approximate joist substitute deflection of 1/360 of the span. This load can be linearly prorated to obtain the unfactored, uniform load for supplementary deflection criteria (i.e. an unfactored uniform load which will produce a joist substitute deflection of 1/240 of the span may be obtained by multiplying the **RED** figure by 360/240). In no case shall the prorated, unfactored load exceed the unfactored TOTAL load-carrying capacity of the joist substitute as given in the **ASD** Load Table for 64 mm Simple Span Joist Substitutes, K-Series.

Minimum section properties shall be provided for the particular 2.5K type specified even at shorter spans where the developed load capacity may exceed 8.02 kN/m (**ASD**) or 12.03 kN/m (**LRFD**).

<b>2.5K JOIST SUBSTITUTES PROPERTIES</b>			
<b>2.5K TYPE</b>	<b>2.5K1</b>	<b>2.5K2</b>	<b>2.5K3</b>
<b>S mm<sup>3</sup></b>	10160	14093	19664
<b>I mm<sup>4</sup></b>	320498	445368	624347
<b>Approx. Wt. (kN/m)</b>	0.44	0.61	0.93

## LRFD

<b>LOAD TABLES FOR 64 MM SIMPLE SPAN JOIST SUBSTITUTES, K-SERIES</b>			
Based on a Yield Strength of 345 Mpa			
<b>Designation</b>	<b>2.5K1</b>	<b>2.5K2</b>	<b>2.5K3</b>
<b>Span (mm)</b>	<b>KiloNewtons per Meter (kN/m)</b>		
<b>1219</b>	12.03	12.03	12.03
	8.02	8.02	8.02
<b>1524</b>	12.03	12.03	12.03
	4.75	6.60	8.02
<b>1829</b>	8.45	11.72	12.03
	2.65	3.68	5.16
<b>2134</b>	6.11	8.46	11.82
	1.62	2.26	3.17
<b>2438</b>	4.61	6.41	8.93
	1.07	1.48	2.08
<b>2743</b>	0.00	5.01	6.99
	0.00	1.03	1.44
<b>3048</b>	0.00	0.00	5.61
	0.00	0.00	1.04

## ASD

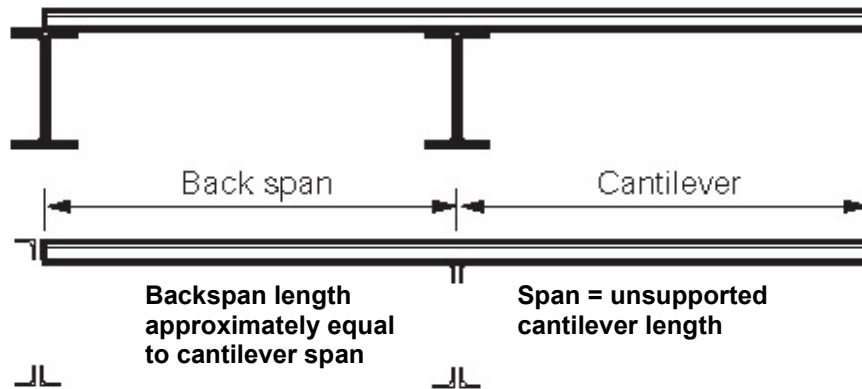
<b>LOAD TABLES FOR 64 MM SIMPLE SPAN JOIST SUBSTITUTES, K-SERIES</b>			
Based on a Yield Strength of 345 Mpa			
<b>Designation</b>	<b>2.5K1</b>	<b>2.5K2</b>	<b>2.5K3</b>
<b>Span (mm)</b>	<b>KiloNewtons per Meter (kN/m)</b>		
<b>1219</b>	8.02	8.02	8.02
	8.02	8.02	8.02
<b>1524</b>	8.02	8.02	8.02
	4.75	6.60	8.02
<b>1829</b>	5.63	7.81	8.02
	2.65	3.68	5.16
<b>2134</b>	4.07	5.64	7.88
	1.62	2.26	3.17
<b>2438</b>	3.07	4.27	5.95
	1.07	1.48	2.08
<b>2743</b>	0.00	3.34	4.66
	0.00	1.03	1.44
<b>3048</b>	0.00	0.00	3.75
	0.00	0.00	1.04





## JOIST SUBSTITUTES, OUTRIGGERS LOAD TABLES

Joist substitutes may be used in an outrigger condition where the member is overhanging one support as illustrated below where a portion is the back span and the remainder is the cantilever span or outrigger. Joist substitutes used in this configuration are 2.5 inch (64 mm) deep sections.



The Joist Outriggers Load Tables list uniform loads based on **LRFD** and **ASD** methods of design and shown in U.S. Customary Units

The **BLACK** figures in the **LRFD** Load Table gives the TOTAL safe factored uniformly distributed load-carrying capacity in pounds per linear foot, of 2.5 Inch Joist Outriggers. The **BLACK** figures in the **ASD** Load Table gives the TOTAL safe uniformly distributed load-carrying capacity in pounds per linear foot, of 2.5 Inch Joist Outriggers.

Serviceability requirements must be checked by the specifying professional. When calculating the actual live load deflection at the end of the cantilever it is necessary to consider the length of the back span. Minimum section properties shall be provided for the particular 2.5K type specified even at shorter spans where the developed load capacity may exceed 550 plf (**ASD**) or 825 plf (**LRFD**).

### LRFD

LOAD TABLES FOR 2.5 INCH JOIST OUTRIGGERS, K-SERIES									
OUTRIGGER TYPE	TOTAL ALLOWABLE LOAD FOR UNSUPPORTED CANTILEVER, PLF								
	SPAN (ft-in)								
	2'-0"	2'-6"	3'-0"	3'-6"	4'-0"	4'-6"	5'-0"	5'-6"	6'-0"
2.5K1	825	744	517	380	291	230	186	154	129
2.5K2	825	825	717	527	403	319	258	213	179
2.5K3	825	825	825	735	563	444	360	298	250

### ASD

LOAD TABLES FOR 2.5 INCH JOIST OUTRIGGERS, K-SERIES									
OUTRIGGER TYPE	TOTAL ALLOWABLE LOAD FOR UNSUPPORTED CANTILEVER, PLF								
	SPAN (ft-in)								
	2'-0"	2'-6"	3'-0"	3'-6"	4'-0"	4'-6"	5'-0"	5'-6"	6'-0"
2.5K1	550	496	344	253	194	153	124	102	86
2.5K2	550	550	478	351	269	212	172	142	119
2.5K3	550	550	550	490	375	296	240	198	167



The Joist Outriggers Load Tables list uniform loads based on **LRFD** and **ASD** methods of design and are shown in S.I. Metric Units.

The **BLACK** figures in the **LRFD** Load Table gives the TOTAL safe factored uniformly distributed load-carrying capacity in kiloNewtons per meter, of 64 mm Joist Outriggers. The **BLACK** figures in the **ASD** Load Table gives the TOTAL safe uniformly distributed load-carrying capacity in kiloNewtons per meter, of 64 mm Joist Outriggers.

Serviceability requirements must be checked by the specifying professional. When calculating the actual live load deflection at the end of the cantilever it is necessary to consider the length of the back span.

Minimum section properties shall be provided for the particular 2.5K type specified even at shorter spans where the developed load capacity may exceed 8.02 kN/m (**ASD**) or 12.03 kN/m (**LRFD**).

## LRFD

<b>LOAD TABLES FOR 64 MM JOIST OUTRIGGERS, K-SERIES</b>									
<b>OUTRIGGER TYPE</b>	<b>TOTAL ALLOWABLE LOAD FOR UNSUPPORTED CANTILEVER, kN/m</b>								
	<b>SPAN (mm)</b>								
	<b>610</b>	<b>762</b>	<b>914</b>	<b>167</b>	<b>1219</b>	<b>1372</b>	<b>1524</b>	<b>1676</b>	<b>1229</b>
<b>2.5K1</b>	12.03	10.85	7.53	5.54	4.23	3.35	2.70	2.24	1.88
<b>2.5K2</b>	12.03	12.03	10.46	7.68	5.88	4.64	3.77	3.11	2.61
<b>2.5K3</b>	12.03	12.03	12.03	10.71	8.21	6.48	5.25	4.34	3.65

## ASD

<b>LOAD TABLES FOR 64 MM JOIST OUTRIGGERS, K-SERIES</b>									
<b>OUTRIGGER TYPE</b>	<b>TOTAL ALLOWABLE LOAD FOR UNSUPPORTED CANTILEVER, kN/m</b>								
	<b>SPAN (mm)</b>								
	<b>610</b>	<b>762</b>	<b>914</b>	<b>167</b>	<b>1219</b>	<b>1372</b>	<b>1524</b>	<b>1676</b>	<b>1229</b>
<b>2.5K1</b>	8.02	7.23	5.02	3.69	2.82	2.23	1.80	1.49	1.25
<b>2.5K2</b>	8.02	8.02	6.97	5.12	3.92	3.09	2.51	2.07	1.74
<b>2.5K3</b>	8.02	8.02	8.02	7.14	5.47	4.32	3.50	2.89	2.43



# STANDARD LRFD LOAD TABLE

## LONGSPAN STEEL JOISTS, LH-SERIES

Based on a 50 ksi (345 MPa) Maximum Yield Strength  
 Adopted by the Steel Joist Institute May 1, 2000  
 Revised to April 27, 2020 – Effective July 1, 2020

The **BLACK** figures in the Load Table give the TOTAL safe factored uniformly distributed load-carrying capacities, in pounds per linear foot (kiloNewtons per meter), of **LRFD** LH-Series Steel Joists.

The approximate joist weights, in pounds per linear foot (kiloNewtons per meter), given in the Load Table may be added to the other building weights to determine the unfactored DEAD load. In all cases the factored DEAD load, including the joist self-weight, must be deducted from the TOTAL load to determine the factored LIVE load. The approximate joist weights do not include accessories.

The **RED** figures in the Load Table represent the unfactored, uniform load, in pounds per linear foot (kiloNewtons per meter), which will produce an approximate joist deflection of 1/360 of the span. This load can be linearly prorated to obtain the unfactored, uniform load for supplementary deflection criteria (i.e. an unfactored uniform load which will produce a joist deflection of 1/240 of the span may be obtained by multiplying the **RED** figures by 360/240). In no case shall the prorated, unfactored load exceed the unfactored TOTAL load-carrying capacity of the joist as given in the Standard **ASD** Load Table for Longspan Steel Joists, LH-Series.

**User Note:** For floor joists, the RED figures may control the joist selection, and for longer spans consideration shall be given to the effects of camber on slab thickness. If a deeper joist designation cannot be used, CJ-Series composite joists may also be considered to take advantage of increased stiffness available due to composite action.

The Load Table applies to joists with either parallel chords or pitched top chords. Joists can have a top chord pitch up to 1/2 inch per foot (42 mm per meter). If the pitch exceeds this limit, the Load Table does not apply. When top chords are pitched, the load-carrying capacities are determined by the nominal depth of the joists at the center of the span. Sloped parallel-chord joists shall use span as defined by the length along the slope.

Where the joist span is in the **RED SHADED** area of the Load Table, the row of bridging nearest the mid span shall be diagonal bridging with bolted connections at chords and intersections. Hoisting cables shall not be released until this row of bolted diagonal bridging is completely installed. The **RED SHADED** area extends up through 60'-0" (18288 mm).

Where the joist span is in the **BLUE SHADED** area of the Load Table, all rows of bridging shall be diagonal bridging with bolted connections at chords and intersections. Hoisting cables shall not be released until the two rows of bridging nearest the third points are completely installed. The **BLUE SHADED** area starts after 60'-0" (18288 mm) and extends up through 100'-0" (30175 mm).

The approximate gross moment of inertia (not adjusted for shear deformation) of a standard joist listed in the Load Table may be determined as follows:

$$I_j = 26.767(W)(L^3)(10^{-6}) \text{ in}^4 \quad \text{or} \quad 2.6953(W)(L^3)(10^{-5}) \text{ mm}^4, \text{ where } W = \text{RED figure in the Load Table, and}$$

$$L = (\text{span} - 0.33) \text{ in feet} \quad \text{or} \quad (\text{span} - 102) \text{ in millimeters}$$

Loads for span increments not explicitly given in the Load Table may be determined using linear interpolation between the load values given in adjacent span rows. For spans shorter than the first span listed in the Load Table, the capacity shall be equal to that of the shortest listed span.



# LRFD

**STANDARD LOAD TABLE/OPEN WEB STEEL JOISTS, LH-SERIES**  
 Based on a 50 ksi Maximum Yield Strength - Loads Shown In Pounds Per Linear Foot (plf)

Joist Designation	18LH02	18LH03	18LH04	18LH05	18LH06	18LH07	18LH08	18LH09	18LH10	18LH11	18LH12	18LH13	18LH14	18LH15	18LH16	18LH17	18LH18	18LH19	18LH20
Depth (in.)	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
Approx. Wt. (lbs./ft.)	10	11	12	14	15	17	19	21	23	25	28	33	36	39	44	50	57	62	83
Span (ft.)																			
↓																			
18	1207 805	1344 896	1558 1039	1762 1175	2157 1438	2293 1529	2592 1728	2983 1889	3346 2231	3733 2489	4126 2751								
19	1122 748	1249 833	1449 966	1639 1093	1993 1329	2121 1414	2397 1500	2746 1601	3081 2054	3436 2291	3799 2533								
20	1045 696	1164 774	1348 896	1527 1009	1846 1169	1965 1229	2220 1283	2532 1369	2842 1816	3171 2005	3505 2226	4207 2576							
21	973 600	1084 667	1257 772	1423 870	1714 1008	1824 1059	2059 1105	2343 1180	2628 1565	2932 1728	3241 1918	3880 2220	4237 2413						
22	909 520	1012 579	1174 670	1329 755	1594 874	1695 919	1915 959	2172 1024	2436 1358	2718 1500	3004 1664	3586 1926	3918 2094	4243 2276					
23	850 454	946 505	1098 585	1243 659	1485 764	1579 803	1783 838	2017 894	2262 1186	2524 1310	2790 1454	3324 1683	3630 1829	3933 1987					
24	796 399	886 444	1027 514	1164 579	1386 671	1473 705	1665 736	1875 786	2104 1042	2349 1151	2598 1277	3088 1478	3372 1607	3654 1746	4216 1922				
25	745 353	831 392	964 454	1092 511	1294 593	1377 623	1555 650	1750 694	1963 920	2191 1016	2422 1128	2874 1306	3139 1419	3402 1542	3880 1697	4425 1929			
26	702 313	781 348	906 403	1026 454	1213 526	1260 553	1314 577	1404 616	1834 817	2047 902	2263 1001	2682 1159	2929 1260	3172 1369	3585 1506	4087 1712			
27	663 284	739 317	856 367	972 414	1123 469	1213 513	1264 534	1351 571	1717 728	1917 804	2119 893	2506 1033	2737 1123	2967 1220	3321 1343	3786 1526	4374 1739		
28	627 259	700 289	802 329	921 378	1044 419	1170 476	1218 496	1302 527	1611 652	1797 720	1987 799	2347 925	2565 1006	2778 1093	3085 1203	3517 1367	4063 1557		
29	586 234	657 262	750 296	871 345	972 377	1089 428	1176 462	1257 491	1513 586	1689 647	1867 718	2203 832	2406 904	2607 982	2874 1081	3276 1229	3784 1400	4216 1538	
30	550 212	613 236	703 266	814 311	907 340	1017 386	1137 427	1215 458	1423 529	1588 584	1756 648	2070 750	2262 816	2451 886	2683 975	3058 1108	3534 1263	3936 1387	
31	517 193	573 213	660 242	762 282	849 307	952 349	1075 387	1174 418	1341 479	1494 529	1656 587	1950 679	2130 738	2307 802	2511 883	2863 1003	3307 1143	3684 1256	
32	486 175	538 194	619 219	714 256	796 280	892 317	1020 351	1138 380	1266 435	1401 480	1563 533	1839 617	2004 671	2176 729	2355 802	2685 911	3102 1038	3454 1141	4293 1402
33	459 160	505 177	582 200	672 233	748 254	838 288	961 320	1069 346	1197 396	1317 437	1470 485	1735 562	1882 611	2055 664	2212 731	2523 830	2914 946	3246 1039	4033 1277
34	433 147	475 161	547 182	631 212	705 232	789 264	906 292	1006 316	1131 362	1239 399	1384 443	1633 513	1773 558	1936 606	2083 667	2376 758	2743 864	3057 949	3798 1167
35	409 135	448 148	516 167	595 195	664 212	744 241	856 267	949 289	1066 331	1168 366	1305 406	1540 470	1671 511	1825 555	1965 611	2241 695	2587 791	2883 869	3582 1068
36	388 124	424 136	487 153	562 179	627 195	703 222	810 246	897 266	1008 304	1104 336	1233 373	1455 432	1579 469	1725 510	1855 561	2116 638	2445 727	2724 798	3384 981



# LRFD

STANDARD LOAD TABLE/OPEN WEB STEEL JOISTS, LH-SERIES  
Based on a 50 ksi Maximum Yield Strength - Loads Shown In Pounds Per Linear Foot (plf)

Joist Designation	20LH02	20LH03	20LH04	20LH05	20LH06	20LH07	20LH08	20LH09	20LH10	20LH11	20LH12	20LH13	20LH14	20LH15	20LH16	20LH17	20LH18	20LH19	20LH20
Depth (in.)	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
Approx. Wt. (lbs./ft.)	10	11	12	14	15	17	19	21	23	25	28	34	37	40	45	55	61	69	87
Span (ft.)																			
↓																			
20	1068 680	1240 749	1365 910	1590 1020	1839 1226	2140 1427	2325 1487	2656 1620	2868 1747	3466 2311	3832 2555								
21	1005 586	1147 646	1276 820	1485 879	1719 1146	1990 1239	2163 1282	2461 1396	2658 1506	3211 2141	3550 2367	4270 2798							
22	940 509	1072 560	1194 712	1390 763	1606 1007	1854 1076	2014 1112	2286 1212	2467 1307	2982 1885	3297 2093	3954 2428	4318 2640						
23	880 444	1005 489	1119 621	1297 666	1507 880	1731 939	1881 971	2127 1058	2295 1141	2775 1647	3067 1828	3670 2121	4008 2306	4342 2507					
24	826 390	943 430	1050 546	1216 585	1413 773	1618 825	1758 853	1983 930	2139 1003	2586 1447	2859 1606	3414 1863	3729 2026	4039 2202					
25	775 345	885 380	987 482	1134 517	1329 683	1516 729	1645 754	1851 821	1998 886	2415 1278	2670 1418	3181 1646	3475 1789	3765 1945	4371 2143				
26	663 306	703 337	861 428	924 459	1233 606	1317 647	1362 669	1485 729	1602 786	2259 1134	2497 1259	2971 1461	3246 1588	3516 1726	4036 1902				
27	655 303	694 333	849 406	913 437	1186 561	1267 599	1309 619	1429 675	1542 724	2116 1011	2341 1123	2779 1302	3037 1416	3291 1539	3739 1696	4269 1930			
28	646 298	687 317	837 386	903 416	1144 521	1221 556	1263 575	1377 626	1486 673	1987 905	2197 1005	2605 1166	2847 1268	3084 1378	3474 1519	3966 1728			
29	615 274	678 302	792 352	892 395	1084 477	1179 518	1219 536	1329 581	1434 626	1869 814	2067 904	2448 1048	2673 1140	2896 1239	3235 1365	3694 1554	4267 1771		
30	582 250	651 280	744 320	856 366	1018 427	1140 484	1177 500	1284 542	1386 585	1759 734	1947 815	2302 946	2515 1028	2725 1118	3021 1232	3448 1402	3985 1598	4447 1759	
31	547 228	621 258	700 291	816 337	952 386	1066 438	1140 468	1242 507	1341 545	1660 665	1836 738	2169 856	2370 931	2568 1012	2827 1115	3228 1269	3729 1447	4162 1592	
32	516 208	592 238	660 265	769 308	894 351	1000 398	1083 428	1203 475	1297 510	1567 604	1734 670	2046 778	2236 846	2422 919	2652 1013	3027 1152	3498 1314	3903 1446	
33	487 190	558 218	624 243	726 281	840 320	940 362	1030 395	1167 437	1258 479	1479 550	1641 610	1933 708	2113 770	2289 837	2491 922	2844 1050	3286 1197	3669 1317	
34	460 174	528 200	589 223	687 258	790 292	885 331	981 365	1132 399	1221 448	1392 502	1554 558	1830 647	1993 704	2166 765	2346 843	2677 959	3094 1093	3453 1203	4300 1483
35	436 160	499 184	558 205	651 238	745 267	834 303	931 336	1068 366	1186 411	1312 460	1465 511	1732 593	1881 644	2053 700	2212 772	2526 878	2919 1001	3256 1102	4056 1358
36	412 147	474 169	529 189	616 219	703 246	789 278	882 309	1009 336	1122 377	1240 422	1384 469	1636 544	1776 592	1941 643	2091 709	2386 806	2757 919	3076 1012	3831 1247
37	393 136	448 156	502 174	585 202	666 226	745 256	837 285	954 309	1060 346	1173 389	1309 432	1549 501	1681 545	1836 592	1978 652	2257 742	2608 846	2911 931	3625 1148
38	373 126	424 143	477 161	556 187	631 209	706 236	795 262	904 285	1005 320	1111 359	1242 398	1468 462	1593 502	1740 546	1873 602	2139 685	2472 781	2758 859	3435 1059
39	355 117	403 133	454 149	529 173	598 192	670 218	754 242	858 264	954 296	1054 331	1177 368	1393 427	1512 464	1651 505	1779 556	2029 633	2346 722	2617 794	3259 979
40	337 108	382 123	433 139	504 161	568 178	637 202	718 225	816 244	906 274	1002 307	1119 341	1323 395	1435 430	1569 467	1690 515	1929 586	2229 668	2487 735	3097 906



# LRFD

**STANDARD LOAD TABLE/OPEN WEB STEEL JOISTS, LH-SERIES**  
**Based on a 50 ksi Maximum Yield Strength - Loads Shown In Pounds Per Linear Foot (plf)**

Joist Designation	24LH03	24LH04	24LH05	24LH06	24LH07	24LH08	24LH09	24LH10	24LH11	24LH12	24LH13	24LH14	24LH15	24LH16	24LH17	24LH18	24LH19	24LH20	24LH21
Depth (in.)	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
Approx. Wt. (lbs./ft.)	11	12	13	16	17	18	21	23	25	27	32	35	38	42	49	57	62	79	88
Span (ft.)																			
24	996 664	1084 723	1240 827	1561 1041	1821 1214	1930 1287	2491 1618	2676 1716	2922 1796	3352 2235	4032 2688	4404 2936							
25	939 598	1021 681	1168 779	1471 981	1710 1140	1812 1208	2332 1429	2505 1515	2736 1587	3139 2093	3766 2445	4114 2660	4458 2893						
26	885 530	963 642	1102 695	1387 925	1608 1020	1704 1083	2187 1268	2347 1345	2565 1408	2943 1864	3525 2171	3850 2361	4173 2568						
27	835 473	909 500	1041 620	1311 827	1513 910	1603 966	2053 1131	2203 1199	2410 1256	2764 1662	3304 1935	3610 2105	3912 2290						
28	790 423	859 519	984 555	1240 741	1422 814	1512 865	1932 1013	2073 1074	2266 1124	2601 1488	3103 1733	3390 1885	3673 2050	4252 2263					
29	747 381	813 467	931 499	1173 666	1342 732	1426 778	1824 910	1953 965	2134 1011	2449 1338	2919 1558	3189 1695	3456 1843	3961 2035					
30	708 343	771 421	882 450	1111 601	1272 661	1348 702	1716 821	1842 871	2011 912	2310 1207	2749 1406	3003 1529	3255 1663	3699 1836	4228 2094				
31	672 311	730 381	832 408	1054 544	1200 598	1275 635	1626 744	1740 789	1896 826	2182 1093	2593 1272	2833 1384	3070 1505	3462 1662	3957 1895				
32	637 282	693 346	781 370	1000 494	1122 543	1209 577	1530 675	1608 716	1749 750	2064 993	2449 1156	2677 1257	2901 1367	3246 1509	3711 1721	4290 1964			
33	606 257	660 315	738 337	952 450	1059 495	1146 525	1432 615	1492 652	1581 683	1956 904	2317 1053	2533 1145	2745 1245	3051 1375	3487 1568	4032 1790			
34	513 235	628 288	673 308	906 411	997 452	1060 480	1248 562	1323 596	1390 624	1854 826	2196 962	2400 1046	2601 1138	2872 1256	3283 1432	3795 1635	4248 1804		
35	508 226	597 265	669 297	868 382	957 421	1015 447	1212 530	1284 559	1350 588	1761 756	2083 881	2275 958	2466 1042	2709 1150	3096 1312	3579 1497	4006 1653		
36	504 218	568 246	660 285	832 356	919 393	973 416	1177 501	1248 528	1312 555	1672 695	1978 809	2161 880	2343 957	2559 1056	2925 1205	3382 1375	3784 1518		
37	484 204	540 227	628 264	795 331	882 367	933 388	1146 460	1213 500	1276 525	1591 639	1881 744	2055 810	2227 881	2421 972	2767 1109	3199 1265	3580 1397	4473 1729	
38	460 188	514 210	598 244	756 306	847 343	895 362	1096 424	1182 474	1243 498	1513 590	1789 687	1947 747	2119 812	2295 897	2623 1023	3031 1167	3393 1288	4239 1595	
39	439 175	490 195	570 226	720 284	811 320	858 338	1044 393	1152 439	1210 472	1435 545	1702 635	1848 690	2019 751	2176 829	2488 945	2877 1079	3220 1191	4023 1474	4489 1631
40	418 162	468 182	544 210	685 263	774 297	817 314	994 363	1105 406	1180 449	1365 505	1617 588	1755 639	1918 695	2068 768	2365 876	2734 999	3060 1103	3822 1365	4266 1510
41	400 152	447 169	520 196	655 245	736 276	780 292	948 337	1053 378	1152 418	1297 468	1539 545	1669 593	1825 645	1968 712	2250 813	2601 927	2911 1024	3636 1267	4059 1402
42	382 141	427 158	496 182	625 228	702 257	745 272	903 313	1002 351	1101 388	1236 435	1465 507	1591 552	1738 600	1875 662	2143 755	2478 862	2773 952	3463 1178	3867 1303
43	366 132	409 148	475 171	598 211	669 239	712 254	861 292	955 326	1051 361	1179 406	1398 472	1516 514	1657 559	1788 617	2044 704	2362 803	2644 886	3303 1097	3687 1214
44	351 124	393 138	456 160	571 197	639 223	682 238	822 272	912 304	1006 337	1126 378	1335 440	1449 479	1582 521	1707 575	1951 656	2256 749	2524 827	3154 1023	3520 1132
45	336 116	376 130	436 150	546 184	610 208	652 222	786 254	873 285	963 315	1075 353	1275 412	1384 448	1513 487	1632 538	1864 613	2155 700	2413 772	3013 956	3364 1058
46	322 109	361 122	420 141	522 172	583 195	625 208	751 238	834 266	924 294	1029 331	1219 385	1324 419	1447 456	1561 503	1785 574	2062 655	2308 723	2883 895	3219 990
47	310 102	346 114	403 132	501 161	559 182	600 196	720 223	799 249	885 276	985 310	1168 361	1267 393	1386 427	1494 471	1708 538	1975 614	2211 677	2761 838	3082 927
48	298 96	333 107	387 124	480 152	535 171	576 184	690 209	766 234	850 259	945 291	1120 339	1215 368	1329 401	1432 442	1638 504	1893 576	2118 636	2646 787	2953 870



# LRFD

**STANDARD LOAD TABLE/OPEN WEB STEEL JOISTS, LH-SERIES**  
Based on a 50 ksi Maximum Yield Strength - Loads Shown In Pounds Per Linear Foot (plf)

Joist Designation	28LH05	28LH06	28LH07	28LH08	28LH09	28LH10	28LH11	28LH12	28LH13	28LH14	28LH15	28LH16	28LH17	28LH18	28LH19	28LH20	28LH21	28LH22	28LH23
Depth (in.)	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28
Approx. Wt. (lbs./ft.)	13	16	17	18	21	23	25	27	30	35	38	42	49	56	63	79	88	102	111
Span (ft.)																			
↓																			
28	939 626	1246 831	1452 968	1554 1036	2013 1342	2157 1438	2355 1570	2758 1839	3051 1944	3688 2459	3997 2665								
29	894 596	1186 791	1380 920	1474 983	1906 1271	2043 1362	2230 1487	2611 1674	2883 1747	3486 2324	3777 2518	4443 2839							
30	852 568	1132 755	1311 874	1401 934	1806 1186	1936 1291	2113 1380	2476 1510	2727 1576	3298 2130	3574 2317	4197 2561							
31	813 542	1080 720	1246 818	1333 873	1714 1074	1837 1169	2005 1249	2349 1367	2583 1427	3124 1928	3385 2098	3970 2319							
32	775 499	1030 658	1186 743	1269 793	1627 975	1744 1062	1905 1134	2232 1242	2449 1296	2962 1751	3210 1905	3760 2106	4332 2406						
33	741 454	984 600	1129 677	1209 722	1548 888	1659 967	1810 1033	2121 1131	2325 1181	2812 1595	3048 1735	3565 1918	4107 2192						
34	708 415	940 548	1077 618	1152 660	1473 811	1578 883	1723 944	2019 1033	2211 1079	2673 1457	2896 1585	3385 1752	3888 2002	4404 2286					
35	676 380	900 502	1027 566	1099 604	1402 743	1503 809	1641 865	1923 946	2103 988	2542 1335	2755 1452	3205 1605	3667 1834	4186 2094					
36	648 349	861 461	981 520	1050 555	1338 682	1434 743	1564 794	1834 869	2002 907	2421 1226	2625 1333	3027 1474	3465 1684	3982 1923	4492 2127				
37	621 321	825 424	937 478	1003 511	1276 628	1368 684	1494 731	1749 800	1908 835	2308 1128	2502 1227	2865 1356	3279 1550	3790 1770	4249 1958				
38	594 296	790 391	897 441	960 471	1219 579	1306 631	1426 674	1670 738	1821 770	2202 1040	2386 1132	2715 1251	3106 1429	3592 1632	4027 1806				
39	570 274	757 362	859 408	918 435	1165 536	1249 583	1363 623	1597 682	1740 712	2103 962	2280 1046	2575 1157	2947 1321	3409 1509	3822 1670				
40	547 254	727 335	823 378	880 403	1114 496	1195 540	1305 577	1528 632	1662 659	2010 891	2179 969	2448 1071	2800 1224	3238 1398	3631 1546				
41	525 236	699 311	789 351	843 374	1062 460	1144 501	1249 536	1464 586	1590 612	1923 827	2085 899	2329 994	2665 1136	3082 1297	3454 1435	4326 1782			
42	505 219	672 289	757 326	810 348	1000 428	1093 466	1170 498	1285 545	1342 569	1842 769	1996 836	2218 924	2538 1056	2935 1206	3291 1334	4120 1657			
43	484 205	643 270	726 305	775 325	958 400	1056 439	1143 475	1255 520	1311 543	1765 716	1912 779	2115 861	2421 983	2799 1123	3138 1243	3930 1543	4387 1708		
44	465 192	618 253	696 285	744 305	918 375	1018 414	1104 448	1227 496	1281 518	1693 668	1834 726	2019 803	2311 917	2673 1048	2997 1159	3751 1439	4189 1593		
45	445 180	592 238	667 267	712 285	879 351	976 388	1066 423	1200 476	1252 495	1624 624	1761 679	1930 750	2209 857	2554 979	2863 1083	3585 1345	4003 1489	4404 1688	
46	429 169	568 223	640 251	684 268	844 329	937 364	1023 397	1173 454	1224 472	1560 584	1692 635	1846 702	2113 802	2443 916	2740 1013	3430 1268	3829 1393	4212 1579	
47	412 159	546 209	615 236	657 252	810 309	900 342	982 373	1149 435	1198 452	1498 547	1626 595	1768 658	2023 751	2340 858	2623 950	3285 1179	3667 1305	4033 1480	
48	397 150	525 197	591 222	630 236	778 291	864 322	943 351	1105 408	1173 433	1437 513	1564 558	1695 617	1939 705	2242 805	2514 891	3148 1106	3516 1225	3867 1389	4425 1510
49	382 142	505 186	568 209	604 222	748 274	831 303	907 331	1063 383	1149 415	1378 482	1506 525	1626 580	1860 663	2151 757	2412 837	3021 1040	3372 1151	3709 1305	4254 1419
50	367 133	486 175	547 197	580 209	721 258	799 285	873 312	1023 361	1126 396	1323 454	1446 493	1561 546	1786 623	2065 712	2316 788	2899 978	3238 1083	3561 1228	4090 1335
51	355 126	469 166	528 186	556 196	694 243	769 269	841 294	984 340	1083 373	1272 427	1389 465	1500 514	1716 587	1984 670	2226 742	2787 921	3111 1020	3421 1156	3937 1257
52	342 119	451 156	508 176	535 185	669 228	742 255	810 278	948 321	1041 352	1222 403	1336 438	1443 485	1651 554	1909 632	2140 700	2679 869	2992 962	3291 1090	3793 1186
53	330 113	436 148	490 166	516 175	645 216	715 241	781 263	913 303	1002 332	1176 380	1285 414	1387 457	1588 523	1837 597	2059 660	2578 820	2880 908	3166 1029	3655 1119
54	319 107	421 140	474 158	496 165	622 204	690 228	753 249	880 285	964 314	1132 359	1239 391	1336 432	1530 494	1770 564	1983 624	2484 775	2773 858	3049 973	3526 1058
55	309 102	406 133	457 150	478 156	601 193	666 215	727 236	849 270	930 297	1092 340	1194 370	1288 409	1474 467	1705 534	1912 591	2394 733	2673 812	2940 921	3403 1001
56	298 97	393 126	442 142	462 148	580 183	643 204	702 223	819 256	897 281	1053 322	1150 350	1242 387	1422 443	1644 505	1843 559	2308 695	2577 769	2835 872	3286 948



# LRFD

STANDARD LOAD TABLE/OPEN WEB STEEL JOISTS, LH-SERIES  
Based on a 50 ksi Maximum Yield Strength - Loads Shown In Pounds Per Liner Foot (plf)

Joist Designation	32LH06	32LH07	32LH08	32LH09	32LH10	32LH11	32LH12	32LH13	32LH14	32LH15	32LH16	32LH17	32LH18	32LH19	32LH20	32LH21	32LH22	32LH23	32LH24
Depth (in.)	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32
Approx. Wt. (lbs./ft.)	14	16	17	21	21	24	27	30	33	35	42	49	56	62	78	87	101	110	124
Span (ft.)																			
32	982 655 735 829	1102 735 829	1243 829 1099	1648 1099 1184	1776 1184 1296	1944 1296 1522	2283 1522 1789	2683 1789 1916	2874 1916 2050	3075 2050 2691	4036								
33	943 629 705	1057 705 793	1189 793 1049	1573 1049 1131	1696 1131 1238	1857 1238 1453	2179 1453 1705	2557 1705 1827	2740 1827 1870	2931 1870 2553	3841 2553 2920	4426							
34	907 605 678	1017 678 760	1140 760 1003	1504 1003 1080	1620 1080 1183	1774 1183 1388	2082 1388 1605	2440 1605 1653	2613 1653 1708	2796 1708 2332	3660 2332 2668	4218							
35	871 581 651	976 651 728	1092 728 938	1438 938 1033	1549 1033 1131	1696 1131 1323	1992 1323 1470	2329 1470 1514	2494 1514 1564	2668 1564 2136	3489 2136 2443	4021							
36	838 559 626	939 626 689	1047 689 861	1375 861 950	1483 950 1040	1623 1040 1215	1906 1215 1350	2226 1350 1391	2383 1391 1437	2550 1437 1961	3330 1961 2244	3837 2244 2563	4335						
37	805 524 584	903 584 634	1005 634 793	1317 793 875	1420 875 957	1554 957 1118	1825 1118 1243	2128 1243 1280	2278 1280 1322	2439 1322 1805	3180 1805 2065	3664 2065 2359	4140						
38	775 484 570	870 570 585	964 585 731	1263 731 807	1360 807 883	1489 883 1032	1749 1032 1146	2037 1146 1181	2181 1181 1220	2332 1220 1665	3039 1665 1905	3502 1905 2176	3957						
39	747 447 498	837 498 540	925 540 676	1210 676 746	1305 746 816	1428 816 954	1677 954 1060	1950 1060 1091	2088 1091 1127	2235 1127 1539	2907 1539 1761	3351 1761 2012	3786 2012 2230	4335					
40	718 414 461	807 461 501	889 501 626	1161 626 691	1251 691 756	1369 756 883	1609 883 981	1869 981 1011	2001 1011 1044	2140 1044 1426	2784 1426 1631	3208 1631 1863	3624 1863 2066	4144					
41	693 384 428	777 428 465	855 465 581	1114 581 641	1201 641 701	1315 701 820	1545 820 911	1792 911 938	1918 938 969	2053 969 1323	2667 1323 1513	3073 1513 1729	3472 1729 1917	3966					
42	667 357 398	748 398 432	823 432 540	1071 540 596	1155 596 652	1263 652 762	1483 762 847	1719 847 872	1842 872 901	1971 901 1230	2557 1230 1407	2934 1407 1608	3330 1608 1782	3798					
43	645 333 371	723 371 402	792 402 503	1030 503 555	1110 555 607	1215 607 710	1426 710 789	1651 789 812	1768 812 839	1893 839 1146	2443 1146 1310	2797 1310 1497	3195 1497 1660	3633					
44	621 310 346	697 346 375	763 375 469	990 469 518	1068 518 567	1168 567 662	1372 662 736	1587 736 758	1699 758 783	1818 783 1069	2332 1069 1222	2671 1222 1397	3069 1397 1548	3468 1548 1927	4350				
45	600 290 323	673 323 351	735 351 439	954 439 484	1027 484 529	1125 529 619	1320 619 687	1525 687 708	1633 708 731	1749 731 998	2229 998 1142	2553 1142 1305	2949 1305 1447	3315 1447 1801	4156				
46	579 271 302	649 302 328	709 328 410	918 410 453	990 453 495	1083 495 579	1272 579 643	1468 643 663	1572 663 684	1683 684 934	2133 934 1069	2442 1069 1221	2824 1221 1354	3171 1354 1685	3644 1685 1866	4441			
47	559 254 283	628 283 307	684 307 385	885 385 424	954 424 464	1044 464 542	1225 542 603	1414 603 621	1513 621 641	1620 641 875	2041 875 1001	2338 1001 1144	2704 1144 1268	3037 1268 1579	3808 1579 1749	4252			
48	541 239 266	607 266 288	660 288 361	849 361 398	919 398 436	1006 436 509	1182 509 566	1362 566 583	1458 583 602	1560 602 821	1957 821 940	2241 940 1074	2593 1074 1190	2910 1190 1482	3649 1482 1641	4077 1641 1862	4485		
49	523 224 250	586 250 271	637 271 339	816 339 374	886 374 409	970 409 478	1140 478 531	1312 531 547	1405 547 565	1504 565 772	1878 772 883	2151 883 1009	2487 1009 1118	2793 1118 1392	3501 1392 1542	3910 1542 1750	4303		
50	507 211 235	568 235 255	616 255 319	774 319 352	856 352 385	937 385 450	1101 450 500	1225 500 515	1264 515 532	1305 532 726	1803 726 831	2064 831 949	2388 949 1052	2680 1052 1310	3361 1310 1451	3754 1451 1646	4131		
51	489 199 223	549 223 242	595 242 302	747 302 332	825 332 363	903 363 428	1068 428 480	1201 480 495	1239 495 511	1279 511 684	1732 684 782	1984 782 894	2295 894 991	2575 991 1234	3231 1234 1366	3607 1366 1550	3970 1550 1689	4477	
52	472 189 211	529 211 229	574 229 285	720 285 315	796 315 343	870 343 406	1032 406 461	1177 461 476	1215 476 492	1255 492 645	1666 645 738	1908 738 843	2206 843 935	2478 935 1163	2878 1163 1288	3171 1288 1462	3469 1462 1593	3817	4315
53	456 179 200	511 200 216	553 216 270	694 270 297	768 297 325	840 325 384	996 384 444	1156 444 458	1192 458 473	1231 473 609	1603 609 697	1836 697 796	2124 796 882	2383 882 1098	2989 1098 1216	3339 1216 1380	3673 1380 1504	4162 1504 1628	4381
54	441 169 189	493 189 205	535 205 256	670 256 282	742 282 308	811 308 364	961 364 420	1113 420 440	1170 440 454	1207 454 575	1543 575 658	1768 658 752	2046 752 834	2296 834 1038	2880 1038 1150	3216 1150 1305	3538 1305 1421	4018 1421 1539	4219
55	426 161 179	477 179 194	517 194 243	648 243 267	717 267 292	783 292 345	928 345 397	1072 397 417	1149 417 438	1186 438 544	1488 544 623	1704 623 712	1971 712 789	2212 789 982	2775 982 1088	3099 1088 1234	3409 1234 1344	3880 1344 1456	4066
56	412 153 170	462 170 184	499 184 230	627 230 254	693 254 277	757 277 327	897 327 376	1035 376 395	1107 395 422	1164 422 516	1435 516 590	1644 590 674	1900 674 747	2134 747 930	2676 930 1030	2989 1030 1169	3288 1169 1273	3748 1273 1379	3921
57	399 145 162	447 162 175	483 175 219	606 219 240	667 240 263	732 263 311	867 311 354	999 354 374	1069 374 407	1144 407 489	1384 489 559	1585 559 639	1834 639 708	2059 708 882	2583 882 977	2884 977 1108	3174 1108 1207	3624 1207 1307	3784
58	385 138 154	432 154 167	468 167 208	586 208 228	645 228 251	709 251 295	838 295 336	964 336 355	1032 355 393	1125 393 464	1336 464 531	1531 531 606	1771 606 672	1989 672 837	2493 837 927	2785 927 1051	3064 1051 1145	3505 1145 1240	3654
59	373 131 146	418 146 159	453 159 198	568 198 217	624 217 239	687 239 281	811 281 319	931 319 337	997 337 374	1087 374 440	1291 440 504	1479 504 576	1711 576 638	1921 638 794	2409 794 880	2691 880 999	2961 999 1088	3393 1088 1178	3531
60	363 125 140	406 140 151	439 151 189	550 189 206	603 206 227	664 227 267	786 267 304	900 304 321	964 321 355	1051 355 419	1249 419 479	1431 479 547	1654 547 607	1857 607 755	2329 755 836	2601 836 949	2862 949 1034	3285 1034 1120	3412
61	351 119 133	393 133 144	426 144 180	534 180 196	583 196 216	643 216 255	762 255 288	871 288 304	933 304 338	1017 338 398	1207 398 456	1383 456 521	1600 521 577	1797 577 718	2253 718 796	2517 796 903	2769 903 984	3183 984 1065	3301
62	340 114 127	381 127 137	412 137 172	517 172 186	564 186 206	624 206 243	738 243 275	843 275 290	903 290 322	984 322 379	1168 379 434	1339 434 496	1549 496 549	1738 549 684	2181 684 758	2436 758 860	2679 860 937	3085 937 1014	3195
63	330 108 121	370 121 131	400 131 164	502 164 178	546 178 196	604 196 232	715 232 262	816 262 276	874 276 306	952 306 361	1132 361 413	1296 413 472	1500 472 524	1684 524 652	2112 652 722	2358 722 819	2595 819 892	2991 892 966	3094
64	321 104 116	360 116 125	388 125 157	487 157 169	529 169 187	585 187 221	694 221 249	790 249 264	846 264 292	924 292 344	1096 344 394	1255 394 450	1453 450 499	1632 499 622	2046 622 688	2284 688 781	2514 781 851	2901 851 922	2997





# LRFD

**STANDARD LOAD TABLE/OPEN WEB STEEL JOISTS, LH-SERIES**  
Based on a 50 ksi Maximum Yield Strength - Loads Shown In Pounds Per Linerar Foot (plf)

Joist Designation	36LH07	36LH08	36LH09	36LH10	36LH11	36LH12	36LH13	36LH14	36LH15	36LH16	36LH17	36LH18	36LH19	36LH20	36LH21	36LH22	36LH23	36LH24	36LH25
Depth (in.)	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36
Approx. Wt. (lbs./ft.)	16	18	21	21	23	25	30	36	36	44	49	58	64	81	92	100	122	130	149
Span (ft.)																			
↓																			
36	873 582	1002 668	1276 851	1509 1006	1596 1064	1909 1273	2299 1533	2533 1689	2742 1828	3511 2341	4048 2699								
37	843 562	966 644	1230 820	1450 967	1533 1022	1836 1224	2206 1471	2431 1621	2631 1754	3364 2243	3879 2586	4381 2921							
38	814 543	930 620	1170 780	1393 929	1474 983	1765 1177	2118 1412	2334 1556	2526 1684	3225 2139	3718 2449	4200 2799							
39	787 525	897 598	1143 762	1341 894	1419 946	1698 1132	2035 1357	2241 1494	2425 1592	3094 1977	3567 2264	4030 2587							
40	762 508	864 576	1102 735	1290 839	1365 910	1635 1088	1956 1275	2154 1401	2331 1475	2970 1831	3424 2097	3868 2396	4479 2661						
41	736 491	834 553	1065 704	1243 778	1314 847	1573 1009	1881 1183	2071 1300	2241 1369	2853 1699	3289 1946	3715 2224	4294 2469						
42	712 469	805 514	1027 655	1197 724	1266 787	1516 938	1809 1100	1993 1209	2157 1272	2742 1580	3162 1809	3571 2068	4122 2295						
43	690 437	777 479	991 610	1153 674	1221 733	1461 874	1741 1025	1918 1126	2076 1185	2637 1471	3040 1685	3435 1926	3957 2138						
44	667 408	750 447	958 569	1113 629	1177 684	1410 815	1677 956	1848 1050	1999 1106	2538 1372	2925 1572	3306 1796	3802 1994						
45	646 381	726 417	927 532	1074 587	1135 639	1360 762	1617 893	1780 981	1927 1033	2443 1282	2817 1468	3183 1678	3655 1863						
46	625 356	700 391	895 497	1036 550	1096 598	1312 713	1558 836	1717 918	1858 967	2353 1200	2713 1374	3066 1570	3517 1744	4423 2174					
47	606 334	678 366	867 466	1000 515	1059 560	1267 668	1503 783	1656 860	1792 906	2268 1124	2616 1287	2955 1472	3387 1634	4258 2038					
48	588 313	655 344	838 437	967 483	1023 526	1224 627	1450 735	1599 807	1729 850	2188 1055	2523 1208	2850 1381	3262 1533	4102 1912					
49	570 294	634 323	811 411	934 454	988 494	1183 589	1401 690	1543 759	1671 799	2110 991	2434 1135	2751 1297	3144 1440	3954 1797	4353 1991				
50	552 277	615 304	786 387	903 427	955 465	1144 554	1354 650	1491 714	1614 751	2038 933	2343 1068	2656 1221	3033 1355	3813 1690	4198 1873				
51	535 261	595 286	762 364	874 403	924 438	1107 522	1308 612	1441 672	1560 708	1965 878	2251 1006	2565 1150	2926 1276	3675 1592	4051 1764				
52	520 246	576 270	738 343	846 380	895 413	1072 492	1266 577	1395 634	1509 667	1888 828	2164 949	2479 1084	2814 1204	3534 1501	3912 1664	4344 1889			
53	505 232	559 255	715 324	819 358	867 390	1038 465	1224 545	1335 599	1459 630	1818 782	2083 896	2397 1024	2709 1136	3400 1417	3778 1571	4180 1783			
54	490 220	541 241	693 306	790 339	838 368	1005 439	1185 515	1306 566	1413 596	1750 739	2007 846	2319 967	2608 1074	3274 1340	3652 1484	4026 1685	4465 1838		
55	477 208	525 228	673 290	763 320	813 349	975 416	1147 487	1264 535	1368 563	1687 699	1933 801	2236 915	2514 1016	3156 1267	3526 1404	3880 1594	4317 1739		
56	463 197	510 216	652 275	736 303	789 330	945 394	1111 461	1225 507	1326 534	1627 662	1864 758	2157 867	2424 962	3043 1200	3400 1330	3742 1510	4174 1647	4471 1787	
57	450 187	495 204	634 260	711 288	765 313	916 373	1077 481	1188 506	1285 628	1570 719	1800 822	2082 912	2340 1138	2937 1261	3282 1431	3612 1562	4038 1694	4315	
58	438 177	481 194	616 247	681 273	742 297	889 354	1045 415	1152 456	1213 480	1516 596	1737 682	2010 780	2259 866	2836 1080	3168 1196	3487 1358	3909 1482	4167 1607	
59	424 168	466 185	597 235	660 260	720 283	862 338	1012 395	1132 434	1192 464	1465 566	1678 648	1942 740	2182 822	2740 1025	3061 1136	3369 1290	3786 1407	4026 1526	
60	411 160	453 176	579 224	639 248	697 269	835 322	981 376	1093 412	1171 448	1416 538	1623 616	1878 704	2110 781	2649 975	2959 1080	3258 1226	3669 1338	3892 1451	
61	399 153	439 168	561 214	619 236	676 257	810 307	951 359	1059 392	1153 434	1369 512	1570 586	1816 670	2041 743	2563 927	2863 1027	3151 1166	3556 1273	3765 1380	4456 1608
62	387 146	426 160	544 204	601 225	657 246	784 292	922 342	1024 373	1116 413	1326 487	1519 558	1758 638	1975 708	2481 883	2770 978	3049 1111	3448 1212	3643 1314	4312 1531
63	376 140	414 153	528 195	583 215	637 234	762 279	894 327	991 356	1081 394	1284 464	1471 531	1702 607	1912 674	2401 841	2683 932	2953 1058	3345 1155	3528 1252	4176 1458
64	366 134	402 146	513 186	567 206	618 224	739 267	868 312	961 339	1047 375	1243 443	1425 507	1648 579	1854 643	2326 802	2599 889	2860 1009	3247 1101	3418 1194	4045 1391
65	355 128	390 140	499 179	550 197	601 214	717 255	843 298	931 323	1015 358	1206 422	1381 484	1599 553	1797 614	2256 766	2520 848	2773 963	3153 1051	3313 1139	3922 1327
66	345 122	379 134	484 171	535 188	583 205	696 243	819 285	903 309	984 342	1168 403	1339 462	1549 528	1741 586	2187 731	2443 810	2689 920	3063 1003	3213 1088	3804 1268
67	336 117	369 128	471 163	520 180	567 196	675 232	796 273	876 295	955 327	1134 385	1300 441	1504 504	1690 560	2122 699	2370 774	2608 879	2976 959	3117 1040	3690 1211
68	327 112	358 123	459 157	507 173	552 188	655 222	774 262	850 283	927 312	1101 369	1261 422	1459 482	1641 536	2059 668	2301 740	2532 841	2893 917	3025 994	3582 1158
69	318 107	349 118	445 150	492 165	537 180	636 213	753 251	826 270	900 299	1069 353	1225 404	1417 462	1593 513	2001 639	2235 708	2460 804	2814 877	2938 952	3478 1109
70	310 103	340 113	433 144	480 159	522 173	618 204	732 240	802 259	874 286	1039 338	1191 387	1377 442	1548 491	1944 612	2170 678	2389 770	2737 840	2854 911	3379 1061
71	301 99	331 109	423 138	466 152	508 166	600 195	712 231	780 247	850 274	1009 323	1156 370	1338 423	1504 470	1888 587	2109 650	2322 738	2664 805	2775 873	3283 1017
72	294 95	322 104	412 133	454 146	495 159	583 187	694 222	757 237	826 263	981 310	1125 355	1302 406	1462 451	1836 562	2050 623	2257 707	2593 772	2698 837	3193 975



# LRFD

## STANDARD LOAD TABLE/OPEN WEB STEEL JOISTS, LH-SERIES

Based on a 50 ksi Maximum Yield Strength - Loads Shown In Pounds Per Linear Foot (plf)

Joist Designation	40LH08	40LH09	40LH10	40LH11	40LH12	40LH13	40LH14	40LH15	40LH16	40LH17	40LH18	40LH19	40LH20	40LH21	40LH22	40LH23	40LH24	40LH25		
Depth (in.)	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40		
Approx. Wt. (lbs./ft.)	16	21	21	22	25	30	35	36	42	51	56	64	81	93	100	121	127	148		
Span (ft.)																				
↓																				
40	778 519 490	1057 705 660	1258 839 821	1318 879 850	1602 1068 1032	1945 1297 1251	2220 1480 1427	2482 1655 1597	2944 1963 1891	3565 2377 2290	4027 2685									
41	756 504	1023 682	1215 810	1275 850	1548 1032	1876 1251	2140 1427	2395 1597	2836 1891	3435 2290	3879 2586									
42	735 490	990 660	1174 783	1231 821	1495 997	1810 1207	2065 1377	2310 1540	2733 1822	3309 2206	3738 2492	4368 2874								
43	712 475	960 640	1135 755	1191 794	1446 964	1747 1165	1993 1329	2230 1487	2634 1756	3190 2106	3604 2403	4203 2677								
44	693 462	930 620	1098 732	1150 767	1398 932	1687 1125	1926 1284	2154 1436	2541 1694	3078 1965	3477 2246	4047 2497								
45	672 448	901 601	1062 686	1113 742	1353 902	1630 1061	1860 1217	2080 1357	2452 1490	2970 1836	3354 2099	3898 2333								
46	652 435	873 582	1027 642	1077 696	1309 847	1575 993	1797 1139	2010 1270	2367 1394	2866 1718	3238 1964	3757 2183								
47	634 418	846 546	994 602	1042 652	1267 794	1522 931	1738 1067	1944 1190	2286 1307	2769 1610	3129 1840	3624 2046								
48	616 392	820 512	963 665	1009 612	1227 745	1473 873	1681 1001	1881 1116	2209 1226	2676 1510	3022 1727	3496 1920	4399 2398							
49	600 368	796 482	933 631	978 575	1188 700	1425 821	1626 941	1819 1049	2136 1152	2586 1419	2922 1623	3376 1804	4248 2253							
50	583 347	772 453	904 604	948 541	1152 659	1380 772	1575 885	1761 987	2065 1084	2502 1335	2826 1527	3261 1697	4102 2120							
51	567 327	750 427	876 470	919 509	1116 620	1336 727	1524 834	1705 930	1998 1021	2421 1258	2734 1438	3151 1598	3964 1997	4365 2213						
52	552 308	729 402	849 443	891 480	1083 585	1294 686	1477 786	1651 877	1935 963	2343 1186	2647 1356	3046 1507	3834 1883	4221 2087						
53	537 291	708 380	823 419	864 454	1050 552	1254 647	1431 742	1600 828	1873 909	2269 1120	2563 1280	2947 1423	3708 1778	4083 1970						
54	522 275	687 359	799 396	838 429	1018 522	1216 612	1387 702	1552 782	1815 859	2197 1058	2484 1210	2851 1345	3588 1680	3951 1862						
55	508 260	669 340	777 374	814 406	988 494	1179 579	1345 664	1506 740	1758 813	2130 1001	2407 1145	2761 1272	3474 1590	3825 1762	4351 2001					
56	495 246	649 322	754 355	790 384	960 468	1144 548	1305 629	1461 701	1705 770	2065 948	2334 1084	2674 1205	3364 1505	3705 1668	4195 1895					
57	483 233	631 305	732 336	768 364	933 444	1110 520	1267 596	1417 664	1654 730	2004 899	2263 1028	2592 1142	3261 1427	3591 1582	4050 1797	4410 1962				
58	469 221	615 289	711 319	745 346	906 421	1078 493	1230 566	1377 631	1605 693	1944 853	2197 975	2512 1084	3160 1354	3481 1501	3910 1705	4273 1862				
59	457 210	598 275	691 303	724 328	880 400	1047 468	1195 537	1336 599	1557 658	1878 810	2133 926	2436 1029	3066 1286	3376 1425	3778 1619	4141 1768				
60	445 200	582 261	670 288	705 312	856 380	1017 445	1161 511	1299 569	1512 625	1816 770	2071 880	2362 979	2970 1222	3276 1355	3652 1539	4015 1681	4371 1825			
61	435 190	567 249	649 274	685 297	832 361	988 424	1128 486	1263 542	1470 595	1756 732	2011 837	2286 931	2872 1163	3178 1289	3532 1464	3895 1599	4228 1736			
62	424 181	552 237	628 261	667 283	810 344	961 403	1096 462	1227 516	1428 566	1699 697	1954 797	2212 886	2779 1107	3087 1227	3418 1394	3781 1523	4092 1653			
63	414 173	537 226	609 249	649 269	789 328	934 384	1066 441	1194 491	1387 540	1645 664	1900 760	2142 845	2692 1055	2998 1169	3310 1328	3670 1451	3963 1575			
64	403 165	523 215	591 237	631 257	768 313	909 366	1038 420	1161 469	1350 515	1594 634	1845 724	2076 805	2608 1006	2914 1115	3207 1267	3565 1383	3840 1502			
65	393 157	510 205	573 226	615 245	747 298	885 350	1009 401	1129 447	1312 491	1546 605	1788 691	2011 769	2527 960	2824 1064	3109 1209	3463 1320	3721 1434	4405 1671		
66	381 150	498 196	550 216	598 234	729 285	859 334	984 383	1101 427	1212 469	1498 577	1734 660	1951 734	2451 917	2739 1016	3015 1154	3367 1261	3609 1369	4273 1596		
67	370 144	484 188	535 207	582 224	708 273	835 320	957 367	1068 408	1194 455	1455 552	1683 631	1893 701	2379 876	2658 971	2925 1103	3274 1205	3501 1308	4146 1526		
68	361 138	472 180	520 198	567 215	688 261	813 307	930 351	1036 390	1176 441	1411 528	1633 603	1837 671	2308 838	2580 929	2839 1055	3184 1152	3399 1251	4024 1458		
69	351 132	459 173	507 190	552 207	670 251	792 295	904 336	1006 373	1158 428	1371 505	1585 577	1783 642	2242 802	2505 889	2757 1010	3099 1103	3300 1197	3907 1396		
70	342 127	447 166	493 183	537 198	652 241	771 283	880 323	978 357	1141 416	1332 483	1540 553	1732 615	2178 768	2433 851	2679 967	3016 1056	3207 1146	3796 1336		
71	333 122	436 160	481 176	523 190	636 231	750 271	856 309	949 342	1126 404	1294 463	1497 530	1684 589	2116 736	2365 815	2604 926	2937 1012	3117 1098	3690 1280		
72	325 117	424 153	469 169	510 183	619 222	730 260	834 297	924 328	1095 387	1258 444	1456 508	1638 564	2058 705	2299 782	2532 888	2860 970	3030 1053	3586 1227		
73	316 112	414 147	457 162	498 176	603 213	712 250	813 285	898 315	1065 371	1224 426	1416 487	1593 541	2002 677	2236 750	2461 852	2787 930	2947 1010	3489 1177		
74	309 108	403 141	445 156	484 169	588 205	694 241	792 273	874 302	1036 356	1191 409	1378 468	1549 520	1948 649	2176 720	2395 818	2716 893	2868 970	3394 1130		
75	301 104	394 136	435 150	472 163	573 197	676 231	772 263	850 290	1009 342	1159 393	1341 449	1509 499	1896 624	2118 691	2332 785	2647 858	2791 931	3304 1085		
76	294 100	384 131	424 144	462 157	559 189	660 223	753 252	828 279	982 329	1129 377	1306 431	1468 480	1846 599	2062 664	2271 754	2583 824	2718 895	3217 1043		
77	288 97	375 126	414 139	450 151	546 182	643 214	735 243	807 268	957 316	1099 363	1272 415	1431 461	1798 576	2008 638	2212 725	2520 792	2647 860	3135 1003		
78	280 93	366 122	403 134	439 145	532 176	628 207	717 233	786 258	933 304	1071 349	1239 399	1395 443	1752 554	1957 614	2155 698	2458 762	2580 827	3054 964		
79	274 90	358 118	393 129	429 140	519 169	613 199	699 225	766 248	909 292	1044 336	1209 384	1359 427	1708 533	1908 591	2101 671	2400 733	2514 796	2977 928		
80	267 86	349 113	382 124	418 135	507 163	598 192	682 216	747 239	886 282	1018 323	1177 370	1324 411	1665 513	1860 569	2049 646	2343 706	2452 767	2902 893		



# LRFD

## STANDARD LOAD TABLE/OPEN WEB STEEL JOISTS, LH-SERIES Based on a 50 ksi Maximum Yield Strength - Loads Shown In Pounds Per Linear Foot (plf)

Joist Designation	44LH09	44LH10	44LH11	44LH12	44LH13	44LH14	44LH15	44LH16	44LH17	44LH18	44LH19	44LH20	44LH21	44LH22	44LH23	44LH24	44LH25
Depth (in.)	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44
Approx. Wt. (lbs./ft.)	19	21	22	25	30	31	36	42	47	57	64	82	93	101	118	127	147
Span (ft.)																	
↓																	
44	877 585	967 645	1140 760	1345 897	1587 1058	1890 1260	2199 1466	2595 1730	2893 1929	3582 2388	4224 2816						
45	852 568	940 627	1107 738	1305 870	1539 1026	1830 1220	2130 1420	2509 1673	2799 1866	3465 2310	4077 2718						
46	828 552	913 609	1074 716	1266 844	1492 995	1773 1182	2062 1375	2428 1619	2709 1806	3352 2235	3937 2625						
47	805 537	888 592	1042 695	1228 819	1449 966	1719 1146	1999 1333	2350 1567	2622 1748	3246 2164	3805 2504						
48	783 522	864 576	1011 674	1192 795	1407 938	1666 1111	1938 1292	2277 1518	2539 1661	3142 2095	3678 2350						
49	762 508	840 560	982 652	1158 772	1365 910	1615 1077	1879 1253	2205 1460	2460 1561	3045 1984	3556 2208	4477 2762					
50	741 494	817 545	954 613	1125 750	1326 884	1567 1028	1822 1194	2136 1374	2383 1468	2950 1867	3441 2077	4332 2598					
51	721 481	795 530	927 578	1092 713	1288 845	1519 968	1768 1125	2071 1294	2310 1383	2860 1758	3330 1957	4194 2447					
52	702 458	774 504	900 545	1062 672	1252 797	1476 1061	1717 1220	2008 1304	2239 1658	2773 1845	3225 2308	4060 2559	4470				
53	682 432	753 476	874 514	1032 635	1216 753	1432 862	1666 1002	1948 1152	2172 1231	2689 1566	3124 1742	3933 2179	4330 2416				
54	664 409	733 450	850 486	1003 600	1183 711	1390 815	1618 947	1890 1089	2109 1164	2610 1480	3027 2059	3811 2283	4197				
55	648 387	714 426	826 460	975 568	1150 673	1351 771	1572 896	1834 1030	2046 1101	2533 1400	2934 1558	3694 1948	4068				
56	631 366	696 403	804 436	949 538	1119 637	1314 730	1528 848	1782 976	1987 1043	2460 1326	2845 1475	3583 1845	3945				
57	615 347	678 382	783 413	924 510	1089 604	1276 692	1485 804	1731 925	1930 989	2389 1257	2761 1398	3477 1749	3828	4486			
58	598 329	660 363	762 392	898 484	1062 573	1242 657	1444 763	1681 878	1875 938	2322 1192	2680 1327	3373 1660	3715	4333			
59	583 313	643 344	741 372	874 459	1032 544	1207 624	1405 725	1633 834	1822 891	2257 1133	2602 1260	3276 1576	3607	4186	4455		
60	568 297	627 327	721 354	852 437	1005 518	1174 593	1366 689	1588 792	1771 847	2194 1077	2527 1198	3181	3504	4047	4324		
61	555 283	612 312	703 337	829 415	978 492	1143 564	1330 655	1545 754	1723 806	2134 1024	2455 1140	3091	3405	3915	4198		
62	541 269	597 297	685 320	808 396	954 469	1113 537	1294 624	1503 718	1677 767	2076 975	2386 1085	3004	3309	3789	4077		
63	528 257	582 283	667 305	787 377	928 447	1083 512	1261 595	1462 684	1632 731	2020 929	2320	2922	3217	3669	3961	4398	
64	514 245	568 270	651 291	768 359	906 426	1056 488	1228 567	1423 652	1588 697	1966 886	2256 986	2841	3129	3555	3850	4260	
65	502 234	555 257	634 278	748 343	883 407	1027 466	1197 541	1386 622	1546 665	1915 846	2196 941	2764	3043	3445	3744	4129	
66	490 223	541 246	616 265	730 328	861 388	1002 445	1165 515	1350 594	1506 635	1866 807	2136 898	2691	2962	3342	3642	4005	
67	478 213	528 235	598 254	712 313	840 371	976 425	1137 494	1315 568	1467 607	1818 772	2080	2619	2884	3241	3544	3885	
68	468 204	516 225	582 243	694 299	819 355	952 406	1108 472	1282 543	1431 581	1771 738	2025	2550	2809	3147	3450	3771	4465
69	456 195	504 215	565 232	678 286	799 340	928 389	1081 452	1249 520	1395 556	1726 706	1972	2484	2736	3055	3358	3663	4336
70	445 187	492 206	549 222	661 274	781 325	906 372	1054 433	1219 498	1359 532	1684 676	1918	2413	2667	2968	3271	3558	4213
71	436 179	481 197	534 213	646 263	762 312	883 357	1029 415	1188 477	1326 510	1642 648	1864	2344	2599	2884	3187	3457	4095
72	426 172	469 189	520 204	631 252	744 299	862 342	1005 398	1159 457	1294 489	1602 621	1813	2280	2533	2805	3105	3361	3981
73	417 165	459 181	507 196	616 242	727 287	843 328	981 381	1131 439	1263 469	1564 596	1764	2218	2472	2728	3027	3270	3873
74	408 158	450 174	487 188	603 232	715 275	823 315	958 366	1105 421	1185 450	1524 572	1716	2158	2410	2655	2952	3181	3768
75	397 152	439 168	475 181	589 224	699 265	801 302	934 352	1078 405	1170 438	1483 549	1669	2100	2347	2584	2880	3097	3667
76	388 146	429 162	465 175	574 215	681 254	780 291	912 339	1051 390	1153 426	1444 528	1626	2046	2286	2517	2809	3016	3571
77	379 141	418 155	453 168	561 207	666 246	759 279	889 326	1026 375	1138 415	1407 507	1584	1992	2226	2451	2742	2938	3478
78	370 136	408 150	442 162	547 200	649 236	739 268	868 314	1002 362	1125 405	1371 488	1543	1941	2169	2388	2677	2862	3390
79	363 131	399 144	433 157	534 192	634 228	721 259	847 303	978 348	1098 390	1336 469	1504	1893	2115	2328	2614	2790	3304
80	354 127	390 139	423 151	520 185	619 220	703 249	826 292	955 336	1072 376	1303 452	1467	1845	2061	2269	2553	2721	3222
81	346 122	381 134	414 146	508 179	606 212	685 240	805 281	933 324	1048 363	1272 435	1431	1800	2011	2214	2494	2653	3142
82	339 118	373 130	403 140	496 172	592 205	669 231	786 271	912 313	1024 351	1240 420	1396	1756	1962	2160	2437	2589	3066
83	331 114	364 125	396 136	484 166	579 198	654 223	768 261	891 302	1000 338	1210 404	1362	1713	1914	2107	2382	2526	2992
84	324 110	357 121	387 131	472 160	565 191	637 215	750 252	870 291	978 327	1182 390	1330	1672	1869	2058	2329	2466	2920
85	316 106	349 117	378 127	462 155	553 185	622 207	732 243	852 282	957 316	1153 376	1299	1633	1825	2010	2278	2409	2853
86	310 103	342 113	370 123	450 149	541 179	609 200	714 234	832 272	936 305	1126 363	1269	1596	1783	1963	2227	2353	2787
87	303 99	334 110	363 119	439 144	529 173	594 193	699 227	814 263	915 295	1101 351	1239	1558	1741	1918	2179	2299	2722
88	297 96	327 106	354 115	430 139	519 167	580 187	682 219	796 255	895 285	1077 339	1212	1524	1702	1875	2133	2247	2661



# LRFD

STANDARD LOAD TABLE/OPEN WEB STEEL JOISTS, LH-SERIES  
Based on a 50 ksi Maximum Yield Strength - Loads Shown In Pounds Per Linear Foot (plf)

Joist Designation	48LH10	48LH11	48LH12	48LH13	48LH14	48LH15	48LH16	48LH17	48LH18	48LH19	48LH20	48LH21	48LH22	48LH23	48LH24	48LH25
Depth (in.)	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48
Approx. Wt. (lbs./ft.)	21	22	25	29	32	36	42	47	57	62	79	87	101	109	124	144
Span (ft.)																
↓																
48	807 538	871 581	1134 756	1357 905	1653 1102	1896 1264	2242 1495	2517 1678	3211 2141	3805 2537						
49	787 525	849 566	1104 736	1320 880	1606 1071	1843 1229	2178 1452	2443 1629	3118 2079	3687 2458						
50	768 512	828 552	1075 717	1285 857	1561 1041	1791 1194	2113 1409	2371 1581	3028 2019	3573 2382						
51	748 499	807 538	1047 698	1252 835	1519 1013	1741 1161	2053 1369	2304 1536	2941 1961	3465 2310	4363 2909					
52	730 487	787 525	1020 680	1219 813	1477 985	1693 1129	1995 1330	2238 1492	2857 1905	3360 2217	4231 2776					
53	712 475	768 512	993 662	1188 792	1437 958	1648 1099	1938 1292	2175 1450	2776 1851	3259 2093	4105 2621					
54	694 463	750 500	967 645	1156 771	1398 932	1603 1069	1884 1251	2113 1399	2698 1776	3163 1978	3984 2477	4387 2747				
55	678 452	732 488	942 628	1126 751	1360 897	1560 1027	1831 1184	2055 1324	2623 1681	3070 1872	3868 2344	4260 2599				
56	661 441	714 476	918 603	1098 720	1324 849	1519 973	1782 1121	1999 1254	2551 1592	2982 1773	3757 2220	4137 2461				
57	646 422	697 455	895 572	1071 682	1290 805	1479 922	1732 1063	1944 1188	2482 1509	2898 1680	3649 2104	4018 2333				
58	630 400	681 432	873 542	1044 648	1255 764	1440 875	1686 1008	1891 1128	2416 1432	2815 1595	3547 1997	3906 2214				
59	615 380	664 410	850 515	1018 615	1222 726	1402 831	1641 958	1842 1071	2352 1360	2737 1514	3448 1896	3796 2103	4483 2390			
60	601 362	649 390	829 490	993 585	1192 690	1366 790	1597 910	1792 1018	2289 1293	2661 1439	3352 1803	3691 1999	4359 2272			
61	588 344	634 371	810 466	969 556	1161 656	1332 751	1555 866	1746 968	2229 1230	2589 1369	3261 1715	3591 1901	4240 2161	4458 2365		
62	573 327	619 353	790 444	945 530	1132 625	1299 715	1515 825	1701 922	2172 1171	2518 1304	3172 1633	3493 1810	4126 2058	4335 2252		
63	561 312	604 336	771 423	922 505	1104 595	1266 682	1476 786	1657 879	2116 1116	2451 1242	3088 1556	3400 1725	4017 1961	4215 2146		
64	547 298	591 321	753 403	900 481	1077 568	1234 650	1438 749	1615 838	2062 1064	2386 1185	3006 1484	3310 1645	3901 1870	4101 2046		
65	535 284	577 306	735 385	879 459	1050 542	1204 620	1402 715	1575 800	2010 1015	2323 1131	2928 1416	3225 1570	3781 1784	3991 1953		
66	523 271	565 292	717 367	858 439	1024 517	1176 592	1368 683	1536 764	1960 970	2263 1080	2853 1352	3141 1499	3667 1704	3885 1865	4401 2029	
67	511 259	552 279	700 351	838 419	1000 494	1147 566	1333 653	1497 730	1912 927	2206 1032	2779 1292	3060 1433	3558 1629	3783 1782	4269 1939	
68	501 248	540 267	684 336	819 401	976 473	1120 541	1302 624	1461 698	1866 886	2149 987	2709 1236	2983 1370	3454 1557	3685 1704	4144 1854	
69	489 237	528 256	669 321	799 384	952 453	1093 518	1270 597	1425 668	1821 848	2097 944	2641 1182	2908 1311	3354 1490	3591 1631	4024 1774	
70	478 227	516 245	654 308	781 367	931 433	1068 496	1239 572	1392 640	1777 812	2044 904	2575 1132	2836 1255	3258 1427	3499 1562	3909 1699	
71	468 218	505 235	639 295	765 352	909 415	1042 475	1210 548	1359 613	1735 778	1993 866	2512 1085	2767 1203	3166 1367	3411 1496	3799 1628	4500 1899
72	457 209	495 225	624 283	747 337	888 398	1018 456	1182 525	1326 587	1693 746	1945 831	2451 1040	2700 1153	3079 1311	3327 1434	3694 1560	4375 1821



# LRFD

STANDARD LOAD TABLE/OPEN WEB STEEL JOISTS, LH-SERIES  
Based on a 50 ksi Maximum Yield Strength - Loads Shown In Pounds Per Linear Foot (plf)

Joist Designation	48LH10	48LH11	48LH12	48LH13	48LH14	48LH15	48LH16	48LH17	48LH18	48LH19	48LH20	48LH21	48LH22	48LH23	48LH24	48LH25
Depth (in.)	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48
Approx. Wt. (lbs./ft.)	21	22	25	29	32	36	42	47	57	62	79	87	101	109	124	144
Span (ft.)																
↓																
73	448 200	484 216	610 271	730 324	868 382	996 437	1153 504	1296 564	1654 715	1899 797	2392 998	2635 1106	2995 1257	3244 1376	3594 1497	4255 1746
74	439 192	474 207	597 260	714 311	849 367	973 420	1128 484	1266 541	1617 687	1854 765	2335 958	2572 1062	2914 1207	3166 1321	3496 1437	4141 1676
75	429 184	463 199	583 250	699 298	829 352	951 403	1101 464	1236 519	1579 659	1810 734	2280 920	2512 1020	2836 1159	3090 1268	3403 1380	4030 1610
76	421 177	454 191	571 240	684 287	811 338	930 387	1077 446	1209 499	1543 634	1768 706	2227 884	2454 980	2761 1114	3016 1219	3313 1326	3925 1547
77	412 170	445 184	559 231	669 276	793 325	910 372	1053 429	1182 480	1509 609	1726 678	2176 849	2397 942	2691 1071	2946 1172	3228 1275	3823 1487
78	403 164	435 177	547 222	655 265	775 313	891 358	1029 413	1155 462	1476 586	1687 652	2127 817	2341 906	2622 1030	2877 1127	3145 1226	3726 1430
79	396 158	426 170	535 214	642 255	759 301	871 345	1006 397	1129 444	1443 564	1650 628	2076 786	2289 872	2556 991	2811 1084	3066 1180	3631 1376
80	387 152	418 164	525 206	628 246	742 290	852 332	984 382	1105 428	1411 543	1609 604	2025 757	2238 839	2491 954	2746 1044	2989 1136	3541 1325
81	379 146	409 158	514 198	615 237	727 279	834 320	963 368	1081 412	1381 523	1569 582	1975 729	2188 809	2430 919	2685 1006	2916 1094	3453 1277
82	369 141	399 152	504 191	603 228	712 269	817 308	943 355	1059 397	1351 504	1531 561	1926 703	2140 779	2371 886	2625 969	2845 1054	3369 1230
83	361 136	390 147	493 185	589 221	696 260	799 298	922 343	1035 383	1323 486	1494 541	1881 677	2094 751	2314 854	2566 934	2776 1017	3288 1186
84	354 132	382 142	483 179	576 213	681 251	781 287	901 331	1012 371	1296 468	1458 522	1836 653	2049 725	2259 824	2511 901	2710 981	3210 1144
85	346 127	373 137	472 173	564 206	666 243	765 278	882 320	990 358	1264 452	1425 504	1792 631	2002 699	2206 795	2457 870	2647 946	3135 1104
86	339 123	366 133	462 167	552 199	651 234	748 269	864 310	969 346	1236 436	1390 486	1750 609	1956 675	2154 767	2403 840	2586 913	3061 1066
87	331 119	358 129	451 161	540 193	637 227	732 260	844 299	948 335	1207 421	1359 469	1710 588	1911 652	2104 741	2352 811	2526 882	2992 1029
88	325 116	351 125	442 156	529 187	624 220	717 252	826 289	928 324	1179 407	1329 454	1672 568	1869 630	2058 716	2302 783	2469 852	2923 994
89	318 112	343 120	433 151	517 180	610 212	702 244	810 280	909 314	1153 394	1299 438	1635 549	1827 609	2011 692	2254 757	2413 824	2859 961
90	312 108	337 117	424 147	507 175	598 206	687 236	792 271	889 304	1128 381	1270 424	1597 531	1786 589	1966 669	2208 732	2359 797	2794 929
91	306 105	330 113	415 142	498 170	585 199	672 228	777 263	871 294	1102 368	1242 410	1563 513	1746 569	1923 647	2163 708	2308 770	2733 899
92	300 102	324 110	408 138	487 164	574 193	658 221	760 255	853 285	1078 356	1215 397	1528 497	1708 551	1881 626	2119 685	2257 745	2674 870
93	294 99	318 106	399 133	477 159	562 187	645 214	745 247	837 276	1056 345	1189 384	1497 481	1672 533	1842 606	2077 663	2209 722	2617 842
94	288 96	312 103	391 129	468 154	550 181	633 208	730 239	820 268	1033 334	1164 372	1464 466	1636 516	1801 587	2035 642	2163 699	2562 815
95	282 93	306 100	384 126	459 150	540 176	619 201	715 232	804 260	1011 323	1138 360	1434 451	1602 500	1764 568	1995 622	2116 677	2508 790
96	277 90	300 97	376 122	450 145	529 171	607 195	702 225	787 252	990 313	1116 349	1404 437	1569 485	1728 551	1956 603	2073 656	2455 765



# LRFD

## METRIC LOAD TABLE/OPEN WEB STEEL JOISTS, LH-SERIES

Based on a 345 MPa Maximum Yield Strength - Loads Shown In Kilonewtons Per Meter (kN/m)

Joist Designation	18LH02	18LH03	18LH04	18LH05	18LH06	18LH07	18LH08	18LH09	18LH10	18LH11	18LH12	18LH13	18LH14	18LH15	18LH16	18LH17	18LH18	18LH19	18LH20
Depth (mm)	457	457	457	457	457	457	457	457	457	457	457	457	457	457	457	457	457	457	457
Approx. Wt. (kN/m)	0.15	0.16	0.18	0.21	0.22	0.25	0.28	0.31	0.34	0.37	0.42	0.49	0.54	0.58	0.65	0.74	0.85	0.92	1.24
Span (mm)																			
↓																			
5486	17.61 11.74	19.61 13.07	22.73 15.16	25.71 17.14	31.47 20.98	33.46 22.31	37.82 25.21	43.53 27.56	48.83 32.55	54.47 36.32	60.21 40.14								
5791	16.37 10.91	18.22 12.15	21.14 14.09	23.91 15.95	29.08 19.39	30.95 20.63	34.98 21.89	40.07 23.36	44.96 29.97	50.14 33.43	55.44 36.96								
6096	15.25 10.15	16.98 11.29	19.67 13.07	22.28 14.72	26.94 17.06	28.67 17.93	32.39 18.72	36.95 19.97	41.47 26.50	46.27 29.26	51.15 32.48	61.39 37.59							
6401	14.19 8.75	15.81 9.73	18.34 11.26	20.76 12.69	25.01 14.71	26.61 15.45	30.04 16.12	34.19 17.22	38.35 22.83	42.78 25.21	47.29 27.99	56.62 32.39	61.83 35.21						
6706	13.26 7.58	14.76 8.44	17.13 9.77	19.39 11.01	23.26 12.75	24.73 13.41	27.94 13.99	31.69 14.94	35.55 19.81	39.66 21.89	43.84 24.28	52.33 28.10	57.17 30.55	61.92 33.21					
7010	12.40 6.62	13.80 7.36	16.02 8.53	18.14 9.61	21.67 11.14	23.04 11.71	26.02 12.22	29.43 13.04	33.01 17.30	36.83 19.11	40.71 21.21	48.51 24.56	52.97 26.69	57.39 28.99					
7315	11.61 5.82	12.93 6.47	14.98 7.50	16.98 8.44	20.22 9.79	21.49 10.28	24.29 10.74	27.36 11.47	30.70 15.20	34.28 16.79	37.91 18.63	45.06 21.56	49.21 23.45	53.32 25.48	61.52 28.04				
7620	10.87 5.15	12.12 5.72	14.06 6.62	15.93 7.45	18.88 8.65	20.09 9.09	22.69 9.48	25.53 10.12	28.64 13.42	31.97 14.82	35.34 16.46	41.94 19.05	45.81 20.70	49.64 22.50	56.62 24.76	64.57 28.15			
7925	10.24 4.56	11.39 5.07	13.22 5.88	14.97 6.62	17.70 7.67	18.38 8.07	19.17 8.42	20.48 8.98	26.76 11.92	29.87 13.16	33.02 14.60	39.14 16.91	42.74 18.38	46.29 19.97	52.31 21.97	59.64 24.98			
8230	9.67 4.14	10.78 4.62	12.49 5.35	14.18 6.04	16.38 6.84	17.70 7.48	18.44 7.79	19.71 8.33	25.05 10.62	27.97 11.73	30.92 13.03	36.57 15.07	39.94 16.38	43.30 17.80	48.46 19.59	55.25 22.27	63.83 25.37		
8534	9.15 3.77	10.21 4.21	11.70 4.80	13.44 5.51	15.23 6.11	17.07 6.94	17.77 7.23	19.00 7.69	23.51 9.51	26.22 10.50	28.99 11.66	34.25 13.49	37.43 14.68	40.54 15.95	45.02 17.55	51.32 19.94	59.29 22.72		
8839	8.55 3.41	9.58 3.82	10.94 4.31	12.71 5.03	14.18 5.50	15.89 6.24	17.16 6.74	18.34 7.16	22.08 8.55	24.64 9.44	27.24 10.47	32.15 12.14	35.11 13.19	38.04 14.33	41.94 15.77	47.80 17.93	55.22 20.43	61.52 22.44	
9144	8.02 3.09	8.94 3.44	10.25 3.88	11.87 4.53	13.23 4.96	14.84 5.63	16.59 6.23	17.73 6.68	20.76 7.72	23.17 8.52	25.62 9.45	30.20 10.94	33.01 11.90	35.76 12.93	39.15 14.22	44.62 16.17	51.57 18.43	57.44 20.24	
9449	7.54 2.81	8.36 3.10	9.63 3.53	11.12 4.11	12.39 4.48	13.89 5.09	15.68 5.64	17.13 6.10	19.57 6.99	21.80 7.72	24.16 8.56	28.45 9.90	31.08 10.77	33.66 11.70	36.64 12.88	41.78 14.63	48.26 16.68	53.76 18.32	
9754	7.09 2.55	7.85 2.83	9.03 3.19	10.42 3.73	11.61 4.08	13.01 4.62	14.88 5.12	16.60 5.54	18.47 6.34	20.44 7.00	22.81 7.77	26.83 9.00	29.24 9.79	31.75 10.63	34.36 11.70	39.18 13.29	45.27 15.14	50.40 16.65	62.65 20.46
10058	6.69 2.33	7.36 2.58	8.49 2.91	9.80 3.40	10.91 3.70	12.22 4.20	14.02 4.67	15.60 5.04	17.46 5.77	19.22 6.37	21.45 7.07	25.32 8.20	27.46 8.91	29.99 9.69	32.28 10.66	36.82 12.11	42.52 13.80	47.37 15.16	58.85 18.63
10363	6.31 2.14	6.93 2.34	7.98 2.65	9.20 3.09	10.28 3.38	11.51 3.85	13.22 4.26	14.68 4.61	16.50 5.28	18.08 5.82	20.19 6.46	23.83 7.48	25.87 8.14	28.25 8.84	30.39 9.73	34.67 11.06	40.03 12.60	44.61 13.84	55.42 17.03
10668	5.96 1.97	6.53 2.15	7.53 2.43	8.68 2.84	9.69 3.09	10.85 3.51	12.49 3.89	13.84 4.21	15.55 4.83	17.04 5.34	19.04 5.92	22.47 6.85	24.38 7.45	26.63 8.09	28.67 8.91	32.70 10.14	37.75 11.54	42.07 12.68	52.27 15.58
10973	5.66 1.80	6.18 1.98	7.10 2.23	8.20 2.61	9.15 2.84	10.25 3.23	11.82 3.59	13.09 3.88	14.71 4.43	16.11 4.90	17.99 5.44	21.23 6.30	23.04 6.84	25.17 7.44	27.07 8.18	30.88 9.31	35.68 10.60	39.75 11.64	49.38 14.31



# LRFD

## METRIC LOAD TABLE/OPEN WEB STEEL JOISTS, LH-SERIES

Based on a 345 MPa Maximum Yield Strength - Loads Shown In Kilonewtons Per Meter (kN/m)

Joist Designation	20LH02	20LH03	20LH04	20LH05	20LH06	20LH07	20LH08	20LH09	20LH10	20LH11	20LH12	20LH13	20LH14	20LH15	20LH16	20LH17	20LH18	20LH19	20LH20
Depth (mm)	508	508	508	508	508	508	508	508	508	508	508	508	508	508	508	508	508	508	508
Approx. Wt. (kN/m)	0.15	0.16	0.18	0.20	0.22	0.25	0.28	0.31	0.34	0.36	0.41	0.50	0.54	0.58	0.66	0.80	0.89	1.01	1.27
Span (mm)																			
6096	15.58 9.92	18.09 10.93	19.92 13.28	23.20 14.88	26.83 17.89	31.23 20.82	33.93 21.70	38.76 23.64	41.85 25.49	50.58 33.72	55.92 37.28								
6401	14.66 8.55	16.73 9.42	18.62 11.96	21.67 12.82	25.08 16.72	29.04 18.08	31.56 18.70	35.91 20.37	38.79 21.97	46.86 31.24	51.80 34.54	62.31 40.83							
6706	13.71 7.42	15.64 8.17	17.42 10.39	20.28 11.13	23.43 14.69	27.05 15.70	29.39 16.22	33.36 17.68	36.00 19.07	43.51 27.50	48.11 30.54	57.70 35.43	63.01 38.52						
7010	12.84 6.47	14.66 7.13	16.33 9.06	18.92 9.71	21.99 12.84	25.26 13.70	27.45 14.17	31.04 15.44	33.49 16.65	40.49 24.03	44.75 26.67	53.55 30.95	58.49 33.65	63.36 36.58					
7315	12.05 5.69	13.76 6.27	15.32 7.96	17.74 8.53	20.62 11.28	23.61 12.03	25.65 12.44	28.93 13.57	31.21 14.63	37.73 21.11	41.72 23.43	49.82 27.18	54.42 29.56	58.94 32.13					
7620	11.31 5.03	12.91 5.54	14.40 7.03	16.54 7.54	19.39 9.96	22.12 10.63	24.00 11.00	27.01 11.98	29.15 12.93	35.24 18.65	38.96 20.69	46.42 24.02	50.71 26.10	54.94 28.38	63.78 31.27				
7925	9.67 4.46	10.25 4.91	12.66 6.24	13.48 6.69	17.99 8.84	19.22 9.44	19.87 9.76	21.67 10.63	23.37 11.47	32.96 16.54	36.44 18.37	43.35 21.32	47.37 23.17	51.31 25.18	58.90 27.75				
8230	9.55 4.42	10.12 4.85	12.39 5.92	13.32 6.37	17.30 8.18	18.49 8.74	19.10 9.03	20.85 9.85	22.50 10.56	30.88 14.75	34.16 16.38	40.55 19.00	44.32 20.66	48.02 22.46	54.56 24.75	62.30 28.16			
8534	9.42 4.34	10.02 4.62	12.21 5.63	13.17 6.07	16.69 7.60	17.81 8.11	18.43 8.39	20.09 9.13	21.68 9.82	28.99 13.20	32.06 14.66	38.01 17.01	41.54 18.50	45.00 20.11	50.69 22.16	57.87 25.21			
8839	8.97 3.99	9.89 4.40	11.55 5.13	13.01 5.76	15.81 6.96	17.20 7.55	17.78 7.82	19.39 8.47	20.92 9.13	27.27 11.87	30.16 13.19	35.72 15.29	39.00 16.63	42.26 18.08	47.21 19.92	53.90 22.67	62.27 25.84		
9144	8.49 3.64	9.50 4.08	10.85 4.67	12.49 5.34	14.85 6.23	16.63 7.06	17.17 7.29	18.73 7.90	20.22 8.53	25.67 10.71	28.41 11.89	33.59 13.80	36.70 15.00	39.76 16.31	44.08 17.97	50.31 20.46	58.15 23.32	64.89 25.67	
9449	7.98 3.32	9.06 3.76	10.21 4.24	11.90 4.91	13.89 5.63	15.55 6.39	16.63 6.82	18.12 7.39	19.57 7.95	24.22 9.70	26.79 10.77	31.65 12.49	34.58 13.58	37.47 14.76	41.25 16.27	47.10 18.51	54.42 21.11	60.73 23.23	
9754	7.53 3.03	8.63 3.47	9.63 3.86	11.22 4.49	13.04 5.12	14.59 5.80	15.80 6.24	17.55 6.93	18.92 7.44	22.86 8.81	25.30 9.77	29.85 11.35	32.63 12.34	35.34 13.41	38.70 14.78	44.17 16.81	51.04 19.17	56.95 21.10	
10058	7.10 2.77	8.14 3.18	9.10 3.54	10.59 4.10	12.25 4.67	13.71 5.28	15.03 5.76	17.03 6.37	18.35 6.99	21.58 8.02	23.94 8.90	28.21 10.33	30.83 11.23	33.40 12.21	36.35 13.45	41.50 15.32	47.95 17.46	53.54 19.22	
10363	6.71 2.53	7.70 2.91	8.59 3.25	10.02 3.76	11.52 4.26	12.91 4.83	14.31 5.32	16.52 5.82	17.81 6.53	20.31 7.32	22.67 8.14	26.70 9.44	29.08 10.27	31.61 11.16	34.23 12.30	39.06 13.99	45.15 15.95	50.39 17.55	62.75 21.64
10668	6.36 2.33	7.28 2.68	8.14 2.99	9.50 3.47	10.87 3.89	12.17 4.42	13.58 4.90	15.58 5.34	17.30 5.99	19.14 6.71	21.38 7.45	25.27 8.65	27.45 9.39	29.96 10.21	32.28 11.26	36.86 12.81	42.59 14.60	47.51 16.08	59.19 19.81
10973	6.01 2.14	6.91 2.46	7.72 2.75	8.98 3.19	10.25 3.59	11.51 4.05	12.87 4.50	14.72 4.90	16.37 5.50	18.09 6.15	20.19 6.84	23.87 7.93	25.91 8.63	28.32 9.38	30.51 10.34	34.82 11.76	40.23 13.41	44.89 14.76	55.90 18.19
11278	5.73 1.98	6.53 2.27	7.32 2.53	8.53 2.94	9.71 3.29	10.87 3.73	12.21 4.15	13.92 4.50	15.46 5.04	17.11 5.67	19.10 6.30	22.60 7.31	24.53 7.95	26.79 8.63	28.86 9.51	32.93 10.82	38.06 12.34	42.48 13.58	52.90 16.75
11582	5.44 1.83	6.18 2.08	6.96 2.34	8.11 2.72	9.20 3.05	10.30 3.44	11.60 3.82	13.19 4.15	14.66 4.67	16.21 5.23	18.12 5.80	21.42 6.74	23.24 7.32	25.39 7.96	27.33 8.78	31.21 9.99	36.07 11.39	40.24 12.53	50.13 15.45
11887	5.18 1.70	5.88 1.94	6.62 2.17	7.72 2.52	8.72 2.80	9.77 3.18	11.00 3.53	12.52 3.85	13.92 4.31	15.38 4.83	17.17 5.37	20.32 6.23	22.06 6.77	24.09 7.36	25.96 8.11	29.61 9.23	34.23 10.53	38.19 11.58	47.56 14.28
12192	4.91 1.57	5.57 1.79	6.31 2.02	7.35 2.34	8.28 2.59	9.29 2.94	10.47 3.28	11.90 3.56	13.22 3.99	14.62 4.48	16.33 4.97	19.30 5.76	20.94 6.27	22.89 6.81	24.66 7.51	28.15 8.55	32.52 9.74	36.29 10.72	45.19 13.22



# LRFD

## METRIC LOAD TABLE/OPEN WEB STEEL JOISTS, LH-SERIES

Based on a 345 MPa Maximum Yield Strength - Loads Shown In Kilonewtons Per Meter (kN/m)

Joist Designation	24LH03	24LH04	24LH05	24LH06	24LH07	24LH08	24LH09	24LH10	24LH11	24LH12	24LH13	24LH14	24LH15	24LH16	24LH17	24LH18	24LH19	24LH20	24LH21
Depth (mm)	610	610	610	610	610	610	610	610	610	610	610	610	610	610	610	610	610	610	610
Approx. Wt. (kN/m)	0.16	0.18	0.19	0.23	0.25	0.26	0.31	0.34	0.36	0.39	0.47	0.51	0.55	0.61	0.72	0.83	0.90	1.15	1.28
Span (mm)																			
7315	14.53 9.69	15.81 10.55	18.09 12.06	22.78 15.19	26.57 17.71	28.16 18.78	36.35 23.61	39.05 25.04	42.64 26.21	48.91 32.61	58.84 39.22	64.27 42.84							
7620	13.70 8.72	14.90 9.93	17.04 11.36	21.46 14.31	24.95 16.63	26.44 17.62	34.03 20.85	36.55 22.10	39.92 23.16	45.81 30.54	54.96 35.68	60.03 38.81	65.05 42.22						
7925	12.91 7.73	14.05 9.36	16.08 10.14	20.24 13.49	23.46 14.88	24.86 15.80	31.91 18.50	34.25 19.62	37.43 20.54	42.94 27.20	51.44 31.68	56.18 34.45	60.90 37.47						
8230	12.18 6.90	13.26 8.46	15.19 9.04	19.13 12.06	22.08 13.28	23.39 14.09	29.96 16.50	32.15 17.49	35.17 18.32	40.33 24.25	48.21 28.23	52.68 30.72	57.09 33.42						
8534	11.52 6.17	12.53 7.57	14.36 8.09	18.09 10.81	20.75 11.87	22.06 12.62	28.19 14.78	30.25 15.67	33.06 16.40	37.95 21.71	45.28 25.29	49.47 27.50	53.60 29.91	62.05 33.02					
8839	10.90 5.56	11.86 6.81	13.58 7.28	17.11 9.71	19.58 10.68	20.81 11.35	26.61 13.28	28.50 14.08	31.14 14.75	35.74 19.52	42.59 22.73	46.53 24.73	50.43 26.89	57.80 29.69					
9144	10.33 5.00	11.25 6.14	12.87 6.56	16.21 8.77	18.56 9.64	19.67 10.24	25.04 11.98	26.88 12.71	29.34 13.30	33.71 17.61	40.11 20.51	43.82 22.31	47.50 24.26	53.98 26.79	61.70 30.55				
9449	9.80 4.53	10.65 5.56	12.14 5.95	15.38 7.93	17.51 8.72	18.60 9.26	23.72 10.85	25.39 11.51	27.67 12.05	31.84 15.95	37.84 18.56	41.34 20.19	44.80 21.96	50.52 24.25	57.74 27.65				
9754	9.29 4.11	10.11 5.04	11.39 5.39	14.59 7.20	16.37 7.92	17.64 8.42	22.32 9.85	23.46 10.44	25.52 10.94	30.12 14.49	35.74 16.87	39.06 18.34	42.33 19.94	47.37 22.02	54.15 25.11	62.60 28.66			
10058	8.84 3.75	9.63 4.59	10.77 4.91	13.89 6.56	15.45 7.22	16.72 7.66	20.89 8.97	21.77 9.51	23.07 9.96	28.54 13.19	33.81 15.36	36.96 16.71	40.06 18.16	44.52 20.06	50.88 22.88	58.84 26.12			
10363	7.48 3.42	9.16 4.20	9.82 4.49	13.22 5.99	14.55 6.59	15.46 7.00	18.21 8.20	19.30 8.69	20.28 9.10	27.05 12.05	32.04 14.03	35.02 15.26	37.95 16.60	41.91 18.32	47.91 20.89	55.38 23.86	61.99 26.32		
10668	7.41 3.29	8.71 3.86	9.76 4.33	12.66 5.57	13.96 6.14	14.81 6.52	17.68 7.73	18.73 8.15	19.70 8.58	25.69 11.03	30.39 12.85	33.20 13.98	35.98 15.20	39.53 16.78	45.18 19.14	52.23 21.84	58.46 24.12		
10973	7.35 3.18	8.28 3.59	9.63 4.15	12.14 5.19	13.41 5.73	14.19 6.07	17.17 7.31	18.21 7.70	19.14 8.09	24.40 10.14	28.86 11.80	31.53 12.84	34.19 13.96	37.34 15.41	42.68 17.58	49.35 20.06	55.22 22.15		
11278	7.06 2.97	7.88 3.31	9.16 3.85	11.60 4.83	12.87 5.35	13.61 5.66	16.72 6.71	17.70 7.29	18.62 7.66	23.21 9.32	27.45 10.85	29.99 11.82	32.50 12.85	35.33 14.18	40.38 16.18	46.68 18.46	52.24 20.38	65.27 25.23	
11582	6.71 2.74	7.50 3.06	8.72 3.56	11.03 4.46	12.36 5.00	13.06 5.28	15.99 6.18	17.24 6.91	18.14 7.26	22.08 8.61	26.10 10.02	28.41 10.90	30.92 11.85	33.49 13.09	38.27 14.92	44.23 17.03	49.51 18.79	61.86 23.27	
11887	6.40 2.55	7.15 2.84	8.31 3.29	10.50 4.14	11.83 4.67	12.52 4.93	15.23 5.73	16.81 6.40	17.65 6.88	20.94 7.95	24.83 9.26	26.96 10.06	29.46 10.96	31.75 12.09	36.30 13.79	41.98 15.74	46.99 17.38	58.71 21.51	65.51 23.80
12192	6.10 2.36	6.82 2.65	7.93 3.06	9.99 3.83	11.29 4.33	11.92 4.58	14.50 5.29	16.12 5.92	17.22 6.55	19.92 7.36	23.59 8.58	25.61 9.32	27.99 10.14	30.18 11.20	34.51 12.78	39.89 14.57	44.65 16.09	55.77 19.92	62.25 22.03
12497	5.83 2.21	6.52 2.46	7.58 2.86	9.55 3.57	10.74 4.02	11.38 4.26	13.83 4.91	15.36 5.51	16.81 6.10	18.92 6.82	22.46 7.95	24.35 8.65	26.63 9.41	28.72 10.39	32.83 11.86	37.95 13.52	42.48 14.94	53.06 18.49	59.23 20.46
12802	5.57 2.05	6.23 2.30	7.23 2.65	9.12 3.32	10.24 3.75	10.87 3.96	13.17 4.56	14.62 5.12	16.06 5.66	18.03 6.34	21.38 7.39	23.21 8.05	25.36 8.75	27.36 9.66	31.27 11.01	36.16 12.57	40.46 13.89	50.53 17.19	56.43 19.01
13106	5.34 1.92	5.96 2.15	6.93 2.49	8.72 3.07	9.76 3.48	10.39 3.70	12.56 4.26	13.93 4.75	15.33 5.26	17.20 5.92	20.40 6.88	22.12 7.50	24.18 8.15	26.09 9.00	29.82 10.27	34.47 11.71	38.58 12.93	48.20 16.00	53.80 17.71
13411	5.12 1.80	5.73 2.01	6.65 2.33	8.33 2.87	9.32 3.25	9.95 3.47	11.99 3.96	13.30 4.43	14.68 4.91	16.43 5.51	19.48 6.42	21.14 6.99	23.08 7.60	24.91 8.39	28.47 9.57	32.92 10.93	36.83 12.06	46.02 14.92	51.37 16.52
13716	4.90 1.69	5.48 1.89	6.36 2.18	7.96 2.68	8.90 3.03	9.51 3.23	11.47 3.70	12.74 4.15	14.05 4.59	15.68 5.15	18.60 6.01	20.19 6.53	22.08 7.10	23.81 7.85	27.20 8.94	31.44 10.21	35.21 11.26	43.97 13.95	49.09 15.44
14021	4.69 1.59	5.26 1.78	6.12 2.05	7.61 2.51	8.50 2.84	9.12 3.03	10.96 3.47	12.17 3.88	13.48 4.29	15.01 4.83	17.78 5.61	19.32 6.11	21.11 6.65	22.78 7.34	26.05 8.37	30.09 9.55	33.68 10.55	42.07 13.06	46.97 14.44
14326	4.52 1.48	5.04 1.66	5.88 1.92	7.31 2.34	8.15 2.65	8.75 2.86	10.50 3.25	11.66 3.63	12.91 4.02	14.37 4.52	17.04 5.26	18.49 5.73	20.22 6.23	21.80 6.87	24.92 7.85	28.82 8.96	32.26 9.88	40.29 12.22	44.97 13.52
14630	4.34 1.40	4.85 1.56	5.64 1.80	7.00 2.21	7.80 2.49	8.40 2.68	10.06 3.05	11.17 3.41	12.40 3.77	13.79 4.24	16.34 4.94	17.73 5.37	19.39 5.85	20.89 6.45	23.90 7.35	27.62 8.40	30.90 9.28	38.61 11.48	43.09 12.69





# LRFD

**METRIC LOAD TABLE/OPEN WEB STEEL JOISTS, LH-SERIES**  
Based on a 345 MPa Maximum Yield Strength - Loads Shown in Kilonewtons Per Meter (kN/m)

Joist Designation	28LH05	28LH06	28LH07	28LH08	28LH09	28LH10	28LH11	28LH12	28LH13	28LH14	28LH15	28LH16	28LH17	28LH18	28LH19	28LH20	28LH21	28LH22	28LH23
<b>Depth (mm)</b>	711	711	711	711	711	711	711	711	711	711	711	711	711	711	711	711	711	711	711
<b>Approx. Wt. (kN/m)</b>	0.19	0.23	0.25	0.26	0.31	0.34	0.36	0.39	0.44	0.51	0.55	0.61	0.72	0.82	0.92	1.15	1.28	1.49	1.62
<b>Span (mm)</b>																			
↓																			
8534	13.70 9.13	18.18 12.12	21.19 14.12	22.67 15.11	29.37 19.58	31.47 20.98	34.36 22.91	40.24 26.83	44.52 28.37	53.82 35.88	58.33 38.89								
8839	13.04 8.69	17.30 11.54	20.13 13.42	21.51 14.34	27.81 18.54	29.81 19.87	32.54 21.70	38.10 24.43	42.07 25.49	50.87 33.91	55.12 36.74	64.84 41.43							
9144	12.43 8.28	16.52 11.01	19.13 12.75	20.44 13.63	26.35 17.30	28.25 18.84	30.83 20.13	36.13 22.03	39.79 22.99	48.13 31.08	52.15 33.81	61.25 37.37							
9449	11.86 7.90	15.76 10.50	18.18 11.93	19.45 12.74	25.01 15.67	26.80 17.06	29.26 18.22	34.28 19.94	37.69 20.82	45.59 28.13	49.40 30.61	57.93 33.84							
9754	11.31 7.28	15.03 9.60	17.30 10.84	18.51 11.57	23.74 14.22	25.45 15.49	27.80 16.54	32.57 18.12	35.74 18.91	43.22 25.55	46.84 27.80	54.87 30.73	63.22 35.11						
10058	10.81 6.62	14.36 8.75	16.47 9.88	17.64 10.53	22.59 12.95	24.21 14.11	26.41 15.07	30.95 16.50	33.93 17.23	41.03 23.27	44.48 25.32	52.02 27.99	59.93 31.98						
10363	10.33 6.05	13.71 7.99	15.71 9.01	16.81 9.63	21.49 11.83	23.02 12.88	25.14 13.77	29.46 15.07	32.26 15.74	39.00 21.26	42.26 23.13	49.40 25.56	56.74 29.21	64.27 33.36					
10668	9.86 5.54	13.13 7.32	14.98 8.26	16.03 8.81	20.46 10.84	21.93 11.80	23.94 12.62	28.06 13.80	30.69 14.41	37.09 19.48	40.20 21.19	46.77 23.42	53.51 26.76	61.09 30.55					
10973	9.45 5.09	12.56 6.72	14.31 7.58	15.32 8.09	19.52 9.95	20.92 10.84	22.82 11.58	26.76 12.68	29.21 13.23	35.33 17.89	38.30 19.45	44.17 21.51	50.56 24.57	58.11 28.06	65.55 31.04				
11278	9.06 4.68	12.03 6.18	13.67 6.97	14.63 7.45	18.62 9.16	19.96 9.98	21.80 10.66	25.52 11.67	27.84 12.18	33.68 16.46	36.51 17.90	41.81 19.78	47.85 22.62	55.31 25.83	62.00 28.57				
11582	8.66 4.31	11.52 5.70	13.09 6.43	14.01 6.87	17.78 8.44	19.05 9.20	20.81 9.83	24.37 10.77	26.57 11.23	32.13 15.17	34.82 16.52	39.62 18.25	45.32 20.85	52.42 23.81	58.76 26.35				
11887	8.31 3.99	11.04 5.28	12.53 5.95	13.39 6.34	17.00 7.82	18.22 8.50	19.89 9.09	23.30 9.95	25.39 10.39	30.69 14.03	33.27 15.26	37.57 16.88	43.00 19.27	49.75 22.02	55.77 24.37				
12192	7.98 3.70	10.60 4.88	12.01 5.51	12.84 5.88	16.25 7.23	17.43 7.88	19.04 8.42	22.29 9.22	24.25 9.61	29.33 13.00	31.80 14.14	35.72 15.63	40.86 17.86	47.25 20.40	52.99 22.56				
12497	7.66 3.44	10.20 4.53	11.51 5.12	12.30 5.45	15.49 6.71	16.69 7.31	18.22 7.82	21.36 8.55	23.20 8.93	28.06 12.06	30.42 13.11	33.98 14.50	38.89 16.57	44.97 18.92	50.40 20.94	63.13 26.00			
12802	7.36 3.19	9.80 4.21	11.04 4.75	11.82 5.07	14.59 6.24	15.95 6.80	17.07 7.26	18.75 7.95	19.58 8.30	26.88 11.22	29.12 12.20	32.36 13.48	37.03 15.41	42.83 17.60	48.02 19.46	60.12 24.18			
13106	7.06 2.99	9.38 3.94	10.59 4.45	11.31 4.74	13.98 5.83	15.41 6.40	16.68 6.93	18.31 7.58	19.13 7.92	25.75 10.44	27.90 11.36	30.86 12.56	35.33 14.34	40.84 16.38	45.79 18.14	57.35 22.51	64.02 24.92		
13411	6.78 2.80	9.01 3.69	10.15 4.15	10.85 4.45	13.39 5.47	14.85 6.04	16.11 6.53	17.90 7.23	18.69 7.55	24.70 9.74	26.76 10.59	29.46 11.71	33.72 13.38	39.00 15.29	43.73 16.91	54.74 21.00	61.13 23.24		
13716	6.49 2.62	8.63 3.47	9.73 3.89	10.39 4.15	12.82 5.12	14.24 5.66	15.55 6.17	17.51 6.94	18.27 7.22	23.70 9.10	25.69 9.90	28.16 10.94	32.23 12.50	37.27 14.28	41.78 15.80	52.31 19.62	58.41 21.73	64.27 24.63	
14021	6.26 2.46	8.28 3.25	9.34 3.66	9.98 3.91	12.31 4.80	13.67 5.31	14.92 5.79	17.11 6.62	17.86 6.88	22.76 8.52	24.69 9.26	26.94 10.24	30.83 11.70	35.65 13.36	39.98 14.78	50.05 18.35	55.88 20.32	61.46 23.04	
14326	6.01 2.32	7.96 3.05	8.97 3.44	9.58 3.67	11.82 4.50	13.13 4.99	14.33 5.44	16.76 6.34	17.48 6.59	21.86 7.98	23.72 8.68	25.80 9.60	29.52 10.96	34.14 12.52	38.27 13.86	47.94 17.20	53.51 19.04	58.85 21.59	
14630	5.79 2.18	7.66 2.87	8.62 3.23	9.19 3.44	11.35 4.24	12.60 4.69	13.76 5.12	16.12 5.95	17.11 6.31	20.97 7.48	22.82 8.14	24.73 9.00	28.29 10.28	32.71 11.74	36.68 13.00	45.94 16.14	51.31 17.87	56.43 20.27	64.57 22.03
14935	5.57 2.07	7.36 2.71	8.28 3.05	8.81 3.23	10.91 3.99	12.12 4.42	13.23 4.83	15.51 5.58	16.76 6.05	20.11 7.03	21.97 7.66	23.72 8.46	27.14 9.67	31.39 11.04	35.20 12.21	44.08 15.17	49.21 16.79	54.12 19.04	62.08 20.70
15240	5.35 1.94	7.09 2.55	7.98 2.87	8.46 3.05	10.52 3.76	11.66 4.15	12.74 4.55	14.92 5.26	16.43 5.77	19.30 6.62	21.10 7.19	22.78 7.96	26.06 9.09	30.13 10.39	33.79 11.49	42.30 14.27	47.25 15.80	51.96 17.92	59.68 19.48
15545	5.18 1.83	6.84 2.42	7.70 2.71	8.11 2.86	10.12 3.54	11.22 3.92	12.27 4.29	14.36 4.96	15.80 5.44	18.56 6.23	20.27 6.78	21.89 7.50	25.04 8.56	28.95 9.77	32.48 10.82	40.67 13.44	45.40 14.88	49.92 16.87	57.45 18.34
15850	4.99 1.73	6.58 2.27	7.41 2.56	7.80 2.69	9.76 3.32	10.82 3.72	11.82 4.05	13.83 4.68	15.19 5.13	17.83 5.88	19.49 6.39	21.05 7.07	24.09 8.08	27.85 9.22	31.23 10.21	39.09 12.68	43.66 14.03	48.02 15.90	55.35 17.30
16154	4.81 1.64	6.36 2.15	7.15 2.42	7.53 2.55	9.41 3.15	10.43 3.51	11.39 3.83	13.32 4.42	14.62 4.84	17.16 5.54	18.75 6.04	20.24 6.66	23.17 7.63	26.80 8.71	30.04 9.63	37.62 11.96	42.03 13.25	46.20 15.01	53.34 16.33
16459	4.65 1.56	6.14 2.04	6.91 2.30	7.23 2.40	9.07 2.97	10.06 3.32	10.98 3.63	12.84 4.15	14.06 4.58	16.52 5.23	18.08 5.70	19.49 6.30	22.32 7.20	25.83 8.23	28.93 9.10	36.25 11.31	40.46 12.52	44.49 14.19	51.45 15.44
16764	4.50 1.48	5.92 1.94	6.66 2.18	6.97 2.27	8.77 2.81	9.71 3.13	10.60 3.44	12.39 3.94	13.57 4.33	15.93 4.96	17.42 5.39	18.79 5.96	21.51 6.81	24.88 7.79	27.90 8.62	34.93 10.69	39.00 11.85	42.90 13.44	49.66 14.60
17069	4.34 1.41	5.73 1.83	6.45 2.07	6.74 2.15	8.46 2.67	9.38 2.97	10.24 3.25	11.95 3.73	13.09 4.10	15.36 4.69	16.78 5.10	18.12 5.64	20.75 6.46	23.99 7.36	26.89 8.15	33.68 10.14	37.60 11.22	41.37 12.72	47.95 13.83



# LRFD

## METRIC LOAD TABLE/OPEN WEB STEEL JOISTS, LH-SERIES

Based on a 345 MPa Maximum Yield Strength - Loads Shown In Kilonewtons Per Meter (kN/m)

Joist Designation	32LH06	32LH07	32LH08	32LH09	32LH10	32LH11	32LH12	32LH13	32LH14	32LH15	32LH16	32LH17	32LH18	32LH19	32LH20	32LH21	32LH22	32LH23	32LH24
Depth (mm)	813	813	813	813	813	813	813	813	813	813	813	813	813	813	813	813	813	813	813
Approx. Wt. (kN/m)	0.20	0.23	0.25	0.31	0.31	0.35	0.39	0.44	0.48	0.51	0.61	0.72	0.82	0.90	1.14	1.27	1.47	1.61	1.81
Span (mm)																			
9754	14.33 9.55	16.08 10.72	18.14 12.09	24.05 16.03	25.91 17.27	28.37 18.91	33.31 22.21	39.15 26.10	41.94 27.96	44.87 29.91	58.90 39.27								
10058	13.76 9.17	15.42 10.28	17.35 11.57	22.95 15.30	24.75 16.50	27.10 18.06	31.80 21.20	37.31 24.88	39.98 26.66	42.77 27.29	56.05 37.25	64.59 42.61							
10363	13.23 8.82	14.84 9.89	16.63 11.09	21.94 14.63	23.64 15.76	25.88 17.26	30.38 20.25	35.60 23.42	38.13 24.12	40.80 24.92	53.41 34.03	61.55 38.93							
10668	12.71 8.47	14.24 9.50	15.93 10.62	20.98 13.68	22.60 15.07	24.75 16.50	29.07 19.30	33.98 21.45	36.39 22.09	38.93 22.82	50.91 31.17	58.68 35.65							
10973	12.22 8.15	13.70 9.13	15.27 10.05	20.06 12.56	21.64 13.86	23.68 15.17	27.81 17.73	32.48 19.70	34.77 20.30	37.21 20.97	48.59 28.61	55.99 32.74	63.26 37.40						
11278	11.74 7.64	13.17 8.52	14.66 9.25	19.22 11.57	20.72 12.76	22.67 13.96	26.63 16.31	31.05 18.14	33.24 18.68	35.59 19.29	46.40 26.34	53.47 30.13	60.41 34.42						
11582	11.31 7.06	12.69 7.86	14.06 8.53	18.43 10.66	19.84 11.77	21.73 12.88	25.52 15.06	29.72 16.72	31.82 17.23	34.03 17.80	44.35 24.29	51.10 27.80	57.74 31.75						
11887	10.90 6.52	12.21 7.26	13.49 7.88	17.65 9.86	19.04 10.88	20.84 11.90	24.47 13.92	28.45 15.46	30.47 15.92	32.61 16.44	42.42 22.46	48.90 25.69	55.25 29.36	63.26 32.54					
12192	10.47 6.04	11.77 6.72	12.97 7.31	16.94 9.13	18.25 10.08	19.97 11.03	23.48 12.88	27.27 14.31	29.20 14.75	31.23 15.23	40.62 20.81	46.81 23.80	52.88 27.18	60.47 30.15					
12497	10.11 5.60	11.33 6.24	12.47 6.78	16.25 8.47	17.52 9.35	19.19 10.23	22.54 11.96	26.15 13.29	27.99 13.68	29.96 14.14	38.92 19.30	44.84 22.08	50.67 25.23	57.87 27.97					
12802	9.73 5.21	10.91 5.80	12.01 6.30	15.63 7.88	16.85 8.69	18.43 9.51	21.64 11.12	25.08 12.36	26.88 12.72	28.76 13.14	37.31 17.95	42.81 20.53	48.59 23.46	55.42 26.00					
13106	9.41 4.85	10.55 5.41	11.55 5.86	15.03 7.34	16.19 8.09	17.73 8.85	20.81 10.36	24.09 11.51	25.80 11.85	27.62 12.24	35.65 16.72	40.81 19.11	46.62 21.84	53.01 24.22					
13411	9.06 4.52	10.17 5.04	11.13 5.47	14.44 6.84	15.58 7.55	17.04 8.27	20.02 9.66	23.16 10.74	24.79 11.06	26.53 11.42	34.03 15.60	38.98 17.83	44.78 20.38	50.61 22.59	63.48 28.12				
13716	8.75 4.23	9.82 4.71	10.72 5.12	13.92 6.40	14.98 7.06	16.41 7.72	19.26 9.03	22.25 10.02	23.83 10.33	25.52 10.66	32.52 14.56	37.25 16.66	43.03 19.04	48.37 21.11	60.65 26.28				
14021	8.44 3.95	9.47 4.40	10.34 4.78	13.39 5.98	14.44 6.61	15.80 7.22	18.56 8.44	21.42 9.38	22.94 9.67	24.56 9.98	31.12 13.63	35.63 15.60	41.21 17.81	46.27 19.76	58.02 24.59	64.81 27.23			
14326	8.15 3.70	9.16 4.13	9.98 4.48	12.91 5.61	13.92 6.18	15.23 6.77	17.87 7.90	20.63 8.80	22.08 9.06	23.64 9.35	29.78 12.76	34.12 14.60	39.46 16.69	44.32 18.50	55.57 23.04	62.05 25.52			
14630	7.89 3.48	8.85 3.88	9.63 4.20	12.39 5.26	13.41 5.80	14.68 6.36	17.24 7.42	19.87 8.26	21.27 8.50	22.76 8.78	28.56 11.98	32.70 13.71	37.84 15.67	42.46 17.36	53.25 21.62	59.49 23.94	65.45 27.17		
14935	7.63 3.26	8.55 3.64	9.29 3.95	11.90 4.94	12.93 5.45	14.15 5.96	16.63 6.97	19.14 7.74	20.50 7.98	21.94 8.24	27.40 11.26	31.39 12.88	36.29 14.72	40.76 16.31	51.09 20.31	57.06 22.50	62.79 25.53		
15240	7.39 3.07	8.28 3.42	8.98 3.72	11.29 4.65	12.49 5.13	13.67 5.61	16.06 6.56	17.87 7.29	18.44 7.51	19.04 7.76	26.31 10.59	30.12 12.12	34.85 13.84	39.11 15.35	49.05 19.11	54.78 21.67	60.28 24.02		
15545	7.13 2.90	8.01 3.25	8.68 3.53	10.90 4.40	12.03 4.84	13.17 5.29	15.58 6.24	17.52 7.00	18.08 7.22	18.66 7.45	25.27 9.98	28.95 11.41	33.49 13.04	37.57 14.46	47.15 18.00	52.64 19.93	57.93 22.62	62.79 24.64	65.33 26.64
15850	6.88 2.75	7.72 3.07	8.37 3.34	10.50 4.15	11.61 4.59	12.69 5.00	15.06 5.92	17.17 6.72	17.73 6.94	18.31 7.18	24.31 9.41	27.84 10.77	32.19 12.30	36.16 13.64	45.32 16.97	50.62 18.79	55.70 21.33	62.97 23.24	
16154	6.65 2.61	7.45 2.91	8.07 3.15	10.12 3.94	11.20 4.33	12.25 4.74	14.53 5.60	16.87 6.47	17.39 6.68	17.96 6.90	23.39 8.88	26.79 10.17	30.99 11.61	34.77 12.87	43.62 16.02	48.72 17.74	53.60 20.13	60.73 21.94	63.93 23.75
16459	6.43 2.46	7.19 2.75	7.80 2.99	9.77 3.73	10.82 4.11	11.83 4.49	14.02 5.31	16.24 6.12	17.07 6.42	17.61 6.62	22.51 8.39	25.80 9.60	29.85 10.97	33.50 12.17	42.03 15.14	46.93 16.78	51.63 19.04	58.63 20.73	61.57 22.46
16764	6.21 2.34	6.96 2.61	7.54 2.83	9.45 3.54	10.46 3.89	11.42 4.26	13.54 5.03	15.64 5.79	16.76 6.08	17.30 6.39	21.71 7.93	24.86 9.09	28.76 10.39	32.28 11.51	40.49 14.33	45.22 15.87	49.75 18.00	56.62 19.61	59.33 21.24
17069	6.01 2.23	6.74 2.48	7.28 2.68	9.15 3.35	10.11 3.70	11.04 4.04	13.09 4.77	15.10 5.48	16.15 5.76	16.98 6.15	20.94 7.53	23.99 8.61	27.72 9.83	31.14 10.90	39.05 13.57	43.62 15.03	47.98 17.06	54.69 18.57	57.22 20.12
17374	5.82 2.11	6.52 2.36	7.04 2.55	8.84 3.19	9.73 3.50	10.68 3.83	12.65 4.53	14.57 5.16	15.60 5.45	16.69 5.93	20.19 7.13	23.13 8.15	26.76 9.32	30.04 10.33	37.69 12.87	42.08 14.25	46.32 16.17	52.88 17.61	55.22 19.07
17678	5.61 2.01	6.30 2.24	6.82 2.43	8.55 3.03	9.41 3.32	10.34 3.66	12.22 4.30	14.06 4.90	15.06 5.18	16.41 5.73	19.49 6.77	22.34 7.74	25.84 8.84	29.02 9.80	36.38 12.21	40.64 13.52	44.71 15.33	51.15 16.71	53.32 18.09
17983	5.44 1.91	6.10 2.13	6.61 2.32	8.28 2.88	9.10 3.16	10.02 3.48	11.83 4.10	13.58 4.65	14.55 4.91	15.86 5.45	18.84 6.42	21.58 7.35	24.97 8.40	28.03 9.31	35.15 11.58	39.27 12.84	43.21 14.57	49.51 15.87	51.53 17.19
18288	5.29 1.82	5.92 2.04	6.40 2.20	8.02 2.75	8.80 3.00	9.69 3.31	11.47 3.89	13.13 4.43	14.06 4.68	15.33 5.18	18.22 6.11	20.88 6.99	24.13 7.98	27.10 8.85	33.98 11.01	37.95 12.20	41.76 13.84	47.94 15.09	49.79 16.34
18593	5.12 1.73	5.73 1.94	6.21 2.10	7.79 2.62	8.50 2.86	9.38 3.15	11.12 3.72	12.71 4.20	13.61 4.43	14.84 4.93	17.61 5.80	20.18 6.65	23.35 7.60	26.22 8.42	32.88 10.47	36.73 11.61	40.41 13.17	46.45 14.36	48.17 15.54
18898	4.96 1.66	5.56 1.85	6.01 1.99	7.54 2.51	8.23 2.71	9.10 3.00	10.77 3.54	12.30 4.01	13.17 4.23	14.36 4.69	17.04 5.53	19.54 6.33	22.60 7.23	25.36 8.01	31.82 9.98	35.55 11.06	39.09 12.55	45.02 13.67	46.62 14.79
19202	4.81 1.57	5.39 1.76	5.83 1.91	7.32 2.39	7.96 2.59	8.81 2.86	10.43 3.38	11.90 3.82	12.75 4.02	13.89 4.46	16.52 5.26	18.91 6.02	21.89 6.88	24.57 7.64	30.82 9.51	34.41 10.53	37.87 11.95	43.65 13.01	45.15 14.09
19507	4.68 1.51	5.25 1.69	5.66 1.82	7.10 2.29	7.72 2.46	8.53 2.72	10.12 3.22	11.52 3.63	12.34 3.85	13.48 4.26	15.99 5.02	18.31 5.74	21.20 6.56	23.81 7.28	29.85 9.07	33.33 10.04	36.68 11.39	42.33 12.41	43.73 13.45



# LRFD

**METRIC LOAD TABLE/OPEN WEB STEEL JOISTS, LH-SERIES**  
Based on a 345 MPa Maximum Yield Strength - Loads Shown In Kilonewtons Per Meter (kN/m)

Joist Designation	36LH07	36LH08	36LH09	36LH10	36LH11	36LH12	36LH13	36LH14	36LH15	36LH16	36LH17	36LH18	36LH19	36LH20	36LH21	36LH22	36LH23	36LH24	36LH25
Depth (mm)	914	914	914	914	914	914	914	914	914	914	914	914	914	914	914	914	914	914	914
Approx. Wt. (kN/m)	0.23	0.26	0.31	0.31	0.34	0.36	0.44	0.53	0.53	0.64	0.72	0.85	0.93	1.18	1.34	1.46	1.78	1.90	2.17
Span (mm)																			
↓																			
10973	12.74 8.49	14.62 9.74	18.62 12.41	22.02 14.68	23.29 15.52	27.85 18.57	33.55 22.37	36.96 24.64	40.01 26.67	51.23 34.16	59.07 39.38								
11278	12.30 8.20	14.09 9.39	17.95 11.96	21.16 14.11	22.37 14.91	26.79 17.86	32.19 21.46	35.47 23.65	38.39 25.59	49.09 32.73	56.60 37.73	63.93 42.62							
11582	11.87 7.92	13.57 9.04	17.07 11.38	20.32 13.55	21.51 14.34	25.75 17.17	30.90 20.60	34.06 22.70	36.86 24.57	47.06 31.21	54.26 35.74	61.29 40.84							
11887	11.48 7.66	13.09 8.72	16.68 11.12	19.57 13.04	20.70 13.80	24.78 16.52	29.69 19.80	32.70 21.80	35.39 23.23	45.15 28.85	52.05 33.04	58.81 37.75							
12192	11.12 7.41	12.60 8.40	16.08 10.72	18.82 12.24	19.92 13.28	23.86 15.87	28.54 18.60	31.43 20.44	34.01 21.52	43.34 26.72	49.96 30.60	56.44 34.96	65.36 38.83						
12497	10.74 7.16	12.17 8.07	15.54 10.27	18.14 11.35	19.17 12.36	22.95 14.72	27.45 17.26	30.22 18.97	32.70 19.97	41.63 24.79	47.99 28.39	54.21 32.45	62.66 36.03						
12802	10.39 6.84	11.74 7.50	14.98 9.55	17.46 10.56	18.47 11.48	22.12 13.68	26.40 16.05	29.08 17.64	31.47 18.56	40.01 23.05	46.14 26.40	52.11 30.18	60.15 33.49						
13106	10.06 6.37	11.33 6.99	14.46 8.90	16.82 9.83	17.81 10.69	21.32 12.75	25.40 14.95	27.99 16.43	30.29 17.29	38.48 21.46	44.36 24.59	50.13 28.10	57.74 31.20						
13411	9.73 5.95	10.94 6.52	13.98 8.30	16.24 9.17	17.17 9.98	20.57 11.89	24.47 13.95	26.96 15.32	29.17 16.14	37.03 20.02	42.68 22.94	48.24 26.21	55.48 29.10						
13716	9.42 5.56	10.59 6.08	13.52 7.76	15.67 8.56	16.56 9.32	19.84 11.12	23.59 13.03	25.97 14.31	28.12 15.07	35.65 18.70	41.11 21.42	46.45 24.48	53.34 27.18						
14021	9.12 5.19	10.21 5.70	13.06 7.25	15.11 8.02	15.99 8.72	19.14 10.40	22.73 12.20	25.05 13.39	27.11 14.11	34.33 17.51	39.59 20.05	44.74 22.91	51.32 25.45	64.54 31.72					
14326	8.84 4.87	9.89 5.34	12.65 6.80	14.59 7.51	15.45 8.17	18.49 9.74	21.93 11.42	24.16 12.55	26.15 13.22	33.09 16.40	38.17 18.78	43.12 21.48	49.42 23.84	62.14 29.74					
14630	8.58 4.56	9.55 5.02	12.22 6.37	14.11 7.04	14.92 7.67	17.86 9.15	21.16 10.72	23.33 11.77	25.23 12.40	31.93 15.39	36.82 17.62	41.59 20.15	47.60 22.37	59.86 27.90					
14935	8.31 4.29	9.25 4.71	11.83 5.99	13.63 6.62	14.41 7.20	17.26 8.59	20.44 10.06	22.51 11.07	24.38 11.66	30.79 14.46	35.52 16.56	40.14 18.92	45.88 21.01	57.70 26.22	63.52 29.05				
15240	8.05 4.04	8.97 4.43	11.47 5.64	13.17 6.23	13.93 6.78	16.69 8.08	19.76 9.48	21.75 10.42	23.55 10.96	29.74 13.61	34.19 15.58	38.76 17.81	44.26 19.77	55.64 24.66	61.26 27.33				
15545	7.80 3.80	8.68 4.17	11.12 5.31	12.75 5.88	13.48 6.39	16.15 7.61	19.08 8.93	21.02 9.80	22.76 10.33	28.67 12.81	32.85 14.68	37.43 16.78	42.70 18.62	53.63 23.23	59.11 25.74				
15850	7.58 3.59	8.40 3.94	10.77 5.00	12.34 5.54	13.06 6.02	15.64 7.18	18.47 8.42	20.35 9.25	22.02 9.73	27.55 12.08	31.58 13.84	36.17 15.81	41.06 17.57	51.57 21.90	57.09 24.28	63.39 27.56			
16154	7.36 3.38	8.15 3.72	10.43 4.72	11.95 5.22	12.65 5.69	15.14 6.78	17.86 7.95	19.48 8.74	21.29 9.19	26.53 11.41	30.39 13.07	34.98 14.94	39.53 16.57	49.61 20.67	55.13 22.92	61.00 26.02			
16459	7.15 3.21	7.89 3.51	10.11 4.46	11.52 4.94	12.22 5.37	14.66 6.40	17.29 7.51	19.05 8.26	20.62 8.69	25.53 10.78	29.28 12.34	33.84 14.11	38.06 15.67	47.78 19.55	53.29 21.65	58.75 24.59	65.16 26.82		
16764	6.96 3.03	7.66 3.32	9.82 4.23	11.13 4.67	11.86 5.09	14.22 6.07	16.73 7.10	18.44 7.80	19.96 8.21	24.61 10.20	28.21 11.68	32.63 13.35	36.68 14.82	46.05 18.49	51.45 20.48	56.62 23.26	63.00 25.37		
17069	6.75 2.87	7.44 3.15	9.51 4.01	10.74 4.42	11.51 4.81	13.79 5.74	16.21 6.72	17.87 7.39	19.35 7.79	23.74 9.66	27.20 11.06	31.47 12.65	35.37 14.03	44.40 17.51	49.61 19.40	54.61 22.03	60.91 24.63	65.24 26.07	
17374	6.56 2.72	7.22 2.97	9.25 3.79	10.37 4.20	11.16 4.56	13.36 5.44	15.71 6.37	17.33 7.01	18.75 7.38	22.91 9.16	26.26 10.49	30.38 11.99	34.14 13.30	42.86 16.60	47.89 18.40	52.71 20.88	58.93 22.79	62.97 24.72	
17678	6.39 2.58	7.01 2.83	8.98 3.60	9.93 3.98	10.82 4.33	12.97 5.16	15.25 6.05	16.81 6.65	17.70 7.00	22.12 8.69	25.34 9.95	29.33 11.38	32.96 12.63	41.38 15.76	46.23 17.45	50.88 19.81	57.04 21.62	60.81 23.45	
17983	6.18 2.45	6.80 2.69	8.71 3.42	9.63 3.79	10.50 4.13	12.57 4.93	14.76 5.76	16.52 6.33	17.39 6.77	21.38 8.26	24.48 9.45	28.34 10.79	31.84 11.99	39.98 14.95	44.67 16.57	49.16 18.82	55.25 20.53	58.75 22.27	
18288	5.99 2.33	6.61 2.56	8.44 3.26	9.32 3.61	10.17 3.92	12.18 4.69	14.31 5.48	15.95 6.01	17.08 6.53	20.66 7.85	23.68 8.98	27.40 10.27	30.79 11.39	38.65 14.22	43.18 15.76	47.54 17.89	53.54 19.52	56.79 21.17	
18593	5.82 2.23	6.40 2.45	8.18 3.12	9.03 3.44	9.86 3.75	11.82 4.48	13.87 5.23	15.45 5.72	16.82 6.33	19.97 7.47	22.91 8.55	26.50 9.77	29.78 10.84	37.40 13.52	41.78 14.98	45.98 17.01	51.89 18.57	54.94 20.13	65.03 23.46
18898	5.64 2.13	6.21 2.33	7.93 2.97	8.77 3.28	9.58 3.59	11.44 4.26	13.45 4.99	14.94 5.44	16.28 6.02	19.35 7.10	22.16 8.14	25.65 9.31	28.82 10.33	36.20 12.88	40.42 14.27	44.49 16.21	50.31 17.68	53.16 19.17	62.92 22.34
19202	5.48 2.04	6.04 2.23	7.70 2.84	8.50 3.13	9.29 3.41	11.12 4.07	13.04 4.77	14.46 5.19	15.77 5.74	18.73 6.77	21.46 7.74	24.83 8.85	27.90 9.83	35.03 12.27	39.15 13.60	43.09 15.44	48.81 16.85	51.48 18.27	60.94 21.27
19507	5.34 1.95	5.86 2.13	7.48 2.71	8.27 3.00	9.01 3.26	10.78 3.89	12.66 4.55	14.02 4.94	15.27 5.47	18.14 6.46	20.79 7.39	24.05 8.44	27.05 9.38	33.94 11.70	37.92 12.97	41.73 14.72	47.38 16.06	49.88 17.42	59.03 20.30
19812	5.18 1.86	5.69 2.04	7.28 2.61	8.02 2.87	8.77 3.12	10.46 3.72	12.30 4.34	13.58 4.71	14.81 5.22	17.60 6.15	20.15 7.06	23.33 8.07	26.22 8.96	32.92 11.17	36.77 12.37	40.46 14.05	46.01 15.33	48.34 16.62	57.23 19.36
20117	5.03 1.78	5.53 1.95	7.06 2.49	7.80 2.74	8.50 2.99	10.15 3.54	11.95 4.15	13.17 4.50	14.36 4.99	17.04 5.88	19.54 6.74	22.60 7.70	25.40 8.55	31.91 10.66	35.65 11.82	39.24 13.42	44.70 14.63	46.89 15.87	55.51 18.50
20422	4.90 1.70	5.38 1.86	6.87 2.37	7.58 2.62	8.27 2.86	9.85 3.38	11.61 3.98	12.78 4.30	13.93 4.77	16.54 5.61	18.97 6.43	21.94 7.35	24.66 8.17	30.96 10.20	34.58 11.29	38.06 12.82	43.43 13.99	45.48 15.17	53.85 17.67
20726	4.77 1.63	5.22 1.79	6.69 2.29	7.39 2.52	8.05 2.74	9.55 3.23	11.29 3.82	12.40 4.13	13.52 4.55	16.06 5.38	18.40 6.15	21.29 7.03	23.94 7.82	30.04 9.74	33.58 10.79	36.95 12.27	42.22 13.38	44.14 14.50	52.27 16.89
21031	4.64 1.56	5.09 1.72	6.49 2.18	7.18 2.40	7.83 2.62	9.28 3.10	10.98 3.66	12.05 3.94	13.13 4.36	15.60 5.15	17.87 5.89	20.67 6.74	23.24 7.48	29.20 9.32	32.61 10.33	35.90 11.73	41.06 12.79	42.87 13.89	50.75 16.18
21336	4.52 1.50	4.96 1.64	6.31 2.10	7.00 2.32	7.61 2.52	9.01 2.97	10.68 3.50	11.70 3.77	12.75 4.17	15.16 4.93	17.38 5.64	20.09 6.45	22.59 7.16	28.37 8.93	31.66 9.89	34.86 11.23	39.94 12.25	41.65 13.29	49.31 15.48
21641	4.39 1.44	4.83 1.59	6.17 2.01	6.80 2.21	7.41 2.42	8.75 2.84	10.39 3.37	11.38 3.60	12.40 3.99	14.72 4.71	16.87 5.39	19.52 6.17	21.94 6.85	27.55 8.56	30.77 9.48	33.88 10.77	38.87 11.74	40.49 12.74	47.91 14.84
21946	4.29 1.38	4.69 1.51	6.01 1.94	6.62 2.13	7.22 2.32	8.50 2.72	10.12 3.23	11.04 3.45	12.05 3.83	14.31									

# LRFD

METRIC LOAD TABLE/OPEN WEB STEEL JOISTS, LH-SERIES																			
Based on a 345 MPa Maximum Yield Strength - Loads Shown In Kilonewtons Per Meter (kN/m)																			
Joist Designation	40LH08	40LH09	40LH10	40LH11	40LH12	40LH13	40LH14	40LH15	40LH16	40LH17	40LH18	40LH19	40LH20	40LH21	40LH22	40LH23	40LH24	40LH25	
Depth (mm)	1016	1016	1016	1016	1016	1016	1016	1016	1016	1016	1016	1016	1016	1016	1016	1016	1016	1016	
Approx. Wt. (kN/m)	0.23	0.31	0.31	0.32	0.36	0.44	0.51	0.53	0.61	0.74	0.82	0.93	1.18	1.36	1.46	1.77	1.85	2.16	
Span (mm)																			
12192	11.35	15.42	18.35	19.23	23.37	28.38	32.39	36.22	42.96	52.02	58.76								
	7.57	10.28	12.24	12.82	15.58	18.92	21.59	24.15	28.64	34.68	39.18								
12497	11.03	14.92	17.73	18.60	22.59	27.37	31.23	34.95	41.38	50.13	56.60								
	7.35	9.95	11.82	12.40	15.06	18.25	20.82	23.30	27.59	33.42	37.73								
12802	10.72	14.44	17.13	17.96	21.81	26.41	30.13	33.71	39.88	48.29	54.55	63.74							
	7.15	9.63	11.42	11.98	14.55	17.61	20.09	22.47	26.59	32.19	36.36	41.94							
13106	10.39	14.01	16.56	17.38	21.10	25.49	29.08	32.54	38.44	46.55	52.59	61.33							
	6.93	9.34	11.04	11.58	14.06	17.00	19.39	21.70	25.62	30.73	35.06	39.06							
13411	10.11	13.57	16.02	16.78	20.40	24.61	28.10	31.43	37.08	44.92	50.74	59.06							
	6.74	9.04	10.68	11.19	13.60	16.41	18.73	20.95	24.72	28.67	32.77	36.44							
13716	9.80	13.14	15.49	16.24	19.74	23.78	27.14	30.35	35.78	43.34	48.94	56.88							
	6.53	8.77	10.01	10.82	13.16	15.48	17.76	19.80	21.74	26.79	30.63	34.04							
14021	9.51	12.74	14.98	15.71	19.10	22.98	26.22	29.33	34.54	41.82	47.25	54.82							
	6.34	8.49	9.36	10.15	12.36	14.49	16.62	18.53	20.34	25.07	28.66	31.85							
14326	9.25	12.34	14.50	15.20	18.49	22.21	25.36	28.37	33.36	40.41	45.66	52.88							
	6.10	7.96	8.78	9.51	11.58	13.58	15.57	17.36	19.07	23.49	26.85	29.85							
14630	8.98	11.96	14.05	14.72	17.90	21.49	24.53	27.45	32.23	39.05	44.10	51.02	64.19						
	5.72	7.47	8.24	8.93	10.87	12.74	14.60	16.28	17.89	22.03	25.20	28.02	34.99						
14935	8.75	11.61	13.61	14.27	17.33	20.79	23.72	26.54	31.17	37.73	42.64	49.26	61.99						
	5.37	7.03	7.74	8.39	10.21	11.98	13.73	15.30	16.81	20.70	23.68	26.32	32.88						
15240	8.50	11.26	13.19	13.83	16.81	20.13	22.98	25.69	30.13	36.51	41.24	47.59	59.86						
	5.06	6.61	7.28	7.89	9.61	11.26	12.91	14.40	15.81	19.48	22.28	24.76	30.93						
15545	8.27	10.94	12.78	13.41	16.28	19.49	22.24	24.88	29.15	35.33	39.89	45.98	57.85	63.70					
	4.77	6.23	6.85	7.42	9.04	10.60	12.17	13.57	14.90	18.35	20.98	23.32	29.14	32.29					
15850	8.05	10.63	12.39	13.00	15.80	18.88	21.55	24.09	28.23	34.19	38.63	44.45	55.95	61.60					
	4.49	5.86	6.46	7.00	8.53	10.01	11.47	12.79	14.05	17.30	19.78	21.99	27.48	30.45					
16154	7.83	10.33	12.01	12.60	15.32	18.30	20.88	23.35	27.33	33.11	37.40	43.00	54.11	59.58					
	4.24	5.54	6.11	6.62	8.05	9.44	10.82	12.08	13.26	16.34	18.68	20.76	25.94	28.74					
16459	7.61	10.02	11.66	12.22	14.85	17.74	20.24	22.64	26.48	32.06	36.25	41.60	52.36	57.66					
	4.01	5.23	5.77	6.26	7.61	8.93	10.24	11.41	12.53	15.44	17.65	19.62	24.51	27.17					
16764	7.41	9.76	11.33	11.87	14.41	17.20	19.62	21.97	25.65	31.08	35.12	40.29	50.69	55.82	63.49				
	3.79	4.96	5.45	5.92	7.20	8.44	9.69	10.79	11.86	14.60	16.71	18.56	23.20	25.71	29.20				
17069	7.22	9.47	11.00	11.52	14.01	16.69	19.04	21.32	24.88	30.13	34.06	39.02	49.09	54.07	61.22				
	3.59	4.69	5.18	5.60	6.82	7.99	9.17	10.23	11.23	13.83	15.81	17.58	21.96	24.34	27.65				
17374	7.04	9.20	10.68	11.20	13.61	16.19	18.49	20.67	24.13	29.24	33.02	37.82	47.59	52.40	59.10	64.35			
	3.40	4.45	4.90	5.31	6.47	7.58	8.69	9.69	10.65	13.11	15.00	16.66	20.82	23.08	26.22	28.63			
17678	6.84	8.97	10.37	10.87	13.22	15.73	17.95	20.09	23.42	28.37	32.06	36.65	46.11	50.80	57.06	62.35			
	3.22	4.21	4.65	5.04	6.14	7.19	8.26	9.20	10.11	12.44	14.22	15.81	19.76	21.90	24.88	27.17			
17983	6.66	8.72	10.08	10.56	12.84	15.27	17.43	19.49	22.72	27.40	31.12	35.55	44.74	49.26	55.13	60.43			
	3.06	4.01	4.42	4.78	5.83	6.82	7.83	8.74	9.60	11.82	13.51	15.01	18.76	20.79	23.62	25.80			
18288	6.49	8.49	9.77	10.28	12.49	14.84	16.94	18.95	22.06	26.50	30.22	34.47	43.34	47.80	53.29	58.59	63.78		
	2.91	3.80	4.20	4.55	5.54	6.49	7.45	8.30	9.12	11.23	12.84	14.28	17.83	19.77	22.46	24.53	26.63		
18593	6.34	8.27	9.47	9.99	12.14	14.41	16.46	18.43	21.45	25.62	29.34	33.36	41.91	46.37	51.54	56.84	61.70		
	2.77	3.63	3.99	4.33	5.26	6.18	7.09	7.90	8.68	10.68	12.21	13.58	16.97	18.81	21.36	23.33	25.33		
18898	6.18	8.05	9.16	9.73	11.82	14.02	15.99	17.90	20.84	24.79	28.51	32.28	40.55	45.05	49.88	55.17	59.71		
	2.64	3.45	3.80	4.13	5.02	5.88	6.74	7.53	8.26	10.17	11.63	12.93	16.15	17.90	20.34	22.22	24.12		
19202	6.04	7.83	8.88	9.47	11.51	13.63	15.55	17.42	20.24	24.00	27.72	31.26	39.28	43.75	48.30	53.55	57.83		
	2.52	3.29	3.63	3.92	4.78	5.60	6.43	7.16	7.88	9.69	11.09	12.33	15.39	17.06	19.38	21.17	22.98		
19507	5.88	7.63	8.62	9.20	11.20	13.26	15.14	16.94	19.70	23.26	26.92	30.29	38.06	42.52	46.80	52.02	56.04		
	2.40	3.13	3.45	3.75	4.56	5.34	6.12	6.84	7.51	9.25	10.56	11.74	14.68	16.27	18.49	20.18	21.92		
19812	5.73	7.44	8.36	8.97	10.90	12.91	14.72	16.47	19.14	22.56	26.09	29.34	36.87	41.21	45.37	50.53	54.30	64.28	
	2.29	2.99	3.29	3.57	4.34	5.10	5.85	6.52	7.16	8.82	10.08	11.22	14.01	15.52	17.64	19.26	20.92	24.38	
20117	5.56	7.26	8.02	8.72	10.63	12.53	14.36	16.06	17.68	21.86	25.30	28.47	35.76	39.97	44.00	49.13	52.66	62.35	
	2.18	2.86	3.15	3.41	4.15	4.87	5.58	6.23	6.84	8.42	9.63	10.71	13.38	14.82	16.84	18.40	19.97	23.29	
20422	5.39	7.06	7.80	8.49	10.33	12.18	13.96	15.58	17.42	21.23	24.56	27.62	34.71	38.79	42.68	47.78	51.09	60.50	
	2.10	2.74	3.02	3.26	3.98	4.67	5.35	5.95	6.64	8.05	9.20	10.23	12.78	14.17	16.09	17.58	19.08	22.25	
20726	5.26	6.88	7.58	8.27	10.04	11.86	13.57	15.11	17.16	20.59	23.83	26.80	33.68	37.65	41.43	46.46	49.60	58.72	
	2.01	2.62	2.88	3.13	3.80	4.48	5.12	5.69	6.43	7.70	8.80	9.79	12.22	13.55	15.39	16.81	18.25	21.27	
21031	5.12	6.69	7.39	8.05	9.77	11.55	13.19	14.68	16.89	20.00	23.13	26.02	32.71	36.55	40.23	45.22	48.15	57.01	
	1.92	2.52	2.77	3.02	3.66	4.30	4.90	5.44	6.24	7.36	8.42	9.36	11.70	12.97	14.73	16.09	17.46	20.37	
21336	4.99	6.52	7.19	7.83	9.51	11.25	12.84	14.27	16.65	19.43	22.47	25.27	31.78	35.50	39.09	44.01	46.80	55.39	
	1.85	2.42	2.67	2.88	3.51	4.13	4.71	5.21	6.07	7.04	8.07	8.97	11.20	12.41	14.11	15.41	16.72	19.49	
21641	4.85	6.36	7.01	7.63	9.28	10.94	12.49	13.84	16.43	18.88	21.84	24.57	30.88	34.51	38.00	42.86	45.48	53.85	
	1.78	2.33	2.56	2.77	3.37	3.95	4.50	4.99	5.89	6.75	7.73	8.59	10.74	11.89	13.51	14.76	16.02	18.68	
21946	4.74	6.18	6.84	7.44	9.03	10.65	12.17	13.48	15.98	18.35	21.24	23.90	30.03	33.55	36.95	41.73	44.21	52.33	
	1.70	2.23	2.46	2.67	3.23	3.79	4.33	4.78	5.64	6.47	7.41	8.23	10.28	11.41	12.95	14.15	15.36	17.90	
22250																			

# LRFD

## METRIC LOAD TABLE/OPEN WEB STEEL JOISTS, LH-SERIES

Based on a 345 MPa Maximum Yield Strength - Loads Shown in Kilonewtons Per Meter (kN/m)

Joist Designation	44LH09	44LH10	44LH11	44LH12	44LH13	44LH14	44LH15	44LH16	44LH17	44LH18	44LH19	44LH20	44LH21	44LH22	44LH23	44LH24	44LH25
Depth (mm)	1118	1118	1118	1118	1118	1118	1118	1118	1118	1118	1118	1118	1118	1118	1118	1118	1118
Approx. Wt. (kN/m)	0.28	0.31	0.32	0.36	0.44	0.45	0.53	0.61	0.69	0.83	0.93	1.20	1.36	1.47	1.72	1.85	2.15
Span (mm)																	
13411	12.79 8.53	14.11 9.41	16.63 11.09	19.62 13.09	23.16 15.44	27.58 18.38	32.09 21.39	37.87 25.24	42.22 28.15	52.27 34.85	61.64 41.09						
13716	12.43 8.28	13.71 9.15	16.15 10.77	19.04 12.69	22.46 14.97	26.70 17.80	31.08 20.72	36.61 24.41	40.84 27.23	50.56 33.71	59.49 39.66						
14021	12.08 8.05	13.32 8.88	15.67 10.44	18.47 12.31	21.77 14.52	25.87 17.24	30.09 20.06	35.43 23.62	39.53 26.35	48.91 32.61	57.45 38.30						
14326	11.74 7.83	12.95 8.63	15.20 10.14	17.92 11.95	21.14 14.09	25.08 16.72	29.17 19.45	34.29 22.86	38.26 25.51	47.37 31.58	55.52 36.54						
14630	11.42 7.61	12.60 8.40	14.75 9.83	17.39 11.60	20.53 13.68	24.31 16.21	28.28 18.85	33.23 22.15	37.05 24.24	45.85 30.57	53.67 34.29						
14935	11.12 7.41	12.25 8.17	14.33 9.51	16.89 11.26	19.92 13.28	23.56 15.71	27.42 18.28	32.17 21.30	35.90 22.78	44.43 28.95	51.89 32.22	65.33 40.30					
15240	10.81 7.20	11.92 7.95	13.92 8.94	16.41 10.94	19.35 12.90	22.86 15.00	26.59 17.42	31.17 20.05	34.77 21.42	43.05 27.24	50.21 30.31	63.22 37.91					
15545	10.52 7.01	11.60 7.73	13.52 8.43	15.93 10.40	18.79 12.33	22.16 14.12	25.80 16.41	30.22 18.88	33.71 20.18	41.73 25.65	48.59 28.56	61.20 35.71					
15850	10.24 6.68	11.29 7.35	13.13 7.95	15.49 9.80	18.27 11.63	21.54 13.32	25.05 15.48	29.30 17.80	32.67 19.03	40.46 24.19	47.06 26.92	59.25 33.68	65.23 37.34				
16154	9.95 6.30	10.98 6.94	12.75 7.50	15.06 9.26	17.74 10.98	20.89 12.57	24.31 14.62	28.42 16.81	31.69 17.96	39.24 22.85	45.59 25.42	57.39 31.80	63.19 35.25				
16459	9.69 5.96	10.69 6.56	12.40 7.09	14.63 8.75	17.26 10.37	20.28 11.89	23.61 13.82	27.58 15.89	30.77 16.98	38.09 21.59	44.17 24.02	55.61 30.04	61.25 33.31				
16764	9.45 5.64	10.42 6.21	12.05 6.71	14.22 8.28	16.78 9.82	19.71 11.25	22.94 13.07	26.76 15.03	29.85 16.06	36.96 20.43	42.81 22.73	53.90 28.42	59.36 31.52				
17069	9.20 5.34	10.15 5.88	11.73 6.36	13.84 7.85	16.33 9.29	19.17 10.65	22.29 12.37	26.00 14.24	28.99 15.22	35.90 19.35	41.51 21.52	52.28 26.92	57.57 29.85				
17374	8.97 5.06	9.89 5.57	11.42 6.02	13.48 7.44	15.89 8.81	18.62 10.09	21.67 11.73	25.26 13.49	28.16 14.43	34.86 18.34	40.29 20.40	50.74 25.52	55.86 28.29	65.46 32.15			
17678	8.72 4.80	9.63 5.29	11.12 5.72	13.10 7.06	15.49 8.36	18.12 9.58	21.07 11.13	24.53 12.81	27.36 13.68	33.88 17.39	39.11 19.36	49.22 24.22	54.21 26.85	63.23 30.51			
17983	8.50 4.56	9.38 5.02	10.81 5.42	12.75 6.69	15.06 7.93	17.61 9.10	20.50 10.58	23.83 12.17	26.59 13.00	32.93 16.53	37.97 18.38	47.80 22.99	52.64 25.51	61.09 28.98	65.01 31.68		
18288	8.28 4.33	9.15 4.77	10.52 5.16	12.43 6.37	14.66 7.55	17.13 8.65	19.93 10.05	23.17 11.55	25.84 12.36	32.01 15.71	36.87 17.48	46.42 21.86	51.13 24.24	59.06 27.53	63.10 30.12		
18593	8.09 4.13	8.93 4.55	10.25 4.91	12.09 6.05	14.27 7.18	16.68 8.23	19.40 9.55	22.54 11.00	25.14 11.76	31.14 14.94	35.82 16.63	45.10 20.79	49.69 23.05	57.13 26.21	61.26 28.64		
18898	7.89 3.92	8.71 4.33	9.99 4.67	11.79 5.77	13.92 6.84	16.24 7.83	18.88 9.10	21.93 10.47	24.47 11.19	30.29 14.22	34.82 15.83	43.84 19.80	48.29 21.96	55.29 24.95	59.49 27.27		
19202	7.70 3.75	8.49 4.13	9.73 4.45	11.48 5.50	13.54 6.52	15.80 7.47	18.40 8.68	21.33 9.98	23.81 10.66	29.47 13.55	33.85 15.09	42.64 18.86	46.94 20.92	53.54 23.77	57.80 25.99	64.18 28.25	
19507	7.50 3.57	8.28 3.94	9.50 4.24	11.20 5.23	13.22 6.21	15.41 7.12	17.92 8.27	20.76 9.51	23.17 10.17	28.69 12.93	32.92 14.38	41.46 17.99	45.66 19.94	51.88 22.67	56.18 24.79	62.17 26.94	
19812	7.32 3.41	8.09 3.75	9.25 4.05	10.91 5.00	12.88 5.93	14.98 6.80	17.46 7.89	20.22 9.07	22.56 10.17	27.94 12.34	32.04 13.73	40.33 17.17	44.40 19.04	50.27 21.64	54.63 23.65	60.25 25.71	
20117	7.15 3.25	7.89 3.59	8.98 3.86	10.65 4.78	12.56 5.66	14.62 6.49	17.00 7.54	19.70 8.66	21.97 9.26	27.23 11.77	31.17 13.10	39.27 16.40	43.22 18.18	48.77 20.66	53.15 22.59	58.44 24.56	
20422	6.97 3.10	7.70 3.42	8.72 3.70	10.39 4.56	12.25 5.41	14.24 6.20	16.59 7.20	19.19 8.28	21.40 8.85	26.53 11.26	30.35 12.53	38.22 15.67	42.08 17.38	47.29 19.74	51.72 21.58	56.69 23.46	
20726	6.82 2.97	7.52 3.28	8.49 3.54	10.12 4.36	11.95 5.18	13.89 5.92	16.17 6.88	18.70 7.92	20.88 8.47	25.84 10.77	29.55 11.98	37.21 14.98	40.99 16.62	45.92 18.88	50.34 20.65	55.03 22.44	65.16 28.16
21031	6.65 2.84	7.35 3.13	8.24 3.38	9.89 4.17	11.66 4.96	13.54 5.67	15.77 6.59	18.22 7.58	20.35 8.11	25.18 10.30	28.77 11.47	36.25 14.34	39.92 15.90	44.58 18.06	49.00 19.76	53.45 21.46	63.27 25.04
21336	6.49 2.72	7.18 3.00	8.01 3.23	9.64 3.99	11.39 4.74	13.22 5.42	15.38 6.31	17.78 7.26	19.83 7.76	24.57 9.86	27.99 10.97	35.21 13.73	38.92 15.22	43.31 17.30	47.73 18.91	51.92 20.56	61.48 23.97
21641	6.36 2.61	7.01 2.87	7.79 3.10	9.42 3.83	11.12 4.55	12.88 5.21	15.01 6.05	17.33 6.96	19.35 7.44	23.96 9.45	27.20 10.52	34.20 13.16	37.92 14.59	42.08 16.57	46.51 18.12	50.45 19.70	59.76 22.97
21946	6.21 2.51	6.84 2.75	7.58 2.97	9.20 3.67	10.85 4.36	12.57 4.99	14.66 5.80	16.91 6.66	18.88 7.13	23.37 9.06	26.45 10.08	33.27 12.60	36.96 13.98	40.93 15.89	45.31 17.38	49.05 18.88	58.09 22.02
22250	6.08 2.40	6.69 2.64	7.39 2.86	8.98 3.53	10.60 4.18	12.30 4.78	14.31 5.56	16.50 6.40	18.43 6.84	22.82 8.69	25.74 9.67	32.36 12.09	36.07 13.41	39.81 15.25	44.17 16.66	47.72 18.12	56.52 21.13
22555	5.95 2.30	6.56 2.53	7.10 2.74	8.80 3.38	10.43 4.01	12.01 4.59	13.98 5.34	16.12 6.14	17.29 6.56	22.24 8.34	25.04 9.28	31.49 11.61	35.17 12.87	38.74 14.63	43.08 15.99	46.42 17.39	54.98 20.28
22860	5.79 2.21	6.40 2.45	6.93 2.64	8.59 3.26	10.20 3.86	11.68 4.40	13.63 5.13	15.73 5.91	17.07 6.39	21.64 8.01	24.35 8.91	30.64 11.14	34.25 12.36	37.71 14.05	42.03 15.36	45.19 16.69	53.51 19.48
23165	5.66 2.13	6.26 2.36	6.78 2.55	8.37 3.13	9.93 3.70	11.38 4.24	13.30 4.94	15.33 5.69	16.82 6.21	21.07 7.70	23.72 8.56	29.85 10.71	33.36 11.87	36.73 13.49	40.99 14.76	44.01 16.05	52.11 18.70
23470	5.53 2.05	6.10 2.26	6.61 2.45	8.18 3.02	9.71 3.59	11.07 4.07	12.97 4.75	14.97 5.47	16.60 6.05	20.53 7.39	23.11 8.23	29.07 10.30	32.48 11.42	35.76 12.97	40.01 14.19	42.87 15.42	50.75 17.99
23774	5.39 1.98	5.95 2.18	6.45 2.36	7.98 2.91	9.47 3.44	10.78 3.91	12.66 4.58	14.62 5.28	16.41 5.91	20.00 7.12	22.51 7.92	28.32 9.90	31.65 10.98	34.85 12.49	39.06 13.64	41.76 14.84	49.47 17.30
24079	5.29 1.91	5.82 2.10	6.31 2.29	7.79 2.80	9.25 3.32	10.52 3.77	12.36 4.42	14.27 5.07	16.02 5.69	19.49 6.84	21.94 7.61	27.62 9.54	30.86 10.58	33.97 12.01	38.14 13.13	40.71 14.27	48.21 16.65
24384	5.16 1.85	5.69 2.02	6.17 2.20	7.58 2.69	9.03 3.21	10.25 3.63	12.05 4.26	13.93 4.90	15.64 5.48	19.01 6.59	21.40 7.34	26.92 9.17	30.07 10.18	33.11 11.57	37.25 12.65	39.71 13.74	47.02 16.03
24689	5.04 1.78	5.56 1.95	6.04 2.13	7.41 2.61	8.84 3.09	9.99 3.50	11.74 4.10	13.61 4.72	15.29 5.29	18.56 6.34	20.88 7.06	26.26 8.84	29.34 9.80	32.31 11.14	36.39 12.18	38.71 13.23	45.85 15.44
24994	4.94 1.72	5.44 1.89	5.88 2.04	7.23 2.51	8.63 2.99	9.76 3.37	11.47 3.95	13.30 4.56	14.94 5.12	18.09 6.12	20.37 6.81	25.62 8.52	28.63 9.45	31.52 10.74	35.56 11.74	37.78 12.76	44.74 14.88
25298	4.83 1.66	5.31 1.82	5.77 1.98	7.06 2.42	8.44 2.88	9.54 3.25	11.20 3.80	13.00 4.40	14.59 4.93	17.65 5.89	19.87 6.56	24.99 8.21	27.93 9.10	30.74 10.34	34.76 11.32	36.86 12.30	43.66 14.34
25603	4																

# LRFD

METRIC LOAD TABLE/OPEN WEB STEEL JOISTS, LH-SERIES																
Based on a 345 MPa Maximum Yield Strength - Loads Shown In Kilonewtons Per Meter (kN/m)																
Joist Designation	48LH10	48LH11	48LH12	48LH13	48LH14	48LH15	48LH16	48LH17	48LH18	48LH19	48LH20	48LH21	48LH22	48LH23	48LH24	48LH25
Depth (mm)	1219	1219	1219	1219	1219	1219	1219	1219	1219	1219	1219	1219	1219	1219	1219	1219
Approx. Wt. (kN/m)	0.31	0.32	0.36	0.42	0.47	0.53	0.61	0.69	0.83	0.90	1.15	1.27	1.47	1.59	1.81	2.10
Span (mm)																
↓																
14630	11.77 7.85 8.47	12.71 8.47 8.05	16.54 11.03 10.46	19.80 13.20 12.50	24.12 16.08 15.19	27.67 18.44 17.93	32.71 21.81 21.19	36.73 24.48 23.77	46.86 31.24 30.34	55.52 37.02 35.87						
14935	11.48 7.66 7.47	12.39 8.26 8.05	16.11 10.74 10.46	19.26 12.84 12.50	23.43 15.63 15.19	26.89 17.93 17.42	31.78 21.19 20.56	35.65 23.77 23.07	45.50 30.34 29.46	53.80 35.87 34.76						
15240	11.20 7.47 7.28	12.08 8.05 7.85	15.68 10.46 10.18	18.75 12.50 12.18	22.78 15.19 14.78	26.13 17.42 16.94	30.83 20.56 19.97	34.60 23.07 22.41	44.19 29.46 28.61	52.14 34.76 33.71	63.67					
15545	10.91 7.28 7.10	11.77 7.85 7.66	15.27 10.18 9.92	18.27 12.18 11.86	22.16 14.78 14.37	25.40 16.94 16.47	29.96 19.97 19.40	33.62 22.41 21.77	42.92 28.61 27.80	50.56 33.71 32.35	63.67					
15850	10.65 7.10 6.93	11.48 7.66 7.47	14.88 9.92 9.66	17.78 11.86 11.55	21.55 14.37 13.98	24.70 16.47 16.03	29.11 19.40 18.85	32.66 21.77 21.16	41.69 27.80 27.01	49.03 32.35 30.54	61.74					
16154	10.39 6.93 6.75	11.20 7.47 7.29	14.49 9.66 9.41	17.33 11.55 11.25	20.97 13.98 13.60	24.05 16.03 15.60	28.28 18.85 18.25	31.74 21.16 20.41	40.51 27.01 25.91	47.56 30.54 28.86	59.90					
16459	10.12 6.75 6.59	10.94 7.29 7.12	14.11 9.41 9.16	16.87 11.25 10.96	20.40 13.60 13.09	23.39 15.60 14.98	27.49 18.25 17.27	30.83 20.41 19.32	39.37 25.91 24.53	46.16 28.86 27.31	58.14	64.02				
16764	9.89 6.59 6.43	10.68 7.12 6.94	13.74 9.16 8.80	16.43 10.96 10.50	19.84 13.09 12.39	22.76 14.98 14.19	26.72 17.27 16.35	29.99 19.32 18.30	38.27 24.53 23.23	44.80 27.31 25.87	56.44	62.17				
17069	9.64 6.43 6.15	10.42 6.94 6.64	13.39 8.80 8.34	16.02 10.50 9.95	19.32 12.39 11.74	22.16 14.19 13.45	26.00 16.35 15.51	29.17 18.30 17.33	37.22 23.23 22.02	43.51 25.87 24.51	54.82	60.37				
17374	9.42 6.15 5.83	10.17 6.64 6.30	13.06 8.34 7.90	15.63 9.95 9.45	18.82 11.74 11.14	21.58 13.45 12.76	25.27 15.51 14.71	28.37 17.33 16.46	36.22 22.02 20.89	42.29 24.51 23.27	53.25	58.63				
17678	9.19 5.83 5.69	9.93 6.30 6.03	12.74 7.90 7.51	15.23 9.45 8.97	18.31 11.14 10.59	21.01 12.76 12.12	24.60 14.71 13.98	27.59 16.46 15.63	35.25 20.89 19.84	41.08 23.27 22.09	51.76	57.00				
17983	8.97 5.69 5.54	9.69 6.03 5.88	12.40 7.51 7.15	14.85 8.97 8.53	17.83 10.59 10.06	20.46 12.12 11.52	23.94 13.98 13.28	26.88 15.63 14.85	34.32 19.84 18.86	39.94 22.09 21.00	50.31	55.39	65.42			
18288	8.77 5.28 5.15	9.47 5.69 5.41	12.09 7.15 6.80	14.49 8.53 8.11	17.39 10.06 9.57	19.93 11.52 10.96	23.30 13.28 12.63	26.15 14.85 14.12	33.40 18.86 17.95	38.83 21.00 19.97	48.91	53.86	63.61			
18593	8.58 5.02 4.77	9.25 5.41 5.15	11.82 6.80 6.47	14.14 8.11 7.73	16.94 9.57 9.12	19.43 10.96 10.43	22.69 12.63 12.03	25.48 14.12 13.45	32.52 17.95 17.08	37.78 19.97 19.03	47.59	52.40	65.05			
18898	8.36 4.77 4.55	9.03 5.15 4.90	11.52 6.47 6.17	13.79 7.73 7.36	16.52 9.12 8.68	18.95 10.43 9.95	22.10 12.03 11.47	24.82 13.45 12.82	31.69 17.08 16.28	36.74 19.03 18.12	46.29	50.97	60.21	63.26		
19202	8.18 4.55 4.34	8.81 4.90 4.68	11.25 6.17 5.88	13.45 7.36 7.01	16.11 8.68 8.28	18.47 9.95 9.48	21.54 11.47 10.93	24.18 12.82 12.22	30.88 16.28 15.52	35.76 18.12 17.29	45.06	49.61	58.62	61.51		
19507	7.98 4.34 4.14	8.62 4.68 4.46	10.98 5.88 5.61	13.13 7.01 6.69	15.71 8.28 7.90	18.00 9.48 9.04	20.98 10.93 10.43	23.56 12.22 11.67	30.09 15.52 14.81	34.82 17.29 16.50	43.86	48.30	56.93	59.84		
19812	7.80 4.14 3.95	8.42 4.46 4.26	10.72 5.61 5.35	12.82 6.69 6.40	15.32 7.90 7.54	17.57 9.04 8.63	20.46 10.43 9.96	22.98 11.67 11.14	29.33 14.81 14.15	33.90 16.50 15.76	42.73	47.06	55.17	58.24		
20117	7.63 3.95 3.61	8.24 4.26 4.05	10.46 5.35 5.05	12.52 6.40 6.11	14.94 7.54 7.20	17.16 8.63 8.26	19.96 9.96 9.52	22.41 11.14 10.65	28.60 14.15 13.52	33.02 15.76 15.06	41.63	45.83	53.51	56.69	64.22	
20422	7.45 3.77 3.61	8.05 4.07 3.89	10.21 5.12 4.90	12.22 6.11 5.85	14.59 7.20 6.90	16.73 8.26 7.89	19.45 9.52 9.10	21.84 10.65 10.18	27.90 13.52 12.93	32.19 15.06 14.40	40.55	44.65	51.92	55.20	62.30	
20726	7.31 3.61 3.45	7.88 4.05 3.89	9.98 4.90 4.68	11.95 5.85 5.60	14.24 6.90 6.61	16.34 7.89 7.55	19.00 9.10 8.71	21.32 10.18 9.74	27.23 12.93 12.37	31.36 14.40 13.77	39.53	43.53	50.40	53.77	60.47	
21031	7.13 3.45 3.31	7.70 3.73 3.57	9.76 4.68 4.49	11.66 5.60 5.35	13.89 6.61 6.31	15.95 7.55 7.23	18.53 8.71 8.34	20.79 9.74 9.34	26.57 12.37 11.85	30.60 13.77 13.19	38.54	42.43	48.94	52.40	58.72	
21336	6.97 3.31 3.18	7.53 3.57 3.42	9.54 4.49 4.30	11.39 5.35 5.13	13.58 6.31 6.05	15.58 7.23 6.93	18.08 8.34 7.99	20.31 9.34 8.94	25.93 11.85 11.35	29.82 13.19 12.63	37.57	41.38	47.54	51.06	57.04	
21641	6.82 3.18 3.05	7.36 3.42 3.28	9.32 4.30 4.13	11.16 5.13 4.91	13.26 6.05 5.80	15.20 6.93 6.65	17.65 7.99 7.66	19.83 8.94 8.56	25.32 11.35 10.88	29.08 12.63 12.12	36.65	40.38	46.20	49.77	55.44	65.67
21946	6.66 3.05 2.92	7.22 3.28 3.15	9.10 4.13 3.96	10.90 4.91 4.74	12.95 5.80 5.63	14.85 6.65 6.38	17.24 7.66 7.34	19.35 8.56 8.18	24.70 10.88 10.40	28.38 12.12 11.64	35.76	39.40	44.93	48.55	53.90	63.84



# LRFD

METRIC LOAD TABLE/OPEN WEB STEEL JOISTS, LH-SERIES																
Based on a 345 MPa Maximum Yield Strength - Loads Shown In Kilonewtons Per Meter (kN/m)																
Joist Designation	48LH10	48LH11	48LH12	48LH13	48LH14	48LH15	48LH16	48LH17	48LH18	48LH19	48LH20	48LH21	48LH22	48LH23	48LH24	48LH25
Depth (mm)	1219	1219	1219	1219	1219	1219	1219	1219	1219	1219	1219	1219	1219	1219	1219	1219
Approx. Wt. (kN/m)	0.31	0.32	0.36	0.42	0.47	0.53	0.61	0.69	0.83	0.90	1.15	1.27	1.47	1.59	1.81	2.10
Span (mm)																
↓																
22250	6.53 2.91 2.80	7.06 3.15 3.02	8.90 3.95 3.79	10.65 4.72 4.53	12.66 5.57 5.35	14.53 6.37 6.12	16.82 7.35 7.06	18.91 8.23 7.89	24.13 10.43 10.02	27.71 11.63 11.16	34.90 14.56 13.98	38.45 16.14 15.49	43.70 18.34 17.61	47.34 20.08 19.27	52.45 21.84 20.97	62.09 25.48 24.45
22555	6.40 2.80	6.91 3.02	8.71 3.79	10.42 4.53	12.39 5.35	14.19 6.12	16.46 7.06	18.47 7.89	23.59 10.02	27.05 11.16	34.07 13.98	37.53 15.49	42.52 17.61	46.20 19.27	51.02 20.97	60.43 24.45
22860	6.26 2.68	6.75 2.90	8.50 3.64	10.20 4.34	12.09 5.13	13.87 5.88	16.06 6.77	18.03 7.57	23.04 9.61	26.41 10.71	33.27 13.42	36.65 14.88	41.38 16.91	45.09 18.50	49.66 20.13	58.81 23.49
23165	6.14 2.58	6.62 2.78	8.33 3.50	9.98 4.18	11.83 4.93	13.57 5.64	15.71 6.50	17.64 7.28	22.51 9.25	25.80 10.30	32.50 12.90	35.81 14.30	40.29 16.25	44.01 17.78	48.34 19.35	57.28 22.57
23470	6.01 2.48	6.49 2.68	8.15 3.37	9.76 4.02	11.57 4.74	13.28 5.42	15.36 6.26	17.24 7.00	22.02 8.88	25.18 9.89	31.75 12.39	34.98 13.74	39.27 15.63	42.99 17.10	47.10 18.60	55.79 21.70
23774	5.88 2.39	6.34 2.58	7.98 3.23	9.55 3.86	11.31 4.56	13.00 5.22	15.01 6.02	16.85 6.74	21.54 8.55	24.61 9.51	31.04 11.92	34.16 13.22	38.26 15.03	41.98 16.44	45.89 17.89	54.37 20.86
24079	5.77 2.30	6.21 2.48	7.80 3.12	9.36 3.72	11.07 4.39	12.71 5.03	14.68 5.79	16.47 6.47	21.05 8.23	24.07 9.16	30.29 11.47	33.40 12.72	37.30 14.46	41.02 15.81	44.74 17.22	52.99 20.08
24384	5.64 2.21	6.10 2.39	7.66 3.00	9.16 3.59	10.82 4.23	12.43 4.84	14.36 5.57	16.12 6.24	20.59 7.92	23.48 8.81	29.55 11.04	32.66 12.24	36.35 13.92	40.07 15.23	43.62 16.57	51.67 19.33
24689	5.53 2.13	5.96 2.30	7.50 2.88	8.97 3.45	10.60 4.07	12.17 4.67	14.05 5.37	15.77 6.01	20.15 7.63	22.89 8.49	28.82 10.68	31.93 11.80	35.46 13.41	39.18 14.68	42.55 15.96	50.39 18.63
24994	5.38 2.05	5.82 2.21	7.35 2.78	8.80 3.32	10.39 3.92	11.92 4.49	13.76 5.18	15.45 5.79	19.71 7.35	22.34 8.18	28.10 10.25	31.23 11.36	34.60 12.93	38.30 14.14	41.51 15.38	49.16 17.95
25298	5.26 1.98	5.69 2.14	7.19 2.69	8.59 3.22	10.15 3.79	11.66 4.34	13.45 5.00	15.10 5.58	19.30 7.09	21.80 7.89	27.45 9.88	30.55 10.96	33.77 12.46	37.44 13.63	40.51 14.84	47.98 17.30
25603	5.16 1.92	5.57 2.07	7.04 2.61	8.40 3.10	9.93 3.66	11.39 4.18	13.14 4.83	14.76 5.41	18.91 6.82	21.27 7.61	26.79 9.52	29.90 10.58	32.96 12.02	36.64 13.14	39.54 14.31	46.84 16.69
25908	5.04 1.85	5.44 1.99	6.88 2.52	8.23 3.00	9.71 3.54	11.16 4.05	12.87 4.67	14.44 5.22	18.44 6.59	20.79 7.35	26.15 9.20	29.21 10.20	32.19 11.60	35.85 12.69	38.63 13.80	45.75 16.11
26213	4.94 1.79	5.34 1.94	6.74 2.43	8.05 2.90	9.50 3.41	10.91 3.92	12.60 4.52	14.14 5.04	18.03 6.36	20.28 7.09	25.53 8.88	28.54 9.85	31.43 11.19	35.06 12.25	37.73 13.32	44.67 15.55
26518	4.83 1.73	5.22 1.88	6.58 2.34	7.88 2.81	9.29 3.31	10.68 3.79	12.31 4.36	13.83 4.88	17.61 6.14	19.83 6.84	24.95 8.58	27.88 9.51	30.70 10.81	34.32 11.83	36.86 12.87	43.66 15.01
26822	4.74 1.69	5.12 1.82	6.45 2.27	7.72 2.72	9.10 3.21	10.46 3.67	12.05 4.21	13.54 4.72	17.20 5.93	19.39 6.62	24.40 8.28	27.27 9.19	30.03 10.44	33.59 11.42	36.03 12.43	42.65 14.50
27127	4.64 1.63	5.00 1.75	6.31 2.20	7.54 2.62	8.90 3.09	10.24 3.56	11.82 4.08	13.26 4.58	16.82 5.74	18.95 6.39	23.86 8.01	26.66 8.88	29.34 10.09	32.89 11.04	35.21 12.02	41.72 14.02
27432	4.55 1.57	4.91 1.70	6.18 2.14	7.39 2.55	8.72 3.00	10.02 3.44	11.55 3.95	12.97 4.43	16.46 5.56	18.53 6.18	23.30 7.74	26.06 8.59	28.69 9.76	32.22 10.68	34.42 11.63	40.77 13.55
27737	4.46 1.53	4.81 1.64	6.05 2.07	7.26 2.48	8.53 2.90	9.80 3.32	11.33 3.83	12.71 4.29	16.08 5.37	18.12 5.98	22.81 7.48	25.48 8.30	28.06 9.44	31.56 10.33	33.68 11.23	39.88 13.11
28042	4.37 1.48	4.72 1.60	5.95 2.01	7.10 2.39	8.37 2.81	9.60 3.22	11.09 3.72	12.44 4.15	15.73 5.19	17.73 5.79	22.29 7.25	24.92 8.04	27.45 9.13	30.92 9.99	32.93 10.87	39.02 12.69
28346	4.29 1.44	4.64 1.54	5.82 1.94	6.96 2.32	8.20 2.72	9.41 3.12	10.87 3.60	12.21 4.02	15.41 5.03	17.35 5.60	21.84 7.01	24.40 7.77	26.88 8.84	30.31 9.67	32.23 10.53	38.19 12.28
28651	4.20 1.40	4.55 1.50	5.70 1.88	6.82 2.24	8.02 2.64	9.23 3.03	10.65 3.48	11.96 3.91	15.07 4.87	16.98 5.42	21.36 6.80	23.87 7.53	26.28 8.56	29.69 9.36	31.56 10.20	37.38 11.89
28956	4.11 1.35	4.46 1.45	5.60 1.83	6.69 2.18	7.88 2.56	9.03 2.93	10.43 3.38	11.73 3.79	14.75 4.71	16.60 5.25	20.92 6.58	23.37 7.29	25.74 8.28	29.11 9.07	30.88 9.88	36.60 11.52
29261	4.04 1.31	4.37 1.41	5.48 1.78	6.56 2.11	7.72 2.49	8.85 2.84	10.24 3.28	11.48 3.67	14.44 4.56	16.28 5.09	20.48 6.37	22.89 7.07	25.21 8.04	28.54 8.80	30.25 9.57	35.82 11.16



# STANDARD ASD LOAD TABLE

## LONGSPAN STEEL JOISTS, LH-SERIES

Based on a 50 ksi (345 MPa) Maximum Yield Strength  
 Adopted by the Steel Joist Institute May 1, 2000  
 Revised to April 27, 2010 – Effective July 1, 2020

The **BLACK** figures in the Load Table give the TOTAL safe uniformly distributed load-carrying capacities, in pounds per linear foot, of **ASD** LH-Series Steel Joists.

The approximate joist weights, in pounds per linear foot (kiloNewtons per meter), given in the Load Table may be added to the other building weights to determine the DEAD load. In all cases the DEAD load, including the joist self-weight, must be deducted from the TOTAL load to determine the LIVE load. The approximate joist weights do not include accessories.

The **RED** figures in the Load Table represent the uniform load, in pounds per linear foot (kiloNewtons per meter), which will produce an approximate joist deflection of 1/360 of the span. This load can be linearly prorated to obtain the uniform load for supplementary deflection criteria (i.e. a uniform load that will produce a joist deflection of 1/240 of the span may be obtained by multiplying the **RED** figures by 360/240). In no case shall the prorated load exceed the TOTAL load-carrying capacity of the joist.

**User Note:** For floor joists, the RED figures may control the joist selection, and for longer spans consideration shall be given to the effects of camber on slab thickness. If a deeper joist designation cannot be used, CJ-Series composite joists may also be considered to take advantage of increased stiffness available due to composite action.

The Load Table applies to joists with either parallel chords or pitched top chords. Joists can have a top chord pitch up to 1/2 inch per foot (42 mm per meter). If the pitch exceeds this limit, the Load Table does not apply. When top chords are pitched, the load-carrying capacities are determined by the nominal depth of the joists at the center of the span. Sloped parallel-chord joists shall use span as defined by the length along the slope.

Where the joist span is in the **RED SHADED** area of the Load Table, the row of bridging nearest the mid span shall be diagonal bridging with bolted connections at chords and intersections. Hoisting cables shall not be released until this row of bolted diagonal bridging is completely installed. The **RED SHADED** area extends up through 60'-0" (18288 mm).

Where the joist span is in the **BLUE SHADED** area of the Load Table, all rows of bridging shall be diagonal bridging with bolted connections at chords and intersections. Hoisting cables shall not be released until the two rows of bridging nearest the third points are completely installed. The **BLUE SHADED** area starts after 60'-0" (18288 mm) and extends up through 100'-0" (30175 mm).

The approximate gross moment of inertia (not adjusted for shear deformation) of a standard joist listed in the Load Table may be determined as follows:

$$I_j = 26.767(W)(L^3)(10^{-6}) \text{ in}^4 \quad \text{or} \quad 2.6953(W)(L^3)(10^{-5}) \text{ mm}^4, \text{ where } W = \text{RED figure in the Load Table, and}$$

$$L = (\text{span} - 0.33) \text{ in feet} \quad \text{or} \quad (\text{span} - 102) \text{ in millimeters}$$

Loads for span increments not explicitly given in the Load Table may be determined using linear interpolation between the load values given in adjacent span rows. For spans shorter than the first span listed in the Load Table, the capacity shall be equal to that of the shortest listed span.





# ASD

**STANDARD LOAD TABLE/OPEN WEB STEEL JOISTS, LH-SERIES**  
Based on a 50 ksi Maximum Yield Strength - Loads Shown In Pounds Per Linear Foot (plf)

Joist Designation	18LH02	18LH03	18LH04	18LH05	18LH06	18LH07	18LH08	18LH09	18LH10	18LH11	18LH12	18LH13	18LH14	18LH15	18LH16	18LH17	18LH18	18LH19	18LH20
Depth (in.)	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
Approx. Wt. (lbs./ft.)	10	11	12	14	15	17	19	21	23	25	28	33	36	39	44	50	57	62	83
Span (ft.)																			
18	805	896	1039	1175	1438	1529	1728	1989	2231	2489	2751								
19	748	833	966	1093	1329	1414	1598	1831	2054	2291	2533								
20	697	776	899	1018	1231	1310	1480	1688	1895	2114	2337	2805							
21	649	723	838	949	1143	1216	1373	1562	1752	1955	2161	2587	2825						
22	606	675	783	886	1063	1130	1277	1448	1624	1812	2003	2391	2612	2829					
23	567	631	732	829	990	1053	1189	1345	1508	1683	1860	2216	2420	2622					
24	531	591	685	776	924	982	1110	1250	1403	1566	1732	2059	2248	2436	2811				
25	497	554	643	728	863	918	1037	1167	1309	1461	1615	1916	2093	2268	2587	2950			
26	468	521	604	684	809	840	976	1096	1223	1365	1509	1788	1953	2115	2390	2725			
27	442	493	571	648	749	809	943	1061	1195	1345	1501	1778	1933	2197	2471	2916			
28	418	467	535	614	696	780	912	1028	1168	1325	1498	1785	1941	2207	2484	2999			
29	391	438	500	581	648	726	864	981	1126	1285	1458	1755	1901	2168	2456	2999			
30	367	409	469	543	605	678	810	929	1069	1231	1406	1703	1849	2126	2424	2999			
31	345	382	440	508	566	635	767	886	1031	1194	1368	1665	1811	2088	2386	2999			
32	324	359	413	476	531	595	727	846	991	1164	1348	1645	1791	2068	2366	2999			
33	306	337	388	448	499	559	691	810	955	1128	1322	1619	1765	2042	2340	2999			
34	289	317	365	421	470	526	658	777	922	1095	1299	1596	1742	2019	2317	2999			
35	273	299	344	397	443	496	628	747	892	1065	1269	1566	1712	1989	2287	2999			
36	259	283	325	375	418	469	601	720	865	1038	1242	1539	1685	1962	2260	2999			



# ASD

**STANDARD LOAD TABLE/OPEN WEB STEEL JOISTS, LH-SERIES**  
Based on a 50 ksi Maximum Yield Strength - Loads Shown In Pounds Per Linear Foot (plf)

Joist Designation	20LH02	20LH03	20LH04	20LH05	20LH06	20LH07	20LH08	20LH09	20LH10	20LH11	20LH12	20LH13	20LH14	20LH15	20LH16	20LH17	20LH18	20LH19	20LH20
Depth (in.)	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
Approx. Wt. (lbs./ft.)	10	11	12	14	15	17	19	21	23	25	28	34	37	40	45	55	61	69	87
Span (ft.)																			
↓																			
20	712 680	827 749	910 910	1060 1020	1226 1226	1427 1427	1550 1487	1771 1620	1912 1747	2311 2311	2555 2555								
21	670 586	765 646	851 820	990 879	1146 1146	1327 1239	1442 1282	1641 1396	1772 1506	2141 2141	2367 2367	2847 2798							
22	627 509	715 560	796 712	927 763	1071 1007	1236 1076	1343 1112	1524 1212	1645 1307	1988 1885	2198 2093	2636 2428	2879 2640						
23	587 444	670 489	746 621	865 666	1005 880	1154 939	1254 971	1418 1058	1530 1141	1850 1647	2045 1828	2447 2121	2672 2306	2895 2507					
24	551 390	629 430	700 546	811 585	942 773	1079 825	1172 853	1322 930	1426 1003	1724 1447	1906 1606	2276 1863	2486 2026	2693 2202					
25	517 345	590 380	658 482	756 517	886 683	1011 729	1097 754	1234 821	1332 886	1610 1278	1780 1418	2121 1646	2317 1789	2510 1945	2914 2143				
26	442 306	469 337	574 428	616 459	822 606	878 647	908 669	990 729	1068 786	1506 1134	1665 1259	1981 1461	2164 1588	2344 1726	2691 1902				
27	437 303	463 333	566 406	609 437	791 561	845 599	873 619	953 675	1028 724	1411 1011	1561 1123	1853 1302	2025 1416	2194 1539	2493 1696	2846 1930			
28	431 298	458 317	558 386	602 416	763 521	814 556	842 575	918 626	991 673	1325 905	1465 1005	1737 1166	1898 1268	2056 1378	2316 1519	2644 1728			
29	410 274	452 302	528 352	595 395	723 477	786 518	813 536	886 581	956 626	1246 814	1378 904	1632 1048	1782 1140	1931 1239	2157 1365	2463 1554	2845 1771		
30	388 250	434 280	496 320	571 366	679 427	760 484	785 500	856 542	924 585	1173 734	1298 815	1535 946	1677 1028	1817 1118	2014 1232	2299 1402	2657 1598	2965 1759	
31	365 228	414 258	467 291	544 337	635 386	711 438	760 468	828 507	894 545	1107 665	1224 738	1446 856	1580 931	1712 1012	1885 1115	2152 1269	2486 1447	2775 1592	
32	344 208	395 238	440 265	513 308	596 351	667 398	722 428	802 475	865 510	1045 604	1156 670	1364 778	1491 846	1615 919	1768 1013	2018 1152	2332 1314	2602 1446	
33	325 190	372 218	416 243	484 281	560 320	627 362	687 395	778 437	839 479	986 550	1094 610	1289 708	1409 770	1526 837	1661 922	1896 1050	2191 1197	2446 1317	
34	307 174	352 200	393 223	458 258	527 292	590 331	654 365	755 399	814 448	928 502	1036 558	1220 647	1329 704	1444 765	1564 843	1785 959	2063 1093	2302 1203	2867 1483
35	291 160	333 184	372 205	434 238	497 267	556 303	621 336	712 366	791 411	875 460	977 511	1155 593	1254 644	1369 700	1475 772	1684 878	1946 1001	2171 1102	2704 1358
36	275 147	316 169	353 189	411 219	469 246	526 278	588 309	673 336	748 377	827 422	923 469	1091 544	1184 592	1294 643	1394 709	1591 806	1838 919	2051 1012	2554 1247
37	262 136	299 156	335 174	390 202	444 226	497 256	558 285	636 309	707 346	782 389	873 432	1033 501	1121 545	1224 592	1319 652	1505 742	1739 846	1941 931	2417 1148
38	249 126	283 143	318 161	371 187	421 209	471 236	530 262	603 285	670 320	741 359	828 398	979 462	1062 502	1160 546	1249 602	1426 685	1648 781	1839 859	2290 1059
39	237 117	269 133	303 149	353 173	399 192	447 218	503 242	572 264	636 296	703 331	785 368	929 427	1008 464	1101 505	1186 556	1353 633	1564 722	1745 794	2173 979
40	225 108	255 123	289 139	336 161	379 178	425 202	479 225	544 244	604 274	668 307	746 341	882 395	957 430	1046 467	1127 515	1286 586	1486 668	1658 735	2065 906



# ASD

**STANDARD LOAD TABLE/OPEN WEB STEEL JOISTS, LH-SERIES**  
Based on a 50 ksi Maximum Yield Strength - Loads Shown In Pounds Per Linear Foot (plf)

Joist Designation	24LH03	24LH04	24LH05	24LH06	24LH07	24LH08	24LH09	24LH10	24LH11	24LH12	24LH13	24LH14	24LH15	24LH16	24LH17	24LH18	24LH19	24LH20	24LH21
Depth (in.)	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
Approx. Wt. (lbs./ft.)	11	12	13	16	17	18	21	23	25	27	32	35	38	42	49	57	62	79	88
Span (ft.)																			
↓																			
24	664 664	723 723	827 827	1041 1041	1214 1214	1287 1287	1661 1618	1784 1716	1948 1796	2235 2235	2688 2688	2936 2936							
25	626 598	681 681	779 779	981 981	1140 1140	1208 1208	1555 1429	1670 1515	1824 1587	2093 2093	2511 2445	2743 2660	2972 2893						
26	590 530	642 642	735 695	925 925	1072 1020	1136 1083	1458 1268	1565 1345	1710 1408	1962 1864	2350 2171	2567 2361	2782 2568						
27	557 473	606 580	694 620	874 827	1009 910	1069 966	1369 1131	1469 1199	1607 1256	1843 1662	2203 1935	2407 2105	2608 2290						
28	527 423	573 519	656 555	827 741	948 814	1008 865	1288 1013	1382 1074	1511 1124	1734 1488	2069 1733	2260 1885	2449 2050	2835 2263					
29	498 381	542 467	621 499	782 666	895 732	951 778	1216 910	1302 965	1423 1011	1633 1338	1946 1558	2126 1695	2304 1843	2641 2035					
30	472 343	514 421	588 450	741 601	848 661	899 702	1144 821	1228 871	1341 912	1540 1207	1833 1406	2002 1529	2170 1663	2466 1836	2819 2094				
31	448 311	487 381	555 408	703 544	800 598	850 635	1084 744	1160 789	1264 826	1455 1093	1729 1272	1889 1384	2047 1505	2308 1662	2638 1895				
32	425 282	462 346	521 370	667 494	748 543	806 577	1020 675	1072 716	1166 750	1376 993	1633 1156	1785 1257	1934 1367	2164 1509	2474 1721	2860 1964			
33	404 257	440 315	492 337	635 450	706 495	764 525	955 615	995 652	1054 683	1304 904	1545 1053	1689 1145	1830 1245	2034 1375	2325 1568	2688 1790			
34	342 235	419 288	449 308	604 411	665 452	707 480	832 562	882 596	927 624	1236 826	1464 962	1600 1046	1734 1138	1915 1256	2189 1432	2530 1635	2832 1804		
35	339 226	398 265	446 297	579 382	638 421	677 447	808 530	856 559	900 588	1174 756	1389 881	1517 958	1644 1042	1806 1150	2064 1312	2386 1497	2671 1653		
36	336 218	379 246	440 285	555 356	613 393	649 416	785 501	832 528	875 555	1115 695	1319 809	1441 880	1562 957	1706 1056	1950 1205	2255 1375	2523 1518		
37	323 204	360 227	419 264	530 331	588 367	622 388	764 460	809 500	851 525	1061 639	1254 744	1370 810	1485 881	1614 972	1845 1109	2133 1265	2387 1397	2982 1729	
38	307 188	343 210	399 244	504 306	565 343	597 362	731 424	788 474	829 498	1009 590	1193 687	1298 747	1413 812	1530 897	1749 1023	2021 1167	2262 1288	2826 1595	
39	293 175	327 195	380 226	480 284	541 320	572 338	696 393	768 439	807 472	957 545	1135 635	1232 690	1346 751	1451 829	1659 945	1918 1079	2147 1191	2682 1474	2993 1631
40	279 162	312 182	363 210	457 263	516 297	545 314	663 363	737 406	787 449	910 505	1078 588	1170 639	1279 695	1379 768	1577 876	1823 999	2040 1103	2548 1365	2844 1510
41	267 152	298 169	347 196	437 245	491 276	520 292	632 337	702 378	768 418	865 468	1026 545	1113 593	1217 645	1312 712	1500 813	1734 927	1941 1024	2424 1267	2706 1402
42	255 141	285 158	331 182	417 228	468 257	497 272	602 313	668 351	734 388	824 435	977 507	1061 552	1159 600	1250 662	1429 755	1652 862	1849 952	2309 1178	2578 1303
43	244 132	273 148	317 171	399 211	446 239	475 254	574 292	637 326	701 361	786 406	932 472	1011 514	1105 559	1192 617	1363 704	1575 803	1763 886	2202 1097	2458 1214
44	234 124	262 138	304 160	381 197	426 223	455 238	548 272	608 304	671 337	751 378	890 440	966 479	1055 521	1138 575	1301 656	1504 749	1683 827	2103 1023	2347 1132
45	224 116	251 130	291 150	364 184	407 208	435 222	524 254	582 285	642 315	717 353	850 412	923 448	1009 487	1088 538	1243 613	1437 700	1609 772	2009 956	2243 1058
46	215 109	241 122	280 141	348 172	389 195	417 208	501 238	556 266	616 294	686 331	813 385	883 419	965 456	1041 503	1190 574	1375 655	1539 723	1922 895	2146 990
47	207 102	231 114	269 132	334 161	373 182	400 196	480 223	533 249	590 276	657 310	779 361	845 393	924 427	996 471	1139 538	1317 614	1474 677	1841 838	2055 927
48	199 96	222 107	258 124	320 152	357 171	384 184	460 209	511 234	567 259	630 291	747 339	810 368	886 401	955 442	1092 504	1262 576	1412 636	1764 787	1969 870



**STANDARD LOAD TABLE/OPEN WEB STEEL JOISTS, LH-SERIES**  
 Based on a 50 ksi Maximum Yield Strength - Loads Shown In Pounds Per Linear Foot (plf)

Joist Designation	28LH05	28LH06	28LH07	28LH08	28LH09	28LH10	28LH11	28LH12	28LH13	28LH14	28LH15	28LH16	28LH17	28LH18	28LH19	28LH20	28LH21	28LH22	28LH23
Depth (in.)	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28
Approx. Wt. (lbs./ft.)	13	16	17	18	21	23	25	27	30	35	38	42	49	56	63	79	88	102	111
Span (ft.)																			
28	626	831	968	1036	1342	1438	1570	1839	2034	2459	2665								
29	596	791	920	983	1271	1362	1487	1741	1922	2324	2518	2962							
30	568	755	874	934	1204	1291	1409	1651	1818	2199	2383	2798							
31	542	720	831	889	1143	1225	1337	1566	1722	2083	2257	2647							
32	517	687	791	846	1085	1163	1270	1488	1633	1975	2140	2507	2888						
33	494	656	753	806	1032	1106	1207	1414	1550	1875	2032	2377	2738						
34	472	627	718	768	982	1052	1149	1346	1474	1782	1931	2257	2592	2936					
35	451	600	685	733	935	1002	1094	1282	1402	1695	1837	2137	2445	2791					
36	432	574	654	700	892	956	1043	1223	1335	1614	1750	2018	2310	2655	2995				
37	414	550	625	669	851	912	996	1166	1272	1539	1668	1910	2186	2527	2833				
38	396	527	598	640	813	871	951	1113	1214	1468	1591	1810	2071	2395	2685				
39	380	505	573	612	777	833	909	1065	1160	1402	1520	1717	1965	2273	2548				
40	365	485	549	587	743	797	870	1019	1108	1340	1453	1632	1867	2159	2421				
41	350	466	526	562	708	763	833	976	1060	1282	1390	1553	1777	2055	2303	2884			
42	337	448	505	540	667	729	780	857	895	1228	1331	1479	1692	1957	2194	2747			
43	323	429	484	517	639	704	762	837	874	1177	1275	1410	1614	1866	2092	2620	2925		
44	310	412	464	496	612	679	736	818	854	1129	1223	1346	1541	1782	1998	2501	2793		
45	297	395	445	475	586	651	711	800	835	1083	1174	1287	1473	1703	1909	2390	2669	2936	
46	286	379	427	456	563	625	682	782	816	1040	1128	1231	1409	1629	1827	2287	2553	2808	
47	275	364	410	438	540	600	655	766	799	999	1084	1179	1349	1560	1749	2190	2445	2689	
48	265	350	394	420	519	576	629	737	782	958	1043	1130	1293	1495	1676	2099	2344	2578	2950
49	255	337	379	403	499	554	605	709	766	919	1004	1084	1240	1434	1608	2014	2248	2473	2836
50	245	324	365	387	481	533	582	682	751	882	964	1041	1191	1377	1544	1933	2159	2374	2727
51	237	313	352	371	463	513	561	656	722	848	926	1000	1144	1323	1484	1858	2074	2281	2625
52	228	301	339	357	446	495	540	632	694	815	891	962	1101	1273	1427	1786	1995	2194	2529
53	220	291	327	344	430	477	521	609	668	784	857	925	1059	1225	1373	1719	1920	2111	2437
54	213	281	316	331	415	460	502	587	643	755	826	891	1020	1180	1322	1656	1849	2033	2351
55	206	271	305	319	401	444	485	566	620	728	796	859	983	1137	1275	1596	1782	1960	2269
56	199	262	295	308	387	429	468	546	598	702	767	828	948	1096	1229	1539	1718	1890	2191



# ASD

## STANDARD LOAD TABLE/OPEN WEB STEEL JOISTS, LH-SERIES

Based on a 50 ksi Maximum Yield Strength - Loads Shown In Pounds Per Liner Foot (plf)

Joist Designation	32LH06	32LH07	32LH08	32LH09	32LH10	32LH11	32LH12	32LH13	32LH14	32LH15	32LH16	32LH17	32LH18	32LH19	32LH20	32LH21	32LH22	32LH23	32LH24
Depth (in.)	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32
Approx. Wt. (lbs./ft.)	14	16	17	21	21	24	27	30	33	35	42	49	56	62	78	87	101	110	124
Span (ft.)																			
32	655 655	735 735	829 829	1099 1099	1184 1184	1296 1296	1522 1522	1789 1789	1916 1916	2050 2050	2691 2691								
33	629 629	705 705	793 793	1049 1049	1131 1131	1238 1238	1453 1453	1705 1705	1827 1827	1954 1954	2561 2561	2951 2951							
34	605 605	678 678	760 760	1003 1003	1080 1080	1183 1183	1388 1388	1627 1627	1742 1742	1864 1864	2440 2440	2812 2812							
35	581 581	651 651	728 728	959 959	1033 1033	1131 1131	1328 1328	1553 1553	1663 1663	1779 1779	2326 2326	2681 2681							
36	559 559	626 626	698 698	917 917	989 989	1082 1082	1271 1271	1484 1484	1589 1589	1700 1700	2220 2220	2558 2558	2890 2890						
37	537 524	602 584	670 634	878 793	947 875	1036 957	1217 1118	1419 1280	1519 1322	1626 1805	2120 2065	2443 2359	2760 2359						
38	517 484	580 539	643 585	842 731	907 807	993 883	1166 1032	1358 1146	1454 1181	1555 1220	2026 1665	2335 1905	2638 2176						
39	498 447	558 498	617 540	807 676	870 746	952 816	1118 954	1300 1060	1392 1091	1490 1127	1938 1539	2234 1761	2524 2012	2890 2230					
40	479 414	538 461	593 501	774 626	834 691	913 756	1073 883	1246 981	1334 1011	1427 1044	1856 1426	2139 1631	2416 1863	2763 2066					
41	462 384	518 428	570 465	743 581	801 641	877 701	1030 820	1195 911	1279 938	1369 969	1778 1323	2049 1513	2315 1729	2644 1917					
42	445 357	499 398	549 432	714 540	770 596	842 652	989 762	1146 847	1228 872	1314 901	1705 1230	1956 1407	2220 1608	2532 1782					
43	430 333	482 371	528 402	687 503	740 555	810 607	951 710	1101 789	1179 812	1262 839	1629 1146	1865 1310	2130 1497	2422 1660					
44	414 310	465 346	509 375	660 469	712 518	779 567	915 662	1058 736	1133 758	1212 783	1555 1069	1781 1222	2046 1397	2312 1548	2900 1927				
45	400 290	449 323	490 351	636 439	685 484	750 529	880 619	1017 687	1089 708	1166 731	1486 998	1702 1142	1966 1305	2210 1447	2771 1801				
46	386 271	433 302	473 328	612 410	660 453	722 495	848 579	979 643	1048 663	1122 684	1422 934	1628 1069	1883 1221	2114 1354	2651 1685	2961 1866			
47	373 254	419 283	456 307	590 385	636 424	696 464	817 542	943 603	1009 621	1080 641	1361 875	1559 1001	1803 1144	2025 1268	2539 1579	2835 1749			
48	361 239	405 266	440 288	566 361	613 398	671 436	788 509	908 566	972 583	1040 602	1305 821	1494 940	1729 1074	1940 1190	2433 1482	2718 1641	2990 1862		
49	349 224	391 250	425 271	544 339	591 374	647 409	760 478	875 531	937 547	1003 565	1252 772	1434 883	1658 1009	1862 1118	2334 1392	2607 1542	2869 1750		
50	338 211	379 235	411 255	516 319	571 352	625 385	734 450	843 500	870 515	970 532	1202 726	1376 831	1592 949	1787 1052	2241 1310	2503 1451	2754 1646		
51	326 199	366 223	397 242	498 302	550 332	602 363	712 428	801 480	826 495	853 511	1155 684	1323 782	1530 894	1717 991	2154 1234	2405 1366	2647 1550	2985 1689	
52	315 189	353 211	383 229	480 285	531 315	580 343	688 406	785 461	810 476	837 492	1111 645	1272 738	1471 843	1652 935	2071 1163	2313 1288	2545 1462	2877 1593	
53	304 179	341 200	369 216	463 270	512 297	560 325	664 384	771 444	795 458	821 473	1069 609	1224 697	1416 796	1589 882	1993 1098	2226 1216	2449 1380	2775 1504	2921 1628
54	294 169	329 189	357 205	447 256	495 282	541 308	641 364	742 420	780 440	805 454	1029 575	1179 658	1364 752	1531 834	1920 1038	2144 1150	2359 1305	2679 1421	2813 1539
55	284 161	318 179	345 194	432 243	478 267	522 292	619 345	715 397	766 417	791 438	992 544	1136 623	1314 712	1475 789	1850 982	2066 1088	2273 1234	2587 1344	2711 1456
56	275 153	308 170	333 184	418 230	462 254	505 277	598 327	690 376	738 395	776 422	957 516	1096 590	1267 674	1423 747	1784 930	1993 1030	2192 1169	2499 1273	2614 1379
57	266 145	298 162	322 175	404 219	445 240	488 263	578 311	666 354	713 374	763 407	923 489	1057 559	1223 639	1373 708	1722 882	1923 977	2116 1108	2416 1207	2523 1307
58	257 138	288 154	312 167	391 208	430 228	473 251	559 295	643 336	688 355	750 393	891 464	1021 531	1181 606	1326 672	1662 837	1857 927	2043 1051	2337 1145	2436 1240
59	249 131	279 146	302 159	379 198	416 217	458 239	541 281	621 319	665 337	725 374	861 440	986 504	1141 576	1281 638	1606 794	1794 880	1974 999	2262 1088	2354 1178
60	242 125	271 140	293 151	367 189	402 206	443 227	524 267	600 304	643 321	701 355	833 419	954 479	1103 547	1238 607	1553 755	1734 836	1908 949	2190 1034	2275 1120
61	234 119	262 133	284 144	356 180	389 196	429 216	508 255	581 288	622 304	678 338	805 398	922 456	1067 521	1198 577	1502 718	1678 796	1846 903	2122 984	2201 1065
62	227 114	254 127	275 137	345 172	376 186	416 206	492 243	562 275	602 290	656 322	779 379	893 434	1033 496	1159 549	1454 684	1624 758	1786 860	2057 937	2130 1014
63	220 108	247 121	267 131	335 164	364 178	403 196	477 232	544 262	583 276	635 306	755 361	864 413	1000 472	1123 524	1408 652	1572 722	1730 819	1994 892	2063 966
64	214 104	240 116	259 125	325 157	353 169	390 187	463 221	527 249	564 264	616 292	731 344	837 394	969 450	1088 499	1364 622	1523 688	1676 781	1934 851	1998 922



# ASD

## STANDARD LOAD TABLE/OPEN WEB STEEL JOISTS, LH-SERIES

Based on a 50 ksi Maximum Yield Strength - Loads Shown In Pounds Per Linear Foot (plf)

Joist Designation	36LH07	36LH08	36LH09	36LH10	36LH11	36LH12	36LH13	36LH14	36LH15	36LH16	36LH17	36LH18	36LH19	36LH20	36LH21	36LH22	36LH23	36LH24	36LH25
Depth (in.)	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36
Approx. Wt. (lbs./ft.)	16	18	21	21	23	25	30	36	36	44	49	58	64	81	92	100	122	130	149
Span (ft.)																			
36	582	668	851	1006	1064	1273	1533	1689	1828	2341	2699								
37	562	644	820	967	1022	1224	1471	1621	1754	2243	2586	2921							
38	543	620	780	929	983	1177	1412	1556	1684	2150	2479	2800							
39	525	598	762	894	946	1132	1357	1494	1617	2063	2378	2687							
40	508	576	735	860	910	1090	1304	1436	1554	1980	2283	2579	2986						
41	491	556	710	829	876	1049	1254	1381	1494	1902	2193	2477	2863						
42	475	537	685	798	844	1011	1206	1329	1438	1828	2108	2381	2748						
43	460	518	661	769	814	974	1161	1279	1384	1758	2027	2290	2638						
44	445	500	639	742	785	940	1118	1232	1333	1692	1950	2204	2535						
45	431	484	618	716	757	907	1078	1187	1285	1629	1878	2122	2437						
46	417	467	597	691	731	875	1039	1145	1239	1569	1809	2044	2345	2949					
47	404	452	578	667	706	845	1002	1104	1195	1512	1744	1970	2258	2839					
48	392	437	559	645	682	816	967	1066	1153	1459	1682	1900	2175	2735					
49	380	423	541	623	659	789	934	1029	1114	1407	1623	1834	2096	2636	2902				
50	368	410	524	602	637	763	903	994	1076	1359	1562	1771	2022	2542	2799				
51	357	397	508	583	616	738	872	961	1040	1310	1501	1710	1951	2450	2701				
52	347	384	492	564	597	715	844	930	1006	1259	1443	1653	1876	2356	2608	2896			
53	337	373	477	546	578	692	816	890	973	1212	1389	1598	1806	2267	2519	2787			
54	327	361	462	527	559	670	790	871	942	1167	1338	1546	1739	2183	2435	2684	2977		
55	318	350	449	509	542	650	765	843	912	1125	1289	1491	1676	2104	2351	2587	2878		
56	309	340	435	491	526	630	741	817	884	1085	1243	1438	1616	2029	2267	2495	2783	2981	
57	300	330	423	474	510	611	718	792	857	1047	1200	1388	1560	1958	2188	2408	2692	2877	
58	292	321	411	454	495	593	697	768	809	1011	1158	1340	1506	1891	2112	2325	2606	2778	
59	283	311	398	440	480	575	675	755	795	977	1119	1295	1455	1827	2041	2246	2524	2684	
60	274	302	386	426	465	557	654	729	781	944	1082	1252	1407	1766	1973	2172	2446	2595	
61	266	293	374	413	451	540	634	706	769	913	1047	1211	1361	1709	1909	2101	2371	2510	2971
62	258	284	363	401	438	523	615	683	744	884	1013	1172	1317	1654	1847	2033	2299	2429	2875
63	251	276	352	389	425	508	596	661	721	856	981	1135	1275	1601	1789	1969	2230	2352	2784
64	244	268	342	378	412	493	579	641	698	829	950	1099	1236	1551	1733	1907	2165	2279	2697
65	237	260	333	367	401	478	562	621	677	804	921	1066	1198	1504	1680	1849	2102	2209	2615
66	230	253	323	357	389	464	546	602	656	779	893	1033	1161	1458	1629	1793	2042	2142	2536
67	224	246	314	347	378	450	531	584	637	756	867	1003	1127	1415	1580	1739	1984	2078	2460
68	218	239	306	338	368	437	516	567	618	734	841	973	1094	1373	1534	1688	1929	2017	2388
69	212	233	297	328	358	424	502	551	600	713	817	945	1062	1334	1490	1640	1876	1959	2319
70	207	227	289	320	348	412	488	535	583	693	794	918	1032	1296	1447	1593	1825	1903	2253
71	201	221	282	311	339	400	475	520	567	673	771	892	1003	1259	1406	1548	1776	1850	2189
72	196	215	275	303	330	389	463	505	551	654	750	868	975	1224	1367	1505	1729	1799	2129



STANDARD LOAD TABLE/OPEN WEB STEEL JOISTS, LH-SERIES																		
Based on a 50 ksi Maximum Yield Strength - Loads Shown In Pounds Per Linear Foot (plf)																		
Joist Designation	40LH08	40LH09	40LH10	40LH11	40LH12	40LH13	40LH14	40LH15	40LH16	40LH17	40LH18	40LH19	40LH20	40LH21	40LH22	40LH23	40LH24	40LH25
Depth (in.)	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Approx. Wt. (lbs./ft.)	16	21	21	22	25	30	35	36	42	51	56	64	81	93	100	121	127	148
Span (ft.)																		
40	519	705	839	879	1068	1297	1480	1655	1963	2377	2685							
41	504	682	810	850	1032	1251	1427	1597	1891	2290	2586							
42	490	660	783	821	997	1207	1377	1540	1822	2206	2492	2912						
43	475	640	757	794	964	1165	1329	1487	1756	2127	2403	2802						
44	462	620	732	767	932	1125	1284	1436	1694	2052	2318	2698						
45	448	601	708	742	902	1087	1240	1387	1635	1980	2236	2599						
46	435	582	685	718	873	1050	1198	1340	1578	1911	2159	2505						
47	423	564	663	695	845	1015	1159	1296	1524	1846	2086	2416						
48	411	547	642	673	818	982	1121	1254	1473	1784	2015	2331	2933					
49	400	531	622	652	792	950	1084	1213	1424	1724	1948	2251	2832					
50	389	515	603	632	768	920	1050	1174	1377	1668	1884	2174	2735					
51	378	500	584	613	744	891	1016	1137	1332	1614	1823	2101	2643	2910				
52	368	486	566	594	722	863	985	1101	1290	1562	1765	2031	2556	2814				
53	358	472	549	576	700	836	954	1067	1249	1513	1709	1965	2472	2722				
54	348	458	533	559	679	811	925	1035	1210	1465	1656	1901	2392	2634				
55	339	446	518	543	659	786	897	1004	1172	1420	1605	1841	2316	2550	2901			
56	330	433	503	527	640	763	870	974	1137	1377	1556	1783	2243	2470	2797			
57	322	421	488	512	622	740	845	945	1103	1336	1509	1728	2174	2394	2700	2940		
58	313	410	474	497	604	719	820	918	1070	1296	1465	1675	2107	2321	2607	2918		
59	305	399	461	483	587	698	797	891	1038	1252	1422	1624	2044	2251	2519	2761		
60	297	388	447	470	571	678	774	866	1008	1211	1381	1575	1980	2184	2435	2677	2914	
61	290	378	433	457	555	659	752	842	980	1171	1341	1524	1915	2119	2355	2597	2819	
62	283	368	419	445	540	641	731	818	952	1133	1303	1475	1853	2058	2279	2521	2728	
63	276	358	406	433	526	623	711	796	925	1097	1267	1428	1795	1999	2207	2447	2642	
64	269	349	394	421	512	606	692	774	900	1063	1230	1384	1739	1943	2138	2377	2560	
65	262	340	382	410	498	590	673	753	875	1031	1192	1341	1685	1883	2073	2309	2481	2937
66	254	332	367	399	486	573	656	734	808	999	1156	1301	1634	1826	2010	2245	2406	2849
67	247	323	357	388	472	557	638	712	796	970	1122	1262	1586	1772	1950	2183	2334	2764
68	241	315	347	378	459	542	620	691	784	941	1089	1225	1539	1720	1893	2123	2266	2683
69	234	306	338	368	447	528	603	671	772	914	1057	1189	1495	1670	1838	2066	2200	2605
70	228	298	329	358	435	514	587	652	761	888	1027	1155	1452	1622	1786	2011	2138	2531
71	222	291	321	349	424	500	571	633	751	863	998	1123	1411	1577	1736	1958	2078	2460
72	217	283	313	340	413	487	556	616	730	839	971	1092	1372	1533	1688	1907	2020	2391
73	211	276	305	332	402	475	542	599	710	816	944	1062	1335	1491	1641	1858	1965	2326
74	206	269	297	323	392	463	528	583	691	794	919	1033	1299	1451	1597	1811	1912	2263
75	201	263	290	315	382	451	515	567	673	773	894	1006	1264	1412	1555	1765	1861	2203
76	196	256	283	308	373	440	502	552	655	753	871	979	1231	1375	1514	1722	1812	2145
77	192	250	276	300	364	429	490	538	638	733	848	954	1199	1339	1475	1660	1765	2090
78	187	244	269	293	355	419	478	524	622	714	826	930	1168	1305	1437	1639	1720	2036
79	183	239	262	286	346	409	466	511	606	696	806	906	1139	1272	1401	1600	1676	1985
80	178	233	255	279	338	399	455	498	591	679	785	883	1110	1240	1366	1562	1635	1935



## STANDARD LOAD TABLE/OPEN WEB STEEL JOISTS, LH-SERIES

Based on a 50 ksi Maximum Yield Strength - Loads Shown In Pounds Per Linear Foot (plf)

Joist Designation	44LH09	44LH10	44LH11	44LH12	44LH13	44LH14	44LH15	44LH16	44LH17	44LH18	44LH19	44LH20	44LH21	44LH22	44LH23	44LH24	44LH25
Depth (in.)	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44
Approx. Wt. (lbs./ft.)	19	21	22	25	30	31	36	42	47	57	64	82	93	101	118	127	147
Span (ft.)																	
44	585 585	645 645	760 760	897 897	1058 1058	1260 1260	1466 1466	1730 1730	1929 1929	2388 2388	2816 2816						
45	568 568	627 627	738 738	870 870	1026 1026	1220 1220	1420 1420	1673 1673	1866 1866	2310 2310	2718 2718						
46	552 552	609 609	716 716	844 844	995 995	1182 1182	1375 1375	1619 1619	1806 1806	2235 2235	2625 2625						
47	537 537	592 592	695 695	819 819	966 966	1146 1146	1333 1333	1567 1567	1748 1748	2164 2164	2537 2537						
48	522 522	576 576	674 674	795 795	938 938	1111 1111	1292 1292	1518 1518	1693 1693	2095 2095	2452 2452						
49	508 508	560 560	652 652	772 772	910 910	1077 1077	1253 1253	1460 1460	1561 1561	1984 1984	2208 2208	2762	2985				
50	494 494	545 545	636 636	750 750	884 884	1045 1045	1215 1215	1424 1424	1589 1589	1967 1967	2294 2294	2888					
51	481 481	530 530	618 618	728 728	859 859	1013 1013	1179 1179	1381 1381	1540 1540	1907 1907	2220 2220	2796					
52	468 468	516 516	600 600	708 708	835 835	984 984	1145 1145	1339 1339	1493 1493	1849 1849	2150 2150	2707	2980				
53	455 455	502 502	583 583	688 688	811 811	955 955	1111 1111	1299 1299	1448 1448	1793 1793	2083 2083	2622	2887				
54	443 443	489 489	567 567	669 669	789 789	927 927	1079 1079	1260 1260	1406 1406	1740 1740	2018 2018	2541	2798				
55	432 432	476 476	551 551	650 650	767 767	901 901	1048 1048	1223 1223	1364 1364	1689 1689	1956 1956	2463	2712				
56	421 421	464 464	536 536	633 633	746 746	876 876	1019 1019	1188 1188	1325 1325	1640 1640	1897 1897	2389	2630				
57	410 410	452 452	522 522	616 616	726 726	851 851	990 990	1154 1154	1287 1287	1593 1593	1841 1841	2318	2552	2991			
58	399 399	440 440	508 508	599 599	708 708	828 828	963 963	1121 1121	1250 1250	1548 1548	1787 1787	2249	2477	2889			
59	389 389	429 429	494 494	583 583	688 688	805 805	937 937	1089 1089	1215 1215	1505 1505	1735 1735	2184	2405	2791	2970		
60	379 379	418 418	481 481	568 568	670 670	783 783	911 911	1059 1059	1181 1181	1463 1463	1685 1685	2121	2336	2698	2883		
61	370 370	408 408	469 469	553 553	652 652	762 762	887 887	1030 1030	1149 1149	1423 1423	1637 1637	2061	2270	2610	2799		
62	361 361	398 398	457 457	539 539	636 636	742 742	863 863	1002 1002	1118 1118	1384 1384	1591 1591	2003	2206	2526	2718		
63	352 352	388 388	445 445	525 525	619 619	722 722	841 841	975 975	1088 1088	1347 1347	1547 1547	1948	2145	2446	2641	2932	
64	343 343	379 379	434 434	512 512	604 604	704 704	819 819	949 949	1059 1059	1311 1311	1504 1504	1894	2086	2370	2567	2840	
65	335 335	370 370	423 423	499 499	589 589	685 685	798 798	924 924	1031 1031	1277 1277	1464 1464	1843	2029	2297	2496	2753	
66	327 327	361 361	411 411	487 487	574 574	668 668	777 777	900 900	1004 1004	1244 1244	1424 1424	1794	1975	2228	2428	2670	
67	319 319	352 352	399 399	475 475	560 560	651 651	758 758	877 877	978 978	1212 1212	1387 1387	1746	1923	2161	2363	2590	
68	312 312	344 344	388 388	463 463	546 546	635 635	739 739	855 855	954 954	1181 1181	1350 1350	1700	1873	2098	2300	2514	2977
69	304 304	336 336	377 377	452 452	533 533	619 619	721 721	833 833	930 930	1151 1151	1315 1315	1656	1824	2037	2239	2442	2891
70	297 297	328 328	366 366	441 441	521 521	604 604	703 703	813 813	906 906	1123 1123	1279 1279	1609	1778	1979	2181	2372	2809
71	291 291	321 321	356 356	431 431	508 508	589 589	686 686	792 792	884 884	1095 1095	1243 1243	1563	1733	1923	2125	2305	2730
72	284 284	313 313	347 347	421 421	496 496	575 575	670 670	773 773	863 863	1068 1068	1209 1209	1520	1689	1870	2070	2241	2654
73	278 278	306 306	338 338	411 411	485 485	562 562	654 654	754 754	842 842	1043 1043	1176 1176	1479	1648	1819	2018	2180	2582
74	272 272	300 300	325 325	402 402	477 477	549 549	639 639	737 737	790 790	1016 1016	1144 1144	1439	1607	1770	1968	2121	2512
75	265 265	293 293	317 317	393 393	466 466	534 534	623 623	719 719	780 780	989 989	1113 1113	1400	1565	1723	1920	2065	2445
76	259 259	286 286	310 310	383 383	454 454	520 520	608 608	701 701	769 769	963 963	1084 1084	1364	1524	1678	1873	2011	2381
77	253 253	279 279	302 302	374 374	444 444	506 506	593 593	684 684	759 759	938 938	1056 1056	1328	1484	1634	1828	1959	2319
78	247 247	272 272	295 295	365 365	433 433	493 493	579 579	668 668	750 750	914 914	1029 1029	1294	1446	1592	1785	1908	2260
79	242 242	266 266	289 289	356 356	423 423	481 481	565 565	652 652	732 732	891 891	1003 1003	1262	1410	1552	1743	1860	2203
80	236 236	260 260	282 282	347 347	413 413	469 469	551 551	637 637	715 715	869 869	978 978	1230	1374	1513	1702	1814	2148
81	231 231	254 254	276 276	339 339	404 404	457 457	537 537	622 622	699 699	848 848	954 954	1200	1341	1476	1663	1769	2095
82	226 226	249 249	269 269	331 331	395 395	446 446	524 524	608 608	683 683	827 827	931 931	1171	1308	1440	1625	1726	2044
83	221 221	243 243	264 264	323 323	386 386	436 436	512 512	594 594	667 667	807 807	908 908	1142	1276	1405	1588	1684	1995
84	216 216	238 238	258 258	315 315	377 377	425 425	500 500	580 580	652 652	788 788	887 887	1115	1246	1372	1553	1644	1947
85	211 211	233 233	252 252	308 308	369 369	415 415	488 488	568 568	638 638	769 769	866 866	1089	1217	1340	1519	1603	1902
86	207 207	228 228	247 247	300 300	361 361	406 406	476 476	555 555	624 624	751 751	846 846	1064	1189	1309	1485	1569	1858
87	202 202	223 223	242 242	293 293	353 353	396 396	466 466	543 543	610 610	734 734	826 826	1039	1161	1279	1453	1533	1815
88	99 99	110 110	119 119	144 144	173 173	193 193	227 227	263 263	295 295	351 351	391 391	489	542	616	673	732	853
	96 96	106 106	115 115	139 139	167 167	187 187	219 219	255 255	285 285	339 339	377 377	472	523	595	650	707	824





STANDARD LOAD TABLE/OPEN WEB STEEL JOISTS, LH-SERIES																
Based on a 50 ksi Maximum Yield Strength - Loads Shown In Pounds Per Linear Foot (plf)																
Joist Designation	48LH10	48LH11	48LH12	48LH13	48LH14	48LH15	48LH16	48LH17	48LH18	48LH19	48LH20	48LH21	48LH22	48LH23	48LH24	48LH25
Depth (in.)	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48
Approx. Wt. (lbs./ft.)	21	22	25	29	32	36	42	47	57	62	79	87	101	109	124	144
Span (ft.)																
↓																
48	538 538	581 581	756 756	905 905	1102 1102	1264 1264	1495 1495	1678 1678	2141 2141	2537 2537						
49	525 525	566 566	736 736	880 880	1071 1071	1229 1229	1452 1452	1629 1629	2079 2079	2458 2458						
50	512 512	552 552	717 717	857 857	1041 1041	1194 1194	1409 1409	1581 1581	2019 2019	2382 2382						
51	499 499	538 538	698 698	835 835	1013 1013	1161 1161	1369 1369	1536 1536	1961 1961	2310 2310	2909 2909					
52	487 487	525 525	680 680	813 813	985 985	1129 1129	1330 1330	1492 1492	1905 1905	2240 2240	2821 2821					
53	475 475	512 512	662 662	792 792	958 958	1099 1099	1292 1292	1450 1450	1851 1851	2173 2173	2737 2737					
54	463 463	500 500	645 645	771 771	932 932	1069 1069	1256 1256	1409 1409	1799 1799	2109 2109	2656 2656	2925 2925				
55	452 452	488 488	628 628	751 751	907 907	1040 1040	1221 1221	1370 1370	1749 1749	2047 2047	2579 2579	2840 2840				
56	441 441	476 476	612 612	732 732	883 883	1013 1013	1188 1188	1333 1333	1701 1701	1988 1988	2505 2505	2758 2758				
57	431 431	465 465	597 597	714 714	860 860	986 986	1155 1155	1296 1296	1655 1655	1932 1932	2433 2433	2679 2679				
58	420 420	454 454	582 582	696 696	837 837	960 960	1124 1124	1261 1261	1611 1611	1877 1877	2365 2365	2604 2604				
59	410 380	443 410	567 515	679 615	815 726	935 831	1094 958	1228 1071	1568 1360	1825 1514	2299 1896	2531 2103	2989 2390			
60	401 362	433 390	553 490	662 585	795 690	911 790	1065 910	1195 1018	1526 1293	1774 1439	2235 1803	2461 1999	2906 2272			
61	392 344	423 371	540 466	646 556	774 656	888 751	1037 866	1164 968	1486 1230	1726 1369	2174 1715	2394 1901	2827 2161	2972 2365		
62	382 327	413 353	527 444	630 530	755 625	866 715	1010 825	1134 922	1448 1171	1679 1304	2115 1633	2329 1810	2751 2058	2890 2252		
63	374 312	403 336	514 423	615 505	736 595	844 682	984 786	1105 879	1411 1116	1634 1242	2059 1556	2267 1725	2678 1961	2810 2146		
64	365 298	394 321	502 403	600 481	718 568	823 650	959 749	1077 838	1375 1064	1591 1185	2004 1484	2207 1645	2601 1870	2734 2046		
65	357 284	385 306	490 385	586 459	700 542	803 620	935 715	1050 800	1340 1015	1549 1131	1952 1416	2150 1570	2521 1784	2661 1953		
66	349 271	377 292	478 367	572 439	683 517	784 592	912 683	1024 764	1307 1080	1509 1352	1902 1499	2094 1704	2445 1865	2590 1865	2934 2029	
67	341 259	368 279	467 351	559 419	667 494	765 566	889 653	998 730	1275 927	1471 1032	1853 1292	2040 1433	2372 1629	2522 1782	2846 1939	
68	334 248	360 267	456 336	546 401	651 473	747 541	868 624	974 698	1244 886	1433 987	1806 1236	1989 1370	2303 1557	2457 1704	2763 1854	
69	326 237	352 256	446 321	533 384	635 453	729 518	847 597	950 668	1214 848	1398 944	1761 1182	1939 1311	2236 1490	2394 1631	2683 1774	
70	319 227	344 245	436 308	521 367	621 433	712 496	826 572	928 640	1185 812	1363 904	1717 1132	1891 1255	2172 1427	2333 1562	2606 1699	
71	312 218	337 235	426 295	510 352	606 415	695 475	807 548	906 613	1157 778	1329 866	1675 1085	1845 1203	2111 1367	2274 1496	2533 1628	3000 1899
72	305 209	330 225	416 283	498 337	592 398	679 456	788 525	884 587	1129 746	1297 831	1634 1040	1800 1153	2053 1311	2218 1434	2463 1560	2917 1821



# ASD

STANDARD LOAD TABLE/OPEN WEB STEEL JOISTS, LH-SERIES																
Based on a 50 ksi Maximum Yield Strength - Loads Shown In Pounds Per Linear Foot (plf)																
Joist Designation	48LH10	48LH11	48LH12	48LH13	48LH14	48LH15	48LH16	48LH17	48LH18	48LH19	48LH20	48LH21	48LH22	48LH23	48LH24	48LH25
Depth (in.)	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48
Approx. Wt. (lbs./ft.)	21	22	25	29	32	36	42	47	57	62	79	87	101	109	124	144
Span (ft.)																
73	299 200	323 216	407 271	487 324	579 382	664 437	769 504	864 564	1103 715	1266 797	1595 998	1757 1106	1997 1257	2163 1376	2396 1497	2837 1746
74	293 192	316 207	398 260	476 311	566 367	649 420	752 484	844 541	1078 687	1236 765	1557 958	1715 1062	1943 1207	2111 1321	2331 1437	2761 1676
75	286 184	309 199	389 250	466 298	553 352	634 403	734 464	824 519	1053 659	1207 734	1520 920	1675 1020	1891 1159	2060 1268	2269 1380	2687 1610
76	281 177	303 191	381 240	456 287	541 338	620 387	718 446	806 499	1029 634	1179 706	1485 884	1636 980	1841 1114	2011 1219	2209 1326	2617 1547
77	275 170	297 184	373 231	446 276	529 325	607 372	702 429	788 480	1006 609	1151 678	1451 849	1598 942	1794 1071	1964 1172	2152 1275	2549 1487
78	269 164	290 177	365 222	437 265	517 313	594 358	686 413	770 462	984 586	1125 652	1418 817	1561 906	1748 1030	1918 1127	2097 1226	2484 1430
79	264 158	284 170	357 214	428 255	506 301	581 345	671 397	753 444	962 564	1100 628	1384 786	1526 872	1704 991	1874 1084	2044 1180	2421 1376
80	258 152	279 164	350 206	419 246	495 290	568 332	656 382	737 428	941 543	1073 604	1350 757	1492 839	1661 954	1831 1044	1993 1136	2361 1325
81	253 146	273 158	343 198	410 237	485 279	556 320	642 368	721 412	921 523	1046 582	1317 729	1459 809	1620 919	1790 1006	1944 1094	2302 1277
82	246 141	266 152	336 191	402 228	475 269	545 308	629 355	706 397	901 504	1021 561	1284 703	1427 779	1581 886	1750 969	1897 1054	2246 1230
83	241 136	260 147	329 185	393 221	464 260	533 298	615 343	690 383	882 486	996 541	1254 677	1396 751	1543 854	1711 934	1851 1017	2192 1186
84	236 132	255 142	322 179	384 213	454 251	521 287	601 331	675 371	864 468	972 522	1224 653	1366 725	1506 824	1674 901	1807 981	2140 1144
85	231 127	249 137	315 173	376 206	444 243	510 278	588 320	660 358	843 452	950 504	1195 631	1335 699	1471 795	1638 870	1765 946	2090 1104
86	226 123	244 133	308 167	368 199	434 234	499 269	576 310	646 346	824 436	927 486	1167 609	1304 675	1436 767	1602 840	1724 913	2041 1066
87	221 119	239 129	301 161	360 193	425 227	488 260	563 299	632 335	805 421	906 469	1140 588	1274 652	1403 741	1568 811	1684 882	1995 1029
88	217 116	234 125	295 156	353 187	416 220	478 252	551 289	619 324	786 407	886 454	1115 568	1246 630	1372 716	1535 783	1646 852	1949 994
89	212 112	229 120	289 151	345 180	407 212	468 244	540 280	606 314	769 394	866 438	1090 549	1218 609	1341 692	1503 757	1609 824	1906 961
90	208 108	225 117	283 147	338 175	399 206	458 236	528 271	593 304	752 381	847 424	1065 531	1191 589	1311 669	1472 732	1573 797	1863 929
91	204 105	220 113	277 142	332 170	390 199	448 228	518 263	581 294	735 368	828 410	1042 513	1164 569	1282 647	1442 708	1539 770	1822 899
92	200 102	216 110	272 138	325 164	383 193	439 221	507 255	569 285	719 356	810 397	1019 497	1139 551	1254 626	1413 685	1505 745	1783 870
93	196 99	212 106	266 133	318 159	375 187	430 214	497 247	558 276	704 345	793 384	998 481	1115 533	1228 606	1385 663	1473 722	1745 842
94	192 96	208 103	261 129	312 154	367 181	422 208	487 239	547 268	689 334	776 372	976 466	1091 516	1201 587	1357 642	1442 699	1708 815
95	188 93	204 100	256 126	306 150	360 176	413 201	477 232	536 260	674 323	759 360	956 451	1068 500	1176 568	1330 622	1411 677	1672 790
96	185 90	200 97	251 122	300 145	353 171	405 195	468 225	525 252	660 313	744 349	936 437	1046 485	1152 551	1304 603	1382 656	1637 765



# ASD

## METRIC LOAD TABLE/OPEN WEB STEEL JOISTS, LH-SERIES

Based on a 345 MPa Maximum Yield Strength - Loads Shown In Kilonewtons Per Meter (kN/m)

Joist Designation	18LH02	18LH03	18LH04	18LH05	18LH06	18LH07	18LH08	18LH09	18LH10	18LH11	18LH12	18LH13	18LH14	18LH15	18LH16	18LH17	18LH18	18LH19	18LH20
Depth (mm)	457	457	457	457	457	457	457	457	457	457	457	457	457	457	457	457	457	457	457
Approx. Wt. (kN/m)	0.15	0.16	0.18	0.21	0.22	0.25	0.28	0.31	0.34	0.37	0.42	0.49	0.54	0.58	0.65	0.74	0.85	0.92	1.24
Span (mm)																			
↓																			
5486	11.74 11.74	13.07 13.07	15.16 15.16	17.14 17.14	20.98 20.98	22.31 22.31	25.21 25.21	29.02 27.56	32.55 32.55	36.32 36.32	40.14 40.14								
5791	10.91 10.91	12.15 12.15	14.09 14.09	15.95 15.95	19.39 19.39	20.63 20.63	23.32 21.89	26.72 23.36	29.97 29.97	33.43 33.43	36.96 36.96								
6096	10.17 10.15	11.32 11.29	13.11 13.07	14.85 14.72	17.96 17.06	19.11 17.93	21.59 18.72	24.63 19.97	27.65 26.50	30.85 29.26	34.10 32.48	40.93 37.59							
6401	9.47 8.75	10.55 9.73	12.22 11.26	13.84 12.69	16.68 14.71	17.74 15.45	20.03 16.12	22.79 17.22	25.56 22.83	28.53 25.21	31.53 27.99	37.75 32.39	41.22 35.21						
6706	8.84 7.58	9.85 8.44	11.42 9.77	12.93 11.01	15.51 12.75	16.49 13.41	18.63 13.99	21.13 14.94	23.70 19.81	26.44 21.89	29.23 24.28	34.89 28.10	38.11 30.55	41.28 33.21					
7010	8.27 6.62	9.20 7.36	10.68 8.53	12.09 9.61	14.44 11.14	15.36 11.71	17.35 12.22	19.62 13.04	22.00 17.30	24.56 19.11	27.14 21.21	32.34 24.56	35.31 26.69	38.26 28.99					
7315	7.74 5.82	8.62 6.47	9.99 7.50	11.32 8.44	13.48 9.79	14.33 10.28	16.19 10.74	18.24 11.47	20.47 15.20	22.85 16.79	25.27 18.63	30.04 21.56	32.80 23.45	35.55 25.48	41.02 28.04				
7620	7.25 5.15	8.08 5.72	9.38 6.62	10.62 7.45	12.59 8.65	13.39 9.09	15.13 9.48	17.03 10.12	19.10 13.42	21.32 14.82	23.56 16.46	27.96 19.05	30.54 20.70	33.09 22.50	37.75 24.76	43.05 28.15			
7925	6.82 4.56	7.60 5.07	8.81 5.88	9.98 6.62	11.80 7.67	12.25 8.07	12.78 8.42	13.65 8.98	17.84 11.92	19.92 13.16	22.02 14.60	26.09 16.91	28.50 18.38	30.86 19.97	34.87 21.97	39.76 24.98			
8230	6.45 4.14	7.19 4.62	8.33 5.35	9.45 6.04	10.93 6.84	11.80 7.48	12.30 7.79	13.14 8.33	16.71 10.62	18.65 11.73	20.62 13.03	24.38 15.07	26.63 16.38	28.86 17.80	32.31 19.59	36.83 22.27	42.55 25.37		
8534	6.10 3.77	6.81 4.21	7.80 4.80	8.96 5.51	10.15 6.11	11.38 6.94	11.85 7.23	12.66 7.69	15.67 9.51	17.48 10.50	19.33 11.66	22.83 13.49	24.95 14.68	27.02 15.95	30.01 17.55	34.22 19.94	39.53 22.72		
8839	5.70 3.41	6.39 3.82	7.29 4.31	8.47 5.03	9.45 5.50	10.59 6.24	11.44 6.74	12.22 7.16	14.72 8.55	16.43 9.44	18.16 10.47	21.43 12.14	23.40 13.19	25.36 14.33	27.96 15.77	31.87 17.93	36.82 20.43	41.02 22.44	
9144	5.35 3.09	5.96 3.44	6.84 3.88	7.92 4.53	8.82 4.96	9.89 5.63	11.06 6.23	11.82 6.68	13.84 7.72	15.45 8.52	17.08 9.45	20.13 10.94	22.00 11.90	23.84 12.93	26.10 14.22	29.75 16.17	34.38 18.43	38.29 20.24	
9449	5.03 2.81	5.57 3.10	6.42 3.53	7.41 4.11	8.26 4.48	9.26 5.09	10.46 5.64	11.42 6.10	13.04 6.99	14.53 7.72	16.11 8.56	18.97 9.90	20.72 10.77	22.44 11.70	24.43 12.88	27.85 14.63	32.17 16.68	35.84 18.32	
9754	4.72 2.55	5.23 2.83	6.02 3.19	6.94 3.73	7.74 4.08	8.68 4.62	9.92 5.12	11.07 5.54	12.31 6.34	13.63 7.00	15.20 7.77	17.89 9.00	19.49 9.79	21.17 10.63	22.91 11.70	26.12 13.29	30.18 15.14	33.60 16.65	41.76 20.46
10058	4.46 2.33	4.91 2.58	5.66 2.91	6.53 3.40	7.28 3.70	8.15 4.20	9.35 4.67	10.40 5.04	11.64 5.77	12.81 6.37	14.30 7.07	16.88 8.20	18.31 8.91	19.99 9.69	21.52 10.66	24.54 12.11	28.35 13.80	31.58 15.16	39.24 18.63
10363	4.21 2.14	4.62 2.34	5.32 2.65	6.14 3.09	6.85 3.38	7.67 3.85	8.81 4.26	9.79 4.61	11.00 5.28	12.05 5.82	13.47 6.46	15.89 7.48	17.24 8.14	18.84 8.84	20.27 9.73	23.11 11.06	26.69 12.60	29.74 13.84	36.95 17.03
10668	3.98 1.97	4.36 2.15	5.02 2.43	5.79 2.84	6.46 3.09	7.23 3.51	8.33 3.89	9.23 4.21	10.37 4.83	11.36 5.34	12.69 5.92	14.98 6.85	16.25 7.45	17.76 8.09	19.11 8.91	21.80 10.14	25.17 11.54	28.04 12.68	34.85 15.58
10973	3.77 1.80	4.13 1.98	4.74 2.23	5.47 2.61	6.10 2.84	6.84 3.23	7.88 3.59	8.72 3.88	9.80 4.43	10.74 4.90	11.99 5.44	14.15 6.30	15.36 6.84	16.78 7.44	18.05 8.18	20.59 9.31	23.78 10.60	26.50 11.64	32.92 14.31



**METRIC LOAD TABLE/OPEN WEB STEEL JOISTS, LH-SERIES**  
Based on a 345 MPa Maximum Yield Strength - Loads Shown In Kilonewtons Per Meter (kN/m)

Joist Designation	20LH02	20LH03	20LH04	20LH05	20LH06	20LH07	20LH08	20LH09	20LH10	20LH11	20LH12	20LH13	20LH14	20LH15	20LH16	20LH17	20LH18	20LH19	20LH20
Depth (mm)	508	508	508	508	508	508	508	508	508	508	508	508	508	508	508	508	508	508	508
Approx. Wt. (kN/m)	0.15	0.16	0.18	0.20	0.22	0.25	0.28	0.31	0.34	0.36	0.41	0.50	0.54	0.58	0.66	0.80	0.89	1.01	1.27
Span (mm)																			
↓																			
6096	10.39 9.92	12.06 10.93	13.28 13.28	15.46 14.88	17.89 17.89	20.82 20.82	22.62 21.70	25.84 23.64	27.90 25.49	33.72 33.72	37.28 37.28								
6401	9.77 8.55	11.16 9.42	12.41 11.96	14.44 12.82	16.72 16.72	19.36 18.08	21.04 18.70	23.94 20.37	25.86 21.97	31.24 31.24	34.54 34.54	41.54 40.83							
6706	9.15 7.42	10.43 8.17	11.61 10.39	13.52 11.13	15.63 14.69	18.03 15.70	19.59 16.22	22.24 17.68	24.00 19.07	29.01 27.50	32.07 30.54	38.46 35.43	42.01 38.52						
7010	8.56 6.47	9.77 7.13	10.88 9.06	12.62 9.71	14.66 12.84	16.84 13.70	18.30 14.17	20.69 15.44	22.32 16.65	26.99 24.03	29.84 26.67	35.71 30.95	38.99 33.65	42.24 36.58					
7315	8.04 5.69	9.17 6.27	10.21 7.96	11.83 8.53	13.74 11.28	15.74 12.03	17.10 12.44	19.29 13.57	20.81 14.63	25.15 21.11	27.81 23.43	33.21 27.18	36.28 29.56	39.30 32.13					
7620	7.54 5.03	8.61 5.54	9.60 7.03	11.03 7.54	12.93 9.96	14.75 10.63	16.00 11.00	18.00 11.98	19.43 12.93	23.49 18.65	25.97 20.69	30.95 24.02	33.81 26.10	36.63 28.38	42.52 31.27				
7925	6.45 4.46	6.84 4.91	8.37 6.24	8.98 6.69	11.99 8.84	12.81 9.44	13.25 9.76	14.44 10.63	15.58 11.47	21.97 16.54	24.29 18.37	28.91 21.32	31.58 23.17	34.20 25.18	39.27 27.75				
8230	6.37 4.42	6.75 4.85	8.26 5.92	8.88 6.37	11.54 8.18	12.33 8.74	12.74 9.03	13.90 9.85	15.00 10.56	20.59 14.75	22.78 16.38	27.04 19.00	29.55 20.66	32.01 22.46	36.38 24.75	41.53 28.16			
8534	6.28 4.34	6.68 4.62	8.14 5.63	8.78 6.07	11.13 7.60	11.87 8.11	12.28 8.39	13.39 9.13	14.46 9.82	19.33 13.20	21.38 14.66	25.34 17.01	27.69 18.50	30.00 20.11	33.79 22.16	38.58 25.21			
8839	5.98 3.99	6.59 4.40	7.70 5.13	8.68 5.76	10.55 6.96	11.47 7.55	11.86 7.82	12.93 8.47	13.95 9.13	18.18 11.87	20.11 13.19	23.81 15.29	26.00 16.63	28.18 18.08	31.47 19.92	35.94 22.67	41.51 25.84		
9144	5.66 3.64	6.33 4.08	7.23 4.67	8.33 5.34	9.90 6.23	11.09 7.06	11.45 7.29	12.49 7.90	13.48 8.53	17.11 10.71	18.94 11.89	22.40 13.80	24.47 15.00	26.51 16.31	29.39 17.97	33.55 20.46	38.77 23.32	43.27 25.67	
9449	5.32 3.32	6.04 3.76	6.81 4.24	7.93 4.91	9.26 5.63	10.37 6.39	11.09 6.82	12.08 7.39	13.04 7.95	16.15 9.70	17.86 10.77	21.10 12.49	23.05 13.58	24.98 14.76	27.50 16.27	31.40 18.51	36.28 21.11	40.49 23.23	
9754	5.02 3.03	5.76 3.47	6.42 3.86	7.48 4.49	8.69 5.12	9.73 5.80	10.53 6.24	11.70 6.93	12.62 7.44	15.25 8.81	16.87 9.77	19.90 11.35	21.75 12.34	23.56 13.41	25.80 14.78	29.45 16.81	34.03 19.17	37.97 21.10	
10058	4.74 2.77	5.42 3.18	6.07 3.54	7.06 4.10	8.17 4.67	9.15 5.28	10.02 5.76	11.35 6.37	12.24 6.99	14.38 8.02	15.96 8.90	18.81 10.33	20.56 11.23	22.27 12.21	24.24 13.45	27.67 15.32	31.97 17.46	35.69 19.22	
10363	4.48 2.53	5.13 2.91	5.73 3.25	6.68 3.76	7.69 4.26	8.61 4.83	9.54 5.32	11.01 5.82	11.87 6.53	13.54 7.32	15.11 8.14	17.80 9.44	19.39 10.27	21.07 11.16	22.82 12.30	26.05 13.99	30.10 15.95	33.59 17.55	41.84 21.64
10668	4.24 2.33	4.85 2.68	5.42 2.99	6.33 3.47	7.25 3.89	8.11 4.42	9.06 4.90	10.39 5.34	11.54 5.99	12.76 6.71	14.25 7.45	16.85 8.65	18.30 9.39	19.97 10.21	21.52 11.26	24.57 12.81	28.39 14.60	31.68 16.08	39.46 19.81
10973	4.01 2.14	4.61 2.46	5.15 2.75	5.99 3.19	6.84 3.59	7.67 4.05	8.58 4.50	9.82 4.90	10.91 5.50	12.06 6.15	13.47 6.84	15.92 7.93	17.27 8.63	18.88 9.38	20.34 10.34	23.21 11.76	26.82 13.41	29.93 14.76	37.27 18.19
11278	3.82 1.98	4.36 2.27	4.88 2.53	5.69 2.94	6.47 3.29	7.25 3.73	8.14 4.15	9.28 4.50	10.31 5.04	11.41 5.67	12.74 6.30	15.07 7.31	16.35 7.95	17.86 8.63	19.24 9.51	21.96 10.82	25.37 12.34	28.32 13.58	35.27 16.75
11582	3.63 1.83	4.13 2.08	4.64 2.34	5.41 2.72	6.14 3.05	6.87 3.44	7.73 3.82	8.80 4.15	9.77 4.67	10.81 5.23	12.08 5.80	14.28 6.74	15.49 7.32	16.92 7.96	18.22 8.78	20.81 9.99	24.05 11.39	26.83 12.53	33.42 15.45
11887	3.45 1.70	3.92 1.94	4.42 2.17	5.15 2.52	5.82 2.80	6.52 3.18	7.34 3.53	8.34 3.85	9.28 4.31	10.25 4.83	11.45 5.37	13.55 6.23	14.71 6.77	16.06 7.36	17.30 8.11	19.74 9.23	22.82 10.53	25.46 11.58	31.71 14.28
12192	3.28 1.57	3.72 1.79	4.21 2.02	4.90 2.34	5.53 2.59	6.20 2.94	6.99 3.28	7.93 3.56	8.81 3.99	9.74 4.48	10.88 4.97	12.87 5.76	13.96 6.27	15.26 6.81	16.44 7.51	18.76 8.55	21.68 9.74	24.19 10.72	30.13 13.22



**METRIC LOAD TABLE/OPEN WEB STEEL JOISTS, LH-SERIES**  
Based on a 345 MPa Maximum Yield Strength - Loads Shown In Kilonewtons Per Meter (kN/m)

Joist Designation	24LH03	24LH04	24LH05	24LH06	24LH07	24LH08	24LH09	24LH10	24LH11	24LH12	24LH13	24LH14	24LH15	24LH16	24LH17	24LH18	24LH19	24LH20	24LH21
Depth (mm)	610	610	610	610	610	610	610	610	610	610	610	610	610	610	610	610	610	610	610
Approx. Wt. (kN/m)	0.16	0.18	0.19	0.23	0.25	0.26	0.31	0.34	0.36	0.39	0.47	0.51	0.55	0.61	0.72	0.83	0.90	1.15	1.28
Span (mm)																			
↓																			
7315	9.69 9.69	10.55 10.55	12.06 12.06	15.19 15.19	17.71 17.71	18.78 18.78	24.24 23.61	26.03 25.04	28.42 26.21	32.61 32.61	39.22 39.22	42.84 42.84							
7620	9.13 8.72	9.93 9.93	11.36 11.36	14.31 14.31	16.63 16.63	17.62 17.62	22.69 20.85	24.37 22.10	26.61 23.16	30.54 30.54	36.64 35.68	40.03 38.81	43.37 42.22						
7925	8.61 7.73	9.36 9.36	10.72 10.14	13.49 13.49	15.64 14.88	16.57 15.80	21.27 18.50	22.83 19.62	24.95 20.54	28.63 27.20	34.29 31.68	37.46 34.45	40.60 37.47						
8230	8.12 6.90	8.84 8.46	10.12 9.04	12.75 12.06	14.72 13.28	15.60 14.09	19.97 16.50	21.43 17.49	23.45 18.32	26.89 24.25	32.15 28.23	35.12 30.72	38.06 33.42						
8534	7.69 6.17	8.36 7.57	9.57 8.09	12.06 10.81	13.83 11.87	14.71 12.62	18.79 14.78	20.16 15.67	22.05 16.40	25.30 21.71	30.19 25.29	32.98 27.50	35.74 29.91	41.37 33.02					
8839	7.26 5.56	7.90 6.81	9.06 7.28	11.41 9.71	13.06 10.68	13.87 11.35	17.74 13.28	19.00 14.08	20.76 14.75	23.83 19.52	28.39 22.73	31.02 24.73	33.62 26.89	38.54 29.69					
9144	6.88 5.00	7.50 6.14	8.58 6.56	10.81 8.77	12.37 9.64	13.11 10.24	16.69 11.98	17.92 12.71	19.57 13.30	22.47 17.61	26.75 20.51	29.21 22.31	31.66 24.26	35.98 26.79	41.14 30.55				
9449	6.53 4.53	7.10 5.56	8.09 5.95	10.25 7.93	11.67 8.72	12.40 9.26	15.81 10.85	16.92 11.51	18.44 12.05	21.23 15.95	25.23 18.56	27.56 20.19	29.87 21.96	33.68 24.25	38.49 27.65				
9754	6.20 4.11	6.74 5.04	7.60 5.39	9.73 7.20	10.91 7.92	11.76 8.42	14.88 9.85	15.64 10.44	17.01 10.94	20.08 14.49	23.83 16.87	26.05 18.34	28.22 19.94	31.58 22.02	36.10 25.11	41.73 28.66			
10058	5.89 3.75	6.42 4.59	7.18 4.91	9.26 6.56	10.30 7.22	11.14 7.66	13.93 8.97	14.52 9.51	15.38 9.96	19.03 13.19	22.54 15.36	24.64 16.71	26.70 18.16	29.68 20.06	33.93 22.88	39.22 26.12			
10363	4.99 3.42	6.11 4.20	6.55 4.49	8.81 5.99	9.70 6.59	10.31 7.00	12.14 8.20	12.87 8.69	13.52 9.10	18.03 12.05	21.36 14.03	23.35 15.26	25.30 16.60	27.94 18.32	31.94 20.89	36.92 23.86	41.32 26.32		
10668	4.94 3.29	5.80 3.86	6.50 4.33	8.44 5.57	9.31 6.14	9.88 6.52	11.79 7.73	12.49 8.15	13.13 8.58	17.13 11.03	20.27 12.85	22.13 13.98	23.99 15.20	26.35 16.78	30.12 19.14	34.82 21.84	38.98 24.12		
10973	4.90 3.18	5.53 3.59	6.42 4.15	8.09 5.19	8.94 5.73	9.47 6.07	11.45 7.31	12.14 7.70	12.76 8.09	16.27 10.14	19.24 11.80	21.02 12.84	22.79 13.96	24.89 15.41	28.45 17.58	32.90 20.06	36.82 22.15		
11278	4.71 2.97	5.25 3.31	6.11 3.85	7.73 4.83	8.58 5.35	9.07 5.66	11.14 6.71	11.80 7.29	12.41 7.66	15.48 9.32	18.30 10.85	19.99 11.82	21.67 12.85	23.55 14.18	26.92 16.18	31.12 18.46	34.83 20.38	43.51 25.23	
11582	4.48 2.74	5.00 3.06	5.82 3.56	7.35 4.46	8.24 5.00	8.71 5.28	10.66 6.18	11.49 6.91	12.09 7.26	14.72 8.61	17.41 10.02	18.94 10.90	20.62 11.85	22.32 13.09	25.52 14.92	29.49 17.03	33.01 18.79	41.24 23.27	
11887	4.27 2.55	4.77 2.84	5.54 3.29	7.00 4.14	7.89 4.67	8.34 4.93	10.15 5.73	11.20 6.40	11.77 6.88	13.96 7.95	16.56 9.26	17.97 10.06	19.64 10.96	21.17 12.09	24.21 13.79	27.99 15.74	31.33 17.38	39.14 21.51	43.67 23.80
12192	4.07 2.36	4.55 2.65	5.29 3.06	6.66 3.83	7.53 4.33	7.95 4.58	9.67 5.29	10.75 5.92	11.48 6.55	13.28 7.36	15.73 8.58	17.07 9.32	18.66 10.14	20.12 11.20	23.01 12.78	26.60 14.57	29.77 16.09	37.18 19.92	41.50 22.03
12497	3.89 2.21	4.34 2.46	5.06 2.86	6.37 3.57	7.16 4.02	7.58 4.26	9.22 4.91	10.24 5.51	11.20 6.10	12.62 6.82	14.97 7.95	16.24 8.65	17.76 9.41	19.14 10.39	21.89 11.86	25.30 13.52	28.32 14.94	35.37 18.49	39.49 20.46
12802	3.72 2.05	4.15 2.30	4.83 2.65	6.08 3.32	6.82 3.75	7.25 3.96	8.78 4.56	9.74 5.12	10.71 5.66	12.02 6.34	14.25 7.39	15.48 8.05	16.91 8.75	18.24 9.66	20.85 11.01	24.10 12.57	26.98 13.89	33.69 17.19	37.62 19.01
13106	3.56 1.92	3.98 2.15	4.62 2.49	5.82 3.07	6.50 3.48	6.93 3.70	8.37 4.26	9.29 4.75	10.23 5.26	11.47 5.92	13.60 6.88	14.75 7.50	16.12 8.15	17.39 9.00	19.89 10.27	22.98 11.71	25.72 12.93	32.13 16.00	35.87 17.71
13411	3.41 1.80	3.82 2.01	4.43 2.33	5.56 2.87	6.21 3.25	6.64 3.47	7.99 3.96	8.87 4.43	9.79 4.91	10.96 5.51	12.98 6.42	14.09 6.99	15.39 7.60	16.60 8.39	18.98 9.57	21.94 10.93	24.56 12.06	30.69 14.92	34.25 16.52
13716	3.26 1.69	3.66 1.89	4.24 2.18	5.31 2.68	5.93 3.03	6.34 3.23	7.64 3.70	8.49 4.15	9.36 4.59	10.46 5.15	12.40 6.01	13.47 6.53	14.72 7.10	15.87 7.85	18.14 8.94	20.97 10.21	23.48 11.26	29.31 13.95	32.73 15.44
14021	3.13 1.59	3.51 1.78	4.08 2.05	5.07 2.51	5.67 2.84	6.08 3.03	7.31 3.47	8.11 3.88	8.98 4.29	10.01 4.83	11.86 5.61	12.88 6.11	14.08 6.65	15.19 7.34	17.36 8.37	20.06 9.55	22.46 10.55	28.04 13.06	31.31 14.44
14326	3.02 1.48	3.37 1.66	3.92 1.92	4.87 2.34	5.44 2.65	5.83 2.86	7.00 3.25	7.77 3.63	8.61 4.02	9.58 4.52	11.36 5.26	12.33 5.73	13.48 6.23	14.53 6.87	16.62 7.85	19.22 8.96	21.51 9.88	26.86 12.22	29.99 13.52
14630	2.90 1.40	3.23 1.56	3.76 1.80	4.67 2.21	5.21 2.49	5.60 2.68	6.71 3.05	7.45 3.41	8.27 3.77	9.19 4.24	10.90 4.94	11.82 5.37	12.93 5.85	13.93 6.45	15.93 7.35	18.41 8.40	20.60 9.28	25.74 11.48	28.73 12.69



# ASD

## METRIC LOAD TABLE/OPEN WEB STEEL JOISTS, LH-SERIES

Based on a 345 MPa Maximum Yield Strength - Loads Shown in Kilonewtons Per Meter (kN/m)

Joist Designation	28LH05	28LH06	28LH07	28LH08	28LH09	28LH10	28LH11	28LH12	28LH13	28LH14	28LH15	28LH16	28LH17	28LH18	28LH19	28LH20	28LH21	28LH22	28LH23	
Depth (mm)	711	711	711	711	711	711	711	711	711	711	711	711	711	711	711	711	711	711	711	
Approx. Wt. (kN/m)	0.19	0.23	0.25	0.26	0.31	0.34	0.36	0.39	0.44	0.51	0.55	0.61	0.72	0.82	0.92	1.15	1.28	1.49	1.62	
Span (mm)																				
	8534	9.13 9.13	12.12 12.12	14.12 14.12	15.11 15.11	19.58 19.58	20.98 20.98	22.91 22.91	26.83 26.83	29.68 28.37	35.88 35.88	38.89 38.89								
	8839	8.69 8.69	11.54 11.54	13.42 13.42	14.34 14.34	18.54 18.54	19.87 19.87	21.70 21.70	25.40 24.43	28.04 25.49	33.91 33.91	36.74 36.74	43.22 41.43							
	9144	8.28 8.28	11.01 11.01	12.75 12.75	13.63 13.63	17.57 17.30	18.84 18.84	20.56 20.13	24.09 22.03	26.53 22.99	32.09 31.08	34.77 33.81	40.83 37.37							
	9449	7.90 7.90	10.50 10.50	12.12 11.93	12.97 12.74	16.68 15.67	17.87 17.06	19.51 18.22	22.85 19.94	25.13 20.82	30.39 28.13	32.93 30.61	38.63 33.84							
	9754	7.54 7.28	10.02 9.60	11.54 10.84	12.34 11.57	15.83 14.22	16.97 15.49	18.53 16.54	21.71 18.12	23.83 18.91	28.82 25.55	31.23 27.80	36.58 30.73	42.14 35.11						
	10058	7.20 6.62	9.57 8.75	10.98 9.88	11.76 10.53	15.06 12.95	16.14 14.11	17.61 15.07	20.63 16.50	22.62 17.23	27.36 23.27	29.65 25.32	34.68 27.99	39.95 31.98						
	10363	6.88 6.05	9.15 7.99	10.47 9.01	11.20 9.63	14.33 11.83	15.35 12.88	16.76 13.77	19.64 15.07	21.51 15.74	26.00 21.26	28.18 23.13	32.93 25.56	37.82 29.21	42.84 33.36					
	10668	6.58 5.54	8.75 7.32	9.99 8.26	10.69 8.81	13.64 10.84	14.62 11.80	15.96 12.62	18.70 13.80	20.46 14.41	24.73 19.48	26.80 21.19	31.18 23.42	35.68 26.76	40.73 30.55					
	10973	6.30 5.09	8.37 6.72	9.54 7.58	10.21 8.09	13.01 9.95	13.95 10.84	15.22 11.58	17.84 12.68	19.48 13.23	23.53 17.89	29.45 19.45	33.71 21.51	38.74 24.57	43.70 28.06					
	11278	6.04 4.68	8.02 6.18	9.12 6.97	9.76 7.45	12.41 9.16	13.30 9.98	14.53 10.66	17.01 11.67	18.56 12.18	22.46 16.46	24.34 17.90	27.87 19.78	31.90 22.62	36.87 25.83	41.34 28.57				
	11582	5.77 4.31	7.69 5.70	8.72 6.43	9.34 6.87	11.86 8.44	12.71 9.20	13.87 9.83	16.24 10.77	17.71 11.23	21.42 15.17	23.21 16.52	26.41 18.25	30.22 20.85	34.95 23.81	39.18 26.35				
	11887	5.54 3.99	7.36 5.28	8.36 5.95	8.93 6.34	11.33 7.82	12.15 8.50	13.26 9.09	15.54 9.95	16.92 10.39	20.46 14.03	22.18 15.26	25.05 16.88	28.67 19.27	33.17 22.02	37.18 24.37				
	12192	5.32 3.70	7.07 4.88	8.01 5.51	8.56 5.88	10.84 7.23	11.63 7.88	12.69 8.42	14.87 9.22	16.17 9.61	19.55 13.00	21.20 14.14	23.81 15.63	27.24 17.86	31.50 20.40	35.33 22.56				
	12497	5.10 3.44	6.80 4.53	7.67 5.12	8.20 5.45	10.33 6.71	11.13 7.31	12.15 7.82	14.24 8.55	15.46 8.93	18.70 12.06	20.28 13.11	22.66 14.50	25.93 16.57	29.99 18.92	33.60 20.94	42.08 26.00			
	12802	4.91 3.19	6.53 4.21	7.36 4.75	7.88 5.07	9.73 6.24	10.63 6.80	11.38 7.26	12.50 7.95	13.06 8.30	17.92 11.22	19.42 12.20	21.58 13.48	24.69 15.41	28.56 17.60	32.01 19.46	40.08 24.18			
	13106	4.71 2.99	6.26 3.94	7.06 4.45	7.54 4.74	9.32 5.83	10.27 6.40	11.12 6.93	12.21 7.58	12.75 10.44	17.17 12.92	18.60 11.36	20.57 12.56	23.55 14.34	27.23 16.38	30.53 18.14	38.23 22.51	42.68 24.92		
	13411	4.52 2.80	6.01 3.69	6.77 4.15	7.23 4.45	8.93 5.47	9.90 6.04	10.74 6.53	11.93 7.23	12.46 7.55	16.47 9.74	17.84 10.59	19.64 11.71	22.48 13.38	26.00 15.29	29.15 16.91	36.49 21.00	40.76 23.24		
	13716	4.33 2.62	5.76 3.47	6.49 3.89	6.93 4.15	8.55 5.12	9.50 5.66	10.37 6.17	11.67 6.94	12.18 7.22	15.80 9.10	17.13 9.90	18.78 10.94	21.49 12.50	24.85 14.28	27.85 15.80	34.87 19.62	38.95 21.73	42.84 24.63	
	14021	4.17 2.46	5.53 3.25	6.23 3.66	6.65 3.91	8.21 4.80	9.12 5.31	9.95 5.79	11.41 6.62	11.90 6.88	15.17 8.52	16.46 9.26	17.96 10.24	20.56 11.70	23.77 13.36	26.66 14.78	33.37 18.35	37.25 20.32	40.97 23.04	
	14326	4.01 2.32	5.31 3.05	5.98 3.44	6.39 3.67	7.88 4.50	8.75 4.99	9.55 5.44	11.17 6.34	11.66 6.59	14.57 7.98	15.81 8.68	17.20 9.60	19.68 10.96	22.76 12.52	25.52 13.86	31.96 17.20	35.68 19.04	39.24 21.59	
	14630	3.86 2.18	5.10 2.87	5.74 3.23	6.12 3.44	7.57 4.24	8.40 4.69	9.17 5.12	10.75 5.95	11.41 6.31	13.98 7.48	15.22 8.14	16.49 9.00	18.86 10.28	21.81 11.74	24.45 13.00	30.63 16.14	34.20 17.87	37.62 20.27	43.05 22.03
	14935	3.72 2.07	4.91 2.71	5.53 3.05	5.88 3.23	7.28 3.99	8.08 4.42	8.82 4.83	10.34 5.58	11.17 6.05	13.41 7.03	14.65 7.66	15.81 8.46	18.09 9.67	20.92 11.04	23.46 12.21	29.39 15.17	32.80 16.79	36.09 19.04	41.38 20.70
	15240	3.57 1.94	4.72 2.55	5.32 2.87	5.64 3.05	7.01 3.76	7.77 4.15	8.49 4.55	9.95 5.26	10.96 5.77	12.87 6.62	14.06 7.19	15.19 7.96	17.38 9.09	20.09 10.39	22.53 11.49	28.21 14.27	31.50 15.80	34.64 17.92	39.79 19.48
	15545	3.45 1.83	4.56 2.42	5.13 2.71	5.41 2.86	6.75 3.54	7.48 3.92	8.18 4.29	9.57 4.96	10.53 5.44	12.37 6.23	13.51 6.78	14.59 7.50	16.69 8.56	19.30 9.77	21.65 10.82	27.11 13.44	30.26 14.88	33.28 16.87	38.30 18.34
	15850	3.32 1.73	4.39 2.27	4.94 2.56	5.21 2.69	6.50 3.32	7.22 3.72	7.88 4.05	9.22 4.68	10.12 5.13	11.89 5.88	13.00 6.39	14.03 7.07	16.06 8.08	18.57 9.22	20.82 10.21	26.06 12.68	29.11 14.03	32.01 15.90	36.90 17.30
	16154	3.21 1.64	4.24 2.15	4.74 2.42	5.02 2.55	6.27 3.15	6.96 3.51	7.60 3.83	8.88 4.42	9.74 4.84	11.44 5.54	12.50 6.04	13.49 6.66	15.45 7.63	17.87 8.71	20.03 9.63	25.08 11.96	28.02 13.25	30.80 15.01	35.56 16.33
	16459	3.10 1.56	4.10 2.04	4.61 2.30	4.83 2.40	6.05 2.97	6.71 3.32	7.32 3.63	8.56 4.15	9.38 4.58	11.01 5.23	12.05 5.70	13.00 6.30	14.88 7.20	17.22 8.23	19.29 9.10	24.16 11.31	26.98 12.52	29.66 14.19	34.31 15.44
	16764	3.00 1.48	3.95 1.94	4.45 2.18	4.65 2.27	5.85 2.81	6.47 3.13	7.07 3.44	8.26 3.94	9.04 4.33	10.62 4.96	11.61 5.39	12.53 5.96	14.34 6.81	16.59 7.79	18.60 8.62	23.29 10.69	26.00 11.85	28.60 13.44	33.11 14.60
	17069	2.90 1.41	3.82 1.83	4.30 2.07	4.49 2.15	5.64 2.67	6.26 2.97	6.82 3.25	7.96 3.73	8.72 4.10	10.24 4.69	11.19 5.10	12.08 5.64	13.83 6.46	15.99 7.36	17.93 8.15	22.46 10.14	25.07 11.22	27.58 12.72	31.97 13.83



## METRIC LOAD TABLE/OPEN WEB STEEL JOISTS, LH-SERIES

Based on a 345 MPa Maximum Yield Strength - Loads Shown In Kilonewtons Per Meter (kN/m)

Joist Designation	32LH06	32LH07	32LH08	32LH09	32LH10	32LH11	32LH12	32LH13	32LH14	32LH15	32LH16	32LH17	32LH18	32LH19	32LH20	32LH21	32LH22	32LH23	32LH24
Depth (mm)	813	813	813	813	813	813	813	813	813	813	813	813	813	813	813	813	813	813	813
Approx. Wt. (kN/m)	0.20	0.23	0.25	0.31	0.31	0.35	0.39	0.44	0.48	0.51	0.61	0.72	0.82	0.90	1.14	1.27	1.47	1.61	1.81
Span (mm)																			
9754	9.55	10.72	12.09	16.03	17.27	18.91	22.21	26.10	27.96	29.91	39.27								
	9.55	10.72	12.09	16.03	17.27	18.91	22.21	26.10	27.96	29.91	39.27								
10058	9.17	10.28	11.57	15.30	16.50	18.06	21.20	24.88	26.66	28.51	37.37	43.06							
	9.17	10.28	11.57	15.30	16.50	18.06	21.20	24.88	26.66	27.29	37.25	42.61							
10363	8.82	9.89	11.09	14.63	15.76	17.26	20.25	23.74	25.42	27.20	35.60	41.03							
	8.82	9.89	11.09	14.63	15.76	17.26	20.25	23.42	24.12	24.92	34.03	38.93							
10668	8.47	9.50	10.62	13.99	15.07	16.50	19.38	22.66	24.26	25.96	33.94	39.12							
	8.47	9.50	10.62	13.68	15.07	16.50	19.30	21.45	22.09	22.82	31.17	35.65							
10973	8.15	9.13	10.18	13.38	14.43	15.79	18.54	21.65	23.18	24.80	32.39	37.33	42.17						
	8.15	9.13	10.05	12.56	13.86	15.17	17.73	19.70	20.30	20.97	28.61	32.74	37.40						
11278	7.83	8.78	9.77	12.81	13.82	15.11	17.76	20.70	22.16	23.72	30.93	35.65	40.27						
	7.64	8.52	9.25	11.57	12.76	13.96	16.31	18.14	18.68	19.29	26.34	30.13	34.42						
11582	7.54	8.46	9.38	12.28	13.23	14.49	17.01	19.81	21.21	22.69	29.56	34.07	38.49						
	7.06	7.86	8.53	10.66	11.77	12.88	15.06	16.72	17.23	17.80	24.29	27.80	31.75						
11887	7.26	8.14	9.00	11.77	12.69	13.89	16.31	18.97	20.31	21.74	28.28	32.60	36.83	42.17					
	6.52	7.26	7.88	9.86	10.88	11.90	13.92	15.46	15.92	16.44	22.46	25.69	29.36	32.54					
12192	6.99	7.85	8.65	11.29	12.17	13.32	15.65	18.18	19.46	20.82	27.08	31.21	35.25	40.32					
	6.04	6.72	7.31	9.13	10.08	11.03	12.88	14.31	14.75	15.23	20.81	23.80	27.18	30.15					
12497	6.74	7.55	8.31	10.84	11.68	12.79	15.03	17.43	18.66	19.97	25.94	29.90	33.78	38.58					
	5.60	6.24	6.78	8.47	9.35	10.23	11.96	13.29	13.68	14.14	19.30	22.08	25.23	27.97					
12802	6.49	7.28	8.01	10.42	11.23	12.28	14.43	16.72	17.92	19.17	24.88	28.54	32.39	36.95					
	5.21	5.80	6.30	7.88	8.69	9.51	11.12	12.36	12.72	13.14	17.95	20.53	23.46	26.00					
13106	6.27	7.03	7.70	10.02	10.79	11.82	13.87	16.06	17.20	18.41	23.77	27.21	31.08	35.34					
	4.85	5.41	5.86	7.34	8.09	8.85	10.36	11.51	11.85	12.24	16.72	19.11	21.84	24.22					
13411	6.04	6.78	7.42	9.63	10.39	11.36	13.35	15.44	16.53	17.68	22.69	25.99	29.85	33.74	42.32				
	4.52	5.04	5.47	6.84	7.55	8.27	9.66	10.74	11.06	11.42	15.60	17.83	20.38	22.59	28.12				
13716	5.83	6.55	7.15	9.28	9.99	10.94	12.84	14.84	15.89	17.01	21.68	24.83	28.69	32.25	40.43				
	4.23	4.71	5.12	6.40	7.06	7.72	9.03	10.02	10.33	10.66	14.56	16.66	19.04	21.11	26.28				
14021	5.63	6.31	6.90	8.93	9.63	10.53	12.37	14.28	15.29	16.37	20.75	23.75	27.48	30.85	38.68	43.21			
	3.95	4.40	4.78	5.98	6.61	7.22	8.44	9.38	9.67	9.98	13.63	15.60	17.81	19.76	24.59	27.23			
14326	5.44	6.11	6.65	8.61	9.28	10.15	11.92	13.76	14.72	15.76	19.86	22.75	26.31	29.55	37.05	41.37			
	3.70	4.13	4.48	5.61	6.18	6.77	7.90	8.80	9.06	9.35	12.76	14.60	16.69	18.50	23.04	25.52			
14630	5.26	5.91	6.42	8.26	8.94	9.79	11.49	13.25	14.18	15.17	19.04	21.80	25.23	28.31	35.50	39.66	43.63		
	3.48	3.88	4.20	5.26	5.80	6.36	7.42	8.26	8.50	8.78	11.98	13.71	15.67	17.36	21.62	23.94	27.17		
14935	5.09	5.70	6.20	7.93	8.62	9.44	11.09	12.76	13.67	14.63	18.27	20.92	24.19	27.17	34.06	38.04	41.86		
	3.26	3.64	3.95	4.94	5.45	5.96	6.97	7.74	7.98	8.24	11.26	12.88	14.72	16.31	20.31	22.50	25.53		
15240	4.93	5.53	5.99	7.53	8.33	9.12	10.71	11.92	12.30	12.69	17.54	20.08	23.23	26.07	32.70	36.52	40.19		
	3.07	3.42	3.72	4.65	5.13	5.61	6.56	7.29	7.51	7.76	10.59	12.12	13.84	15.35	19.11	21.17	24.02		
15545	4.75	5.34	5.79	7.26	8.02	8.78	10.39	11.68	12.05	12.44	16.85	19.30	22.32	25.05	31.43	35.09	38.63	43.56	
	2.90	3.25	3.53	4.40	4.84	5.29	6.24	7.00	7.22	7.45	9.98	11.41	13.04	14.46	18.00	19.93	22.62	24.64	
15850	4.59	5.15	5.58	7.00	7.74	8.46	10.04	11.45	11.82	12.21	16.21	18.56	21.46	24.10	30.22	33.75	37.14	41.98	
	2.75	3.07	3.34	4.15	4.59	5.00	5.92	6.72	6.94	7.18	9.41	10.77	12.30	13.64	16.97	18.79	21.33	23.24	
16154	4.43	4.97	5.38	6.75	7.47	8.17	9.69	11.25	11.60	11.98	15.60	17.86	20.66	23.18	29.08	32.48	35.74	40.49	42.62
	2.61	2.91	3.15	3.94	4.33	4.74	5.60	6.47	6.68	6.90	8.88	10.17	11.61	12.87	16.02	17.74	20.13	21.94	23.75
16459	4.29	4.80	5.21	6.52	7.22	7.89	9.35	10.82	11.38	11.74	15.01	17.20	19.90	22.34	28.02	31.28	34.42	39.09	41.05
	2.46	2.75	2.99	3.73	4.11	4.49	5.31	6.12	6.42	6.62	8.39	9.60	10.97	12.17	15.14	16.78	19.04	20.73	22.46
16764	4.14	4.64	5.03	6.30	6.97	7.61	9.03	10.43	11.17	11.54	14.47	16.57	19.17	21.52	26.99	30.15	33.17	37.75	39.56
	2.34	2.61	2.83	3.54	3.89	4.26	5.03	5.79	6.08	6.39	7.93	9.09	10.39	11.51	14.33	15.87	18.00	19.61	21.24
17069	4.01	4.49	4.85	6.10	6.74	7.36	8.72	10.06	10.77	11.32	13.96	15.99	18.49	20.76	26.03	29.08	31.98	36.47	38.14
	2.23	2.48	2.68	3.35	3.70	4.04	4.77	5.48	5.76	6.15	7.53	8.61	9.83	10.90	13.57	15.03	17.06	18.57	20.12
17374	3.88	4.34	4.69	5.89	6.49	7.12	8.43	9.71	10.40	11.13	13.47	15.42	17.84	20.03	25.13	28.06	30.88	35.25	36.82
	2.11	2.36	2.55	3.19	3.50	3.83	4.53	5.16	5.45	5.93	7.13	8.15	9.32	10.33	12.87	14.25	16.17	17.61	19.07
17678	3.75	4.20	4.55	5.70	6.27	6.90	8.15	9.38	10.04	10.94	13.00	14.90	17.23	19.35	24.25	27.10	29.81	34.10	35.55
	2.01	2.24	2.43	3.03	3.32	3.66	4.30	4.90	5.18	5.73	6.77	7.74	8.84	9.80	12.21	13.52	15.33	16.71	18.09
17983	3.63	4.07	4.40	5.53	6.07	6.68	7.89	9.06	9.70	10.58	12.56	14.38	16.65	18.69	23.43	26.18	28.80	33.01	34.35
	1.91	2.13	2.32	2.88	3.16	3.48	4.10	4.65	4.91	5.45	6.42	7.35	8.40	9.31	11.58	12.84	14.57	15.87	17.19
18288	3.53	3.95	4.27	5.35	5.86	6.46	7.64	8.75	9.38	10.23	12.15	13.92	16.09	18.06	22.66	25.30	27.84	31.96	33.20
	1.82	2.04	2.20	2.75	3.00	3.31	3.89	4.43	4.68	5.18	6.11								

**METRIC LOAD TABLE/OPEN WEB STEEL JOISTS, LH-SERIES**  
Based on a 345 MPa Maximum Yield Strength - Loads Shown In Kilonewtons Per Meter (kN/m)

Joist Designation	36LH07	36LH08	36LH09	36LH10	36LH11	36LH12	36LH13	36LH14	36LH15	36LH16	36LH17	36LH18	36LH19	36LH20	36LH21	36LH22	36LH23	36LH24	36LH25
Depth (mm)	914	914	914	914	914	914	914	914	914	914	914	914	914	914	914	914	914	914	914
Approx. Wt. (kN/m)	0.23	0.26	0.31	0.31	0.34	0.36	0.44	0.53	0.53	0.64	0.72	0.85	0.93	1.18	1.34	1.46	1.78	1.90	2.17
Span (mm)																			
↓																			
10973	8.49	9.74	12.41	14.68	15.52	18.57	22.37	24.64	26.67	34.16	39.38								
	8.49	9.74	12.41	14.68	15.52	18.57	22.37	24.64	26.67	34.16	39.38								
11278	8.20	9.39	11.96	14.11	14.91	17.86	21.46	23.65	25.59	32.73	37.73	42.62							
	8.20	9.39	11.96	14.11	14.91	17.86	21.46	23.65	25.59	32.73	37.73	42.62							
11582	7.92	9.04	11.38	13.55	14.34	17.17	20.60	22.70	24.57	31.37	36.17	40.86							
	7.92	9.04	11.38	13.55	14.34	17.17	20.60	22.70	24.57	31.37	36.17	40.86							
11887	7.66	8.72	11.12	13.04	13.80	16.52	19.80	21.80	23.59	30.10	34.70	39.21							
	7.66	8.72	11.12	13.04	13.80	16.52	19.80	21.80	23.59	30.10	34.70	39.21							
12192	7.41	8.40	10.72	12.55	13.28	15.90	19.03	20.95	22.67	28.89	33.31	37.63	43.57						
	7.41	8.40	10.72	12.55	13.28	15.90	19.03	20.95	22.67	28.89	33.31	37.63	43.57						
12497	7.16	8.11	10.36	12.09	12.78	15.30	18.30	20.15	21.80	27.75	32.00	36.14	41.78						
	7.16	8.07	10.27	11.35	12.36	14.72	17.26	18.97	19.97	24.79	28.39	32.45	36.03						
12802	6.93	7.83	9.99	11.64	12.31	14.75	17.60	19.39	20.98	26.67	30.76	34.74	40.10						
	6.84	7.50	9.55	10.56	11.48	13.68	16.05	17.64	18.56	23.05	26.40	30.18	33.49						
13106	6.71	7.55	9.64	11.22	11.87	14.21	16.94	18.66	20.19	25.65	29.58	33.42	38.49						
	6.37	6.99	8.90	9.83	10.69	12.75	14.95	16.43	17.29	21.46	24.59	28.10	31.20						
13411	6.49	7.29	9.32	10.82	11.45	13.71	16.31	17.97	19.45	24.69	28.45	32.16	36.99						
	5.95	6.52	8.30	9.17	9.98	11.89	13.95	15.32	16.14	20.02	22.94	26.21	29.10						
13716	6.28	7.06	9.01	10.44	11.04	13.23	15.73	17.32	18.75	23.77	27.40	30.96	35.56						
	5.56	6.08	7.76	8.56	9.32	11.12	13.03	14.31	15.07	18.70	21.42	24.48	27.18						
14021	6.08	6.81	8.71	10.08	10.66	12.76	15.16	16.71	18.08	22.89	26.40	29.82	34.22	43.03					
	5.19	5.70	7.25	8.02	8.72	10.40	12.20	13.39	14.11	17.51	20.05	22.91	25.45	31.72					
14326	5.89	6.59	8.43	9.73	10.30	12.33	14.62	16.11	17.43	22.06	25.45	28.74	32.95	41.43					
	4.87	5.34	6.80	7.51	8.17	9.74	11.42	12.55	13.22	16.40	18.78	21.48	23.84	29.74					
14630	5.72	6.37	8.15	9.41	9.95	11.90	14.11	15.55	16.82	21.29	24.54	27.72	31.74	39.91					
	4.56	5.02	6.37	7.04	7.67	9.15	10.72	11.77	12.40	15.39	17.62	20.15	22.37	27.90					
14935	5.54	6.17	7.89	9.09	9.61	11.51	13.63	15.01	16.25	20.53	23.68	26.76	30.58	38.46	42.35				
	4.29	4.71	5.99	6.62	7.20	8.59	10.06	11.07	11.66	14.46	16.56	18.92	21.01	26.22	29.05				
15240	5.37	5.98	7.64	8.78	9.29	11.13	13.17	14.50	15.70	19.83	22.79	25.84	29.50	37.09	40.84				
	4.04	4.43	5.64	6.23	6.78	8.08	9.48	10.42	10.96	13.61	15.58	17.81	19.77	24.66	27.33				
15545	5.21	5.79	7.41	8.50	8.98	10.77	12.72	14.02	15.17	19.11	21.90	24.95	28.47	35.75	39.41				
	3.80	4.17	5.31	5.88	6.39	7.61	8.93	9.80	10.33	12.81	14.68	16.78	18.62	23.23	25.74				
15850	5.06	5.60	7.18	8.23	8.71	10.43	12.31	13.57	14.68	18.37	21.05	24.12	27.37	34.38	38.06	42.26			
	3.59	3.94	5.00	5.54	6.02	7.18	8.42	9.25	9.73	12.08	13.84	15.81	17.57	21.90	24.28	27.56			
16154	4.91	5.44	6.96	7.96	8.43	10.09	11.90	12.98	14.19	17.68	20.27	23.32	26.35	33.08	36.76	40.67			
	3.38	3.72	4.72	5.22	5.69	6.78	7.95	8.74	9.19	11.41	13.07	14.94	16.57	20.67	22.92	26.02			
16459	4.77	5.26	6.74	7.69	8.15	9.77	11.52	12.71	13.74	17.03	19.52	22.56	25.37	31.85	35.53	39.17	43.44		
	3.21	3.51	4.46	4.94	5.37	6.40	7.51	8.26	8.69	10.78	12.34	14.11	15.67	19.55	21.65	24.59	26.82		
16764	4.64	5.10	6.55	7.42	7.90	9.48	11.16	12.30	13.30	16.41	18.81	21.75	24.45	30.70	34.31	37.75	42.00		
	3.03	3.32	4.23	4.67	5.09	6.07	7.10	7.80	8.21	10.20	11.68	13.35	14.82	18.49	20.48	23.26	25.37		
17069	4.50	4.96	6.34	7.16	7.67	9.19	10.81	11.92	12.90	15.83	18.14	20.98	23.58	29.61	33.08	36.41	40.61	43.50	
	2.87	3.15	4.01	4.42	4.81	5.74	6.72	7.39	7.79	9.66	11.06	12.65	14.03	17.51	19.40	22.03	24.03	26.07	
17374	4.37	4.81	6.17	6.91	7.44	8.91	10.47	11.55	12.50	15.27	17.51	20.25	22.76	28.57	31.93	35.14	39.28	41.98	
	2.72	2.97	3.79	4.20	4.56	5.44	6.37	7.01	7.38	9.16	10.49	11.99	13.30	16.60	18.40	20.88	22.79	24.72	
17678	4.26	4.68	5.99	6.62	7.22	8.65	10.17	11.20	11.80	14.75	16.89	19.55	21.97	27.59	30.82	33.93	38.03	40.54	
	2.58	2.83	3.60	3.98	4.33	5.16	6.05	6.65	7.00	8.69	9.95	11.38	12.63	15.76	17.45	19.81	21.62	23.45	
17983	4.13	4.53	5.80	6.42	7.00	8.39	9.85	11.01	11.60	14.25	16.33	18.89	21.23	26.66	29.78	32.77	36.83	39.17	
	2.45	2.69	3.42	3.79	4.13	4.93	5.76	6.33	6.77	8.26	9.45	10.79	11.99	14.95	16.57	18.82	20.53	22.27	
18288	3.99	4.40	5.63	6.21	6.78	8.12	9.54	10.63	11.39	13.77	15.79	18.27	20.53	25.77	28.79	31.69	35.69	37.87	
	2.33	2.56	3.26	3.61	3.92	4.69	5.48	6.01	6.53	7.85	8.98	10.27	11.39	14.22	15.76	17.89	19.52	21.17	
18593	3.88	4.27	5.45	6.02	6.58	7.88	9.25	10.30	11.22	13.32	15.27	17.67	19.86	24.94	27.85	30.66	34.60	36.63	43.35
	2.23	2.45	3.12	3.44	3.75	4.48	5.23	5.72	6.33	7.47	8.55	9.77	10.84	13.52	14.98	17.01	18.57	20.13	23.46
18898	3.76	4.14	5.29	5.85	6.39	7.63	8.97	9.96	10.85	12.90	14.78	17.10	19.22	24.13	26.95	29.66	33.55	35.44	41.95
	2.13	2.33	2.97	3.28	3.59	4.26	4.99	5.44	6.02	7.10	8.14	9.31	10.33	12.88	14.27	16.21	17.68	19.17	22.34
19202	3.66	4.02	5.13	5.67	6.20	7.41	8.69	9.64	10.52	12.49	14.31	16.56	18.60	23.36	26.10	28.73	32.54	34.32	40.62
	2.04	2.23	2.84	3.13	3.41	4.07	4.77	5.19	5.74	6.77	7.74	8.85	9.83	12.27	13.60	15.44	16.85	18.27	21.27
19507	3.56	3.91	4.99	5.51	6.01	7.19	8.44	9.35	10.18	12.09	13.86	16.03	18.03	22.63	25.29	27.83	31.59	33.25	39.35
	1.95	2.13	2.71	3.00	3.26	3.89	4.55	4.94	5.47	6.46	7.39	8.44	9.38	11.70	12.97	14.72	16.06	17.42	20.30
19812	3.45	3.79	4.85	5.35	5.85	6.97	8.20	9.06	9.88	11.73	13.44	15.55	17.48	21.94	24.51	26.98	30.67	32.23	38.16
	1.86	2.04	2.61	2.87	3.12	3.72	4.34	4.71	5.22	6.15	7.06	8.07	8.96	11.17	12.37	14.05	15.33	16.62	19.36
20117	3.35	3.69	4.71	5.21	5.67	6.77	7.96	8.78	9.57	11.36	13.03	15.07	16.94	21.27	23.77	26.16	29.80	31.26	37.01
	1.78	1.95	2.49	2.74	2.99	3.54	4.15	4.50	4.99	5.88	6.74	7.70	8.55	10.66	11.82	13.42	14.63	15.87	18.50
20422	3.26	3.59	4.58	5.06	5.51	6.56	7.74	8.52	9.29	11.03	12.65	14.63	16.44	20.65	23.05	25.37	28.95	30.32	35.90
	1.70	1.86	2.37	2.62	2.86	3.38	3.98	4.30	4.77	5.61	6.43	7.35	8.17	10.20	11.29	12.82	13.99	15.17	17.67
20726	3.18	3.48	4.46	4.93	5.37	6.37	7.53	8.27	9.01	10.71	12.27	14.19	15.96	20.03	22.38	24.63	28.		



METRIC LOAD TABLE/OPEN WEB STEEL JOISTS, LH-SERIES																		
Based on a 345 MPa Maximum Yield Strength - Loads Shown in Kilonewtons Per Meter (kN/m)																		
Joist Designation	40LH08	40LH09	40LH10	40LH11	40LH12	40LH13	40LH14	40LH15	40LH16	40LH17	40LH18	40LH19	40LH20	40LH21	40LH22	40LH23	40LH24	40LH25
Depth (mm)	1016	1016	1016	1016	1016	1016	1016	1016	1016	1016	1016	1016	1016	1016	1016	1016	1016	1016
Approx. Wt. (kN/m)	0.23	0.31	0.31	0.32	0.36	0.44	0.51	0.53	0.61	0.74	0.82	0.93	1.18	1.36	1.46	1.77	1.85	2.16
Span (mm)																		
↓																		
12192	7.57	10.28	12.24	12.82	15.58	18.92	21.59	24.15	28.64	34.68	39.18							
	7.57	10.28	12.24	12.82	15.58	18.92	21.59	24.15	28.64	34.68	39.18							
12497	7.35	9.95	11.82	12.40	15.06	18.25	20.82	23.30	27.59	33.42	37.73							
	7.35	9.95	11.82	12.40	15.06	18.25	20.82	23.30	27.59	33.42	37.73							
12802	7.15	9.63	11.42	11.98	14.55	17.61	20.09	22.47	26.59	32.19	36.36	42.49						
	7.15	9.63	11.42	11.98	14.55	17.61	20.09	22.47	26.59	32.19	36.36	42.49						
13106	6.93	9.34	11.04	11.58	14.06	17.00	19.39	21.70	25.62	31.04	35.06	40.89						
	6.93	9.34	11.04	11.58	14.06	17.00	19.39	21.70	25.62	31.04	35.06	40.89						
13411	6.74	9.04	10.68	11.19	13.60	16.41	18.73	20.95	24.72	29.94	33.82	39.37						
	6.74	9.04	10.68	11.19	13.60	16.41	18.73	20.95	24.72	29.94	33.82	39.37						
13716	6.53	8.77	10.33	10.82	13.16	15.86	18.09	20.24	23.86	28.89	32.63	37.92						
	6.53	8.77	10.33	10.82	13.16	15.86	18.09	20.24	23.86	28.89	32.63	37.92						
14021	6.34	8.49	9.99	10.47	12.74	15.32	17.48	19.55	23.02	27.88	31.50	36.55						
	6.34	8.49	9.99	10.47	12.74	15.32	17.48	19.55	23.02	27.88	31.50	36.55						
14326	6.17	8.23	9.67	10.14	12.33	14.81	16.91	18.91	22.24	26.94	30.44	35.25						
	6.10	7.96	9.38	9.85	11.58	13.58	15.57	17.36	19.07	23.49	26.85	29.85						
14630	5.99	7.98	9.36	9.82	11.93	14.33	16.35	18.30	21.49	26.03	29.40	34.01	42.80					
	5.72	7.47	8.24	8.93	10.87	12.74	14.60	16.28	17.89	22.03	25.20	28.02	34.99					
14935	5.83	7.74	9.07	9.51	11.55	13.86	15.81	17.70	20.78	25.15	28.42	32.85	41.32					
	5.37	7.03	7.74	8.39	10.21	11.98	13.73	15.30	16.81	20.70	23.68	26.32	32.88					
15240	5.67	7.51	8.80	9.22	11.20	13.42	15.32	17.13	20.09	24.34	27.49	31.72	39.91					
	5.06	6.61	7.28	7.89	9.61	11.26	12.91	14.40	15.81	19.48	22.28	24.76	30.93					
15545	5.51	7.29	8.52	8.94	10.85	13.00	14.82	16.59	19.43	23.55	26.60	30.66	38.57	42.46				
	4.77	6.23	6.85	7.42	9.04	10.60	12.17	13.57	14.90	18.35	20.98	23.32	29.14	32.29				
15850	5.37	7.09	8.26	8.66	10.53	12.59	14.37	16.06	18.82	22.79	25.75	29.64	37.30	41.06				
	4.49	5.86	6.46	7.00	8.53	10.01	11.47	12.79	14.05	17.30	19.78	21.99	27.48	30.45				
16154	5.22	6.88	8.01	8.40	10.21	12.20	13.92	15.57	18.22	22.08	24.94	28.67	36.07	39.72				
	4.24	5.54	6.11	6.62	8.05	9.44	10.82	12.08	13.26	16.34	18.68	20.76	25.94	28.74				
16459	5.07	6.68	7.77	8.15	9.90	11.83	13.49	15.10	17.65	21.38	24.16	27.74	34.90	38.44				
	4.01	5.23	5.77	6.26	7.61	8.93	10.24	11.41	12.53	15.44	17.65	19.62	24.51	27.17				
16764	4.94	6.50	7.55	7.92	9.61	11.47	13.09	14.65	17.10	20.72	23.42	26.86	33.79	37.21	42.33			
	3.79	4.96	5.45	5.92	7.20	8.44	9.69	10.79	11.86	14.60	16.71	18.56	23.20	25.71	29.20			
17069	4.81	6.31	7.34	7.69	9.34	11.13	12.69	14.21	16.59	20.09	22.70	26.02	32.73	36.04	40.81			
	3.59	4.69	5.18	5.60	6.82	7.99	9.17	10.23	11.23	13.83	15.81	17.58	21.96	24.34	27.65			
17374	4.69	6.14	7.12	7.47	9.07	10.79	12.33	13.79	16.09	19.49	22.02	25.21	31.72	34.93	39.40	42.90		
	3.40	4.45	4.90	5.31	6.47	7.58	8.69	9.69	10.65	13.11	15.00	16.66	20.82	23.08	26.22	28.63		
17678	4.56	5.98	6.91	7.25	8.81	10.49	11.96	13.39	15.61	18.91	21.38	24.44	30.74	33.87	38.04	41.57		
	3.22	4.21	4.65	5.04	6.14	7.19	8.26	9.20	10.11	12.44	14.22	15.81	19.76	21.90	24.88	27.17		
17983	4.45	5.82	6.72	7.04	8.56	10.18	11.63	13.00	15.14	18.27	20.75	23.70	29.82	32.85	36.76	40.29		
	3.06	4.01	4.42	4.78	5.83	6.82	7.83	8.74	9.60	11.82	13.51	15.01	18.76	20.79	23.62	25.80		
18288	4.33	5.66	6.52	6.85	8.33	9.89	11.29	12.63	14.71	17.67	20.15	22.98	28.89	31.87	35.53	39.06	42.52	
	2.91	3.80	4.20	4.55	5.54	6.49	7.45	8.30	9.12	11.23	12.84	14.28	17.83	19.77	22.46	24.53	26.63	
18593	4.23	5.51	6.31	6.66	8.09	9.61	10.97	12.28	14.30	17.08	19.57	22.24	27.94	30.92	34.36	37.90	41.14	
	2.77	3.63	3.99	4.33	5.26	6.18	7.09	7.90	8.68	10.68	12.21	13.58	16.97	18.81	21.36	23.33	25.33	
18898	4.13	5.37	6.11	6.49	7.88	9.35	10.66	11.93	13.89	16.53	19.01	21.52	27.04	30.03	33.25	36.79	39.81	
	2.64	3.45	3.80	4.13	5.02	5.88	6.74	7.53	8.26	10.17	11.63	12.93	16.15	17.90	20.34	22.22	24.12	
19202	4.02	5.22	5.92	6.31	7.67	9.09	10.37	11.61	13.49	16.00	18.49	20.84	26.19	29.17	32.20	35.71	38.55	
	2.52	3.29	3.63	3.92	4.78	5.60	6.43	7.16	7.88	9.69	11.09	12.33	15.39	17.06	19.38	21.17	22.98	
19507	3.92	5.09	5.74	6.14	7.47	8.84	10.09	11.29	13.13	15.51	17.95	20.19	25.37	28.35	31.20	34.68	37.36	
	2.40	3.13	3.45	3.75	4.56	5.34	6.12	6.84	7.51	9.25	10.56	11.74	14.68	16.27	18.49	20.18	21.92	
19812	3.82	4.96	5.57	5.98	7.26	8.61	9.82	10.98	12.76	15.04	17.39	19.57	24.59	27.48	30.25	33.69	36.20	42.86
	2.29	2.99	3.29	3.57	4.34	5.10	5.85	6.52	7.16	8.98	10.08	11.22	14.01	15.52	17.64	19.26	20.92	24.38
20117	3.70	4.84	5.35	5.82	7.09	8.36	9.57	10.71	11.79	14.57	16.87	18.98	23.84	26.64	29.33	32.76	35.11	41.57
	2.18	2.86	3.15	3.41	4.15	4.87	5.58	6.23	6.84	8.42	9.63	10.71	13.38	14.82	16.84	18.40	19.97	23.29
20422	3.60	4.71	5.21	5.66	6.88	8.12	9.31	10.39	11.61	14.15	16.37	18.41	23.14	25.86	28.45	31.85	34.06	40.33
	2.10	2.74	3.02	3.26	3.98	4.67	5.35	5.95	6.64	8.05	9.20	10.23	12.78	14.17	16.09	17.58	19.08	22.25
20726	3.51	4.59	5.06	5.51	6.69	7.90	9.04	10.08	11.44	13.73	15.89	17.87	22.46	25.10	27.62	30.98	33.06	39.15
	2.01	2.62	2.88	3.13	3.80	4.48	5.12	5.69	6.43	7.70	8.80	9.79	12.22	13.55	15.39	16.81	18.25	21.27
21031	3.41	4.46	4.93	5.37	6.52	7.70	8.80	9.79	11.26	13.33	15.42	17.35	21.81	24.37	26.82	30.15	32.10	38.01
	1.92	2.52	2.77	3.02	3.66	4.30	4.90	5.44	6.24	7.36	8.42	9.36	11.70	12.97	14.73	16.09	17.46	20.37
21336	3.32	4.34	4.80	5.22	6.34	7.50	8.56	9.51	11.10	12.95	14.98	16.85	21.19	23.67	26.06	29.34	31.20	36.93
	1.85	2.42	2.67	2.88	3.51	4.13	4.71	5.21	6.07	7.04	8.07	8.97	11.20	12.41	14.11	15.41	16.72	19.49
21641	3.23	4.24	4.68	5.09	6.18	7.29	8.33	9.23	10.96	12.59	14.56	16.38	20.59	23.01	25.33	28.57	30.32	35.90
	1.78	2.33	2.56	2.77	3.37	3.95	4.50	4.99	5.89	6.75	7.73	8.59	10.74	11.89	13.51	14.76	16.02	18.68
21946	3.16	4.13	4.56	4.96	6.02	7.10	8.11	8.98	10.65	12.24	14.17	15.93	20.02	22.37	24.63	27.83	29.47	34.89
	1.70	2.23	2.46	2.67	3.23	3.79	4.33	4.78	5.64	6.47	7.41	8.23	10.28	11.41	12.95	14.15	15.36	17.90
22250	3.07	4.02	4.45	4.84	5.86	6.93	7.90	8.74	10.36	11.90	13.77	15.49	19.48	21.75	23.94	27.11	28.67	33.94
	1.63	2.14	2.36	2.56	3													

# ASD

## METRIC LOAD TABLE/OPEN WEB STEEL JOISTS, LH-SERIES

Based on a 345 MPa Maximum Yield Strength - Loads Shown In Kilonewtons Per Meter (kN/m)

Joist Designation	44LH09	44LH10	44LH11	44LH12	44LH13	44LH14	44LH15	44LH16	44LH17	44LH18	44LH19	44LH20	44LH21	44LH22	44LH23	44LH24	44LH25
Depth (mm)	1118	1118	1118	1118	1118	1118	1118	1118	1118	1118	1118	1118	1118	1118	1118	1118	1118
Approx. Wt. (kN/m)	0.28	0.31	0.32	0.36	0.44	0.45	0.53	0.61	0.69	0.83	0.93	1.20	1.36	1.47	1.72	1.85	2.15
Span (mm)																	
↓																	
13411	8.53 8.53	9.41 9.41	11.09 11.09	13.09 13.09	15.44 15.44	18.38 18.38	21.39 21.39	25.24 25.24	28.15 28.15	34.85 34.85	41.09 41.09						
13716	8.28 8.28	9.15 9.15	10.77 10.77	12.69 12.69	14.97 14.97	17.80 17.80	20.72 20.72	24.41 24.41	27.23 27.23	33.71 33.71	39.66 39.66						
14021	8.05 8.05	8.88 8.88	10.44 10.44	12.31 12.31	14.52 14.52	17.24 17.24	20.06 20.06	23.62 23.62	26.35 26.35	32.61 32.61	38.30 38.30						
14326	7.83 7.83	8.63 8.63	10.14 10.14	11.95 11.95	14.09 14.09	16.72 16.72	19.45 19.45	22.86 22.86	25.51 25.51	31.58 31.58	37.02 37.02						
14630	7.61 7.61	8.40 8.40	9.83 9.83	11.60 11.60	13.68 13.68	16.21 16.21	18.85 18.85	22.15 22.15	24.70 24.70	30.57 30.57	35.78 35.78						
14935	7.41 7.41	8.17 8.17	9.55 9.55	11.26 11.26	13.28 13.28	15.71 15.71	18.28 18.28	21.45 21.45	23.93 23.93	29.62 29.62	34.60 34.60	43.56 43.56					
15240	7.20 7.20	7.95 7.95	9.28 9.28	10.94 10.94	12.90 12.90	15.25 15.25	17.73 17.73	20.78 20.78	23.18 23.18	28.70 28.70	33.47 33.47	42.14 42.14					
15545	7.01 7.01	7.73 7.73	9.01 9.01	10.62 10.62	12.53 12.53	14.78 14.78	17.20 17.20	20.15 20.15	22.47 22.47	27.83 27.83	32.39 32.39	40.80 40.80					
15850	6.82 6.82	7.53 7.53	8.75 8.75	10.33 10.33	12.18 12.18	14.36 14.36	16.71 16.71	19.54 19.54	21.78 21.78	26.98 26.98	31.37 31.37	39.50 39.50	43.48 43.48				
16154	6.64 6.64	7.32 7.32	8.50 8.50	10.04 10.04	11.83 11.83	13.93 13.93	16.21 16.21	18.95 18.95	21.13 21.13	26.16 26.16	30.39 30.39	38.26 38.26	42.13 42.13				
16459	6.46 6.46	7.13 7.13	8.27 8.27	9.76 9.76	11.51 11.51	13.52 13.52	15.74 15.74	18.38 18.38	20.51 20.51	25.39 25.39	29.45 29.45	37.08 37.08	40.83 40.83				
16764	6.30 6.30	6.94 6.94	8.04 8.04	9.48 9.48	11.19 11.19	13.14 13.14	15.29 15.29	17.84 17.84	19.90 19.90	24.64 24.64	28.54 28.54	35.94 35.94	39.57 39.57				
17069	6.14 6.14	6.77 6.77	7.82 7.82	9.23 9.23	10.88 10.88	12.78 12.78	14.87 14.87	17.33 17.33	19.33 19.33	23.93 23.93	27.68 27.68	34.86 34.86	38.38 38.38				
17374	5.98 5.98	6.59 6.59	7.61 7.61	8.98 8.98	10.59 10.59	12.41 12.41	14.44 14.44	16.84 16.84	18.78 18.78	23.24 23.24	26.86 26.86	33.82 33.82	37.24 37.24	43.65 43.65			
17678	5.82 5.82	6.42 6.42	7.41 7.41	8.74 8.74	10.33 10.33	12.08 12.08	14.05 14.05	16.35 16.35	18.24 18.24	22.59 22.59	26.07 26.07	32.82 32.82	36.14 36.14	42.16 42.16			
17983	5.67 5.67	6.26 6.26	7.20 7.20	8.50 8.50	10.04 10.04	11.74 11.74	13.67 13.67	15.89 15.89	17.73 17.73	21.96 21.96	25.32 25.32	31.87 31.87	35.09 35.09	40.73 40.73	43.34 43.34		
18288	5.53 5.53	6.10 6.10	7.01 7.01	8.28 8.28	9.77 9.77	11.42 11.42	13.29 13.29	15.45 15.45	17.23 17.23	21.35 21.35	24.59 24.59	30.95 30.95	34.09 34.09	39.37 39.37	42.07 42.07		
18593	5.39 5.39	5.95 5.95	6.84 6.84	8.07 8.07	9.51 9.51	11.12 11.12	12.94 12.94	15.03 15.03	16.76 16.76	20.76 20.76	23.89 23.89	30.07 30.07	33.12 33.12	38.09 38.09	40.84 40.84		
18898	5.26 5.26	5.80 5.80	6.66 6.66	7.86 7.86	9.28 9.28	10.82 10.82	12.59 12.59	14.62 14.62	16.31 16.31	20.19 20.19	23.21 23.21	29.23 29.23	32.19 32.19	36.86 36.86	39.66 39.66		
19202	5.13 5.13	5.63 5.63	6.49 6.49	7.66 7.66	9.03 9.03	10.53 10.53	12.27 12.27	14.22 14.22	15.87 15.87	19.65 19.65	22.57 22.57	28.42 28.42	31.30 31.30	35.69 35.69	38.54 38.54	42.78 42.78	
19507	5.00 5.00	5.53 5.53	6.33 6.33	7.47 7.47	8.81 8.81	10.27 10.27	11.95 11.95	13.84 13.84	15.45 15.45	19.13 19.13	21.94 21.94	27.64 27.64	30.44 30.44	34.58 34.58	37.46 37.46	41.44 41.44	
19812	4.88 4.88	5.39 5.39	6.17 6.17	7.28 7.28	8.59 8.59	9.99 9.99	11.64 11.64	13.48 13.48	15.04 15.04	18.63 18.63	21.36 21.36	26.89 26.89	29.61 29.61	33.52 33.52	36.42 36.42	40.17 40.17	
20117	4.77 4.77	5.26 5.26	5.99 5.99	7.10 7.10	8.37 8.37	9.74 9.74	11.33 11.33	13.13 13.13	14.65 14.65	18.15 18.15	20.78 20.78	26.18 26.18	28.82 28.82	32.51 32.51	35.43 35.43	38.96 38.96	
20422	4.65 4.65	5.13 5.13	5.82 5.82	6.93 6.93	8.17 8.17	9.50 9.50	11.06 11.06	12.79 12.79	14.27 14.27	17.68 17.68	20.24 20.24	25.48 25.48	28.06 28.06	31.53 31.53	34.48 34.48	37.79 37.79	
20726	4.55 4.55	5.02 5.02	5.66 5.66	6.75 6.75	7.96 7.96	9.26 9.26	10.78 10.78	12.47 12.47	13.92 13.92	17.23 17.23	19.70 19.70	24.80 24.80	27.33 27.33	30.61 30.61	33.56 33.56	36.48 36.48	43.44 43.44
21031	4.43 4.43	4.90 4.90	5.50 5.50	6.59 6.59	7.77 7.77	9.03 9.03	10.52 10.52	12.15 12.15	13.57 13.57	16.79 16.79	19.19 19.19	24.16 24.16	26.61 26.61	29.72 29.72	32.67 32.67	35.63 35.63	42.19 42.19
21336	4.33 4.33	4.78 4.78	5.34 5.34	6.43 6.43	7.60 7.60	8.81 8.81	10.25 10.25	11.86 11.86	13.22 13.22	16.38 16.38	18.66 18.66	23.48 23.48	25.94 25.94	28.88 28.88	31.82 31.82	34.61 34.61	40.99 40.99
21641	4.24 4.24	4.68 4.68	5.19 5.19	6.28 6.28	7.41 7.41	8.59 8.59	10.01 10.01	11.55 11.55	12.90 12.90	15.98 15.98	18.14 18.14	22.81 22.81	25.29 25.29	28.06 28.06	31.01 31.01	33.63 33.63	39.84 39.84
21946	4.14 4.14	4.56 4.56	5.06 5.06	6.14 6.14	7.23 7.23	8.39 8.39	9.77 9.77	11.28 11.28	12.59 12.59	15.58 15.58	17.64 17.64	22.18 22.18	24.64 24.64	27.29 27.29	30.20 30.20	32.70 32.70	38.73 38.73
22250	4.05 4.05	4.45 4.45	4.93 4.93	5.99 5.99	7.07 7.07	8.20 8.20	9.54 9.54	11.00 11.00	12.28 12.28	15.22 15.22	17.16 17.16	21.58 21.58	24.05 24.05	26.54 26.54	29.45 29.45	31.81 31.81	37.68 37.68
22555	3.96 3.96	4.37 4.37	4.74 4.74	5.86 5.86	6.96 6.96	8.01 8.01	9.32 9.32	10.75 10.75	11.52 11.52	14.82 14.82	16.69 16.69	21.00 21.00	23.45 23.45	25.83 25.83	28.72 28.72	30.95 30.95	36.65 36.65
22860	3.86 3.86	4.27 4.27	4.62 4.62	5.73 5.73	6.80 6.80	7.79 7.79	9.09 9.09	10.49 10.49	11.38 11.38	14.43 14.43	16.24 16.24	20.43 20.43	22.83 22.83	25.14 25.14	28.02 28.02	30.13 30.13	35.68 35.68
23165	3.77 3.77	4.17 4.17	4.52 4.52	5.58 5.58	6.62 6.62	7.58 7.58	8.87 8.87	10.23 10.23	11.22 11.22	14.05 14.05	15.81 15.81	19.90 19.90	22.24 22.24	24.48 24.48	27.33 27.33	29.34 29.34	34.74 34.74
23470	3.69 3.69	4.07 4.07	4.40 4.40	5.45 5.45	6.47 6.47	7.38 7.38	8.65 8.65	9.98 9.98	11.07 11.07	13.68 13.68	15.41 15.41	19.38 19.38	21.65 21.65	23.84 23.84	26.67 26.67	28.58 28.58	33.84 33.84
23774	3.60 3.60	3.96 3.96	4.30 4.30	5.32 5.32	6.31 6.31	7.19 7.19	8.44 8.44	9.74 9.74	10.94 10.94	13.33 13.33	15.01 15.01	18.88 18.88	21.10 21.10	23.23 23.23	26.05 26.05	27.84 27.84	32.98 32.98
24079	3.53 3.53	3.88 3.88	4.21 4.21	5.19 5.19	6.17 6.17	7.01 7.01	8.24 8.24	9.51 9.51	10.68 10.68	13.00 13.00	14.63 14.63	18.41 18.41	20.57 20.57	22.64 22.64	25.43 25.43	27.14 27.14	32.15 32.15
24384	3.44 3.44	3.79 3.79	4.11 4.11	5.06 5.06	6.02 6.02	6.84 6.84	8.04 8.04	9.29 9.29	10.43 10.43	12.68 12.68	14.27 14.27	17.95 17.95	20.05 20.05	22.08 22.08	24.83 24.83	26.47 26.47	31.34 31.34
24689	3.37 3.37	3.70 3.70	4.02 4.02	4.94 4.94	5.89 5.89	6.66 6.66	7.83 7.83	9.07 9.07	10.20 10.20	12.37 12.37	13.92 13.92	17.51 17.51	19.57 19.57	21.54 21.54	24.26 24.26	25.81 25.81	30.57 30.57
24994	3.29 3.29	3.63 3.63	3.92 3.92	4.83 4.83	5.76 5.76	6.50 6.50	7.64 7.64	8.87 8.87	9.96 9.96	12.06 12.06	13.58 13.58	17.08 17.08	19.08 19.08	21.01 21.01	23.71 23.71	25.18 25.18	29.82 29.82
25298	3.22 3.22	3.54 3.54	3.85 3.85	4.71 4.71	5.63 5.63	6.36 6.36	7.47 7.47	8.66 8.66	9.73 9.73	11.77 11.77	13.25 13.25	16.66 16.66	18.62 18.62	20.50 20.50	23.17 23.17	24.57 24.57	29.11 29.11
25603	3.15 3.15	3.47 3.47	3.76 3.76	4.59 4.59	5.50 5.50	6.20 6.20	7.29 7.29	8.46 8.46	9.51 9.51	11.49 11.49	12.94 12.94	16.27 16.27	18.18 18.18	20.02 20.02	22.66 22.66	23.99 23.99	28.41 28.41
25908	3.07 3.07	3.40 3.40	3.67 3.67	4.49 4.49	5.38 5.38	6.05 6.05	7.12 7.12	8.28 8.28	9.31 9.31	11.22 11.22	12.63 12.63	15.89 15.89	17.76 17.76	19.55 19.55	22.16 22.16	23.83 23.83	27.75 27.75
26213	3.02 3.02	3.32 3.32	3.60 3.60	4.37 4.37	5.26 5.26	5.92 5.92	6.94 6.94	8.09 8.09	9.10 9.								

## METRIC LOAD TABLE/OPEN WEB STEEL JOISTS, LH-SERIES

Based on a 345 MPa Maximum Yield Strength - Loads Shown In Kilonewtons Per Meter (kN/m)

Joist Designation	48LH10	48LH11	48LH12	48LH13	48LH14	48LH15	48LH16	48LH17	48LH18	48LH19	48LH20	48LH21	48LH22	48LH23	48LH24	48LH25
Depth (mm)	1219	1219	1219	1219	1219	1219	1219	1219	1219	1219	1219	1219	1219	1219	1219	1219
Approx. Wt. (kN/m)	0.31	0.32	0.36	0.42	0.47	0.53	0.61	0.69	0.83	0.90	1.15	1.27	1.47	1.59	1.81	2.10
Span (mm)																
↓																
14630	7.85 7.85	8.47 8.47	11.03 11.03	13.20 13.20	16.08 16.08	18.44 18.44	21.81 21.81	24.48 24.48	31.24 31.24	37.02 37.02						
14935	7.66 7.66	8.26 8.26	10.74 10.74	12.84 12.84	15.63 15.63	17.93 17.93	21.19 21.19	23.77 23.77	30.34 30.34	35.87 35.87						
15240	7.47 7.47	8.05 8.05	10.46 10.46	12.50 12.50	15.19 15.19	17.42 17.42	20.56 20.56	23.07 23.07	29.46 29.46	34.76 34.76						
15545	7.28 7.28	7.85 7.85	10.18 10.18	12.18 12.18	14.78 14.78	16.94 16.94	19.97 19.97	22.41 22.41	28.61 28.61	33.71 33.71	42.45 42.45					
15850	7.10 7.10	7.66 7.66	9.92 9.92	11.86 11.86	14.37 14.37	16.47 16.47	19.40 19.40	21.77 21.77	27.80 27.80	32.69 32.69	41.16 41.16					
16154	6.93 6.93	7.47 7.47	9.66 9.66	11.55 11.55	13.98 13.98	16.03 16.03	18.85 18.85	21.16 21.16	27.01 27.01	31.71 31.71	39.94 39.94					
16459	6.75 6.75	7.29 7.29	9.41 9.41	11.25 11.25	13.60 13.60	15.60 15.60	18.32 18.32	20.56 20.56	26.25 26.25	30.77 30.77	38.76 38.76	42.68 42.68				
16764	6.59 6.59	7.12 7.12	9.16 9.16	10.96 10.96	13.23 13.23	15.17 15.17	17.81 17.81	19.99 19.99	25.52 25.52	29.87 29.87	37.63 37.63	41.44 41.44				
17069	6.43 6.43	6.94 6.94	8.93 8.93	10.68 10.68	12.88 12.88	14.78 14.78	17.33 17.33	19.45 19.45	24.82 24.82	29.01 29.01	36.55 36.55	40.24 40.24				
17374	6.28 6.15	6.78 6.64	8.71 8.34	10.42 9.95	12.55 11.74	14.38 13.45	16.85 15.51	18.91 17.33	24.15 22.02	28.19 24.51	35.50 30.70	39.09 34.04				
17678	6.12 5.83	6.62 6.30	8.49 7.90	10.15 9.45	12.21 11.14	14.01 12.76	16.40 14.71	18.40 16.46	23.51 20.89	27.39 23.27	34.51 29.14	38.00 32.31				
17983	5.98 5.54	6.46 5.98	8.27 7.51	9.90 8.97	11.89 10.59	13.64 12.12	15.96 13.98	17.92 15.63	22.88 19.84	26.63 22.09	33.55 27.67	36.93 30.69	43.62 34.87			
18288	5.85 5.28	6.31 5.69	8.07 7.15	9.66 8.53	11.60 10.06	13.29 11.52	15.54 13.28	17.43 14.85	22.27 18.86	25.88 21.00	32.61 26.31	35.91 29.17	42.40 33.15			
18593	5.72 5.02	6.17 5.41	7.88 6.80	9.42 8.11	11.29 9.57	12.95 10.96	15.13 12.63	16.98 14.12	21.68 17.95	25.18 19.97	31.72 25.02	34.93 27.74	41.25 31.53	43.37 34.51		
18898	5.57 4.77	6.02 5.15	7.69 6.47	9.19 7.73	11.01 9.12	12.63 10.43	14.73 12.03	16.54 13.45	21.13 17.08	24.50 19.03	30.86 23.83	33.98 26.41	40.14 30.03	42.17 32.86		
19202	5.45 4.55	5.88 4.90	7.50 6.17	8.97 7.36	10.74 8.68	12.31 9.95	14.36 11.47	16.12 12.82	20.59 16.28	23.84 18.12	30.04 22.70	33.08 25.17	39.08 28.61	41.00 31.31		
19507	5.32 4.34	5.74 4.68	7.32 5.88	8.75 7.01	10.47 8.28	12.01 9.48	13.99 10.93	15.71 12.22	20.06 15.52	23.21 17.29	29.24 21.65	32.20 24.00	37.95 27.29	39.89 29.85		
19812	5.21 4.14	5.61 4.46	7.15 5.61	8.55 6.69	10.21 7.90	11.71 9.04	13.64 10.43	15.32 11.67	19.55 14.81	22.60 16.50	28.48 20.66	31.37 22.91	36.79 26.03	38.83 28.50		
20117	5.09 3.95	5.50 4.26	6.97 5.35	8.34 6.40	9.96 7.54	11.44 8.63	13.30 9.96	14.94 11.14	19.07 14.15	22.02 15.76	27.75 19.73	30.55 21.87	35.68 24.86	37.79 27.21	42.81 29.61	
20422	4.97 3.77	5.37 4.07	6.81 5.12	8.15 6.11	9.73 7.20	11.16 8.26	12.97 9.52	14.56 10.65	18.60 13.52	21.46 15.06	27.04 18.85	29.77 20.91	34.61 23.77	36.80 26.00	41.53 28.29	
20726	4.87 3.61	5.25 3.89	6.65 4.90	7.96 5.85	9.50 6.90	10.90 7.89	12.66 9.10	14.21 10.18	18.15 12.93	20.91 14.40	26.35 18.03	29.02 19.99	33.60 22.72	35.85 24.86	40.32 27.05	
21031	4.75 3.45	5.13 3.73	6.50 4.68	7.77 5.60	9.26 6.61	10.63 7.55	12.36 8.71	13.86 9.74	17.71 12.37	20.40 13.77	25.69 17.24	28.29 19.13	32.63 21.74	34.93 23.80	39.15 25.88	
21336	4.65 3.31	5.02 3.57	6.36 4.49	7.60 5.35	9.06 6.31	10.39 7.23	12.05 8.34	13.54 9.34	17.29 11.85	19.89 13.19	25.05 16.52	27.59 18.31	31.69 20.82	34.04 22.79	38.03 24.79	
21641	4.55 3.18	4.91 3.42	6.21 4.30	7.44 5.13	8.84 6.05	10.14 6.93	11.77 7.99	13.22 8.94	16.88 11.35	19.39 12.63	24.44 15.83	26.92 17.55	30.80 19.94	33.18 21.83	36.96 23.75	43.78 27.71
21946	4.45 3.05	4.81 3.28	6.07 4.13	7.26 4.91	8.63 5.80	9.90 6.65	11.49 7.66	12.90 8.56	16.47 10.88	18.92 12.12	23.84 15.17	26.26 16.82	29.96 19.13	32.36 20.92	35.94 22.76	42.57 26.57



# ASD

## METRIC LOAD TABLE/OPEN WEB STEEL JOISTS, LH-SERIES

Based on a 345 MPa Maximum Yield Strength - Loads Shown In Kilonewtons Per Meter (kN/m)

Joist Designation	48LH10	48LH11	48LH12	48LH13	48LH14	48LH15	48LH16	48LH17	48LH18	48LH19	48LH20	48LH21	48LH22	48LH23	48LH24	48LH25
Depth (mm)	1219	1219	1219	1219	1219	1219	1219	1219	1219	1219	1219	1219	1219	1219	1219	1219
Approx. Wt. (kN/m)	0.31	0.32	0.36	0.42	0.47	0.53	0.61	0.69	0.83	0.90	1.15	1.27	1.47	1.59	1.81	2.10
Span (mm)																
22250	4.36 2.91	4.71 3.15	5.93 3.95	7.10 4.72	8.44 5.57	9.69 6.37	11.22 7.35	12.60 8.23	16.09 10.43	18.47 11.63	23.27 14.56	25.64 16.14	29.14 18.34	31.56 20.08	34.96 21.84	41.40 25.48
22555	4.27 2.80	4.61 3.02	5.80 3.79	6.94 4.53	8.26 5.35	9.47 6.12	10.97 7.06	12.31 7.89	15.73 10.02	18.03 11.16	22.72 13.98	25.02 15.49	28.35 17.61	30.80 19.27	34.01 20.97	40.29 24.45
22860	4.17 2.68	4.50 2.90	5.67 3.64	6.80 4.34	8.07 5.13	9.25 5.88	10.71 6.77	12.02 7.57	15.36 9.61	17.61 10.71	22.18 13.42	24.44 14.88	27.59 16.91	30.06 18.50	33.11 20.13	39.21 23.49
23165	4.10 2.58	4.42 2.78	5.56 3.50	6.65 4.18	7.89 4.93	9.04 5.64	10.47 6.50	11.76 7.28	15.01 9.25	17.20 10.30	21.67 12.90	23.87 14.30	26.86 16.25	29.34 17.78	32.23 19.35	38.19 22.57
23470	4.01 2.48	4.33 2.68	5.44 3.37	6.50 4.02	7.72 4.74	8.85 5.42	10.24 6.26	11.49 7.00	14.68 8.88	16.79 9.89	21.17 12.39	23.32 13.74	26.18 15.63	28.66 17.10	31.40 18.60	37.19 21.70
23774	3.92 2.39	4.23 2.58	5.32 3.23	6.37 3.86	7.54 4.56	8.66 5.22	10.01 6.02	11.23 6.74	14.36 8.55	16.41 9.51	20.69 11.92	22.78 13.22	25.51 15.03	27.99 16.44	30.60 17.89	36.25 20.86
24079	3.85 2.30	4.14 2.48	5.21 3.12	6.24 3.72	7.38 4.39	8.47 5.03	9.79 5.79	10.98 6.47	14.03 8.23	16.05 9.16	20.19 11.47	22.27 12.72	24.86 14.46	27.34 15.81	29.82 17.22	35.33 20.08
24384	3.76 2.21	4.07 2.39	5.10 3.00	6.11 3.59	7.22 4.23	8.28 4.84	9.57 5.57	10.75 6.24	13.73 7.92	15.65 8.81	19.70 11.04	21.77 12.24	24.24 13.92	26.72 15.23	29.08 16.57	34.45 19.33
24689	3.69 2.13	3.98 2.30	5.00 2.88	5.98 3.45	7.07 4.07	8.11 4.67	9.36 5.37	10.52 6.01	13.44 7.63	15.26 8.49	19.22 10.63	21.29 11.80	23.64 13.41	26.12 14.68	28.37 15.96	33.59 18.63
24994	3.59 2.05	3.88 2.21	4.90 2.78	5.86 3.32	6.93 3.92	7.95 4.49	9.17 5.18	10.30 5.79	13.14 7.35	14.90 8.18	18.73 10.25	20.82 11.36	23.07 12.93	25.53 14.14	27.68 15.38	32.77 17.95
25298	3.51 1.98	3.79 2.14	4.80 2.69	5.73 3.22	6.77 3.79	7.77 4.34	8.97 5.00	10.06 5.58	12.87 7.09	14.53 7.89	18.30 9.88	20.37 10.96	22.51 12.46	24.97 13.63	27.01 14.84	31.98 17.30
25603	3.44 1.92	3.72 2.07	4.69 2.61	5.60 3.10	6.62 3.66	7.60 4.18	8.77 4.83	9.85 5.41	12.60 6.82	14.18 7.61	17.86 9.52	19.93 10.58	21.97 12.02	24.43 13.14	26.37 14.31	31.23 16.69
25908	3.37 1.85	3.63 1.99	4.59 2.52	5.48 3.00	6.47 3.54	7.44 4.05	8.58 4.67	9.63 5.22	12.30 6.59	13.86 7.35	17.43 9.20	19.48 10.20	21.46 11.60	23.90 12.69	25.75 13.80	30.50 16.11
26213	3.29 1.79	3.56 1.94	4.49 2.43	5.37 2.90	6.33 3.41	7.28 3.92	8.40 4.52	9.42 5.04	12.02 6.36	13.52 7.09	17.03 8.88	19.03 9.85	20.95 11.19	23.37 12.25	25.15 13.32	29.78 15.55
26518	3.22 1.73	3.48 1.88	4.39 2.34	5.25 2.81	6.20 3.31	7.12 3.79	8.21 4.36	9.22 4.88	11.74 6.14	13.22 6.84	16.63 8.58	18.59 9.51	20.47 10.81	22.88 11.83	24.57 12.87	29.11 15.01
26822	3.16 1.69	3.41 1.82	4.30 2.27	5.15 2.72	6.07 3.21	6.97 3.67	8.04 4.21	9.03 4.72	11.47 5.93	12.93 6.62	16.27 8.28	18.18 9.19	20.02 10.44	22.40 11.42	24.02 12.43	28.44 14.50
27127	3.09 1.63	3.34 1.75	4.21 2.20	5.03 2.62	5.93 3.09	6.82 3.56	7.88 4.08	8.84 4.58	11.22 5.74	12.63 6.39	15.90 8.01	17.77 8.88	19.57 10.09	21.93 11.04	23.48 12.02	27.81 14.02
27432	3.03 1.57	3.28 1.70	4.13 2.14	4.93 2.55	5.82 3.00	6.68 3.44	7.70 3.95	8.65 4.43	10.97 5.56	12.36 6.18	15.54 7.74	17.38 8.59	19.13 9.76	21.48 10.68	22.95 11.63	27.18 13.55
27737	2.97 1.53	3.21 1.64	4.04 2.07	4.84 2.48	5.69 2.90	6.53 3.32	7.55 3.83	8.47 4.29	10.72 5.37	12.08 5.98	15.20 7.48	16.98 8.30	18.70 9.44	21.04 10.33	22.46 11.23	26.59 13.11
28042	2.91 1.48	3.15 1.60	3.96 2.01	4.74 2.39	5.58 2.81	6.40 3.22	7.39 3.72	8.30 4.15	10.49 5.19	11.82 5.79	14.87 7.25	16.62 8.04	18.30 9.13	20.62 9.99	21.96 10.87	26.02 12.69
28346	2.86 1.44	3.09 1.54	3.88 1.94	4.64 2.32	5.47 2.72	6.27 3.12	7.25 3.60	8.14 4.02	10.27 5.03	11.57 5.60	14.56 7.01	16.27 7.77	17.92 8.84	20.21 9.67	21.49 10.53	25.46 12.28
28651	2.80 1.40	3.03 1.50	3.80 1.88	4.55 2.24	5.35 2.64	6.15 3.03	7.10 3.48	7.98 3.91	10.05 4.87	11.32 5.42	14.24 6.80	15.92 7.53	17.52 8.56	19.80 9.36	21.04 10.20	24.92 11.89
28956	2.74 1.35	2.97 1.45	3.73 1.83	4.46 2.18	5.25 2.56	6.02 2.93	6.96 3.38	7.82 3.79	9.83 4.71	11.07 5.25	13.95 6.58	15.58 7.29	17.16 8.28	19.40 9.07	20.59 9.88	24.40 11.52
29261	2.69 1.31	2.91 1.41	3.66 1.78	4.37 2.11	5.15 2.49	5.91 2.84	6.82 3.28	7.66 3.67	9.63 4.56	10.85 5.09	13.65 6.37	15.26 7.07	16.81 8.04	19.03 8.80	20.16 9.57	23.89 11.16



# STANDARD LRFD LOAD TABLE

## DEEP LONGSPAN STEEL JOISTS, DLH-SERIES

Based on a 50 ksi (345 MPa) Maximum Yield Strength  
 Spans up to and including 144 ft. adopted by the Steel Joist Institute May 1, 2000  
 Spans greater than 144 ft. up to and including 240 ft. adopted by the Steel Joist Institute May 18, 2010  
 Revised to May 18, 2010 – Effective December, 31, 2010

The **BLACK** figures in the Load Table give the TOTAL safe factored uniformly distributed load-carrying capacities, in pounds per linear foot (kiloNewtons per meter), of **LRFD** DLH-Series Steel Joists.

The approximate joist weights, in pounds per linear foot (kiloNewtons per meter), given in the Load Table may be added to the other building weights to determine the unfactored DEAD load. In all cases the factored DEAD load, including the joist self-weight, must be deducted from the TOTAL load to determine the factored LIVE load. The approximate joist weights do not include accessories.

The **RED** figures in the Load Table represent the unfactored, uniform load, in pounds per linear foot (kiloNewtons per meter), which will produce an approximate joist deflection of 1/360 of the span. This load can be linearly prorated to obtain the unfactored, uniform load for supplementary deflection criteria (i.e. the unfactored uniform load which will produce a joist deflection of 1/240 of the span may be obtained by multiplying the **RED** figures by 360/240). In no case shall the prorated, unfactored load exceed the unfactored TOTAL load-carrying capacity of the joist as given in the Standard **ASD** Load Table for Deep Longspan Steel Joists, DLH-Series.

The Load Table applies to joists with either parallel chords or pitched top chords. Joists can have a top chord pitch up to 1/2 inch per foot (42 mm per meter). If the pitch exceeds this limit, the Load Table does not apply. When top chords are pitched, the load-carrying capacities are determined by the nominal depth of the joists at the center of the span. Sloped parallel-chord joists shall use span as defined by the length along the slope.

Where the joist span is in the **BLUE SHADED** area of the Load Table, all rows of bridging shall be diagonal bridging with bolted connections at chords and intersections. Hoisting cables shall not be released until the two rows of bridging nearest the third points are completely installed. The **BLUE SHADED** area starts after 60'-0" (18288 mm) and extends up through 100'-0" (30175 mm).

Where the joist span is in the **GRAY SHADED** area of the Load Table, all rows of bridging shall be diagonal bridging with bolted connections at chords and intersections. Hoisting cables shall not be released until all rows of bridging are completely installed. The **GRAY SHADED** area starts after 100'-0" (30175 mm) and extends up through 240'-0" (73152 mm).

The approximate gross moment of inertia (not adjusted for shear deformation) of a standard joist listed in the Load Table may be determined as follows:

$$I_j = 26.767(W)(L^3)(10^{-6}) \text{ in}^4 \quad \text{or} \quad 2.6953(W)(L^3)(10^{-5}) \text{ mm}^4, \text{ where } W = \text{RED figure in the Load Table, and}$$

$$L = (\text{span} - 0.33) \text{ in feet} \quad \text{or} \quad (\text{span} - 102) \text{ in millimeters}$$

Loads for span increments not explicitly given in the Load Table may be determined using linear interpolation between the load values given in adjacent span columns.

\*The safe factored uniform load for the spans shown in the SAFE LOAD Column is equal to (SAFE LOAD) / (span). The TOTAL safe factored uniformly distributed load-carrying capacity, for spans less than those shown in the SAFE LOAD Column are given in the MAX LOAD Column.

To solve for an unfactored **RED** figure for spans shown in the SAFE LOAD Column (or lesser spans), multiply the unfactored **RED** figure of the shortest span shown in the Load Table by (the shortest span shown in the Load Table - 0.33 feet [101 mm])<sup>2</sup> and divide by (the actual span - 0.33 feet [101 mm])<sup>2</sup>. In no case shall the calculated unfactored load exceed the unfactored TOTAL load-carrying capacity of the joist as determined from the Standard **ASD** Load Table for Deep Longspan Steel Joists, DLH-Series.



# LRFD

## STANDARD LOAD TABLE LONGSPAN STEEL JOISTS, DLH-SERIES

Based on a 50 ksi Maximum Yield Strength - Loads Shown in Pounds per Linear Foot (plf)

Joist Designation	Approx. Wt in Lbs. Per Linear Ft (Joists only)	Depth in inches	Max Load plf	SAFE LOAD* in Lbs. Between		SPAN IN FEET																
				< 62	62-89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104		
52DLH10	25	52	648	40200		447	436	427	418	409	400	391	384	376	369	361	354	348	340	334		
52DLH11	26	52	712	44130		171	165	159	154	150	145	140	136	132	128	124	120	116	114	110		
52DLH12	29	52	794	49230		490	480	469	459	448	439	430	421	412	405	396	388	381	373	366		
52DLH13	34	52	964	59760		187	181	174	169	164	158	153	149	144	140	135	132	128	124	120		
52DLH14	39	52	1103	68370		204	197	191	185	179	173	168	163	158	153	149	144	140	135	132		
52DLH15	42	52	1239	76800		664	649	636	621	609	595	583	571	559	549	537	526	516	507	496		
52DLH16	45	52	1335	82800		247	239	231	224	216	209	203	197	191	185	180	174	170	164	159		
52DLH17	52	52	1537	95310		760	745	729	714	699	685	670	657	645	631	619	607	595	585	573		
						276	266	258	249	242	234	227	220	213	207	201	194	189	184	178		
						853	835	817	799	783	766	750	735	720	705	691	676	664	651	639		
						311	301	291	282	272	264	256	247	240	233	226	219	213	207	201		
						921	901	882	862	844	826	810	792	777	760	745	730	717	702	688		
						346	335	324	314	304	294	285	276	267	260	252	245	237	230	224		
						1059	1036	1014	991	970	951	930	912	892	874	858	840	823	808	792		
						395	381	369	357	346	335	324	315	304	296	286	279	270	263	255		
					<67	67-97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	
56DLH11	26	56	631	42300		432	424	415	408	400	393	385	379	372	366	358	352	346	340	334		
56DLH12	30	56	725	48600		169	163	158	153	149	145	140	136	133	129	125	122	118	115	113		
56DLH13	34	56	879	58860		496	486	477	468	459	450	442	433	426	417	409	402	394	388	381		
56DLH14	39	56	993	66540		184	178	173	168	163	158	153	150	145	141	137	133	130	126	123		
56DLH15	42	56	1135	76020		223	216	209	204	197	191	186	181	175	171	166	161	157	152	149		
56DLH16	46	56	1224	82020		679	666	652	640	628	616	604	594	582	571	562	552	541	532	523		
56DLH17	51	56	1411	94530		249	242	234	228	221	214	209	202	196	190	185	181	175	171	167		
						777	762	747	732	717	703	690	676	664	651	639	628	616	604	594		
						281	272	264	256	248	242	234	228	221	215	209	204	198	192	188		
						838	822	805	789	774	759	744	730	717	703	690	678	666	654	642		
						313	304	294	285	277	269	262	254	247	240	233	227	221	214	209		
						964	945	927	907	891	873	856	840	823	808	793	780	765	751	738		
						356	345	335	325	316	306	298	289	281	273	266	258	251	245	238		
					<71	71-99	100-105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
60DLH12	29	60	659	46800	46800	442	433	426	418	411	405	397	391	384	378	372	366	360	354	348		
60DLH13	35	60	801	56880	56880	168	163	158	154	150	146	142	138	134	131	128	124	121	118	115		
60DLH14	40	60	890	63210	63210	537	526	517	508	499	490	483	474	466	459	451	444	436	429	423		
60DLH15	43	60	1045	74190	74190	203	197	191	187	181	176	171	167	163	158	154	151	147	143	139		
60DLH16	46	60	1149	81570	81570	597	586	574	564	555	544	534	525	516	507	498	490	481	474	465		
60DLH17	52	60	1320	93750	93750	216	210	205	199	193	189	183	178	173	170	165	161	156	152	149		
60DLH18	59	60	1524	108180	108180	700	687	675	663	651	640	628	618	607	597	588	577	568	559	550		
						255	248	242	235	228	223	216	210	205	200	194	190	185	180	175		
						769	756	741	727	714	702	690	676	666	654	642	631	621	610	600		
						285	277	269	262	255	247	241	235	228	223	217	211	206	201	196		
						885	868	853	837	822	807	793	778	765	751	739	726	714	702	690		
						324	315	306	298	290	283	275	267	261	254	247	241	235	228	223		
						1021	1002	984	966	948	931	915	898	883	867	852	838	823	810	796		
						366	357	346	337	327	319	310	303	294	286	279	272	266	259	252		
					<76	76-99	100-113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128
64DLH12	31	64	594	45120	45120	396	388	382	376	370	364	358	352	346	342	336	331	327	321	316		
64DLH13	34	64	720	54750	54750	153	150	146	142	138	135	132	129	125	122	119	116	114	111	109		
64DLH14	40	64	825	62730	62730	481	472	465	457	450	442	436	429	421	415	409	403	396	390	385		
64DLH15	43	64	946	71910	71910	186	181	176	171	168	163	159	155	152	148	144	141	137	134	131		
64DLH16	46	64	1065	80940	80940	550	540	531	523	514	505	498	489	481	474	466	459	451	444	438		
64DLH17	52	64	1227	93270	93270	199	193	189	184	179	174	171	166	162	158	154	151	147	143	140		
64DLH18	59	64	1417	107700	107700	631	621	610	600	591	580	571	562	553	544	537	528	520	511	504		
						234	228	223	217	211	206	201	196	191	187	182	177	173	170	165		
						711	699	687	675	664	652	642	631	621	610	601	591	582	573	564		
						262	254	248	242	235	229	224	218	213	208	203	198	193	189	184		
						819	804	790	777	763	751	738	726	714	702	691	681	669	658	648		
						298	290	283	275	268	262	255	248	243	237	231	226	220	215	210		
						945	928	912	897	880	867	852	838	823	810	798	784	772	760	748		
						337	328	320	311	304	296	288	282	274	267	261	255	249	243	237		
					<81	81-99	100-121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136
68DLH13	37	68	650	52650	52650	432	426	418	412	406	400	394	388	382	378	372	366	361	355	351		
68DLH14	40	68	749	60630	60630	171	168	164	159	155	152	149	145	142	138	135	133	130	127	124		
68DLH15	44	68	839	67980	67980	498	490	483	475	468	462	454	448	441	435	429	421	415	409	403		
68DLH16	49	68	995	80610	80610	184	179	175	171	167	163	159	155	152	148	145	141	138	135	133		
68DLH17	55	68	1121	90840	90840	558	547	540	531	522	514	505	498	490	483	475	468	462	454	448		
68DLH18	61	68	1298	105150	105150	206	201	196	191	187	182	178	174	170	166	162	158	155	152	148		
68DLH19	67	68	1495	121080	121080	661	649	640	630	619	610	600	591	582	573	564	556	547	540	531		
						242	236	230	225	219	214	209	204	199	195	190	186	182	178	174		
						745	733	721	711	700	690	679	669	658	649	640	630	621	612	604		
						275	268	262	256	249	244	238	232	228	222	217	212	208	203	198		
						862	849	835	823	810	798	786	774	762	751	739	729	718	708	697		
						311	304	297	289	283	276	269	263	257	251	246	240	234	230	225		
						993	976	961	946	931	916	901	888	874	861	847	835					

# LRFD

## STANDARD LOAD TABLE LONGSPAN STEEL JOISTS, LRFD DLH-SERIES

Based on a 50 ksi Maximum Yield Strength - Loads Shown in Pounds per Linear Foot (plf)

Joist Designation	Approx. Wt in Lbs. Per Linear Ft (Joists only)	Depth in inches	Max Load (plf)	SAFE LOAD* in Lbs. Between																	
				SPAN IN FEET																	
				< 81	81-99	100-111	112	115	118	121	124	127	130	133	136	139	142	145	148	151	155
80DLH15	40	80	966	78240	78240	699	663	632	602	575	549	525	503	482	461	443	425	408	392	371	347
80DLH16	46	80	1161	94020	94020	840	802	763	727	691	658	628	600	574	549	525	504	483	463	439	411
80DLH17	53	80	1341	108630	108630	971	926	881	839	800	765	731	699	669	641	615	590	567	545	517	485
80DLH18	60	80	1515	122760	122760	1097	1044	993	947	903	863	825	789	756	723	695	666	641	615	584	548
80DLH19	67	80	1768	143220	143220	1280	1218	1160	1104	1052	1005	960	918	878	840	806	774	743	714	677	635
80DLH20	75	80	1987	160980	160980	1446	1382	1323	1268	1211	1157	1104	1056	1011	968	927	891	855	821	780	731
			< 89	89-99	100-120	121	124	127	130	133	136	139	142	145	148	151	155	160	165	170	175
88DLH16	46	88	1048	93270	93270	771	735	701	671	642	615	591	567	545	524	503	477	448	422	398	376
88DLH17	51	88	1185	105450	105450	871	830	789	753	719	687	659	630	605	579	557	528	495	465	437	412
88DLH18	58	88	1359	120930	120930	1001	953	908	866	827	791	756	725	695	666	639	607	569	535	503	474
88DLH19	65	88	1572	139890	139890	1157	1101	1049	999	954	912	873	836	801	770	738	701	657	617	580	547
88DLH20	76	88	1808	160950	160950	1334	1281	1232	1184	1133	1085	1041	998	959	921	885	841	790	743	700	660
88DLH21	89	88	2231	198510	198510	1649	1568	1494	1425	1361	1301	1244	1191	1143	1097	1053	999	936	880	827	779
			< 97	97-99	100-129	130	133	136	139	142	145	148	151	155	160	165	170	175	180	185	190
96DLH17	52	96	1085	105270	105270	810	776	744	711	684	657	632	608	578	542	509	480	452	427	404	382
96DLH18	58	96	1222	118500	118500	912	875	839	803	770	740	713	686	653	615	579	546	516	488	463	438
96DLH19	66	96	1460	141660	141660	1091	1046	1001	957	917	878	842	809	768	720	676	636	601	566	536	507
96DLH20	74	96	1644	159420	159420	1236	1184	1131	1083	1037	993	952	915	868	815	766	721	680	642	607	574
96DLH21	90	96	2062	200010	200010	1541	1473	1410	1350	1296	1243	1196	1149	1093	1026	965	908	856	809	765	724
96DLH22	102	96	2310	224070	224070	1725	1662	1601	1542	1487	1436	1382	1329	1264	1188	1118	1054	995	941	890	843
			< 100	100-104	105-138	139	142	145	148	151	155	160	165	170	175	180	185	190	195	200	205
104DLH18	59	104	1100	1100	115470	831	798	768	734	708	674	635	601	568	537	508	482	458	435	414	394
104DLH19	67	104	1337	1337	140430	1011	971	933	897	861	819	770	727	686	648	613	581	552	524	497	473
104DLH20	75	104	1504	1504	157890	1146	1107	1071	1032	992	944	886	833	784	739	698	660	626	593	563	535
104DLH21	90	104	1890	1890	198480	1434	1376	1322	1271	1220	1160	1091	1028	970	917	866	821	779	740	703	668
104DLH22	104	104	2119	2119	222540	1607	1551	1499	1449	1401	1340	1261	1189	1121	1059	1001	949	901	855	812	774
104DLH23	109	104	2334	2334	245100	1772	1712	1644	1578	1514	1434	1348	1267	1192	1125	1062	1004	952	902	857	814
			< 100	100-112	113-147	148	151	155	160	165	170	175	180	185	190	195	200	205	210	215	220
112DLH19	67	112	1223	1223	138150	935	900	857	805	759	716	677	643	610	579	549	523	498	476	454	433
112DLH20	76	112	1384	1384	156360	1065	1032	985	927	873	824	780	740	702	667	632	603	574	547	522	500
112DLH21	91	112	1743	1743	196950	1337	1287	1223	1150	1083	1022	966	915	867	823	782	744	709	676	645	616
112DLH22	104	112	1956	1956	221010	1499	1451	1392	1321	1250	1181	1117	1057	1002	952	904	860	820	782	745	712
112DLH23	110	112	2155	2155	243540	1653	1601	1535	1454	1369	1288	1214	1147	1086	1030	977	928	882	839	800	763
112DLH24	131	112	2555	2555	288660	1956	1895	1818	1727	1631	1539	1455	1379	1307	1241	1179	1123	1070	1019	972	928
			< 100	100-120	121-165	166	170	175	180	185	190	195	200	205	210	215	220	225	230	235	240
120DLH20	77	120	1229	1229	148650	896	856	808	766	726	691	658	627	598	570	544	521	498	477	457	439
120DLH21	92	120	1528	1528	184860	1122	1072	1012	959	908	864	821	782	745	710	678	648	620	593	569	545
120DLH22	104	120	1751	1751	211920	1283	1235	1169	1106	1049	997	949	903	860	821	783	749	716	686	657	629
120DLH23	111	120	1938	1938	234480	1415	1361	1287	1219	1157	1099	1046	995	948	903	862	822	786	751	719	689
120DLH24	132	120	2298	2298	278070	1676	1610	1522	1441	1367	1300	1237	1177	1122	1070	1022	977	934	894	857	821
120DLH25	152	120	2633	2633	318630	1926	1847	1748	1656	1571	1492	1418	1350	1287	1228	1173	1122	1073	1026	983	943



## METRIC LOAD TABLE LONGSPAN STEEL JOISTS, DLH-SERIES

Based on 345 MPa Maximum Yield Strength - Loads Shown in Kilonewtons per Meter (kN/m)

Joist Designation	Approx. Wt in kN Per Meter (Joists only)	Depth in mm	Max Load kN/m	SAFE LOAD* in kN Between	SPAN IN MILLIMETERS															
					<18998	18998-27127	27432	27737	28042	28346	28651	28956	29261	29566	29870	30175	30480	30785	31090	31394
52DLH10	0.36	1321	9.45	178.81	6.52	6.37	6.23	6.10	5.97	5.84	5.71	5.60	5.49	5.38	5.27	5.16	5.05	4.96	4.88	
52DLH11	0.38	1321	10.39	196.30	7.15	7.00	6.85	6.69	6.54	6.41	6.28	6.15	6.01	5.91	5.77	5.66	5.56	5.45	5.34	
52DLH12	0.42	1321	11.59	218.98	7.92	7.81	7.63	7.48	7.31	7.15	7.00	6.87	6.72	6.58	6.45	6.32	6.21	6.08	5.97	
52DLH13	0.50	1321	14.07	265.82	9.69	9.47	9.28	9.06	8.88	8.69	8.51	8.34	8.16	8.01	7.83	7.68	7.53	7.39	7.24	
52DLH14	0.57	1321	16.10	304.12	11.09	10.87	10.63	10.42	10.20	10.00	9.78	9.58	9.41	9.21	9.04	8.86	8.69	8.53	8.36	
52DLH15	0.61	1321	18.08	341.62	12.45	12.19	11.93	11.66	11.42	11.18	10.94	10.72	10.50	10.28	10.09	9.87	9.69	9.50	9.32	
52DLH16	0.66	1321	19.48	368.31	13.44	13.15	12.87	12.58	12.32	12.06	11.82	11.55	11.33	11.09	10.87	10.66	10.46	10.24	10.04	
52DLH17	0.76	1321	22.43	423.96	15.45	15.12	14.79	14.46	14.16	13.87	13.57	13.30	13.02	12.76	12.52	12.25	12.01	11.79	11.55	
			<20422	20422-29566	29870	30175	30480	30785	31090	31394	31699	32004	32309	32614	32918	33223	33528	33833	34138	
56DLH11	0.38	1422	9.21	188.15	6.30	6.19	6.06	5.95	5.84	5.73	5.62	5.53	5.42	5.34	5.23	5.14	5.05	4.96	4.88	
56DLH12	0.44	1422	10.58	216.18	7.24	7.09	6.96	6.82	6.69	6.56	6.45	6.32	6.21	6.08	5.97	5.86	5.75	5.66	5.56	
56DLH13	0.50	1422	12.82	261.82	8.77	8.62	8.44	8.29	8.14	7.99	7.83	7.68	7.53	7.39	7.24	7.11	6.98	6.87	6.74	
56DLH14	0.57	1422	14.49	295.98	9.91	9.71	9.52	9.34	9.17	8.99	8.82	8.66	8.49	8.34	8.20	8.05	7.90	7.77	7.63	
56DLH15	0.61	1422	16.57	338.15	11.33	11.12	10.90	10.68	10.46	10.26	10.06	9.87	9.69	9.50	9.32	9.17	8.99	8.82	8.66	
56DLH16	0.67	1422	17.86	364.84	12.23	11.99	11.75	11.51	11.29	11.07	10.85	10.66	10.46	10.26	10.06	9.89	9.71	9.54	9.36	
56DLH17	0.74	1422	20.59	420.49	14.07	13.79	13.52	13.24	13.00	12.74	12.49	12.25	12.01	11.79	11.58	11.38	11.16	10.96	10.77	
			<21641	21641-30480	32309	32614	32918	33223	33528	33833	34138	34442	34747	35052	35357	35662	35966	36271	36576	
60DLH12	0.42	1524	9.62	208.17	6.45	6.32	6.21	6.10	5.99	5.91	5.80	5.71	5.60	5.51	5.42	5.34	5.25	5.16	5.07	
60DLH13	0.51	1524	11.68	253.01	7.83	7.68	7.55	7.42	7.28	7.15	7.04	6.91	6.80	6.69	6.58	6.47	6.37	6.26	6.17	
60DLH14	0.58	1524	12.99	281.17	8.71	8.55	8.38	8.23	8.09	7.94	7.79	7.66	7.53	7.39	7.26	7.15	7.02	6.91	6.78	
60DLH15	0.63	1524	15.25	330.01	10.22	10.02	9.85	9.67	9.50	9.34	9.17	9.01	8.86	8.71	8.58	8.42	8.29	8.16	8.03	
60DLH16	0.67	1524	16.76	362.84	11.23	11.03	10.81	10.61	10.42	10.24	10.06	9.87	9.71	9.54	9.36	9.21	9.06	8.90	8.75	
60DLH17	0.76	1524	19.26	417.02	12.91	12.67	12.45	12.21	11.99	11.77	11.58	11.36	11.16	10.96	10.79	10.59	10.42	10.24	10.06	
60DLH18	0.86	1524	22.24	481.20	14.90	14.62	14.36	14.09	13.83	13.59	13.35	13.11	12.89	12.65	12.43	12.23	12.01	11.82	11.62	
			<23166	23166-30480	34747	35052	35357	35662	35966	36271	36576	36881	37186	37490	37795	38100	38405	38710	39014	
64DLH12	0.45	1626	8.66	200.70	5.77	5.66	5.58	5.49	5.40	5.31	5.23	5.14	5.05	4.99	4.90	4.83	4.77	4.68	4.61	
64DLH13	0.50	1626	10.50	243.54	7.02	6.89	6.78	6.67	6.56	6.45	6.37	6.26	6.15	6.06	5.97	5.88	5.77	5.69	5.62	
64DLH14	0.58	1626	12.03	279.03	8.03	7.88	7.74	7.63	7.50	7.37	7.26	7.13	7.02	6.91	6.80	6.69	6.58	6.47	6.39	
64DLH15	0.63	1626	13.81	319.87	9.21	9.06	8.90	8.75	8.62	8.47	8.34	8.20	8.07	7.94	7.83	7.70	7.59	7.48	7.35	
64DLH16	0.67	1626	15.54	360.03	10.37	10.20	10.02	9.85	9.69	9.52	9.36	9.21	9.06	8.90	8.77	8.62	8.49	8.36	8.23	
64DLH17	0.76	1626	17.90	414.88	11.95	11.73	11.53	11.33	11.14	10.96	10.77	10.59	10.42	10.24	10.09	9.93	9.76	9.61	9.45	
64DLH18	0.86	1626	20.68	479.07	13.79	13.55	13.30	13.09	12.84	12.65	12.43	12.23	12.01	11.82	11.64	11.44	11.27	11.09	10.92	
			<24689	24689-30480	37186	37490	37795	38100	38405	38710	39014	39319	39624	39929	40234	40538	40843	41148	41453	
68DLH13	0.54	1727	9.49	234.19	6.30	6.21	6.10	6.01	5.93	5.84	5.75	5.66	5.58	5.51	5.42	5.34	5.27	5.18	5.12	
68DLH14	0.58	1727	10.93	269.69	7.26	7.15	7.04	6.93	6.82	6.74	6.63	6.54	6.43	6.34	6.26	6.15	6.06	5.97	5.88	
68DLH15	0.64	1727	12.25	302.39	8.14	7.99	7.88	7.79	7.61	7.50	7.37	7.26	7.15	7.04	6.93	6.82	6.74	6.63	6.54	
68DLH16	0.72	1727	14.52	358.57	9.65	9.47	9.34	9.19	9.04	8.90	8.75	8.62	8.49	8.36	8.23	8.12	7.99	7.88	7.74	
68DLH17	0.80	1727	16.36	404.07	10.87	10.70	10.52	10.37	10.22	10.06	9.91	9.76	9.61	9.47	9.34	9.19	9.06	8.93	8.82	
68DLH18	0.89	1727	18.95	467.73	12.58	12.39	12.19	12.01	11.82	11.64	11.47	11.29	11.12	10.96	10.79	10.63	10.48	10.33	10.17	
68DLH19	0.98	1727	21.82	538.59	14.49	14.25	14.03	13.81	13.59	13.37	13.15	12.95	12.76	12.56	12.36	12.19	11.99	11.82	11.64	
			<25908	25908-30480	39624	39929	40234	40538	40843	41148	41453	41758	42062	42367	42672	42977	43282	43586	43891	
72DLH14	0.60	1829	10.13	262.22	6.63	6.52	6.43	6.34	6.23	6.15	6.06	5.99	5.91	5.82	5.73	5.66	5.58	5.51	5.42	
72DLH15	0.64	1829	11.59	300.38	7.59	7.48	7.35	7.24	7.13	7.04	6.93	6.82	6.74	6.63	6.54	6.45	6.37	6.26	6.17	
72DLH16	0.73	1829	13.39	347.22	8.77	8.64	8.53	8.40	8.27	8.16	8.05	7.94	7.83	7.72	7.61	7.50	7.39	7.31	7.20	
72DLH17	0.82	1829	15.08	390.59	9.87	9.74	9.58	9.45	9.32	9.19	9.06	8.93	8.80	8.69	8.55	8.44	8.34	8.23	8.12	
72DLH18	0.86	1829	17.66	457.58	11.55	11.38	11.20	11.05	10.87	10.72	10.57	10.48	10.28	10.13	10.00	9.85	9.71	9.58	9.45	
72DLH19	1.02	1829	20.70	536.45	13.55	13.33	13.13	12.93	12.74	12.54	12.36	12.19	12.01	11.84	11.66	11.51	11.33	11.18	11.03	





## METRIC LOAD TABLE LONGSPAN STEEL JOISTS, LRFD DLH-SERIES

Based on 345 MPa Maximum Yield Strength - Loads Shown in Kilonewtons per Meter (kN/m)

Joist Designation	Approx. Wt in Kn Per Meter (Joists only)	Depth in mm	Max Load (kN/m)	SAFE LOAD* in kN Between		SPAN IN MILLIMETERS																		
						<24689	24689-30175	30480-33833	34138	35052	35966	36881	37795	38710	39624	40538	41453	42367	43282	44196	45110	46025	47244	48768
						14.09	348.02	348.02	10.20	9.67	9.21	8.77	8.38	8.01	7.66	7.33	7.02	6.72	6.45	6.19	5.95	5.71	5.42	5.07
80DLH15	0.58	2032	14.09	348.02	348.02	10.20	9.67	9.21	8.77	8.38	8.01	7.66	7.33	7.02	6.72	6.45	6.19	5.95	5.71	5.42	5.07			
80DLH16	0.67	2032	16.94	418.22	418.22	12.25	11.71	11.14	10.61	10.09	9.61	9.17	8.75	8.38	8.01	7.66	7.35	7.04	6.76	6.41	5.99			
80DLH17	0.77	2032	19.57	483.21	483.21	14.16	13.50	12.84	12.23	11.66	11.16	10.66	10.20	9.76	9.34	8.97	8.60	8.27	7.94	7.55	7.08			
80DLH18	0.88	2032	22.15	546.06	546.06	16.00	15.23	14.49	13.81	13.17	12.58	12.03	11.51	11.03	10.55	10.13	9.71	9.34	8.97	8.53	8.00			
80DLH19	0.98	2032	25.80	637.07	637.07	18.67	17.77	16.92	16.11	15.34	14.66	14.01	13.39	12.80	12.25	11.75	11.29	10.83	10.42	9.88	9.27			
80DLH20	1.09	2032	29.00	716.07	716.07	21.10	20.16	19.30	18.49	17.66	16.87	16.11	15.41	14.75	14.11	13.52	13.00	12.47	11.97	11.38	10.67			
			<27127	27127-30175	30480-36576	36881	37795	38710	39624	40538	41453	42367	43282	44196	45110	46025	47244	48768	50292	51816	53340			
88DLH16	0.67	2235	15.30	414.88	414.88	11.25	10.72	10.22	9.78	9.36	8.97	8.62	8.27	7.94	7.63	7.33	7.06	6.54	6.16	5.81	5.49			
88DLH17	0.74	2235	17.29	469.06	469.06	12.71	12.10	11.51	10.98	10.48	10.02	9.61	9.19	8.82	8.44	8.12	7.70	7.22	6.78	6.38	6.01			
88DLH18	0.85	2235	19.83	537.92	537.92	14.60	13.90	13.24	12.63	12.06	11.53	11.03	10.57	10.13	9.71	9.32	8.86	8.31	7.81	7.34	6.91			
88DLH19	0.95	2235	22.94	622.26	622.26	16.87	16.06	15.30	14.57	13.92	13.30	12.74	12.19	11.68	11.23	10.77	10.23	9.58	9.01	8.47	7.99			
88DLH20	1.11	2235	26.39	715.94	715.94	19.46	18.69	17.97	17.27	16.52	15.82	15.19	14.55	13.98	13.44	12.91	12.28	11.53	10.85	10.22	9.63			
88DLH21	1.30	2235	32.56	883.14	883.14	24.05	22.47	21.80	20.79	19.85	19.18	18.58	17.38	16.68	16.00	15.36	14.51	13.65	12.84	12.07	11.37			
			<29566	29566-30175	30480-39319	39624	40538	41453	42367	43282	44196	45110	46025	47244	48768	50292	51816	53340	54864	56388	57912			
96DLH17	0.76	2438	15.84	468.26	468.26	11.82	11.31	10.85	10.37	9.98	9.58	9.21	8.86	8.44	7.91	7.43	7.00	6.60	6.23	5.90	5.58			
96DLH18	0.85	2438	17.84	527.11	527.11	13.30	12.76	12.23	11.71	11.23	10.79	10.39	10.00	9.53	8.97	8.44	7.96	7.53	7.12	6.76	6.39			
96DLH19	0.96	2438	21.31	630.13	630.13	15.91	15.25	14.60	13.96	13.37	12.80	12.28	11.79	11.20	10.50	9.87	9.28	8.77	8.26	7.82	7.39			
96DLH20	1.08	2438	23.99	709.13	709.13	18.03	17.27	16.50	15.80	15.12	14.49	13.90	13.35	12.67	11.90	11.18	10.52	9.93	9.36	8.86	8.38			
96DLH21	1.31	2438	30.09	889.68	889.68	22.48	21.49	20.57	19.70	18.91	18.14	17.44	16.76	15.95	14.97	14.09	13.25	12.49	11.81	11.16	10.57			
96DLH22	1.49	2438	33.71	996.71	996.71	25.17	24.25	23.35	22.50	21.69	20.94	20.16	19.39	18.45	17.33	16.32	15.38	14.52	13.74	12.99	12.30			
			<30480	30480-31699	32004-42062	42367	43282	44196	45110	46025	47244	48768	50292	51816	53340	54864	56388	57912	59436	60960	62484			
104DLH18	0.86	2642	16.06	16.06	513.63	12.12	11.64	11.20	10.70	10.33	9.84	9.27	8.77	8.29	7.83	7.42	7.04	6.69	6.34	6.04	5.75			
104DLH19	0.98	2642	19.51	19.51	624.66	14.75	14.16	13.61	13.09	12.56	11.95	11.24	10.61	10.01	9.45	8.95	8.48	8.05	7.65	7.27	6.91			
104DLH20	1.09	2642	21.95	21.95	702.32	16.72	16.15	15.63	15.06	14.46	13.78	13.02	12.16	11.44	10.79	10.19	9.63	9.14	8.66	8.22	7.81			
104DLH21	1.31	2642	27.58	27.58	882.88	20.92	20.07	19.28	18.54	17.79	16.93	15.92	15.00	14.16	13.38	12.64	11.98	11.37	10.80	10.26	9.75			
104DLH22	1.52	2642	30.93	30.93	989.90	23.44	22.63	21.86	21.14	20.44	19.56	18.41	17.35	16.36	15.45	14.61	13.85	13.15	12.47	11.85	11.29			
104DLH23	1.59	2642	34.06	34.06	1090.00	25.85	24.97	23.99	23.02	22.08	20.97	19.67	18.49	17.40	16.41	15.49	14.65	13.90	13.17	12.51	11.88			
			<30480	30480-34138	34442-44806	45110	46025	47244	48768	50292	51816	53340	54864	56388	57912	59436	60960	62484	64008	65532	67056			
112DLH19	0.98	2845	17.85	17.85	614.52	13.63	13.13	12.51	11.75	11.07	10.45	9.88	9.39	8.90	8.44	8.01	7.63	7.26	6.95	6.63	6.32			
112DLH20	1.11	2845	20.20	20.20	695.52	15.54	15.06	14.38	13.52	12.74	12.03	11.38	10.80	10.24	9.74	9.23	8.80	8.38	7.99	7.61	7.30			
112DLH21	1.33	2845	25.43	25.43	876.07	19.50	18.78	17.85	16.79	15.80	14.92	14.09	13.35	12.65	12.01	11.41	10.85	10.35	9.87	9.41	8.99			
112DLH22	1.52	2845	28.54	28.54	983.10	21.86	21.16	20.31	19.28	18.24	17.24	16.30	15.43	14.62	13.90	13.20	12.55	11.97	11.41	10.87	10.39			
112DLH23	1.61	2845	31.45	31.45	1083.00	24.12	23.35	22.40	21.22	19.98	18.80	17.72	16.74	15.84	15.03	14.26	13.55	12.87	12.25	11.68	11.14			
112DLH24	1.91	2845	37.29	37.29	1284.00	28.54	27.64	26.53	25.21	23.80	22.46	21.23	20.13	19.08	18.11	17.20	16.39	15.62	14.87	14.18	13.55			
			<30480	30480-36576	36881-50292	50597	51816	53340	54864	56388	57912	59436	60960	62484	64008	65532	67056	68580	70104	71628	73152			
120DLH20	1.12	3048	17.94	17.94	661.22	13.06	12.49	11.79	11.18	10.59	10.09	9.61	9.15	8.73	8.31	7.94	7.61	7.26	6.96	6.67	6.41			
120DLH21	1.34	3048	22.30	22.30	822.29	16.37	15.65	14.77	14.00	13.25	12.60	11.98	11.41	10.87	10.36	9.89	9.45	9.05	8.66	8.31	7.96			
120DLH22	1.52	3048	25.56	25.56	942.66	18.71	18.03	17.06	16.14	15.31	14.55	13.85	13.17	12.55	11.98	11.42	10.93	10.45	10.01	9.58	9.18			
120DLH23	1.62	3048	28.28	28.28	1043.00	20.64	19.86	18.78	17.79	16.89	16.04	15.27	14.52	13.83	13.17	12.58	11.99	11.47	10.96	10.50	10.06			
120DLH24	1.93	3048	33.53	33.53	1237.00	24.45	23.50	22.21	21.03	19.95	18.97	18.05	17.18	16.37	15.62	14.92	14.26	13.63	13.04	12.51	11.98			
120DLH25	2.22	3048	38.43	38.43	1417.00	28.10	26.96	25.51	24.16	22.93	21.78	20.70	19.70	18.78	17.92	17.11	16.37	15.66	14.97	14.35	13.76			



# STANDARD ASD LOAD TABLE

## DEEP LONGSPAN STEEL JOISTS, DLH-SERIES

Based on a 50 ksi (345 MPa) Maximum Yield Strength  
 Spans up to and including 144 ft. adopted by the Steel Joist Institute May 25, 1983  
 Spans greater than 144 ft. up to and including 240 ft. adopted by the Steel Joist Institute May 18, 2010  
 Revised to May 18, 2010 – Effective December 31, 2010

The **BLACK** figures in the Load Table give the TOTAL safe uniformly distributed load-carrying capacities, in pounds per linear foot (kiloNewtons per meter), of **ASD** DLH-Series Steel Joists.

The approximate joist weights, in pounds per linear foot (kiloNewtons per meter), given in the Load Table may be added to the other building weights to determine the DEAD load. In all cases the DEAD load, including the joist self-weight, must be deducted from the TOTAL load to determine the LIVE load. The approximate joist weights do not include accessories.

The **RED** figures in the Load Table represent the uniform load, in pounds per linear foot (kiloNewtons per meter), which will produce an approximate joist deflection of 1/360 of the span. This load can be linearly prorated to obtain the uniform load for supplementary deflection criteria (i.e. a uniform load which will produce a joist deflection of 1/240 of the span may be obtained by multiplying the **RED** figures by 360/240). In no case shall the prorated load exceed the TOTAL load-carrying capacity of the joist.

The Load Table applies to joists with either parallel chords or pitched top chords. Joists can have a top chord pitch up to 1/2 inch per foot (42 mm per meter). If the pitch exceeds this limit, the Load Table does not apply. When top chords are pitched, the load-carrying capacities are determined by the nominal depth of the joists at the center of the span. Sloped parallel-chord joists shall use span as defined by the length along the slope.

Where the joist span is in the **BLUE SHADED** area of the Load Table, all rows of bridging shall be diagonal bridging with bolted connections at chords and intersections. Hoisting cables shall not be released until the two rows of bridging nearest the third points are completely installed. The **BLUE SHADED** area starts after 60'-0" (18288 mm) and extends up through 100'-0" (30175 mm).

Where the joist span is in the **GRAY SHADED** area of the Load Table, all rows of bridging shall be diagonal bridging with bolted connections at chords and intersections. Hoisting cables shall not be released until all rows of bridging are completely installed. The **GRAY SHADED** area starts after 100'-0" (30175 mm) and extends up through 240'-0" (73152 mm).

The approximate gross moment of inertia (not adjusted for shear deformation) of a standard joist listed in the Load Table may be determined as follows:

$$I_j = 26.767(W)(L^3)(10^{-6}) \text{ in}^4 \quad \text{or} \quad 2.6953(W)(L^3)(10^{-5}) \text{ mm}^4, \text{ where } W = \text{RED figure in the Load Table, and}$$

$$L = (\text{span} - 0.33) \text{ in feet} \quad \text{or} \quad (\text{span} - 102) \text{ in millimeters}$$

Loads for span increments not explicitly given in the Load Table may be determined using linear interpolation between the load values given in adjacent span columns.

\*The safe uniform load for the spans shown in the SAFE LOAD Column is equal to (SAFE LOAD) / (span). The TOTAL safe uniformly distributed load-carrying capacity, for spans less than those shown in the SAFE LOAD Column are given in the MAX LOAD Column.

To solve for a **RED** figure for spans shown in the SAFE LOAD Column (or lesser spans), multiply the RED figure of the shortest span shown in the Load Table by (the shortest span shown in the Load Table – 0.33 feet [101 mm])<sup>2</sup> and divide by (the actual span – 0.33 feet [101 mm])<sup>2</sup>. In no case shall the calculated load exceed the TOTAL load-carrying capacity of the joist.



## STANDARD LOAD TABLE LONGSPAN STEEL JOISTS, DLH-SERIES

Based on a 50 ksi Maximum Yield Strength - Loads Shown in Pounds per Linear Foot (plf)

Joist Designation	Approx. Wt in Lbs. Per Linear Ft (Joists only)	Depth in inches	Max Load plf	SAFE LOAD* in Lbs. Between	SPAN IN FEET															
					< 62	62-89	90	91	92	93	94	95	96	97	98	99	100	101	102	103
52DLH10	25	52	432	26800	298	291	285	279	273	267	261	256	251	246	241	236	231	227	223	
52DLH11	26	52	475	29420	327	320	313	306	299	293	287	281	275	270	264	259	254	249	244	
52DLH12	29	52	529	32820	365	357	349	342	334	327	320	314	307	301	295	289	284	278	273	
52DLH13	34	52	643	39840	443	433	424	414	406	397	389	381	373	366	358	351	344	338	331	
52DLH14	39	52	735	45580	507	497	486	476	466	457	447	438	430	421	413	405	397	390	382	
52DLH15	42	52	826	51200	569	557	545	533	522	511	500	490	480	470	461	451	443	434	426	
52DLH16	45	52	890	55200	614	601	588	575	563	551	540	528	518	507	497	487	478	468	459	
52DLH17	52	52	1025	63540	706	691	676	661	647	634	620	608	595	583	572	560	549	539	528	
			<67	67-97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	
56DLH11	26	56	421	28200	288	283	277	272	267	262	257	253	248	244	239	235	231	227	223	
56DLH12	30	56	484	32400	331	324	318	312	306	300	295	289	284	278	273	268	263	259	254	
56DLH13	34	56	586	39240	401	394	386	379	372	365	358	351	344	338	331	325	319	314	308	
56DLH14	39	56	662	44360	453	444	435	427	419	411	403	396	388	381	375	368	361	355	349	
56DLH15	42	56	756	50680	518	508	498	488	478	469	460	451	443	434	426	419	411	403	396	
56DLH16	46	56	816	54680	559	548	537	526	516	506	496	487	478	469	460	452	444	436	428	
56DLH17	51	56	941	63020	643	630	618	605	594	582	571	560	549	539	529	520	510	501	492	
			<71	71-99	100-105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
60DLH12	29	60	439	31200	295	289	284	279	274	270	265	261	256	252	248	244	240	236	232	
60DLH13	35	60	534	37920	358	351	345	339	333	327	322	316	311	306	301	296	291	286	282	
60DLH14	40	60	594	42140	398	391	383	376	370	363	356	350	344	338	332	327	321	316	310	
60DLH15	43	60	697	49460	467	458	450	442	434	427	419	412	405	398	392	385	379	373	367	
60DLH16	46	60	766	54380	513	504	494	485	476	468	460	451	444	436	428	421	414	407	400	
60DLH17	52	60	880	62500	590	579	569	558	548	538	529	519	510	501	493	484	476	468	460	
60DLH18	59	60	1016	72120	681	668	656	644	632	621	610	599	589	578	568	559	549	540	531	
			<76	76-99	100-113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128
64DLH12	31	64	396	30080	264	259	255	251	247	243	239	235	231	228	224	221	218	214	211	
64DLH13	34	64	480	36500	321	315	310	305	300	295	291	286	281	277	273	269	264	260	257	
64DLH14	40	64	550	41820	367	360	354	349	343	337	332	326	321	316	311	306	301	296	292	
64DLH15	43	64	631	47940	421	414	407	400	394	387	381	375	369	363	358	352	347	341	336	
64DLH16	46	64	710	53960	474	466	458	450	443	435	428	421	414	407	401	394	388	382	376	
64DLH17	52	64	818	62180	546	536	527	518	509	501	492	484	476	468	461	454	446	439	432	
64DLH18	59	64	945	71800	630	619	608	598	587	578	568	559	549	540	532	523	515	507	499	
			<81	81-99	100-121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136
68DLH13	37	68	433	35100	288	284	279	275	271	267	263	259	255	252	248	244	241	237	234	
68DLH14	40	68	499	40420	332	327	322	317	312	308	303	299	294	290	286	281	277	273	269	
68DLH15	44	68	560	45320	372	365	360	354	348	343	337	332	327	322	317	312	308	303	299	
68DLH16	49	68	663	53740	441	433	427	420	413	407	400	394	388	382	376	371	365	360	354	
68DLH17	55	68	748	60560	497	489	481	474	467	460	453	446	439	433	427	420	414	408	403	
68DLH18	61	68	865	70100	575	566	557	549	540	532	524	516	508	501	493	486	479	472	465	
68DLH19	67	68	997	80720	662	651	641	631	621	611	601	592	583	574	565	557	548	540	532	
			<85	85-99	100-129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144
72DLH14	41	72	462	39300	303	298	294	290	285	281	277	274	270	266	262	259	255	252	248	
72DLH15	44	72	530	45020	347	342	336	331	326	322	317	312	308	303	299	295	291	286	282	
72DLH16	50	72	612	52040	401	395	390	384	378	373	368	363	358	353	348	343	338	334	329	
72DLH17	56	72	689	58540	451	445	438	432	426	420	414	408	402	397	391	386	381	376	371	
72DLH18	59	72	807	66580	528	520	512	505	497	490	483	479	470	463	457	450	444	438	432	
72DLH19	70	72	946	80400	619	609	600	591	582	573	565	557	549	541	533	526	518	511	504	



## STANDARD LOAD TABLE LONGSPAN STEEL JOISTS, DLH-SERIES

Based on a 50 ksi Maximum Yield Strength - Loads Shown in Pounds per Linear Foot (plf)

Joist Designation	Approx. Wt in Lbs. Per Linear Ft (Joists only)	Depth in inches	Max Load plf	SAFE LOAD* in Lbs. Between		SPAN IN FEET																		
				< 81	81-99	100-111	112	115	118	121	124	127	130	133	136	139	142	145	148	151	155	160		
				644	52160	52160	466	442	421	401	383	366	350	335	321	307	295	283	272	261	247	231		
80DLH15	40	80	774	62680	62680	321	296	275	255	236	220	205	192	179	167	157	147	139	130	120	109			
80DLH16	46	80	894	72420	72420	451	416	386	358	332	309	288	269	252	235	221	207	195	183	169	154			
80DLH17	53	80	1010	81840	81840	516	477	441	409	380	354	330	308	288	270	253	237	223	210	194	176			
80DLH18	60	80	1179	95480	95480	578	533	493	458	425	396	369	344	322	301	283	266	250	235	217	197			
80DLH19	67	80	1325	107320	107320	646	596	552	512	475	443	412	385	360	337	316	297	279	263	243	220			
			< 89	89-99	100-120	121	124	127	130	133	136	139	142	145	148	151	155	160	165	170	175			
88DLH16	46	88	699	62180	62180	361	336	313	291	272	254	238	223	210	197	186	172	156	143	130	119			
88DLH17	51	88	790	70300	70300	404	375	349	325	304	284	266	249	234	220	207	191	173	159	146	133			
88DLH18	58	88	906	80620	80620	460	427	397	370	346	323	303	284	267	250	236	218	199	181	165	152			
88DLH19	65	88	1048	93260	93260	521	484	450	420	392	367	343	322	302	284	267	248	225	205	187	172			
88DLH20	76	88	1206	107300	107300	623	579	539	502	469	438	410	385	361	340	320	296	269	246	224	206			
88DLH21	89	88	1487	132340	132340	724	673	626	584	545	509	477	447	420	395	372	344	313	285	261	239			
			< 97	97-99	100-129	130	133	136	139	142	145	148	151	155	160	165	170	175	180	185	190			
96DLH17	52	96	724	70180	70180	389	363	339	318	298	280	263	247	229	208	190	173	159	146	134	124			
96DLH18	58	96	814	79000	79000	443	413	386	362	340	319	300	282	261	237	216	198	181	166	153	141			
96DLH19	66	96	974	94440	94440	502	469	438	410	385	361	340	320	296	269	246	224	206	189	174	161			
96DLH20	74	96	1096	106280	106280	569	531	496	465	436	409	385	362	336	305	277	254	233	214	196	181			
96DLH21	90	96	1375	133340	133340	698	652	610	571	535	503	473	445	412	374	341	315	286	263	242	224			
96DLH22	102	96	1540	149380	149380	811	757	708	663	622	584	549	517	479	435	396	362	332	305	281	259			
			< 100	100-104	105-138	139	142	145	148	151	155	160	165	170	175	180	185	190	195	200	205			
104DLH18	59	104	733	733	76980	426	400	375	353	332	307	279	255	233	213	195	180	167	154	142	132			
104DLH19	67	104	892	892	93620	484	453	426	401	377	349	317	289	265	242	222	204	189	175	162	150			
104DLH20	75	104	1002	1002	105260	548	513	483	453	427	395	359	327	299	274	251	232	214	198	184	170			
104DLH21	90	104	1260	1260	132320	673	632	593	558	525	486	442	403	368	337	307	284	263	244	226	209			
104DLH22	104	104	1413	1413	148360	783	734	689	648	610	564	513	468	428	392	359	331	306	283	262	244			
104DLH23	109	104	1556	1556	163400	819	768	721	678	638	590	536	489	447	410	378	347	320	296	274	254			
			< 100	100-112	113-147	148	151	155	160	165	170	175	180	185	190	195	200	205	210	215	220			
112DLH19	67	112	815	815	92100	466	439	406	369	336	308	281	259	238	220	203	189	175	162	151	142			
112DLH20	76	112	922	922	104240	528	497	459	418	381	348	319	293	270	249	231	213	198	184	171	160			
112DLH21	91	112	1162	1162	131300	650	612	566	514	469	429	393	361	333	306	283	263	244	227	211	198			
112DLH22	104	112	1304	1304	147340	755	711	657	598	545	498	457	419	386	356	329	306	283	264	246	229			
112DLH23	110	112	1437	1437	162360	790	744	688	625	571	522	478	439	404	373	345	320	297	276	257	239			
112DLH24	131	112	1703	1703	192440	957	901	834	758	691	632	579	532	489	451	418	387	359	334	311	291			
			< 100	100-120	121-165	166	170	175	180	185	190	195	200	205	210	215	220	225	230	235	240			
120DLH20	77	120	819	819	99100	430	400	367	338	311	287	265	246	228	212	198	185	172	161	151	142			
120DLH21	92	120	1019	1019	123240	530	494	452	416	383	353	326	303	281	262	244	227	212	199	186	175			
120DLH22	104	120	1168	1168	141280	616	573	524	483	445	411	380	352	327	304	283	265	247	231	217	204			
120DLH23	111	120	1292	1292	156320	644	607	558	513	471	433	397	366	332	302	274	254	237	221	207	193			
120DLH24	132	120	1532	1532	185380	781	728	667	613	565	521	482	447	414	386	359	335	313	293	275	258			
120DLH25	152	120	1756	1756	212420	915	853	782	718	661	610	564	523	485	452	421	393	367	344	322	302			



**METRIC LOAD TABLE LONGSPAN STEEL JOISTS, DLH-SERIES**  
Based on 345 MPa Maximum Yield Strength - Loads Shown in Kilonewtons per Meter (kN/m)

Joist Designation	Approx. Wt in kN Per Meter (Joists only)	Depth in mm	Max Load kN/m	SAFE LOAD <sup>1</sup> in kN Between	SPAN IN MILLIMETERS																
					<18898	18898-27127	27432	27737	28042	28346	28651	28956	29261	29566	29870	30175	30480	30785	31090	31394	31699
52DLH10	0.36	1321	6.30	119.2	4.34	4.24	4.15	4.07	3.98	3.89	3.80	3.73	3.66	3.59	3.51	3.44	3.37	3.31	3.25		
52DLH11	0.38	1321	6.93	130.8	4.77	4.67	4.56	4.46	4.36	4.27	4.18	4.10	4.01	3.94	3.85	3.77	3.70	3.63	3.56		
52DLH12	0.42	1321	7.72	145.9	5.32	5.21	5.09	4.99	4.87	4.77	4.67	4.58	4.48	4.39	4.30	4.21	4.14	4.05	3.98		
52DLH13	0.50	1321	9.38	177.2	6.46	6.31	6.18	6.04	5.92	5.79	5.67	5.56	5.44	5.34	5.22	5.12	5.02	4.93	4.83		
52DLH14	0.57	1321	10.73	202.7	7.39	7.25	7.09	6.94	6.80	6.66	6.52	6.39	6.27	6.14	6.02	5.91	5.79	5.69	5.57		
52DLH15	0.61	1321	12.05	227.7	8.30	8.12	7.95	7.77	7.61	7.45	7.29	7.15	7.00	6.85	6.72	6.58	6.46	6.33	6.21		
52DLH16	0.66	1321	12.99	245.5	8.96	8.77	8.58	8.39	8.21	8.04	7.88	7.70	7.55	7.39	7.25	7.10	6.97	6.82	6.69		
52DLH17	0.76	1321	14.96	282.6	10.30	10.08	9.86	9.64	9.44	9.25	9.04	8.87	8.68	8.50	8.34	8.17	8.01	7.86	7.70		
				<20422	20422-29566	29870	30175	30480	30785	31090	31394	31699	32004	32309	32614	32918	33223	33528	33833	34138	
56DLH11	0.38	1422	6.14	125.4	4.20	4.13	4.04	3.96	3.89	3.82	3.75	3.69	3.61	3.56	3.48	3.42	3.37	3.31	3.25		
56DLH12	0.44	1422	7.06	144.1	4.83	4.72	4.64	4.55	4.46	4.37	4.30	4.21	4.14	4.05	3.98	3.91	3.83	3.77	3.70		
56DLH13	0.50	1422	8.55	174.5	5.85	5.74	5.63	5.53	5.42	5.32	5.22	5.12	5.02	4.93	4.83	4.74	4.65	4.58	4.49		
56DLH14	0.57	1422	9.66	197.3	6.61	6.47	6.34	6.23	6.11	5.99	5.88	5.77	5.66	5.56	5.47	5.37	5.26	5.18	5.09		
56DLH15	0.61	1422	11.03	225.4	7.55	7.41	7.26	7.12	6.97	6.84	6.71	6.58	6.46	6.33	6.21	6.11	5.99	5.88	5.77		
56DLH16	0.67	1422	11.91	243.2	8.15	7.99	7.83	7.67	7.53	7.38	7.23	7.10	6.97	6.84	6.71	6.59	6.47	6.36	6.24		
56DLH17	0.74	1422	13.73	280.3	9.38	9.19	9.01	8.82	8.66	8.49	8.33	8.17	8.01	7.86	7.72	7.58	7.44	7.31	7.18		
				<21641	21641-30175	32309	32614	32918	33223	33528	33833	34138	34442	34747	35052	35357	35662	35966	36271	36576	
60DLH12	0.42	1524	6.41	138.7	4.30	4.21	4.14	4.07	3.99	3.94	3.86	3.80	3.73	3.67	3.61	3.56	3.50	3.44	3.38		
60DLH13	0.51	1524	7.79	168.6	5.22	5.12	5.03	4.94	4.85	4.77	4.69	4.61	4.53	4.46	4.39	4.31	4.24	4.17	4.11		
60DLH14	0.58	1524	8.67	187.4	5.80	5.70	5.58	5.48	5.39	5.29	5.19	5.10	5.02	4.93	4.84	4.77	4.68	4.61	4.52		
60DLH15	0.63	1524	10.17	220.0	6.81	6.68	6.56	6.45	6.33	6.23	6.11	6.01	5.91	5.80	5.72	5.61	5.53	5.44	5.35		
60DLH16	0.67	1524	11.18	241.8	7.48	7.35	7.20	7.07	6.94	6.82	6.71	6.58	6.47	6.36	6.24	6.14	6.04	5.93	5.83		
60DLH17	0.76	1524	12.84	278.0	8.61	8.44	8.30	8.14	7.99	7.85	7.72	7.57	7.44	7.31	7.19	7.06	6.94	6.82	6.71		
60DLH18	0.86	1524	14.83	320.8	9.93	9.74	9.57	9.39	9.22	9.06	8.90	8.74	8.59	8.43	8.28	8.15	8.01	7.88	7.74		
				<23165	23165-31699	34747	35052	35357	35662	35966	36271	36576	36881	37186	37490	37795	38100	38405	38710	39014	
64DLH12	0.45	1626	5.78	133.8	3.85	3.77	3.72	3.66	3.60	3.54	3.48	3.42	3.37	3.32	3.26	3.22	3.18	3.12	3.07		
64DLH13	0.50	1626	7.01	162.3	4.68	4.59	4.52	4.45	4.37	4.30	4.24	4.17	4.10	4.04	3.98	3.92	3.85	3.79	3.75		
64DLH14	0.58	1626	8.03	186.0	5.35	5.25	5.16	5.09	5.00	4.91	4.84	4.75	4.68	4.61	4.53	4.46	4.39	4.31	4.26		
64DLH15	0.63	1626	9.21	213.2	6.14	6.04	5.93	5.83	5.74	5.64	5.56	5.47	5.38	5.29	5.22	5.13	5.06	4.97	4.90		
64DLH16	0.67	1626	10.36	240.0	6.91	6.80	6.68	6.56	6.46	6.34	6.24	6.14	6.04	5.93	5.85	5.74	5.66	5.57	5.48		
64DLH17	0.76	1626	11.94	276.5	7.96	7.82	7.69	7.55	7.42	7.31	7.18	7.06	6.94	6.82	6.72	6.62	6.50	6.40	6.30		
64DLH18	0.86	1626	13.79	319.3	9.19	9.03	8.87	8.72	8.56	8.43	8.28	8.15	8.01	7.88	7.76	7.63	7.51	7.39	7.28		
				<24689	24689-33223	37186	37490	37795	38100	38405	38710	39014	39319	39624	39929	40234	40538	40843	41148	41453	
68DLH13	0.54	1727	6.32	156.1	4.20	4.14	4.07	4.01	3.95	3.89	3.83	3.77	3.72	3.67	3.61	3.56	3.51	3.45	3.41		
68DLH14	0.58	1727	7.28	179.7	4.84	4.77	4.69	4.62	4.55	4.49	4.42	4.36	4.29	4.23	4.17	4.10	4.04	3.98	3.92		
68DLH15	0.64	1727	8.17	201.5	5.42	5.32	5.25	5.16	5.07	5.00	4.91	4.84	4.77	4.69	4.62	4.55	4.49	4.42	4.36		
68DLH16	0.72	1727	9.68	239.0	6.43	6.31	6.23	6.12	6.02	5.93	5.83	5.74	5.66	5.57	5.48	5.41	5.32	5.25	5.16		
68DLH17	0.80	1727	10.92	269.3	7.25	7.13	7.01	6.91	6.81	6.71	6.61	6.50	6.40	6.31	6.23	6.12	6.04	5.95	5.88		
68DLH18	0.89	1727	12.62	311.8	8.39	8.26	8.12	8.01	7.88	7.76	7.64	7.53	7.41	7.31	7.19	7.09	6.99	6.88	6.78		
68DLH19	0.98	1727	14.55	359.0	9.66	9.50	9.35	9.20	9.06	8.91	8.77	8.63	8.50	8.37	8.24	8.12	7.99	7.88	7.76		
				<25908	25908-34138	39624	39929	40234	40538	40843	41148	41453	41758	42062	42367	42672	42977	43282	43586	43891	
72DLH14	0.60	1829	6.74	174.8	4.42	4.34	4.29	4.23	4.15	4.10	4.04	3.99	3.94	3.88	3.82	3.77	3.72	3.67	3.61		
72DLH15	0.64	1829	7.73	200.2	5.06	4.99	4.90	4.83	4.75	4.69	4.62	4.55	4.49	4.42	4.36	4.30	4.24	4.17	4.11		
72DLH16	0.73	1829	8.93	231.4	5.85	5.76	5.69	5.60	5.51	5.44	5.37	5.29	5.22	5.15	5.07	5.00	4.93	4.87	4.80		
72DLH17	0.82	1829	10.06	260.3	6.58	6.49	6.39	6.30	6.21	6.12	6.04	5.95	5.86	5.79	5.70	5.63	5.56	5.48	5.41		
72DLH18	0.86	1829	11.78	305.0	7.70	7.58	7.47	7.36	7.25	7.15	7.04	6.99	6.85	6.75	6.66	6.56	6.47	6.39	6.30		
72DLH19	1.02	1829	13.81	357.6	9.03	8.88	8.75	8.62	8.49	8.36	8.24	8.12	8.01	7.89	7.77	7.67	7.55	7.45	7.35		



## METRIC LOAD TABLE LONGSPAN STEEL JOISTS, DLH-SERIES

Based on 345 MPa Maximum Yield Strength - Loads Shown in Kilonewtons per Meter (kN/m)

Joist Designation	Approx. Wt in kN Per Meter (Joists only)	Depth in mm	Max Load kN/m	SAFE LOAD* in kN		SPAN IN MILLIMETERS																	
				Between																			
				24688-30175	30480-33833	34138	35052	35966	36881	37795	38710	39624	40538	41453	42367	43282	44196	45110	46025	47244	48768		
80DLH15	0.58	2032	9.40	232.0	232.0	6.80	6.45	6.14	5.85	5.58	5.34	5.10	4.88	4.68	4.48	4.30	4.13	3.96	3.80	3.60	3.37		
80DLH16	0.67	2032	11.3	278.8	278.8	8.17	7.80	7.42	7.07	6.72	6.40	6.11	5.83	5.58	5.34	5.10	4.90	4.69	4.50	4.27	4.01		
80DLH17	0.77	2032	13.05	322.1	322.1	9.44	9.00	8.56	8.15	7.77	7.44	7.10	6.80	6.50	6.23	5.98	5.73	5.51	5.29	5.03	4.71		
80DLH18	0.88	2032	14.74	364.0	364.0	10.66	10.15	9.66	9.20	8.78	8.39	8.02	7.67	7.35	7.03	6.75	6.47	6.23	5.98	5.67	5.34		
80DLH19	0.98	2032	17.21	424.7	424.7	12.44	11.85	11.28	10.74	10.23	9.77	9.34	8.93	8.53	8.17	7.83	7.53	7.22	6.94	6.58	6.17		
80DLH20	1.09	2032	19.34	477.3	477.3	14.06	13.47	12.87	12.33	11.77	11.25	10.74	10.27	9.83	9.41	9.01	8.66	8.31	7.98	7.58	7.10		
				<27127	27127-30175	30480-36576	36881	37795	38710	39624	40538	41453	42367	43282	44196	45110	46025	47244	48768	50292	51816	53340	
88DLH16	0.67	2235	10.20	276.5	276.5	7.50	7.15	6.81	6.52	6.24	5.98	5.74	5.51	5.29	5.09	4.88	4.64	4.36	4.10	3.86	3.66		
88DLH17	0.74	2235	11.53	312.7	312.7	8.47	8.07	7.67	7.32	6.99	6.68	6.40	6.12	5.88	5.63	5.41	5.13	4.81	4.52	4.26	3.99		
88DLH18	0.85	2235	13.22	358.6	358.6	9.73	9.26	8.82	8.42	8.04	7.69	7.35	7.04	6.75	6.47	6.21	5.98	5.53	5.19	4.88	4.61		
88DLH19	0.95	2235	15.29	414.8	414.8	11.25	10.71	10.20	9.71	9.28	8.87	8.49	8.12	7.79	7.48	7.18	6.81	6.39	5.99	5.64	5.31		
88DLH20	1.11	2235	17.60	477.2	477.2	12.97	12.46	11.98	11.51	11.01	10.55	10.12	9.70	9.32	8.96	8.61	8.17	7.69	7.22	6.81	6.42		
88DLH21	1.30	2235	21.70	588.3	588.3	16.03	15.25	14.53	13.86	13.23	12.65	12.09	11.58	11.12	10.66	10.24	9.71	9.10	8.55	8.04	7.57		
				<29566	29566-30175	30480-39319	39624	40538	41453	42367	43282	44196	45110	46025	47244	48768	50292	51816	53340	54864	56388	57912	
96DLH17	0.76	2438	10.57	312.1	312.1	7.88	7.54	7.23	6.91	6.65	6.39	6.14	5.91	5.61	5.28	4.94	4.67	4.40	4.14	3.92	3.72		
96DLH18	0.85	2438	11.88	351.4	351.4	8.87	8.50	8.15	7.80	7.48	7.19	6.93	6.66	6.34	5.98	5.63	5.31	5.02	4.75	4.49	4.26		
96DLH19	0.96	2438	14.21	420.0	420.0	10.60	10.17	9.73	9.31	8.91	8.53	8.18	7.86	7.47	7.00	6.58	6.18	5.85	5.51	5.21	4.93		
96DLH20	1.08	2438	15.99	472.7	472.7	12.02	11.51	11.00	10.53	10.08	9.66	9.26	8.90	8.44	7.92	7.44	7.01	6.61	6.24	5.91	5.57		
96DLH21	1.31	2438	20.07	593.1	593.1	14.98	14.33	13.71	13.13	12.60	12.09	11.63	11.17	10.62	9.98	9.38	8.82	8.33	7.86	7.44	7.03		
96DLH22	1.49	2438	22.47	664.4	664.4	16.78	16.17	15.57	15.00	14.46	13.96	13.44	12.93	12.30	11.55	10.87	10.24	9.69	9.15	8.66	8.20		
				<30480	30480-31699	32004-42062	42367	43282	44196	45110	46025	47244	48768	50292	51816	53340	54864	56388	57912	59436	60960	62484	
104DLH18	0.86	2642	10.70	10.70	342.4	8.08	7.76	7.47	7.13	6.88	6.56	6.17	5.83	5.51	5.22	4.94	4.68	4.45	4.23	4.02	3.83		
104DLH19	0.98	2642	13.02	13.02	416.4	9.83	9.44	9.07	8.72	8.37	7.96	7.48	7.07	6.66	6.30	5.96	5.64	5.37	5.10	4.84	4.59		
104DLH20	1.09	2642	14.62	14.62	468.2	11.14	10.77	10.42	10.04	9.64	9.17	8.62	8.09	7.61	7.19	6.78	6.42	6.08	5.76	5.47	5.21		
104DLH21	1.31	2642	18.39	18.39	588.5	13.95	13.38	12.85	12.36	11.83	11.28	10.60	9.99	9.44	8.91	8.43	7.98	7.57	7.19	6.84	6.50		
104DLH22	1.52	2642	20.62	20.62	659.9	15.63	15.09	14.57	14.09	13.63	13.03	12.27	11.55	10.90	10.30	9.74	9.23	8.75	8.31	7.90	7.53		
104DLH23	1.59	2642	22.71	22.71	726.8	17.23	16.65	15.99	15.35	14.72	13.95	13.11	12.33	11.60	10.94	10.33	9.77	9.26	8.78	8.33	7.92		
				<30480	30480-34138	34442-44806	45110	46025	47244	48768	50292	51816	53340	54864	56388	57912	59436	60960	62484	64008	65532	67056	
112DLH19	0.98	2845	11.89	11.89	409.6	9.09	8.75	8.33	7.83	7.38	6.97	6.58	6.24	5.92	5.63	5.34	5.07	4.84	4.62	4.42	4.21		
112DLH20	1.11	2845	13.46	13.46	463.6	10.36	10.04	9.58	9.01	8.49	8.01	7.58	7.19	6.82	6.49	6.15	5.86	5.58	5.32	5.07	4.85		
112DLH21	1.33	2845	16.96	16.96	584.0	13.00	12.52	11.90	11.19	10.53	9.93	9.39	8.90	8.43	8.01	7.60	7.23	6.90	6.56	6.27	5.99		
112DLH22	1.52	2845	19.03	19.03	655.4	14.57	14.11	13.54	12.84	12.15	11.48	10.85	10.28	9.74	9.26	8.78	8.37	7.96	7.60	7.25	6.91		
112DLH23	1.61	2845	20.97	20.97	722.2	16.08	15.57	14.92	14.15	13.32	12.53	11.82	11.16	10.56	10.01	9.50	9.01	8.58	8.17	7.77	7.42		
112DLH24	1.91	2845	24.85	24.85	856.0	19.02	18.43	17.68	16.79	15.86	14.97	14.15	13.41	12.71	12.08	11.47	10.91	10.40	9.92	9.45	9.03		
				<30480	30480-36576	36881-50292	50597	51816	53340	54864	56388	57912	59436	60960	62484	64008	65532	67056	68580	70104	71628	73152	
120DLH20	1.12	3048	11.95	11.95	440.8	8.71	8.33	7.85	7.44	7.06	6.72	6.39	6.10	5.82	5.54	5.28	5.06	4.84	4.64	4.45	4.26		
120DLH21	1.34	3048	14.87	14.87	548.1	10.91	10.42	9.85	9.32	8.84	8.40	7.99	7.60	7.25	6.91	6.59	6.30	6.04	5.77	5.53	5.29		
120DLH22	1.52	3048	17.05	17.05	628.4	12.47	12.01	11.36	10.75	10.20	9.70	9.22	8.78	8.37	7.98	7.61	7.28	6.96	6.66	6.39	6.12		
120DLH23	1.62	3048	18.86	18.86	695.3	13.76	13.23	12.52	11.86	11.25	10.69	10.17	9.69	9.22	8.78	8.37	7.99	7.64	7.31	6.99	6.69		
120DLH24	1.93	3048	22.36	22.36	824.6	16.30	15.65	14.81	14.02	13.30	12.65	12.02	11.45	10.91	10.40	9.93	9.50	9.09	8.69	8.33	7.99		
120DLH25	2.22	3048	25.63	25.63	944.8	18.73	17.96	17.03	16.11	15.27	14.50	13.80	13.13	12.52	11.95	11.41	10.91	10.43	9.98	9.57	9.16		



## STANDARD WEIGHT TABLES FOR JOIST GIRDERS

Based on 50 ksi Maximum Yield Strength  
Adopted by the Steel Joist Institute May 17, 2016

The Joist Girders presented in the following tables are based on the Steel Joist Institute Standard Specifications for K-Series, LH- Series, and DLH- Series Open Web Steel Joists and for Joist Girders adopted November 4, 1985 – revised to November 10, 2014, Effective January 1, 2015 and all the requirements contained therein shall be followed.

The Joist Girders top chords are considered as being laterally supported by positive attachment of the supported steel joists to the Joist Girder top chord.

The top of the table presents the total kip load on each panel point (joist location). The tables can be utilized with either an ASD load in the green row, or a LRFD load (factored) in the blue row.

These weight tables are intended to be a tool to assist in the preliminary design and estimate for Joist Girders used in floors and roofs. All of the values are approximate and intended as a guide for the specifying professional. The joist manufacturer will design for the specific loads of the designation at the required span, and the values for self-weight may vary from the tabulated values – the tabulated values are not design minimums or maximums. It is presumed that the designated kip load includes an allowance for the Joist Girder self-weight, unless noted otherwise on the structural drawings.

There are countless combinations of span, number of panels, kip loads, and Joist Girder depth and the tables do not represent all available combinations. Interpolation can be used for approximate values when needed between columns and rows of the tables.

Consult with a joist manufacturer for information regarding web openings available for duct passage through Joist Girders.

Joist Girders that are anticipated to have chord angles of 6 x 6 or smaller which are un-shaded in the table shall have a standard 7 ½ inch bearing seat depth (height). The weight table includes high capacity Joist Girders that may utilize 8 x 8 chord angles. The Joist Girders that weigh 150 plf or more are shaded grey in the table and shall have a standard 10 inch minimum bearing seat depth. It is suggested that the joist manufacturer be consulted for lead times and availability of Joist Girders in the grey shaded portion of the table due to the possibility of 8 x 8 chord angles.

### Example

Using the Joist Girder Weight Table

- 1) Joist Girder depth = 40 inch
- 2) Joist Girder span = 50 feet
- 3) Number of joist spaces = 8
- 4) Load at each panel point = 12 kips (ASD)

In this example, the corresponding Joist Girder designation is 40G8N12K.

Entering the weight tables for a Joist Girder span of 50 feet, a number of joist spaces equal to 8, a Joist Girder depth of 40 inch, and a panel point loading of 12 kips (ASD), the approximate self-weight of the Joist Girder is 59 pounds per linear foot.



GIRDER SPAN (ft)	JOIST SPACES (ft)	GIRDER DEPTH (in)	JOIST GIRDER WEIGHT -- POUNDS PER LINEAR FOOT																						
			LOAD ON EACH PANEL POINT -- KIPS																	ASD		LRFD			
			6	8	10	12	14	16	18	20	24	28	32	36	40	44	48	52	56	60	70	80	90	100	
20	2N@ 10.00	20	19	19	19	19	20	24	24	25	30	37	41	46	50	56	62	70	75	80	91	121	128		
		24	19	19	19	19	20	21	21	25	28	32	36	41	42	49	52	53	66	66	74	83	110	118	
	3N@ 6.67	20	15	19	19	20	23	24	27	31	36	44	48	54	74	75	81	84	89	96	110	122			
		24	16	16	16	19	20	23	26	27	33	36	45	47	53	56	68	79	82	84	98	108	126		
	4N@ 5.00	20	15	19	21	25	29	33	38	41	50	57	65	71	88	97	100	107	120	126	149				
		24	16	17	20	23	26	29	32	35	44	50	55	62	71	85	90	100	102	109	130	154			
	5N@ 4.00	20	17	21	26	31	36	39	48	51	62	71	82	99	99	109	120	141	142						
24		16	20	23	26	30	35	39	43	53	60	68	80	91	101	103	110	120	134	158					
6N@ 3.33	20	19	25	29	36	41	50	57	58	72	82	99	107	118	138	141									
	24	18	22	28	31	37	43	46	53	61	70	85	102	102	111	123	144	147	175						
8N@ 2.50	20	25	32	41	51	58	65	72	82	99	118	139	142												
	24	22	29	36	42	50	54	61	69	86	103	107	128	149	153										
22	2N@ 11.00	20	21	21	22	22	23	24	24	25	34	39	43	49	55	62	69	76	78	82	90	108	129	130	
		24	21	21	22	22	23	24	24	24	30	33	41	41	45	51	55	61	73	76	82	94	112	118	
	3N@ 7.33	20	18	18	19	22	24	26	29	33	42	45	53	68	70	76	84	88	94	104	120	138			
		24	15	19	19	20	23	24	26	30	35	40	45	48	55	61	74	81	84	92	98	113	127		
	4N@ 5.50	20	16	19	23	26	30	36	39	44	55	62	71	82	95	96	106	119	134	144					
		24	15	17	20	25	27	29	34	38	48	52	58	71	79	89	98	101	107	115	144	153			
	5N@ 4.40	20	17	24	27	34	38	42	49	55	65	75	96	98	111	126	137	158							
24		16	20	24	28	33	38	40	48	56	62	73	85	100	101	110	116	133	153						
6N@ 3.67	20	21	27	33	39	49	56	57	65	79	97	106	118	137											
	24	19	23	28	32	39	45	51	58	66	82	98	101	109	120	142	144								
8N@ 2.75	20	27	36	43	56	64	71	80	96	106	135	138													
	24	24	31	38	46	53	60	68	75	101	105	125	145	149											
25	3N@ 8.33	20	18	19	22	26	27	30	37	41	49	59	66	70	76	86	89	97	102	115	137				
		24	18	19	20	22	25	26	28	32	39	43	51	59	67	71	81	84	89	96	111	122			
	4N@ 6.25	20	18	20	25	29	35	39	42	49	55	70	78	93	99	109	119	134	135						
		24	16	19	21	26	29	33	37	40	50	57	64	72	88	97	100	106	120	126	149				
	5N@ 5.00	20	18	23	26	32	36	42	47	53	61	75	81	98	102	112	129	140	160						
		24	16	20	24	28	31	37	41	47	56	62	72	93	101	106	117	125	152	167	195	215	248		
	6N@ 4.17	20	18	23	28	32	38	44	51	55	67	73	87	101	104	120	134	143	145	176	197	234	256	301	
24		18	22	26	30	34	39	44	50	61	69	77	89	102	105	113	127	148	158	184	215	245	277		
8N@ 3.12	20	29	39	48	58	70	78	94	99	115	134														
	24	26	33	41	50	57	65	75	81	99	118	138													
10N@ 2.50	20	38	49	63	78	94	100	115	134																
	24	33	42	54	65	75	89	99	104	130															





GIRDER SPAN (ft)	JOIST SPACES (ft)	GIRDER DEPTH (in)	JOIST GIRDER WEIGHT -- POUNDS PER LINEAR FOOT																										
			LOAD ON EACH PANEL POINT -- KIPS																		ASD		LRFD						
			6	8	10	12	14	16	18	20	24	28	32	36	40	44	48	52	56	60	70	80	90	100					
9	12	15	18	21	24	27	30	36	42	48	54	60	66	72	78	84	90	105	120	135	150								
28	3N@ 9.33	24	18	19	22	24	27	29	36	39	43	53	62	70	71	78	85	89	98	111	130	138							
		28	18	19	20	22	25	26	28	31	39	43	46	55	61	66	76	83	86	96	112	122	132	160					
	4N@ 7.00	32	18	19	19	21	23	24	27	28	34	39	45	48	53	58	66	80	81	86	98	113	126	135					
		24	16	20	24	27	32	38	40	48	55	62	71	82	95	104	106	120	135	144									
	5N@ 5.60	28	15	18	21	25	28	32	36	39	49	56	64	71	79	96	106	107	125	147	171	180	206						
		32	15	17	20	23	25	29	33	37	43	50	58	62	70	85	90	99	102	107	129	153	177	185					
	6N@ 4.67	24	18	24	29	34	39	46	52	58	66	78	96	102	111	126	136												
28		17	21	26	30	35	39	46	50	61	68	77	90	99	107	114	130	142	162	184	213	239	257						
7N@ 4.00	32	17	20	24	27	32	37	41	44	56	62	70	80	93	102	107	112	119	143	167	197	215	244						
	24	21	28	35	41	49	55	63	70	79	96	106	134	137															
30	3N@ 10.00	28	20	24	30	36	42	50	54	58	71	82	99	107	118	138	142	170	174	193	228	261	268						
		32	19	23	28	32	37	43	49	53	64	74	84	101	102	111	123	144	146	176	198	234	244	297					
	4N@ 7.50	24	24	32	41	49	56	64	74	79	96	110	135	156															
		28	22	27	35	43	51	57	62	69	82	99	108	129	141	162	173	195	198	222	265	305							
	5N@ 6.00	32	21	27	31	38	44	52	55	63	74	85	102	108	123	143	146	175	187	207	241	273	276						
		24	28	37	48	55	64	74	79	95	105	134																	
	8N@ 3.50	28	25	32	39	50	58	65	72	81	99	108	129	141	172	197	203	231	237	263									
32		24	29	38	43	53	60	64	70	86	103	113	127	147	149	188	208	210	244	281									
32	3N@ 10.67	24	36	46	57	70	79	96	102	117	137																		
		28	30	41	50	60	69	82	99	100	120	141	174	203	219	239	265	295	311	292									
	4N@ 8.00	32	30	38	46	55	66	71	89	93	109	126	147	179	199	212	226	258	274										
		24	18	23	29	33	37	42	49	53	64	76	85	101	104	126	127	149	150										
	5N@ 6.40	28	16	21	25	30	33	37	42	45	53	61	73	81	86	103	104	126	128	144	156	170	192	231					
		32	16	18	22	26	30	34	37	43	51	55	62	70	77	87	103	105	116	121	148	157	180	202					
	6N@ 5.33	36	16	17	22	24	27	31	34	36	46	52	59	64	74	78	88	91	105	108	119	151	159	187					
24		19	25	30	37	43	51	55	58	73	86	96	109	125	134														
32	3N@ 10.67	28	17	18	24	26	28	31	34	37	43	55	60	69	70	76	85	89	93	111	121	138	162	196					
		32	17	18	21	25	26	28	32	34	39	44	54	61	62	67	77	80	86	96	112	122	132	160					
	4N@ 8.00	36	17	19	20	23	25	26	28	30	38	40	45	51	53	58	67	81	85	91	98	113	127	136					
		24	19	23	26	32	37	40	47	55	61	72	86	94	103	114	133	134	162										
	5N@ 6.40	28	18	20	24	28	32	37	40	45	55	62	70	78	94	96	105	121	135	144	167	189	235	250					
		32	15	20	22	25	29	32	36	39	49	56	64	71	83	94	97	102	107	125	147	171	180	207					
	6N@ 5.33	36	16	17	21	24	26	30	34	36	43	50	58	65	70	85	90	99	102	107	129	153	177	185					
24		20	27	33	39	44	51	57	65	77	93	100	123	133															
8N@ 4.00	28	18	24	28	34	39	46	52	58	66	74	96	101	110	126	137	158	167	180	202	234	253	295						
	32	17	22	26	32	35	41	46	53	61	68	77	90	99	105	114	130	142	162	184	204	240	255						
32	3N@ 10.67	36	17	21	24	27	33	37	42	47	56	62	70	79	93	102	106	117	120	144	167	187	203	233					
		24	24	31	39	47	55	61	69	76	94	103	133	134															
	4N@ 8.00	28	21	27	35	40	48	55	60	67	79	96	105	117	137	158	170	190	191	222	246	274							
		32	20	25	30	36	42	50	54	58	71	82	99	103	118	139	142	170	174	193	228	258	268						
	5N@ 6.40	36	19	24	28	34	38	44	49	55	66	73	84	101	102	111	123	144	146	176	206	234	244	293					
		24	32	40	54	61	72	86	93	103	133																		
	6N@ 5.33	28	27	35	45	55	63	70	80	95	105	134	137	169	189	198	221	242	264	274									
32		25	32	39	50	58	65	71	81	99	109	120	141	173	186	202	214	228	261	295									
8N@ 4.00	36	24	31	38	43	53	59	67	71	86	103	113	127	147	181	188	207	212	242	277	315								



GIRDER SPAN (ft)	JOIST SPACES (ft)	GIRDER DEPTH (in)	JOIST GIRDER WEIGHT -- POUNDS PER LINEAR FOOT																							ASD		LRFD		
			LOAD ON EACH PANEL POINT -- KIPS																							60	70	80	90	100
			6	8	10	12	14	16	18	20	24	28	32	36	40	44	48	52	56	60	70	80	90	100						
35	4N@ 8.75	28	19	23	27	31	36	41	46	52	60	74	79	94	100	111	117	137	138	156	185	194	237	256	90	105	120	135	150	
		36	16	20	23	27	30	33	37	41	51	55	62	74	83	94	97	107	113	115	147	162	184	194	115	147	162	184	194	
		40	16	17	21	26	27	30	37	38	46	52	61	64	75	90	95	96	108	107	129	153	177	185	108	107	129	153	177	
	5N@ 7.00	28	20	26	32	37	43	52	57	59	73	86	100	109	126	136	137	138	139	190	224	258	273		190	224	258	273		
		32	18	24	29	34	37	45	50	53	66	75	88	100	102	112	128	138	139	170	194	224	253	292	170	194	224	253	292	
		36	17	23	27	29	35	40	46	48	62	68	77	90	100	104	115	131	133	153	175	205	240	254	104	115	131	133	153	
	6N@ 5.83	28	24	30	37	44	52	58	65	73	93	103	115	134	154	166	187	202	213	230	270				230	270				
		32	21	27	33	38	46	53	57	65	79	96	100	117	139	140	170	172	191	202	236	281			191	202	236	281		
		36	20	25	31	36	41	48	54	58	70	81	99	102	113	121	142	144	174	187	211	241	269	314	102	113	121	142	144	
	7N@ 5.00	28	27	34	43	52	59	66	74	86	101	115	135	167	178	190	215	233	245	268					233	245	268			
		32	24	30	39	47	53	61	67	75	97	103	118	137	160	171	192	196	226	238	282				196	226	238	282		
		36	23	28	35	42	48	55	62	69	82	99	105	120	141	144	173	186	196	211	250	291			105	120	141	144	173	
	8N@ 4.38	28	30	39	48	59	69	78	94	98	115	136	165	187	202	217	243	269	289	296					217	243	269	289	296	
		32	27	36	42	53	61	69	79	88	101	118	138	170	172	191	219	223	245	272					172	191	219	223	245	
		36	26	32	39	48	55	62	71	77	99	109	121	141	164	175	202	207	232	248	294				109	121	141	164	175	
38	4N@ 9.50	28	19	21	26	31	34	39	43	48	58	67	74	87	100	101	111	127	138	144	168	190	237	248	90	105	120	135	150	
		36	17	21	24	28	33	35	39	44	53	60	74	75	93	97	106	112	123	125	153	170	180	225	106	112	123	125	153	
		40	16	20	23	27	30	34	37	41	51	55	62	74	83	94	98	107	109	111	147	153	177	202	98	107	109	111	147	
	5N@ 7.60	28	20	25	31	36	42	46	52	59	70	86	96	101	111	126	137	158	177	185	205	237	253		185	205	237	253		
		36	20	24	28	33	38	45	47	53	64	74	89	98	103	112	129	138	160	167	184	215	242	270	103	112	129	138	160	
		40	20	23	26	31	35	40	46	48	59	70	78	91	101	105	113	117	134	153	176	203	216	242	105	113	117	134	153	
	6N@ 6.33	28	24	30	35	41	49	55	62	70	86	98	105	125	136	167	175	189	196	222	247	293			196	222	247	293		
		36	21	27	33	39	47	50	57	61	75	89	100	107	118	141	142	172	183	194	227	250	273		107	118	141	142	172	
		40	21	25	31	36	40	48	55	59	71	82	99	102	109	121	143	142	174	182	206	233	257	294	102	109	121	143	142	
	8N@ 4.75	28	29	38	47	56	64	74	86	95	105	135	156	169	189	217	229	247	271	299					217	229	247	271	299	
		36	28	35	42	50	57	65	76	81	101	113	138	140	172	192	212	222	245	260	315				172	192	212	222	245	
		40	26	32	40	48	55	62	67	78	100	103	121	142	144	175	202	205	222	238	283				103	121	142	144	175	
	40	4N@ 10.00	28	20	23	29	37	40	47	50	56	64	73	86	103	114	126	128	149	151	164	177	195	238	249	90	105	120	135	150
			36	19	22	29	31	37	40	44	51	57	65	74	87	103	104	125	127	128	144	168	180	210	228	104	125	127	128	144
			40	18	22	25	29	33	37	40	47	52	62	73	77	87	96	104	117	127	132	148	171	181	203	96	104	117	127	132
5N@ 8.00		28	21	26	32	38	43	52	55	62	73	86	101	109	124	134	154	167	177	190	224	257	278		190	224	257	278		
		36	20	24	30	34	39	45	53	55	66	74	88	102	112	128	138	159	170	194	235	252	292		112	128	138	159	170	
		40	20	24	27	32	37	41	46	51	62	68	77	90	100	105	115	130	142	162	183	214	240	253	105	115	130	142	162	
6N@ 6.67		28	24	30	38	44	52	58	65	72	93	100	115	133	154	166	186	190	213	221	269				213	221	269			
		36	22	27	34	39	47	53	60	67	79	97	102	117	137	141	170	172	191	194	235	271			172	191	194	235	271	
		40	21	26	30	36	43	48	54	62	71	82	99	103	114	130	142	163	174	185	219	254	271		103	114	130	142	163	
7N@ 5.71		28	26	33	43	52	58	66	74	86	101	115	135	167	178	191	205	233	245	258					205	233	245	258		
		36	24	31	39	47	53	61	67	75	97	103	117	136	159	171	191	206	219	237	280				171	191	206	219	237	
		40	24	29	35	43	49	55	62	69	82	99	105	119	140	162	174	187	199	213	256	298			105	119	140	162	174	
8N@ 5.00		28	22	28	33	39	48	55	59	64	78	92	102	111	122	143	165	176	187	200	230	269	276		187	200	230	269	276	
		36	27	36	46	53	60	68	80	88	102	118	137	170	180	193	219	231	245	276					193	219	231	245	276	
		40	25	34	39	49	58	65	72	82	99	109	120	141	173	189	205	220	225	258	291				109	120	141	173	189	
10N@ 4.00	28	29	38	48	58	67	78	94	96	115	135	165	188	195	217	243	259	280						217	243	259	280			
	36	27	36	46	53	60	68	80	88	102	118	137	170	180	193	219	231	245	276					193	219	231	245	276		
	40	25	34	39	49	58	65	72	82	99	109	120	141	173	189	205	220	225	258	291				109	120	141	173	189		



GIRDER SPAN (ft)	JOIST SPACES (ft)	GIRDER DEPTH (in)	JOIST GIRDER WEIGHT -- POUNDS PER LINEAR FOOT																						
			LOAD ON EACH PANEL POINT -- KIPS																		ASD		LRFD		
			6	8	10	12	14	16	18	20	24	28	32	36	40	44	48	52	56	60	70	80	90	100	
42	4N@ 10.50	32	21	25	29	34	38	43	49	53	67	74	86	99	101	112	125	134	138	163	195	224	250	275	
		36	19	22	26	32	35	39	44	47	58	67	73	87	95	101	112	118	129	145	168	191	237	246	
		40	19	21	24	28	34	36	41	45	53	61	73	76	93	97	97	113	122	125	147	171	194	210	
		44	19	20	23	27	31	34	38	42	51	55	62	74	84	94	97	108	109	118	138	159	179	203	
	48	19	21	24	26	29	32	36	39	47	54	62	65	75	90	95	97	108	112	130	150	160	177		
	5N@ 8.40	32	22	28	35	41	45	52	57	66	74	88	100	110	125	152	166	176	189	199	225	258			
		36	21	25	31	36	42	46	52	59	70	85	96	102	111	126	137	158	168	179	203	235	253	275	
		40	21	24	28	33	39	44	51	54	64	74	89	98	103	113	129	130	160	171	183	213	241	263	
		44	20	24	27	31	37	40	46	52	59	69	78	91	101	105	113	126	134	151	176	207	216	242	
	48	20	23	27	30	35	39	42	48	57	63	75	81	95	102	107	115	118	145	168	199	206	229		
	6N@ 7.00	32	25	32	39	45	55	61	69	77	93	103	124	135	163	175	187	202	213	239	277				
		36	23	30	35	41	49	56	60	67	79	96	105	117	137	158	169	190	204	207	243	282			
		40	21	26	33	39	46	54	57	61	75	89	100	108	119	141	142	172	183	194	227	249	267		
		44	21	24	31	35	41	48	54	59	71	81	100	102	109	121	143	142	174	176	208	233	254	302	
	48	20	25	29	33	39	44	49	56	64	77	85	102	104	115	124	145	147	169	191	216	246	269		
	7N@ 6.00	32	28	36	45	52	65	72	85	93	102	125	154	166	187	200	225	239	252	277					
		36	26	34	40	49	56	67	74	79	98	110	127	138	169	181	194	208	235	248	289				
		40	24	31	38	46	54	61	68	75	90	101	113	129	142	172	184	195	208	230	267	297			
		44	23	29	35	41	49	55	63	70	78	100	106	116	132	145	166	184	198	203	246	281	299		
	48	23	28	34	39	44	50	56	64	73	92	102	108	118	136	149	169	183	193	220	255	265			
	8N@ 5.25	32	32	40	51	62	72	78	94	100	124	135	166	188	213	235	245	268							
		36	27	38	46	56	64	74	79	96	105	126	138	169	189	208	220	246	263	274					
		40	26	35	42	51	57	65	76	81	101	113	138	141	173	192	211	222	237	256	311				
		44	25	32	39	49	55	63	70	78	99	107	121	142	147	175	201	206	223	238	283				
48	26	32	41	48	56	63	67	74	93	103	112	128	148	169	188	198	210	230	271	307					
10N@ 4.20	32	38	52	62	77	94	101	114	134	164	187	215	239	264	291	308									
	36	36	46	60	70	86	97	102	112	140	179	193	223	244	268	298									
	40	34	45	54	64	75	89	99	104	129	161	182	205	218	237	268	301	308							
	44	31	41	52	61	70	79	91	100	114	143	164	185	208	221	241	269	284	310						
48	30	39	49	56	66	72	80	93	107	125	146	168	199	211	226	252	267	285							
45	4N@ 11.25	36	21	25	28	33	38	42	46	52	62	72	79	95	100	112	117	128	138	154	178	193	238	250	
		40	21	22	27	31	35	39	44	47	55	64	75	87	95	101	112	113	128	144	169	180	211	228	
		44	21	22	24	29	33	37	39	45	53	61	74	76	89	95	102	108	114	125	148	170	193	215	
		48	21	22	24	28	31	34	38	40	51	55	63	75	83	94	95	107	109	115	139	164	180	204	
	52	22	23	24	27	29	33	37	39	47	52	60	66	76	91	95	96	109	112	125	153	161	178		
	5N@ 9.00	36	22	27	33	38	44	52	55	63	74	86	101	109	125	136	155	167	177	191	224	256	278		
		40	21	25	30	36	42	45	53	56	68	75	88	102	111	122	128	156	159	180	203	234	253	287	
		44	21	24	29	34	38	44	46	54	65	74	85	90	103	110	123	130	142	159	184	215	248	263	
		48	21	24	27	32	36	41	45	52	59	67	75	91	95	106	112	118	134	151	179	208	232	241	
	52	21	24	27	30	35	39	42	48	57	64	75	81	94	98	107	117	119	145	169	200	212	225		
	6N@ 7.50	36	24	31	38	45	52	58	66	74	93	100	115	134	154	167	187	190	203	221	258				
		40	23	28	34	40	47	53	60	67	79	97	103	117	137	140	170	181	191	203	244	271			
		44	21	27	32	38	46	50	54	62	76	90	100	107	118	139	142	172	175	194	228	252	280		
		48	21	26	30	36	42	48	55	59	69	78	92	102	110	122	143	143	167	177	207	233	265	289	
	52	21	25	29	34	39	44	50	56	64	77	85	102	102	116	124	136	148	169	191	214	246	268		
	7N@ 6.43	36	27	35	44	52	58	66	74	86	101	115	135	158	176	191	206	233	246	258					
		40	26	33	40	47	54	61	67	75	97	105	127	138	160	179	192	206	227	237	288				
		44	24	30	39	46	54	61	62	69	90	100	113	129	143	163	184	196	201	221	256	277	299		
		48	23	29	36	41	49	55	63	70	79	92	107	117	133	145	166	177	190	203	246	277	299		
	52	23	28	34	39	45	50	56	65	73	93	102	109	118	136	149	170	183	194	224	254	274			
	8N@ 5.62	36	30	38	48	58	67	78	94	98	114	135	165	188	193	216	243	259	280						
		40	28	36	46	53	61	68	80	89	105	118	137	170	181	196	219	232	247		275				
		44	27	34	41	51	58	66	73	81	99	109	130	141	173	185	202	215	226	249	298				
		48	26	32	39	47	55	63	68	74	92	104	116	142	146	176	193	208	216	240	270				
52	28	33	42	48	54	59	67	71	94	102	112	127	148	167	188	198	210	219	259	304					
9N@ 5.00	36	34	45	55	66	74	88	98	104	135	165	179	203	229	241	271	294								
	40	31	39	49	61	69	80	89	100	113	138	168	188	196	223	247	263	293							
	44	31	39	48	58	66	76	89	99	108	132	162	178	190	216	241	248	275	302						
	48	29	37	47	55	63	70	79	91	106	117	133	166	188	206	224	235	251	279	298					
52	28	36	46	55	60	70	73	84	102	112	135	148	169	197	200	226	231	259	293						
10N@ 4.50	36	38	49	60	73	86	98	105	116	137	177	192	220	245	268										
	40	35	47	60	66	76	90	102	112	140	170	182	211	236	264	289	299								
	44	33	46	54	64	72	89	99	104	130	142	173	203	216	239	260	274	302							
	48	31	40	49	62	71	78	91	100	114	134	164	186	205	219	240	267	279	304						
52	31	39	50	56	67	72	80	93	107	123	147	168	190	211	224	251	264	282							



GIRDER SPAN (ft)	JOIST SPACES (ft)	GIRDER DEPTH (in)	JOIST GIRDER WEIGHT -- POUNDS PER LINEAR FOOT																						
			LOAD ON EACH PANEL POINT -- KIPS																		ASD		LRFD		
			6	8	10	12	14	16	18	20	24	28	32	36	40	44	48	52	56	60	70	80	90	100	
48	5N@ 9.60	36	26	31	37	45	52	59	66	71	87	111	113	135	136	152	167	176	189	200	228	269			
		40	23	29	35	41	46	52	59	68	77	92	112	124	137	148	168	179	189	212	222	247	272		
		44	22	27	32	37	44	48	54	61	69	80	93	113	116	126	139	150	160	174	195	226	253	275	
		48	21	25	30	36	40	48	48	55	69	78	90	96	115	116	128	140	142	166	185	219	241	263	
		52	21	25	29	33	39	42	50	54	62	71	82	92	99	117	118	130	141	157	178	206	224	241	
	56	21	24	29	33	38	40	46	50	59	71	79	85	100	100	119	120	133	146	170	200	212	226		
	6N@ 8.00	36	28	35	42	51	62	70	78	83	100	122	134	147	163	175	189	202	222	233	277				
		40	25	33	39	47	56	64	71	79	93	112	124	137	148	168	179	189	212	222	247	282			
		44	24	31	36	45	50	57	65	73	81	102	115	127	138	151	168	173	192	204	236	262	292		
		48	23	30	35	40	48	52	59	67	78	95	105	116	129	141	160	166	175	186	220	252	279	310	
		52	23	27	32	38	46	51	59	60	75	83	97	107	130	131	144	162	169	178	208	234	259	290	
	56	22	27	31	37	42	48	54	61	69	80	91	107	120	132	134	153	165	166	191	208	246	267		
	8N@ 6.00	36	36	45	56	64	78	91	100	122	134	153	167	186	213	234	257	278							
		40	33	42	51	59	70	80	92	101	124	148	157	170	191	208	229	248		272	288				
		44	32	39	49	55	65	74	82	95	114	127	150	161	185	193	212	223	244	268					
		48	30	37	47	53	60	68	76	84	105	129	131	154	174	189	197	216	226	247	290				
		52	30	36	44	51	59	65	71	80	99	119	132	146	164	185	195	209	221	239	283				
	56	28	36	43	49	57	63	69	78	90	109	123	136	155	168	189	198	209	228	258	294				
	9N@ 5.33	36	44	55	70	79	91	99	121	122	146	165	190	215	237	252	279								
		40	42	52	63	74	88	93	101	113	136	156	179	195	218	230	256								
		44	39	50	59	69	83	91	94	103	126	150	168	182	199	222	236	257	285	302					
		48	37	46	56	66	76	85	94	97	118	130	162	175	190	217	224	247	273	290					
		52	36	46	54	63	72	80	95	101	108	132	152	167	188	212	220	242	251	277					
	56	35	44	53	62	69	80	89	98	103	123	137	165	180	207	211	236	240	271	314					
12N@ 4.00	36	52	71	84	100	123	135	148	167	190	230	256	289												
	40	48	65	76	93	113	125	137	149	177	206	233	260	288											
	44	44	57	73	82	102	115	126	139	159	193	211	239	271	297										
	48	41	53	67	76	88	104	117	130	153	175	197	221	246	276	301									
	52	39	52	61	76	84	97	107	131	144	168	190	212	237	261	280	306								
56	38	49	61	70	81	91	108	122	135	165	183	195	217	242	266	287	312								
50	5N@ 10.00	40	23	30	38	44	47	56	60	68	79	93	113	124	136	138	155	165	177	182	216	257	279		
		44	22	29	34	40	46	51	56	61	76	89	94	113	126	137	139	157	172	180	203	236	255	292	
		48	22	28	31	38	42	48	55	61	69	78	94	96	115	127	139	141	160	172	192	207	241	262	
		52	22	25	31	35	40	45	49	55	62	74	82	96	116	117	129	141	142	161	186	203	227	243	
		56	22	25	30	32	40	43	50	51	63	71	83	92	99	117	119	131	142	146	169	199	219	231	
	60	20	24	30	33	36	42	46	51	58	65	76	86	96	101	120	121	133	142	166	174	198	226		
	6N@ 8.33	40	28	34	42	48	56	64	71	80	100	112	124	147	155	167	178	191	204	231	258				
		44	24	31	38	47	50	57	65	73	85	102	124	127	149	159	168	181	191	213	246	270			
		48	23	30	37	40	49	57	65	67	82	95	117	129	151	162	173	184	195	229	250	292			
		52	23	30	36	40	46	52	59	67	75	84	105	117	129	131	153	162	176	188	218	242	269	300	
		56	23	26	33	39	42	51	54	60	72	84	98	107	120	132	144	163	164	176	209	225	257	280	
	60	23	27	33	38	43	49	53	61	70	80	87	102	110	123	134	154	165	171	182	207	247	264		
	8N@ 6.25	40	31	39	51	59	67	78	86	96	110	135	166	177	193	217	244	259	281						
		44	29	37	47	53	61	70	80	96	103	118	139	170	182	198	221	230	254	276					
		48	27	35	42	51	58	69	76	81	99	114	130	142	175	186	201	224	242	255	297				
		52	25	33	40	49	55	63	70	78	99	107	121	141	164	178	197	207	218	236	281				
		56	29	36	42	47	56	64	68	78	94	108	118	137	148	169	192	204	212	230	271	315			
	60	27	35	40	47	55	61	69	74	83	103	110	123	139	149	182	200	208	215	258	291	312			
	9N@ 5.56	40	34	44	55	66	74	86	96	104	134	155	179	203	219	242	256	286							
		44	32	40	53	61	69	80	88	98	113	138	169	195	207	223	244	267	293						
		48	32	42	52	58	69	77	90	99	111	133	163	184	201	216	241	250	274	300					
		52	31	40	47	58	66	74	79	92	106	126	143	178	192	207	222	244	254	278	312				
		56	30	38	46	55	60	68	77	89	102	116	135	166	181	197	211	237	251	272	309				
	60	32	38	49	53	61	70	75	83	97	111	125	141	179	192	209	227	239	266	303					
10N@ 5.00	40	38	49	60	74	87	96	104	116	139	177	194	220	244	269										
	44	36	47	60	68	84	96	102	112	137	170	188	211	235	264										
	48	34	46	54	65	76	89	99	103	130	159	182	205	217	239	268	284	298							
	52	34	45	52	62	70	79	91	100	114	134	164	185	207	222	239	270	282	305						
	56	32	41	48	60	70	76	87	93	107	134	146	174	198	211	232	250	279	283						
60	31	40	49	57	66	73	81	94	109	119	138	169	180	201	225	230	253	272							
12N@ 4.17	40	49	65	80	100	112	125	147	157	180	206	241	269												
	44	44	57	73	86	102	126	127	149	168	192	227	248												
	48	41	58	67	82	96	115	127	130	154	184	199	230	254	284	310									
	52	39	53	68	76	84	105	118	130	154	176	189	219	244	263	289	314								
	56	40	52	61	70	85	99	108	122	135	164	182	210	228	252	270	296								
60	39	49	61	70	82	88	104	112	135	166	175	196	219	242	258	274	302								



GIRDER SPAN (ft)	JOIST SPACES (ft)	GIRDER DEPTH (in)	JOIST GIRDER WEIGHT -- POUNDS PER LINEAR FOOT																				
			LOAD ON EACH PANEL POINT -- KIPS															ASD		LRFD			
			6	8	10	12	14	16	18	20	22	24	26	28	30	35	40	45	50	55	60	65	
9	12	15	18	21	24	27	30	33	36	39	42	45	52.5	60	67.5	75	82.5	90	97.5				
55	5N@ 11.00	44	24	29	35	41	47	53	59	63	71	82	83	86	97	110	127	141	157	174	193	207	
		48	23	28	32	38	43	49	56	60	64	71	73	83	93	104	121	133	148	167	179	193	
		52	23	27	32	36	42	44	52	57	65	66	74	74	90	99	114	124	139	156	170	181	
		56	24	26	31	36	39	44	51	53	58	66	66	74	79	92	110	121	135	148	162	173	
		60	24	27	31	35	38	45	47	52	60	61	67	68	80	88	101	115	124	138	147	163	
	66	24	26	28	34	37	42	47	48	55	56	62	69	73	83	99	109	118	128	143	155		
	6N@ 9.17	44	26	33	38	45	52	59	66	75	86	86	98	101	117	136	155	174	189	207	232	247	
		48	24	31	36	44	50	56	64	68	75	87	89	94	109	122	147	155	181	194	214	237	
		52	24	29	35	41	48	54	61	64	72	75	80	88	106	117	139	149	164	188	196	208	
		56	24	28	35	39	47	52	55	63	70	71	78	82	101	113	122	140	158	176	187	195	
		60	24	29	33	38	43	48	55	60	64	71	75	80	95	108	116	132	153	158	179	187	
	66	22	28	31	36	40	47	50	56	62	65	73	73	86	102	112	128	136	143	160	181		
	7N@ 7.86	44	28	36	44	53	59	70	75	87	97	102	111	120	135	152	178	189	219	236	257	274	
		48	27	34	43	51	56	65	72	76	89	98	103	110	120	135	171	184	207	228	241	263	
		52	26	33	39	46	55	62	69	74	86	91	100	105	116	126	160	175	190	207	234	252	
		56	25	31	38	46	53	55	64	70	79	87	92	101	111	118	148	158	182	203	221	240	
		60	24	30	36	41	49	56	64	68	72	81	93	94	108	111	140	141	169	192	203	224	
	66	24	30	36	40	48	52	58	65	70	74	83	84	103	106	129	134	159	177	196	208		
	9N@ 6.11	44	34	46	55	67	74	87	98	105	116	135	137	158	169	199	229	240	284				
		48	32	40	53	61	69	81	97	103	107	118	129	139	165	183	208	238	259	291			
		52	33	43	52	65	73	77	90	104	105	114	125	133	157	177	203	231	249	273	301		
56		32	43	51	59	67	75	87	92	105	107	117	128	143	161	193	217	242	259	286	302		
60		32	40	47	56	67	71	80	93	95	108	109	118	139	145	188	199	224	248	277	291		
66	31	39	46	54	61	71	78	83	91	97	111	113	127	136	172	185	207	222	255	269			
11N@ 5.00	44	43	55	67	87	97	106	126	137	158	178	180	193	208	246	285							
	48	39	54	65	76	89	103	112	128	139	160	171	183	197	235	263	272						
	52	37	52	62	73	88	99	105	115	131	142	161	174	185	211	243	266	302					
	56	39	48	60	68	80	93	102	107	118	134	146	166	174	198	230	259	290	304				
	60	37	47	58	67	77	82	95	108	110	121	137	148	164	191	227	248	275	289				
66	36	45	54	65	74	82	97	98	113	117	126	141	151	184	206	226	261	275	301	308			
60	5N@ 12.00	48	27	33	39	44	51	57	63	69	76	87	89	94	98	108	128	152	164	180	190	208	
		52	27	31	36	44	47	52	60	65	69	77	85	90	94	103	125	133	155	168	179	189	
		56	24	30	34	41	45	52	59	63	69	74	78	87	90	100	116	128	139	156	173	185	
		60	24	29	34	40	45	49	53	60	66	70	75	80	87	95	112	121	135	145	164	175	
		66	24	30	33	36	42	47	51	56	61	67	72	73	81	92	102	117	123	133	148	167	
	72	25	27	31	36	39	45	48	56	56	63	69	70	75	83	99	110	118	129	144	150		
	6N@ 10.00	48	29	36	41	49	60	67	72	80	93	93	112	113	119	128	156	174	189	205	227	242	
		52	28	33	39	48	57	62	69	78	80	94	94	113	116	122	147	159	181	195	214	237	
		56	25	33	39	48	51	58	66	69	79	83	95	96	106	107	139	150	174	187	198	222	
		60	24	32	39	43	50	57	63	70	75	83	83	96	101	103	123	133	165	176	187	205	
		66	24	32	34	42	50	52	61	65	69	77	84	85	96	98	119	126	151	167	179	196	
	72	24	28	34	41	44	52	54	63	68	71	75	87	87	93	113	119	145	156	169	182		
	8N@ 7.50	48	34	43	56	64	72	80	93	112	123	125	136	148	155	173	194	233	248	262			
		52	31	40	50	58	72	81	94	103	114	125	127	139	146	174	191	209	231	251	276	292	
		56	31	38	49	58	66	75	83	96	104	116	127	129	139	148	176	192	215	240	251	269	
		60	32	39	47	53	61	69	77	85	98	106	118	122	124	140	170	184	205	229	242	260	
		66	33	41	46	53	62	70	78	82	90	100	108	120	122	123	161	171	198	207	231	251	
	72	31	36	46	52	59	66	73	80	90	92	104	110	114	118	150	158	190	202	226	244		
	10N@ 6.00	48	37	49	60	74	87	97	105	118	137	138	167	180	190	233	245	264					
		52	38	50	64	71	88	97	103	113	130	138	160	173	181	208	237	257					
		56	37	46	58	65	76	90	104	105	123	131	143	160	172	193	228	251	281	305			
60		37	45	57	66	73	86	93	104	111	126	134	159	167	182	217	244	270	288				
66		37	49	56	65	74	85	95	102	120	122	134	145	146	164	199	218	242	262	292	307		
72	33	42	50	59	69	74	83	96	98	111	111	121	142	158	193	201	226	250	281	296			
12N@ 5.00	48	46	59	75	87	102	111	135	158	169	181	194	207	233	250	291							
	52	45	57	69	88	98	104	118	139	160	169	183	196	206	241	283							
	56	41	55	66	77	91	104	113	129	140	162	174	185	198	235	266	285						
	60	39	54	64	74	91	102	106	121	133	145	165	177	188	205	245	263	309					
	66	41	53	62	77	87	100	110	119	134	147	164	171	182	194	230	251	283	297				
72	38	50	60	69	77	86	100	110	114	127	142	151	165	183	218	245	270	286	314				
15N@ 4.00	48	64	80	102	124	136	158	170	189	209	235	252	267	293									
	52	57	74	94	114	127	150	161	182	193	212	232	252	268									
	56	53	71	83	104	127	140	153	171	186	198	215	234	247	276								
	60	51	68	83	98	118	132	144	162	178	189	207	219	235	261	308							
	66	49	62	81	87	110	123	136	153	167	183	193	210	217	253	289							
72	46	64	77	90	106	125	139	142	160	171	179	200	208	248	276	289							



GIRDER SPAN (ft)	JOIST SPACES (ft)	GIRDER DEPTH (in)	JOIST GIRDER WEIGHT -- POUNDS PER LINEAR FOOT																						
			LOAD ON EACH PANEL POINT -- KIPS																	ASD		LRFD			
			6	8	10	12	14	16	18	20	22	24	26	28	30	35	40	45	50	55	60	65			
9	12	15	18	21	24	27	30	33	36	39	42	45	52.5	60	67.5	75	82.5	90	97.5						
65	6N@ 10.83	52	30	39	45	54	61	69	78	83	95	97	115	116	122	137	157	174	192	208	227	240			
		56	29	35	42	49	58	63	70	80	84	97	97	117	119	129	148	159	181	201	206	231			
		60	29	34	41	50	56	64	71	76	82	92	98	99	111	117	139	150	173	190	198	212			
		66	26	33	40	45	51	58	65	73	78	83	87	100	103	106	124	142	165	178	188	200			
	72	27	32	37	43	49	54	60	68	76	80	87	89	93	97	117	129	147	164	171	186				
	8N@ 8.12	52	38	44	58	66	74	83	97	115	127	129	141	153	161	174	195	234	249	262	286				
		56	34	43	52	63	74	83	97	105	118	129	131	143	151	168	183	209	231	251	277	286			
		60	33	41	51	60	69	77	85	99	108	119	130	133	139	151	179	204	214	239	260	269			
		66	33	42	49	56	63	75	80	89	101	110	122	124	135	141	170	190	204	229	244	252			
	72	39	42	47	56	65	73	78	89	92	104	113	125	131	137	166	182	201	213	238	249				
	9N@ 7.22	52	38	49	62	74	83	97	116	128	129	142	153	158	169	190	229	249	284						
		56	39	48	59	68	81	98	106	118	130	142	144	155	161	183	208	238	259	273					
		60	38	47	58	69	78	86	100	109	120	132	145	146	152	177	199	226	240	261	294				
		66	37	44	53	64	72	81	89	103	112	124	136	138	144	162	196	209	235	254	286	305			
	72	35	44	52	62	71	79	91	108	115	127	140	140	153	182	195	225	249	266	285					
	10N@ 6.50	52	41	58	67	82	97	116	128	131	154	155	168	180	191	233	245	276							
		56	40	52	68	77	91	107	119	132	144	151	165	175	181	208	238	262	289						
		60	40	51	61	74	87	100	109	122	134	146	162	172	182	199	228	254	280	298					
		66	39	50	60	72	82	90	103	113	125	138	140	163	169	183	218	245	263	274	296				
	72	37	47	56	67	76	87	93	110	127	129	141	143	146	165	202	219	241	252	293					
	11N@ 5.91	52	45	59	75	89	106	118	131	153	158	178	186	194	209	237	273								
		56	44	60	69	85	99	119	132	144	156	161	182	187	197	226	262	269							
		60	44	55	70	79	92	109	122	134	147	162	170	184	186	214	245	258							
		66	42	54	64	73	90	104	113	125	139	147	164	166	180	188	237	248	296						
72	41	51	62	77	88	93	110	118	131	144	156	173	169	186	228	240	265	270							
13N@ 5.00	52	55	72	89	106	130	142	156	169	180	194	208	231	248	267										
	56	53	69	86	99	120	133	146	161	171	186	202	218	242	257										
	60	50	64	77	93	108	131	134	158	164	180	188	201	220	245	299									
	66	49	62	75	87	102	122	134	137	161	167	179	195	205	233	277	290								
72	46	58	72	85	90	113	127	138	141	170	171	174	187	194	251	256	314								
70	7N@ 10.00	56	30	39	46	56	64	71	83	88	102	102	110	121	136	167	178	203	218	244	257	275			
		60	30	37	44	52	61	66	73	85	90	102	105	111	131	160	172	193	208	234	251	263			
		66	30	35	44	51	58	67	73	75	87	93	104	106	122	145	164	176	190	208	233	240			
		72	29	34	42	47	54	60	69	76	78	89	94	102	116	133	144	160	187	200	215	233			
	78	28	34	40	47	50	58	63	71	78	83	90	96	109	119	139	151	179	190	201	208				
	84	29	35	39	44	51	57	65	69	72	80	85	94	103	114	129	143	171	190	192	202				
	9N@ 7.78	56	37	45	56	67	75	88	102	110	122	128	154	168	180	203	229	249	283						
		60	35	45	54	65	73	89	99	105	114	129	131	159	165	189	218	247	262	279					
		66	38	48	56	67	74	86	92	106	112	122	127	149	160	178	211	227	254	264	297				
		72	37	45	56	64	69	77	89	100	108	114	124	131	145	163	198	211	235	257	285	295			
	78	36	45	53	60	66	76	87	93	102	110	116	118	140	153	183	201	225	250	267	282				
	84	35	45	50	59	67	72	81	94	95	103	113	118	128	148	176	192	217	226	248	271				
	10N@ 7.00	56	38	53	60	75	88	100	106	118	137	161	168	180	192	233	251	264							
		60	41	55	65	71	88	102	109	122	130	157	161	175	184	208	240	254	287						
		66	42	51	62	70	85	91	105	109	123	132	157	161	173	195	228	243	278	287					
		72	38	47	59	66	78	88	94	106	112	127	133	155	162	181	218	233	262	277					
	78	37	46	55	65	71	79	94	96	108	115	130	137	151	176	203	227	247	262	290					
	84	36	47	55	63	72	80	92	98	109	112	121	133	144	167	194	207	228	255	282	298				
	11N@ 6.36	56	45	60	71	87	102	108	127	138	162	178	185	204	218	249	282								
		60	44	57	66	85	90	104	114	129	157	162	180	189	207	236	262	271							
		66	43	53	67	76	88	105	106	117	132	160	166	176	181	212	244	259	305						
		72	42	55	62	70	82	94	108	109	119	136	148	167	176	203	233	251	295	302					
	78	40	50	61	73	80	92	98	110	118	124	140	141	169	192	226	242	273	284	310					
	84	39	49	59	68	78	84	97	102	116	124	129	144	154	185	209	228	262	278	304					
12N@ 5.83	56	50	63	76	88	103	113	129	157	170	181	194	207	234	253	293									
	60	46	58	74	89	103	112	128	139	161	179	183	196	207	248	284									
	66	45	55	67	78	92	105	115	130	143	164	175	186	199	241	267	279	308							
	72	42	55	65	77	89	102	107	119	135	148	168	173	189	215	247	264	298							
78	42	51	64	72	84	97	106	113	123	141	151	167	179	201	229	256	279	308							
84	40	51	61	73	83	89	102	115	118	128	144	151	171	192	221	249	274	298	314						
14N@ 5.00	56	53	71	87	102	120	137	163	180	191	207	227	247	259	287										
	60	54	69	88	99	112	128	153	171	182	196	210	230	251	282										
	66	48	64	77	92	106	115	132	164	176	186	200	219	241	271	287									
	72	49	61	73	91	103	110	120	138	169	181	191	213	216	248	277									
78	44	58	72	84	97	111	120	138	141	172	182	194	204	226	270	272									
84	44	58	69	79	97	106	116	127	143	155	171	177	196	202	259	262	315								



GIRDER SPAN (ft)	JOIST SPACES (ft)	GIRDER DEPTH (in)	JOIST GIRDER WEIGHT -- POUNDS PER LINEAR FOOT																						
			LOAD ON EACH PANEL POINT -- KIPS																	ASD		LRFD			
			6	8	10	12	14	16	18	20	22	24	26	28	30	35	40	45	50	55	60	65			
9	12	15	18	21	24	27	30	33	36	39	42	45	52.5	60	67.5	75	82.5	90	97.5						
75	8N@ 9.38	56	40	49	61	73	82	95	115	116	128	140	152	156	166	186	219	245	261	275	280				
		60	38	48	58	70	80	92	97	116	118	130	142	153	158	177	206	234	251	263	269	289			
		66	35	44	53	64	72	82	98	99	118	120	132	144	152	169	186	207	234	244	269	289			
		72	34	43	52	61	71	79	87	100	101	121	122	134	141	158	178	189	213	237	253	267			
	78	34	43	54	61	69	77	81	89	103	105	123	125	131	150	168	183	207	218	246	261				
	10N@ 7.50	60	42	59	69	83	98	117	129	131	154	159	170	182	194	234	247	277							
		66	42	55	69	78	87	100	119	132	134	153	163	174	184	207	241	265	292						
		72	42	54	63	73	86	101	111	123	136	138	154	163	176	194	228	256	280	289					
		78	39	48	63	74	82	91	105	114	127	139	152	157	165	177	221	237	261	278					
	84	39	49	59	69	79	82	94	95	110	128	131	143	156	150	166	197	225	247	267	293				
	12N@ 6.25	60	51	68	84	98	118	131	144	159	181	183	195	206	236	265									
		66	50	62	79	90	110	122	135	148	164	172	185	198	209	249	277								
		72	46	63	73	90	104	124	126	141	154	166	170	188	199	234	259	297							
		78	47	61	76	86	98	105	126	139	152	163	166	178	188	208	250	265	301						
	84	46	56	70	79	92	106	126	139	141	164	171	171	175	191	235	253	279	288						
	14N@ 5.36	66	56	72	89	111	125	137	160	171	184	199	209	232	241	270									
		72	52	70	84	101	121	134	148	166	179	190	202	221	233	260	297								
		78	53	68	80	98	107	125	139	151	174	183	192	215	225	249	277								
84		52	64	79	92	108	127	130	153	171	179	186	196	204	227	271	284								
90	50	66	77	94	110	119	142	144	173	176	178	179	197	203	260	275									
15N@ 5.00	66	60	77	98	118	132	146	164	185	196	215	226	244	268	273										
	72	59	74	87	110	123	146	160	169	189	201	222	221	248	264	312									
	78	54	73	88	104	124	139	152	169	177	195	207	213	228	257	308									
	84	55	67	86	93	116	131	143	171	174	189	193	206	219	250	287	302								
90	52	69	81	95	118	133	145	146	177	179	182	202	212	246	280	294									
80	8N@ 10.00	60	37	45	56	64	75	88	97	103	112	127	137	156	162	189	208	234	261	277					
		66	35	45	52	62	70	77	90	103	105	113	129	131	155	176	197	226	243	258	287				
		72	33	41	48	59	68	76	87	92	106	108	116	126	141	170	187	203	235	250	268	288			
		78	33	41	47	56	64	73	81	88	94	109	111	118	136	156	178	195	216	238	255	269			
	84	35	39	48	56	63	71	79	83	96	98	112	114	129	146	173	184	210	216	247	256				
	90	56	57	58	63	70	79	79	90	95	103	105	118	127	134	169	179	205	210	243	252				
	10N@ 8.00	60	41	53	68	76	97	103	112	129	139	159	180	191	195	234	255	267							
		66	39	52	62	75	90	100	107	115	132	154	167	178	187	210	245	257							
		72	43	55	63	74	87	97	106	120	127	151	161	171	182	195	238	252							
		78	42	51	63	71	86	90	100	112	122	130	155	166	176	187	229	245	281	290					
	84	42	51	61	70	78	91	100	109	115	125	131	157	166	178	222	230	256	277						
	90	40	49	60	68	77	87	92	102	111	118	132	136	160	169	197	221	239	261	293					
	12N@ 6.67	66	50	65	73	90	103	115	130	161	172	180	195	207	220	254	290								
		72	47	59	72	86	101	107	125	133	165	174	183	196	210	243	273								
		78	46	60	69	80	94	108	114	129	136	167	176	189	197	220	263	276							
		84	47	56	70	79	92	99	111	121	138	140	170	175	193	207	250	265	301						
	90	44	56	66	74	86	101	113	116	125	143	149	170	177	193	242	259	281	301						
	96	43	54	68	75	85	98	104	117	120	130	147	156	180	195	233	251	277	295	308					
14N@ 5.71	66	57	73	89	103	113	129	160	182	186	207	221	231	262	288										
	72	54	67	79	101	106	125	143	165	184	198	211	224	243	277										
	78	50	66	78	95	109	118	136	149	173	191	197	216	226	266	297									
	84	50	64	74	92	99	112	124	143	169	177	191	203	218	250	276									
90	48	61	74	86	100	115	121	136	146	172	181	195	208	227	264	275									
96	47	61	74	84	100	108	118	127	145	152	177	181	201	215	258	266									
16N@ 5.00	66	62	78	101	113	130	161	184	197	212	233	253	268	288	308										
	72	57	76	93	109	118	145	167	187	203	218	246	258	270	291										
	78	58	73	91	104	120	137	149	181	191	208	219	242	252	282										
	84	54	69	84	100	115	126	143	174	185	195	211	223	250	271	315									
90	54	70	80	101	114	119	144	155	180	191	207	220	233	267	306										
96	55	68	81	94	110	121	133	155	164	186	201	211	226	264	298	302									



GIRDER SPAN (ft)	JOIST SPACES (ft)	GIRDER DEPTH (in)	JOIST GIRDER WEIGHT -- POUNDS PER LINEAR FOOT																				
			LOAD ON EACH PANEL POINT -- KIPS																	ASD		LRFD	
			6	8	10	12	14	16	18	20	22	24	26	28	30	35	40	45	50	55	60	65	
9	12	15	18	21	24	27	30	33	36	39	42	45	52.5	60	67.5	75	82.5	90	97.5				
90	9N@ 10.00	72	46	55	64	81	92	98	117	119	141	143	159	160	182	202	233	238	287				
		84	48	50	60	75	84	88	102	121	124	135	148	154	165	180	218	228	254	286	298		
		90	56	57	62	72	85	88	99	105	125	128	138	152	159	174	211	218	251	272	294		
		96	57	58	64	69	80	91	98	107	110	128	131	142	155	170	199	208	246	263	290	302	
		102	57	59	62	69	75	87	95	105	112	130	133	134	146	167	191	196	241	257	281	296	
	10N@ 9.00	72	48	61	72	85	99	118	130	142	155	160	170	182	186	236	248	255					
		84	49	58	69	81	97	115	117	137	148	153	165	173	177	210	240	252	292	307			
		90	50	56	66	79	89	100	107	126	129	141	157	167	176	186	232	248	283	292			
		96	48	56	66	74	87	95	108	113	129	133	153	159	168	173	217	223	259	268			
		102	48	57	65	76	84	97	105	115	124	131	137	155	162	170	200	222	245	257	288		
	11N@ 8.18	72	51	65	78	99	119	120	143	150	172	182	188	208	219	240	273						
		84	50	62	74	87	100	113	126	138	150	166	177	192	194	215	258	288					
		90	51	59	72	85	93	107	128	129	142	158	170	182	188	204	250	272	291				
		96	53	60	71	81	95	105	113	132	134	148	167	174	183	194	242	266	296	310			
		102	57	61	70	82	94	101	116	124	138	150	163	167	177	191	235	254	278	292			
	12N@ 7.50	78	53	68	79	102	111	124	149	162	172	183	193	210	225	258	276						
		84	52	65	79	91	105	125	137	149	166	176	188	195	213	245	270	277					
		90	52	68	79	89	106	126	128	151	152	169	182	190	205	219	262	279					
		96	52	63	76	90	103	110	129	132	153	156	175	185	198	210	252	265	293				
		108	55	64	76	85	97	107	115	135	137	160	168	179	183	198	237	261	290	295			
	15N@ 6.00	78	66	82	99	121	145	148	179	188	201	216	237	252	270								
		84	62	76	97	122	125	149	169	183	192	204	220	247	252	296							
		90	60	78	90	106	127	140	153	178	183	200	213	221	249	284	308						
		96	58	72	93	108	129	131	154	173	176	196	198	218	226	272	300						
108		59	72	87	101	115	136	139	168	172	183	186	206	218	263	275	299						
18N@ 5.00	78	74	99	120	145	159	177	198	215	238	253	270	292										
	84	73	89	113	137	151	169	192	207	216	244	260	272	298									
	90	70	90	106	129	153	166	185	198	212	228	250	267	280									
	96	68	87	108	131	144	158	179	192	204	220	235	260	275	291								
	108	64	85	103	120	139	151	172	189	192	216	231	243	263	276								
100	10N@ 10.00	78	52	58	68	79	92	106	115	131	140	161	182	190	201	236	257	278					
		84	53	58	69	77	93	102	109	118	133	156	165	185	194	210	249	262	294				
		96	56	62	68	84	87	102	108	125	126	150	162	179	186	202	241	252	282				
		102	57	61	66	77	89	100	106	121	127	133	159	169	182	191	234	242	277				
		108	58	61	67	76	87	92	106	107	127	130	154	162	174	176	218	224	261	275			
	12N@ 8.33	78	56	70	86	97	112	124	158	173	182	188	209	222	241	254							
		84	55	68	84	98	107	126	133	163	176	185	191	211	224	243	287						
		96	55	66	75	91	102	111	116	131	158	179	184	196	209	232	270	286					
		102	55	62	73	90	95	113	118	133	141	174	179	191	204	222	257	272					
		108	55	62	72	85	97	106	117	123	139	149	175	186	199	200	248	260	299				
	15N@ 6.67	78	67	86	104	115	133	172	184	207	213	236	261	276	296								
		84	61	78	94	113	128	164	175	188	211	223	241	267	281								
		96	61	72	93	105	118	133	170	179	194	219	224	238	252	286							
		102	60	74	85	102	117	125	144	175	187	201	209	234	241	272	312						
		108	59	73	87	103	118	123	140	149	179	200	204	230	238	261	303						
	16N@ 6.25	84	69	80	106	117	133	164	188	202	214	237	257	268	293								
		96	63	75	98	115	124	140	173	195	200	220	239	245	268	302							
		102	62	74	97	111	118	136	154	178	196	210	224	237	252	292							
		108	62	76	87	104	118	129	148	173	192	202	216	230	246	280							
		120	64	76	86	104	116	128	140	161	188	190	211	219	243	270	303	309					
	17N@ 5.88	84	70	88	107	127	145	168	189	213	237	245	266	294	302								
		96	65	80	99	115	135	151	182	194	211	234	250	268	277	302							
		102	66	79	98	118	127	144	175	187	204	224	242	255	268	300							
		108	65	78	91	107	120	140	160	181	203	218	235	240	261	286							
120		67	78	93	110	125	133	149	168	189	212	216	235	248	274								
18N@ 5.56	84	70	94	109	134	164	187	203	215	238	261	282	292										
	96	65	84	100	120	140	172	195	208	221	247	268	276	293									
	102	66	84	102	118	137	154	189	201	215	230	253	269	284									
	108	68	82	104	119	130	148	182	195	206	224	244	263	268	285								
	120	69	84	98	113	129	142	163	192	197	219	236	251	265	278								
20N@ 5.00	84	77	103	118	146	178	201	219	240	264	295												
	96	73	99	115	125	153	188	212	225	252	269	284	307										
	102	71	89	114	129	147	181	204	219	238	261	278	299	314									
	108	71	89	110	126	149	164	202	211	230	252	270	291	298									
	120	71	89	102	120	133	164	200	205	222	240	262	269	289	314								





GIRDER SPAN (ft)	JOIST SPACES (ft)	GIRDER DEPTH (in)	JOIST GIRDER WEIGHT -- POUNDS PER LINEAR FOOT																						
			LOAD ON EACH PANEL POINT -- KIPS															ASD		LRFD					
			6	8	10	12	14	16	18	20	22	24	26	28	30	35	40	45	50	55	60	65			
9	12	15	18	21	24	27	30	33	36	39	42	45	52.5	60	67.5	75	82.5	90	97.5						
110	10N@ 11.00	84	61	69	82	94	100	120	143	144	160	172	184	188	209	236	266	271							
		96	63	69	81	91	98	107	125	142	154	166	181	184	201	208	261	264	297						
		108	64	69	75	86	95	105	113	131	133	160	171	181	185	190	248	252	288						
		114	67	72	76	86	96	108	115	133	136	154	158	173	182	188	238	242	280						
	12N@ 9.17	120	66	72	76	83	90	100	111	128	137	140	157	166	176	177	230	238	274	278					
		84	66	74	88	109	122	144	162	175	186	199	218	224	250	255									
		96	66	74	88	101	125	127	151	170	179	187	194	214	224	248	280								
		108	68	75	84	95	111	132	136	159	168	174	190	197	209	230	276	284							
	14N@ 7.86	114	66	75	84	102	107	126	134	156	158	170	186	193	201	226	271	275							
		120	67	74	82	96	109	126	135	158	161	168	179	188	192	202	252	260	299						
		84	71	84	102	123	147	160	182	186	208	222	244	271	274										
		96	69	83	100	124	136	150	165	178	191	213	223	236	257	264									
	16N@ 6.88	108	69	78	99	108	128	142	155	174	186	197	210	220	239	260	304								
		114	69	79	93	105	124	133	157	167	182	194	202	212	230	257	298								
		120	69	80	90	106	126	135	158	160	179	189	198	204	226	234	294	310							
		96	72	89	106	126	149	168	182	196	217	231	250	271	287										
	18N@ 6.11	102	74	89	108	127	152	156	178	195	212	220	242	262	278										
		108	73	83	104	127	142	158	175	188	206	213	234	249	261	292									
		114	74	86	105	114	135	161	162	186	200	209	226	242	256	282									
		120	75	88	99	117	138	152	165	183	184	205	210	237	252	270									
	20N@ 5.50	96	77	99	125	148	167	190	208	215	240	257	284	297											
		102	80	101	127	139	153	182	204	210	232	247	273	290	299										
		108	77	94	111	131	157	174	198	207	224	241	264	279	293										
		114	79	97	113	134	159	163	192	204	218	238	258	272	285										
120	10N@ 12.00	120	79	91	110	136	152	166	185	197	209	235	241	266	272	288									
		96	82	106	139	154	185	206	219	242	260	288	300												
		102	81	109	130	154	173	198	212	236	253	279	295	312											
		108	83	106	132	145	169	192	210	229	246	273	285	308											
	12N@ 10.00	114	86	101	134	147	161	185	208	224	238	263	280	304											
		120	77	93	113	128	154	167	193	215	230	248	271	297	302										
		96	69	76	82	89	94	112	138	152	168	178	189	199	208	242	263	286							
		102	69	75	83	86	92	110	134	148	164	174	186	196	207	219	262	274							
	15N@ 8.00	108	82	83	86	95	100	108	126	145	161	170	184	194	205	214	258	268							
		114	82	83	86	90	95	109	127	140	158	166	179	185	197	206	254	262							
		120	83	84	86	92	97	102	113	133	153	155	174	177	188	200	245	254	260						
		96	71	82	90	100	125	130	168	177	188	198	220	238	254	296									
	16N@ 7.50	102	72	80	88	101	116	130	156	167	184	190	203	223	240	282									
		108	72	81	90	99	105	128	134	159	181	188	196	214	226	268	298								
		114	71	82	87	95	106	121	135	155	168	187	188	208	218	252	286								
		120	72	80	88	93	107	123	133	138	163	185	187	201	211	226	269	276							
	18N@ 6.67	96	77	90	109	125	134	178	189	202	222	238	252	279	296										
		102	78	88	103	118	132	169	179	198	216	231	245	261	284										
		108	80	90	101	115	133	160	178	195	209	224	237	252	276										
		114	78	88	98	117	122	137	176	186	201	212	234	241	269	282									
	20N@ 6.00	120	78	89	99	110	124	140	167	180	189	204	230	238	247	275									
		96	80	90	109	128	163	175	192	213	238	249	268	283											
		102	78	92	110	120	137	172	191	206	228	240	262	282	296										
		108	80	90	100	120	133	168	184	199	220	231	246	269	287										
24N@ 5.00	114	81	91	101	117	135	145	180	197	202	228	238	255	281	288										
	120	79	90	99	118	126	147	177	190	199	225	228	245	265	278										
	96	85	95	116	136	178	198	214	237	252	279	295													
	102	83	97	113	138	174	192	209	229	243	266	288													
	108	84	94	115	129	170	188	204	221	233	256	273	306												
	114	85	96	116	123	143	183	199	212	230	249	264	294	304											
	120	84	95	105	125	140	179	192	204	227	243	258	282	295											
	96	89	110	130	166	189	213	237	254	280	296														
	102	87	105	123	150	182	209	230	245	269	288														
	108	88	101	121	142	174	205	223	239	255	284	302													
	114	87	103	119	138	176	201	215	230	254	281	295	309												
	120	90	102	121	133	150	186	208	223	242	263	288	305	310											
	96	96	121	168	192	220	244	271	312																
	102	99	118	151	186	212	238	266	303																
	108	96	119	147	181	204	229	257	286	312															
	114	109	141	152	172	202	224	246	278	305															
	120	107	143	152	165	200	221	238	272	301															



# NOTES



# CODE OF STANDARD PRACTICE FOR STEEL JOISTS AND JOIST GIRDERS

Adopted by the Steel Joist Institute April 7, 1931  
Revised to Nov. 10, 2014 - Effective Jan.1, 2015

## SECTION 1. GENERAL

### 1.1 SCOPE

The practices and customs set forth herein are in accordance with good engineering practice, tend to ensure safety in steel joist and Joist Girder construction, and are standard within the industry. There shall be no conflict between this code and any legal building regulation. This code shall only supplement and amplify such laws. Unless specific provisions to the contrary are made in a contract for the purchase of steel joists or Joist Girders, this code is understood to govern the interpretation of such a contract.

### 1.2 APPLICATION

This Code of Standard Practice is to govern as a standard unless otherwise covered in the architects' and engineers' plans and specifications.

### 1.3 DEFINITIONS

**Add-Load.** A single vertical concentrated load that occurs at any one panel point along the joist chord. This load is in addition to any other gravity loads specified.

**Bend-Check Load.** A vertical concentrated load used to design the joist chord for the additional bending stresses resulting from this load being applied at any location between the joist panel points. This load shall already be accounted for in the specified joist designation load, uniform load, or Add-Load and is used only for the additional bending check in the chord and does not contribute to the overall axial forces within the joist. An ideal use of this is for incidental loads which have already been accounted for in the design loading but may induce additional bending stress due to this load occurring at any location along the chord.

**Buyer.** The entity that has agreed to purchase Material from the manufacturer and has also agreed to the terms of sale.

**Erector.** The entity that is responsible for the safe and proper erection of the materials in accordance with all applicable codes and regulations.

**Material.** Steel joists, Joist Girders and accessories as provided by the seller.

**Owner.** The entity that is identified as such in the contract documents.



**Placement Plans.** Drawings that are prepared depicting the interpretation of the contract document's requirements for the Material to be supplied by the Seller. These floor or roof plans are approved by the Specifying Professional, Buyer, or Owner for conformance with the design requirements. The Seller uses the information contained on these drawings for final material design. A unique piece mark number is typically shown for the individual placement of the steel joists, Joist Girders and accessories along with sections that describe the end bearing conditions and minimum attachment required so that material is placed in the proper location in the field.

**Seller.** A company certified by the Steel Joist Institute engaged in the manufacture and distribution of steel joists, Joist Girders and accessories.

**Specifying Professional.** The licensed professional who is responsible for sealing the building contract documents, that indicates that he or she has performed or supervised the analysis, design and document preparation for the structure and has knowledge of the load-carrying structural system.

**Structural Drawings.** The graphic or pictorial portions of the contract documents showing the design, location and dimensions of the work. These documents generally include plans, elevations, sections, details, connections, all loads, schedules, diagrams and notes.

#### 1.4 DESIGN

In the absence of ordinances or specifications to the contrary, all designs prepared by the Specifying Professional shall be in accordance with the Steel Joist Institute Standard Specifications of latest adoption.

#### 1.5 RESPONSIBILITY FOR DESIGN AND ERECTION

When material requirements are specified, the seller shall assume no responsibility other than to furnish the items listed in Section 5.2(a). When material requirements are not specified, the seller shall furnish the items listed in Section 5.2(a) in accordance with Steel Joist Institute Standard Specifications of latest adoption, and this code. Pertinent design information shall be provided to the seller as stipulated in Section 6.1. The seller shall identify material by showing size and type. In no case shall the seller assume any responsibility for the erection of the item furnished.

#### 1.6 PERFORMANCE TESTS FOR OPEN WEB STEEL JOIST CONSTRUCTION

When a performance test on a joist is required, the following criteria shall be used:

- a) The performance test load shall be the maximum factored uniformly distributed downward design load for the selected joist.
  - (1) The TOTAL safe factored uniformly distributed load-carrying capacity tabulated in the Standard LRFD Load Table for the specific joist designation and span.
  - (2) For a joist with factored loading conditions other than those found in the Standard LRFD Load Table, this is the LRFD Load Combination resulting in the highest uniformly distributed downward factored design load.
  - (3) For a joist with loading conditions other than those found in the Standard ASD Load Table, this is the ASD Load Combination resulting in the highest uniformly distributed downward design load multiplied times 1.50.
- b) Joist self-weight and the weight of all test materials shall be included in the calculation of applied performance test loading as appropriate for the joist during testing.



- c) Loading shall be uniformly distributed across the full length of the joist top chord, and the load application shall maintain uniform distribution throughout the test. At any stage during the application of the test loading, the test load shall not be distributed in such a manner as to result in any joist component being subjected to a higher proportion of force than intended by the joist design.
- d) If tested as a panel assembly, the joists shall be tested in pairs with deck, deck attachments, and bridging installed per the approved joist and deck Placement Plans. All bottom chord horizontal bridging rows shall be terminated by bracing back to the top chord of the adjacent joist or by a lateral restraint system which does not inhibit the vertical deflection of the test joist.
- e) If tested singly in a load test machine apparatus, the joist chords shall be braced to prevent lateral movement, without inhibiting vertical displacement. The joist top chord shall have lateral braces located at equal spacing of no more than 36 inches (914 mm) on center. The joist bottom chord shall have lateral braces located, at a minimum, per the bottom chord bridging locations shown on the approved joist placement plan.
- f) The performance test loading shall be applied at a rate of no greater than 25 plf per minute and shall be sustained for no less than 15 minutes. After the maximum test load has been removed for a minimum of 10 minutes, the remaining vertical displacement at midspan shall not exceed 20% of the vertical midspan deflection sustained under the full performance test load.
- g) All costs associated with such testing shall be borne by the purchaser.
- h) Joists that have been designed and manufactured and have satisfied the above performance test criteria shall be considered to satisfy the intent of the Steel Joist Institute Standard Specifications, and shall be considered acceptable for use in construction. No further proof of strength of individual joist components or connections is required.

## SECTION 2.

# **JOISTS, JOIST GIRDERS, AND ACCESSORIES**

### **2.1 STEEL JOISTS AND JOIST GIRDERS**

Steel joists and Joist Girders shall carry the designations and meet the requirements of the Steel Joist Institute Standard Specifications of latest adoption.

K-Series, LH-Series, DLH-Series joists, and Joist Girders are furnished either underslung or square ended, with top chords either parallel, pitched one way or pitched two ways. It is not recommended that any Joist Girder, or any DLH-Series joist that exceeds 72 inches (1829 mm) in depth and has a span greater than 80 feet (24384 mm), be used in a bottom bearing configuration.

The steel joist or Joist Girder designation depth or nominal depth shall be the depth at midspan, except for double pitched joists which shall be the depth at the ridge. K-Series, LH-Series, DLH-Series joists, and Joist Girders shall be permitted to have either parallel chords or a top chord pitch of up to 1/2 inch per foot (1:24).

### **2.2 BEARING SEATS**

Underslung types are furnished with minimum end bearing depths as shown in Table 2.2-1. A standard maximum joist bearing seat width (perpendicular to the joist length) is provided. This width shall be permitted to vary based on the joist design and joist manufacturer.



TABLE 2.2-1

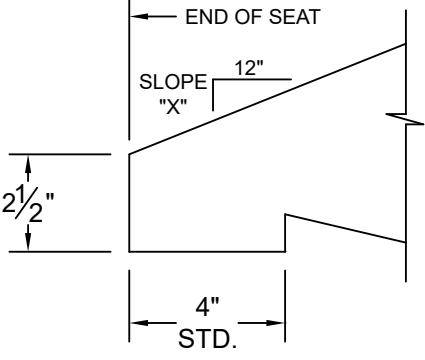
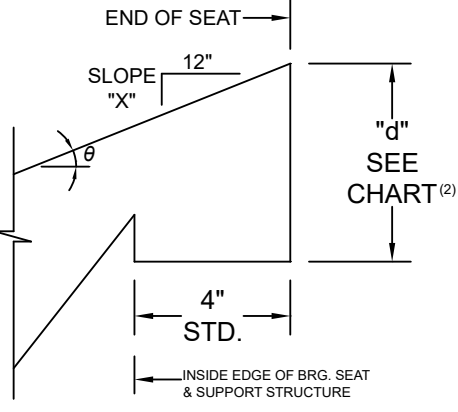
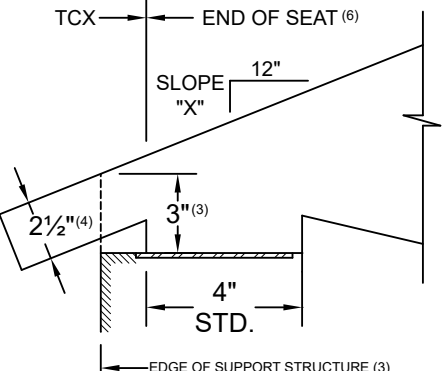
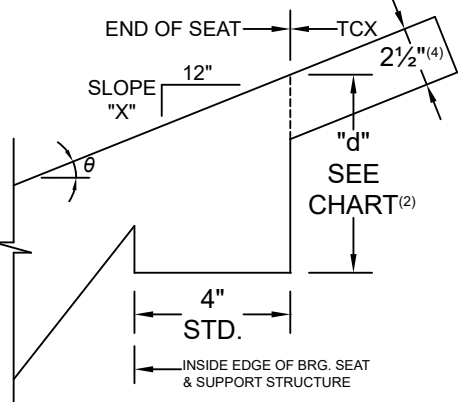
STANDARD END BEARING SEAT DEPTH AND STANDARD MAXIMUM SEAT WIDTH		
JOIST SECTION NUMBER <sup>1</sup>	MINIMUM BEARING DEPTH	MAXIMUM SEAT WIDTH <sup>2</sup>
K1-12	2 ½" (64 mm)	6" (152 mm)
LH02-06	5" (127 mm)	6" (152 mm)
LH07-17, DLH10-17	5" (127 mm)	8" (203 mm)
JG	7 ½" (191 mm)	8" (203 mm)
LH/DLH18-25, JG <sup>3</sup>	7 ½" (191 mm)	13" (330 mm)
JG <sup>4</sup>	10" (254 mm)	13" (330 mm)
<p>(<sup>1</sup>) Last two digits of joist designation shown in Load Table.</p> <p>(<sup>2</sup>) THE SEAT WIDTH MAY VARY BASED ON DESIGN.</p> <p>(<sup>3</sup>) Joist Girders with a self weight greater than 50 plf (0.73 kN/m).</p> <p>(<sup>4</sup>) Joist Girders with a self weight equal to or greater than 150 plf (2.19 kN/m).</p>		

Joist Girder bearing seat widths vary depending on the Joist Girder size and shall be permitted to be up to 13" (330 mm) wide. The supporting structural member shall be made wide enough to accommodate the seat widths.

Where steel joists or Joist Girders are sloped, sloped end bearings may be provided where the slope exceeds 1/4 inch per foot (1:48). When sloped end bearings are required, the seat depths shall be adjusted to maintain the standard height at the shallow end of the sloped bearing. For Open Web Steel Joists, K-Series, bearing ends shall be permitted to not be beveled for slopes of 1/4 inch or less per foot (1:48). For sloped joist bearing seats refer to the sloped seat depth requirements of Table 2.2-2 and Table 2.2-3.

TABLE 2.2-2

**SLOPED SEAT REQUIREMENTS FOR SLOPES 3/8":12 AND GREATER  
K-SERIES OPEN WEB STEEL JOISTS**

LOW END W/OUT TOP CHORD EXTENSIONS	HIGH END W/OUT TOP CHORD EXTENSIONS	SLOPE "X":12	MINIMUM HIGH END SEAT DEPTH "d"
		3/8	3 1/2
		1/2	3 1/2
		1	3 1/2
		1 1/2	4
		2	4
		2 1/2	4
		3	4 1/2
LOW END W/ TOP CHORD EXTENSIONS	HIGH END W/ TOP CHORD EXTENSIONS	3 1/2	4 1/2
		4	4 1/2
		4 1/2	5
		5	5
		5 1/2	5 1/2
		6	5 1/2
		SEE NOTE (2) FOR SLOPE RATES GREATER THAN 6:12	

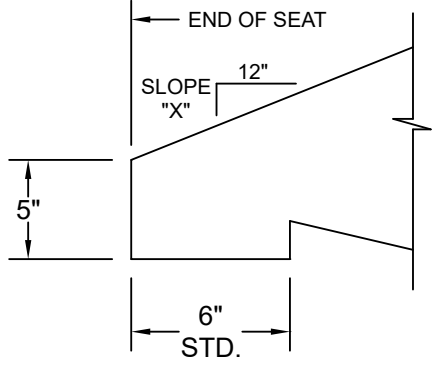
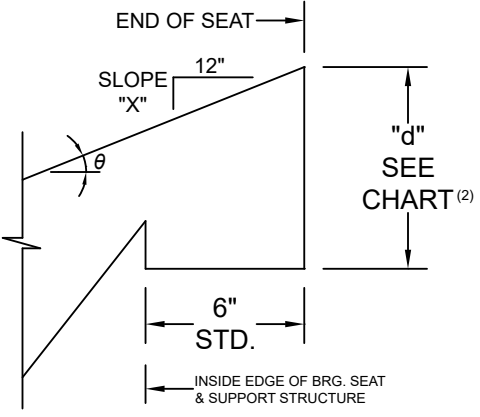
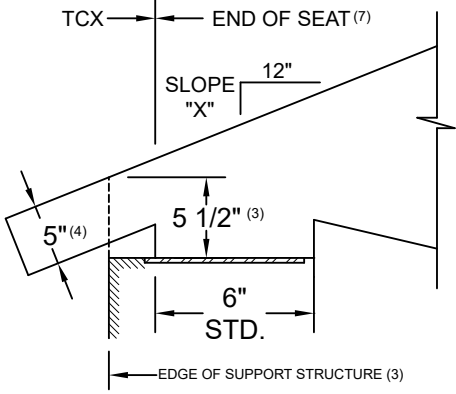
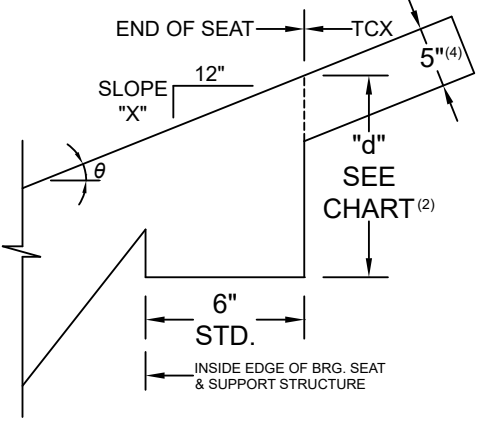
Notes:

- (1) Depths shown are the minimum required for manufacturing of sloped seats. Depths may vary depending on actual bearing conditions.
- (2)  $d = 1/2 + 2.5/\cos\theta + 4\tan\theta$  (Rounded up to the nearest 1/2".)
- (3) Clearance must be checked at outer edge of support. Increase bearing depths as required to allow passage of 2 1/2" deep extension.
- (4) If extension depth greater than 2 1/2" is required, increase bearing depths accordingly.
- (5) If slope is 1/4 : 12 or less, sloped seats are not required.
- (6) Required bearing seat depth is determined at END OF SEAT.
- (7) Also refer to SJI Specification 5.4 for special considerations of joist end reaction location.



TABLE 2.2-3

**SLOPED SEAT REQUIREMENTS FOR SLOPES 3/8":12 AND GREATER  
LH- AND DLH-SERIES OPEN WEB STEEL JOISTS**

LOW END W/OUT TOP CHORD EXTENSIONS	HIGH END W/OUT TOP CHORD EXTENSIONS	SLOPE "X" : 12	MINIMUM HIGH END SEAT DEPTH "d"
		3/8	6
		1/2	6
		1	6 1/2
		1 1/2	6 1/2
		2	7
		2 1/2	7
		3	7 1/2
LOW END W/ TOP CHORD EXTENSIONS	HIGH END W/ TOP CHORD EXTENSIONS	3 1/2	7 1/2
		4	8
		4 1/2	8 1/2
		5	8 1/2
		5 1/2	9
		6	9 1/2
		SEE NOTE (2) FOR SLOPE RATES GREATER THAN 6:12	

Notes:

- (1) Depths shown are the minimum required for manufacturing of sloped seats. Depth may vary depending on actual bearing condition.
- (2)  $d = 1/2 + 5 / \cos\theta + 6 \tan\theta$
- (3) Clearance must be checked at outer edge of support. Increase bearing seat depth as required to allow passage of 5" deep extension.
- (4) If extension depth greater than 5" is required, increase bearing depths accordingly.
- (5) Add 2 1/2" to seat depth at 18 thru 25 chord section numbers. Consult with joist manufacturer for information when TCXs are present.
- (6) If slope is 1/4 : 12 or less, sloped seats may not be required.
- (7) Required bearing seat depth shall be determined at END OF SEAT.
- (8) Also refer to SJI Specification 5.4 for special considerations of joist end reaction location.





### 2.3 JOIST LOCATION AND SPACING

The uniform loads as shown in the Standard Specifications Load Tables & Weight Tables of latest adoption shall be used to determine maximum joist spacing.

Where sidewalls, wall beams or tie beams are capable of supporting the floor slab or roof deck, the first adjacent joists should be placed one full space from these members. Joists are provided with camber and may have a significant difference in elevation with respect to the adjacent structure because of this camber. This difference in elevation shall be given consideration when locating the first joist adjacent to a side wall, wall beam, or tie beam.

K-Series Joists should be placed no closer than 6 inches (152 mm) to adjacent walls or structural members. LH-Series and DLH-Series Joists should be placed no closer than 12 inches (305 mm) to adjacent walls or structural members. Where partition walls are supported by parallel floor joists, there shall be at least one joist provided under each such partition, and more than one such joist shall be provided if necessary to safely support the weight of such partition and the adjacent floor. When partitions occur perpendicular to the joists, they shall be treated as concentrated loads on the supporting joists.

### 2.4 SPECIFYING DESIGN LOADS

Neither the Steel Joist Institute nor the joist manufacturer establishes the loading requirements for which structures are designed.

The *specifying professional* shall provide the nominal loads and load combinations as stipulated by the applicable code under which the structure is designed and shall provide the design basis (ASD or LRFD).

The *specifying professional* shall calculate and provide the magnitude and location of ALL JOIST and JOIST GIRDER LOADS. This includes all special loads (drift loads, mechanical units, net uplift, axial loads, moments, structural bracing loads, or other applied loads) which are to be incorporated into the joist or Joist Girder design. For Joist Girders, reactions from supported members shall be clearly denoted as point loads on the Joist Girder. When necessary to clearly convey the information, a load diagram or load schedule shall be provided.

The *specifying professional* shall give due consideration to the following loads and load effects:

- Ponded rain water.
- Accumulation of snow in the vicinity of obstructions such as penthouses, signs, parapets, adjacent buildings, etc.
- Wind and seismic forces. Indicate wind NET uplift in pounds per square foot (Pascals) and any other wind or seismic forces required to be incorporated into the joist or Joist Girder design. If applicable, make clear if loads specified are reduced (i.e. for ASD  $0.6W=$ ,  $0.7E=$ ) and provide any pertinent  $S_{Ds}$  values. Connection details shall be designed by the *specifying professional*.
- Movable partitions. Convey any special deflection requirements as well as any stacked loading conditions.
- Type and magnitude of end moments and/or axial forces at the joist and Joist Girder end supports shall be shown on the Structural Drawings. For moment resisting joists or Joist Girders framing at or near the top of a column, due consideration shall be given to extend the column length to allow a plate type connection between the top of the joist or Joist Girder top chord and the column.  
Avoid transferring joist or Joist Girder end moments and axial forces through the bearing seat connection.  
A note shall be provided on the structural drawings stating that all moment resisting joists shall have all dead loads applied to the joist before the bottom chord struts are welded to the supporting connection whenever the design moments provided do not include dead load.  
The top and bottom chord moment connection details shall be designed by the *specifying professional*. The joist designer shall furnish the *specifying professional* with the joist detail information if requested. Additional design tools and details are available at the Steel Joist Institute's website, [www.steeljoist.org](http://www.steeljoist.org).
- Joist chords shall not carry out-of-plane or torsional loads, such as from horizontal components of concentrated loads applied to laterally sloped joists, braces, screen walls, posts, etc. The structural contract drawings shall show the required structural bracing to resolve these forces.



Where concentrated loads occur, the magnitude and location of these concentrated loads shall be shown on the structural drawings when, in the opinion of the *specifying professional*, they shall require consideration by the joist manufacturer. For nominal concentrated loads, which have been accounted for in the specified uniform design loads, a “strut” to transfer the load to a panel point on the opposite chord shall not be required provided that the sum of the concentrated loads within a chord panel does not exceed 100 pounds (445 N) and the attachments are concentric to the chord. When exact dimensional locations for concentrated loads which do not meet the above criteria are provided by the *specifying professional*, the joist shall be designed for the loads and load locations provided without the need for additional field applied web members at the specified locations.

#### (a) Specifying Joist Design Loads

The Steel Joist Institute Load Tables are based on uniform loading conditions and are valid for use in selecting joist sizes for gravity loads that can be expressed in terms of “pounds per linear foot” (kiloNewtons per meter) of joist.

For other loads, the Specifying Professional shall use one of the five options described below that allows:

- The estimator to price the joists.
- The joist manufacturer to design the joists in accordance with the Standard Specifications of latest adoption.
- The owner to obtain the most economical joists.

**Option 1:** Select a joist designation from the Standard Load Table (or specify a joist type using a uniform load in the designation) which has been determined to be adequate for all design loads. The shear and moment envelope resulting from the selected uniform load shall meet the actual shear and moment requirements. Thus, this option alone may not be adequate if large concentrated loads need to be designed for.

**Option 2:** Select a joist designation from the Standard Load Table (or specify a joist type using a uniform load in the designation) and also provide the load and location of any additional loads on the structural plan with a note “Joist manufacturer shall design joists for additional loads at locations shown.” This option works well for a few added loads per joist with known magnitude and locations.

**Option 3:** For additional point loads with exact locations not known along the joist or for incidental loads, any one, or both, of the following can be specified on the structural plan in addition to option 1 or 2 above:

- a) “**Design for a ( ) lb. concentrated load located at any one panel point along the joist**”. This is referred to as an *Add-Load*.
- b) “**Design for additional bending stresses resulting from a ( ) lb. concentrated load located at any location along ( ) chord**”. This is referred to as a *Bend-Check* and can be specified on the top chord, bottom chord, or both top and bottom chords. This can be used when the concentrated load is already accounted for in the joist designation, uniform load, or specified *Add-Load* yet this specified amount of load shall be permitted to also be located at any location between panel points. The additional bending stresses as a result of this load are then designed for. A *Bend-Check* load shall not exceed (*Add-Load* + 400 lbs.) A *Bend-Check* load can be specified by itself without an *Add-Load*.
- c) Both (a) and (b) above can be specified with equal concentrated loads for each; or simply denote “**Design joist for a ( ) lb. concentrated load at any location along the ( ) chord.**”

Example uses:

- *Specifying professional* selects a standard joist capable of carrying a 500 lb. RTU. However, the location and exact frame size is not yet known but the frame load shall result in two- 250 lb. point loads at least 5'-0” apart. **Specify a 250 lb. Bend-Check.**
- Standard joist specified but not selected for 500 lb. RTU load, location not known. **Specify a 500 lb. Add-Load and 250 lb. Bend-Check.**
- Standard SJI joist selected to carry collateral load of 3 psf. *Specifying professional* wants bending from 150 lb. incidental loads to also be designed for. **Specify a 150 lb. Bend-Check.**



**Option 4:** Select a KCS joist using moment and end reaction without specifying added loads or diagrams. This option works well for concentrated loads for which exact locations are not known or for multiple loading.

- a) Determine the maximum moment.
- b) Determine the maximum end reaction (shear).
- c) Select the required KCS joist that provides the required moment and end reaction (shear). Note that the top chord end panel is designed for axial load based on the force in the first tension web, that is based on the specified end reaction. A uniform load of 825 plf (12030 N/m) LRFD or 550 plf (8020 N/m) ASD is used to check end panel bending. If the end panel loading exceeds this, reduce the joist spacing or go to Option 5.
- d) Specify on the structural drawings that an extra web shall be field applied at all concentrated loads not occurring at panel points.

OPTION 4 - ASD EXAMPLE 1:	OPTION 4 - LRFD EXAMPLE 1:
U.S. CUSTOMARY UNITS AND (METRIC UNITS)	U.S. CUSTOMARY UNITS AND (METRIC UNITS)
<p>M = 625 k-in. (70.6 kN-m)  <math>R_L = 5600</math> lbs (24.9 kN), <math>R_R = 5000</math> lbs (22.2 kN)                      Select a 22KCS3, M = 658 k-in. (74.3 kN-m)                      R = 6600 lbs (29.3 kN)                      Bridging section no. 9 for L = 40 ft. (12192 mm)                      Use 22K9 to determine bridging and stability requirements.                      Since a standard KCS Joist can be selected from the load table a load diagram is not required.</p>	<p>M = 938 k-in. (105.9 kN-m)  <math>R_L = 8400</math> lbs (37.37 kN), <math>R_R = 7500</math> lbs (33.36 kN)                      Select a 22KCS3, M = 987 k-in. (111.5 kN-m)                      R = 9900 lbs (44.0 kN)                      Bridging section no. 9 for L = 40 ft. (12192 mm)                      Use 22K9 to determine bridging and stability requirements.                      Since a standard KCS Joist can be selected from the load table a load diagram is not required.</p>



OPTION 4 - ASD EXAMPLE 2:	OPTION 4 - LRFD EXAMPLE 2:
U.S. CUSTOMARY UNITS AND (METRIC UNITS)	U.S. CUSTOMARY UNITS AND (METRIC UNITS)
<p><math>M = 443 \text{ k-in. (50.1 kN-m)}</math>  <math>R_L = 5000 \text{ lbs (22.24 kN)}, R_R = 5340 \text{ lbs (23.75 kN)}</math>                      Select a 22KCS2, <math>M = 488 \text{ k-in. (55.1 kN-m)}</math>  <math>R = 5900 \text{ lbs (26.2 kN)}</math>                      Bridging section no. 6 for <math>L = 30 \text{ ft. (9144 mm)}</math>                      Use 22K6 to determine bridging and stability requirements. Since the maximum uniform load of 430 plf [6275 N/m] (270 plf (3940 N/m) + 160 plf (2335 N/m)) does not exceed the maximum KCS Joist uniform load of 550 plf (8020 N/m) and a standard KCS Joist can be selected from the load table, a load diagram is not required.</p>	<p><math>M = 664 \text{ k-in. (75.03 kN-m)}</math>  <math>R_L = 7500 \text{ lbs (33.36 kN)}, R_R = 8010 \text{ lbs (35.63 kN)}</math>                      Select a 22KCS2, <math>M = 732 \text{ k-in. (82.64 kN-m)}</math>  <math>R = 8850 \text{ lbs (39.3 kN)}</math>                      Bridging section no. 6 for <math>L = 30 \text{ ft. (9144mm)}</math>                      Use 22K6 to determine bridging and stability requirements. Since the maximum <b>factored</b> uniform load of 645 plf (9413 N/m) (405 plf (5911 N/m) + 240 plf (3503 N/m)) does not exceed the maximum KCS Joist uniform load of 825 plf (12030 N/m) and a standard KCS Joist can be selected from the load table, a load diagram is not required.</p>

OPTION 4 - ASD EXAMPLE 3:	OPTION 4 - LRFD EXAMPLE 3:
U.S. CUSTOMARY UNITS AND (METRIC UNITS)	U.S. CUSTOMARY UNITS AND (METRIC UNITS)
<p>M = 2910 k-in. (328.8 kN-m)  <math>R_L = R_R = 14000</math> lbs (62.28 kN)                      EXCEEDS CAPACITY OF 30KCS5 (MAXIMUM KCS JOIST) AND EXCEEDS MAXIMUM UNIFORM LOAD OF 550 plf (8027 N/m).  <b>OPTION A:</b> Use double joists each having a minimum moment capacity, M = 1455 k-in. (164.4 kN-m) and shear capacity, R = 7000 lbs (31.14 kN) and a uniform load of 400 plf (5838 N/m).                      Select two 28KCS5, M = 1704 k-in. (192.5 kN-m),                      R = 9200 lbs (40.9 kN).                      Bridging section no. 12 for L = 55 ft. (16764 mm). Use 28K12 to determine bridging and stability requirements.  <b>OPTION B:</b> Select a LH-Series Joist. See OPTION 5.</p>	<p>M = 4365 k-in. (493.2 kN-m)  <math>R_L = R_R = 21000</math> lbs (93.41 kN)                      EXCEEDS CAPACITY OF 30KCS5 (MAXIMUM KCS JOIST) AND EXCEEDS MAXIMUM <b>FACTORED</b> UNIFORM LOAD OF 825 plf (12040 N/m).  <b>OPTION A:</b> Use double joists each having a minimum moment capacity, M = 2183 k-in. (246.65 kN-m) and shear capacity, R = 10500 lbs (46.71 kN) and a uniform load of 600 plf (8756 N/m).                      Select two 28KCS5, M = 2556 k-in. (288.7 kN-m),                      R = 13800 lbs (61.3 kN).                      Bridging section no. 12 for L = 55 ft. (16764 mm) Use 28K12 to determine bridging and stability requirements.  <b>OPTION B:</b> Select a LH-Series Joist. See OPTION 5.</p>

**Option 5:** Specify a SPECIAL joist designation when the joist includes more complex loading or for conditions which need consideration of multiple potentially controlling load combinations.

- Provide a load diagram and/or enough information on the drawings to clearly define ALL loads.
- If the loading criteria are too complex to adequately communicate on the drawings or with a simple load diagram, then the *specifying professional* shall provide a load schedule along with the appropriate load combinations. Regardless of where the loads are shown, unfactored design loads broken down by load categories shall be provided in order to design the joists correctly with applicable load combinations.

Place the designation (e.g. 28K SP or 28LH SP) with the following note: “Joist manufacturer to design joist to support loads as shown.”



OPTION 5 - ASD EXAMPLE:	OPTION 5 - LRFD EXAMPLE:
U.S. CUSTOMARY UNITS AND (METRIC UNITS)	U.S. CUSTOMARY UNITS AND (METRIC UNITS)
Load diagram per ASCE 7 2.4.1(3), D + S	Unfactored Load diagram per ASCE 7 2.3.2(3), 1.2D+1.6S
<p>32LH SP Joist manufacturer to design joist to support loads as shown above.</p>	<p>32LH SP Joist manufacturer to design joist to support <b>unfactored</b> loads as shown above.</p>
PLEASE NOTE THE LOAD COMBINATIONS SHOWN ARE FOR REFERENCE EXAMPLES ONLY.	

**CAUTION FOR OPTIONS 1 thru 5 ABOVE:**

If a K-Series joist is being specified, the Specifying Professional shall compare the equivalent uniform loads derived from the maximum moment and shear to the uniform loads tabulated in the K-Series Load Table. An equivalent unfactored uniform load in excess of 550 plf (8020 N/m) or a maximum unfactored end reaction exceeding 9200 lbs. (40.9 kN) indicates that the *specifying professional* shall use additional joists to reduce the loading or use an LH-Series joist and make provisions for 5 inch (127 mm) deep bearing seats.

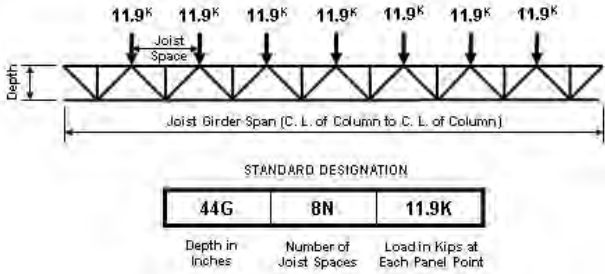
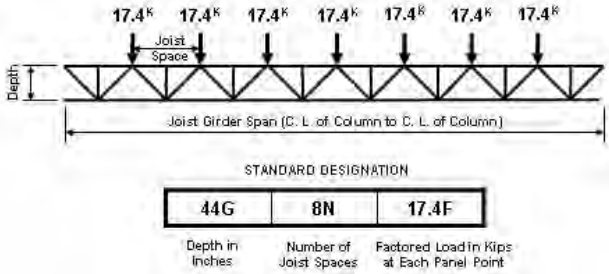
If the joist has not been designed for localized accumulation of loads that results in a point or concentrated load, this load attachment shall be made at top or bottom chord panel points. Therefore, specify on the structural drawings, "Where concentrated loads do not occur at panel points, an extra web shall be field applied from the point of attachment to a panel point on the opposite chord", and indicate the extra web size and weld requirements. When exact dimensional locations for concentrated loads are provided by the *specifying professional*, the joist shall be designed for the loads and load locations provided without the need for additional field applied web members at the specified locations.

**(b) Specifying Joist Girder Design Loads**

The Steel Joist Institute’s Design Guide ASD or LRFD Weight Tables for Joist Girders are based on uniformly spaced panel point loading conditions and are valid for use in selecting Joist Girder sizes for gravity conditions that can be expressed in kips (kiloNewtons) per panel point on the Joist Girder. Note that anything other than point loads shall be shown unfactored or in a Load Schedule. For a given Joist Girder span, the *specifying professional* first determines the number of joist spaces. Then the panel point loads are calculated and a depth is selected. The information provided in the tables gives the Joist Girder weight in pounds per linear foot (kiloNewtons per meter) for various depths and loads.

1. The purpose of the Joist Girder Design Guide Weight Table is to assist the *specifying professional* in the selection of a roof or floor support system.
2. It is not necessary to use only the depths, spans, or loads shown in the tables.
3. Holes in chord elements present special problems that shall be considered by both the *specifying professional* and the Joist Girder Manufacturer. The sizes and locations of such holes shall be clearly indicated on the structural drawings.
4. Live load deflection rarely governs because of the relatively small span to depth ratios of Joist Girders. However, it is recommended that a breakdown of the point loads, by load category (i.e. TL/LL), be provided so specified deflection requirements and load combinations can be properly accounted for in design.



<p>Example using <b>Allowable Strength Design (ASD)</b> and U. S. Customary units:</p>	<p>Example using <b>Load and Resistance Factor Design (LRFD)</b> and U. S. Customary units:</p>
	
<p>Given 42'-0" x 50'-0" bay. Joists spaced on 5'-3" centers</p> <p>Live Load = 30 psf                  Dead Load = 15 psf                  (includes the approximate Joist Girder weight)                  Total Load = 45 psf</p> <p>Note: Web configuration may vary from that shown. Contact joist manufacturer if exact layout must be known.</p> <ol style="list-style-type: none"> <li>Determine number of actual joist spaces (N). In this example, N = 8.</li> <li>Compute total load: Total load = 5.25 x 45 psf = 236.25 plf</li> <li>Joist Girder Section: (Interior)                         <ol style="list-style-type: none"> <li>Compute the concentrated load at top chord panel points  <math>P = 236.25 \times 50 = 11,813 \text{ lbs} = 11.9 \text{ kips}</math>                              (use 12K for depth selection).</li> <li>Select Joist Girder depth:                              Refer to the ASD Joist Girder Design Guide Weight Table for the 42'-0" span, 8 panel, 12.0K Joist Girder. The rule of about one inch of depth for each foot of span is a good compromise of limited depth and economy. Therefore, select a depth of 44 inches.</li> <li>The Joist Girder shall then be designated 44G8N11.9K.</li> <li>The ASD Joist Girder Design Guide Weight Table shows the weight for a 44G8N12K as 49 pounds per linear foot. The designer should verify that the weight is not greater than the weight assumed in the Dead Load above.</li> </ol> </li> </ol>	<p>Given 42'-0" x 50'-0" bay. Joists spaced on 5'-3" centers</p> <p>Live Load = 30 psf x 1.6                  Dead Load = 15 psf x 1.2                  (includes the approximate Joist Girder weight)                  Total Load = 66 psf (factored)</p> <p>Note: Web configuration may vary from that shown. Contact joist manufacturer if exact layout must be known.</p> <ol style="list-style-type: none"> <li>Determine number of actual joist spaces (N). In this example, N = 8.</li> <li>Compute total factored load: Total load = 5.25 x 66 psf = 346.50 plf</li> <li>Joist Girder Section: (Interior)                         <ol style="list-style-type: none"> <li>Compute the factored concentrated load at top chord panel points  <math>P = 346.5 \times 50 = 17,325 \text{ lbs} = 17.4 \text{ kips}</math>                              (use 18K for depth selection).</li> <li>Select Joist Girder depth:                              Refer to the LRFD Joist Girder Design Guide Weight Table for the 42'-0" span, 8 panel, 18.0K Joist Girder. The rule of about one inch of depth for each foot of span is a good compromise of limited depth and economy. Therefore, select a depth of 44 inches.</li> <li>The Joist Girder shall then be designated 44G8N17.4F. Note that the letter "F" is included at the end of the designation to clearly indicate that this is a factored load.</li> <li>The LRFD Joist Girder Design Guide Weight Table shows the weight for a 44G8N18.0F as 49 pounds per linear foot. The designer should verify that the weight is not greater than the weight assumed in the Dead Load above.</li> </ol> </li> </ol>



<p>e) Check live load deflection:</p> <p>Live load = 30 psf x 50 ft. = 1500 plf</p> <p>Approximate Joist Girder moment of inertia = 0.027 NPLd</p> <p>= 0.027 x 8 x 11.9 x 42 x 44 = 4750 in.<sup>4</sup></p> <p>Allowable deflection for plastered ceilings = L/360 = <math>\frac{42(12)}{360} = 1.40</math> in.</p> <p><math>\Delta = 1.15 \left[ \frac{5wL^4}{384EI} \right] = \frac{1.15(5)(1.500/12)[(42)(12)]^4}{384(29000)(4750)}</math></p> <p>= 0.88 in. &lt;1.40 in., Okay</p>	<p>e) Check live load deflection:</p> <p>Live load = 30 psf x 50 ft. = 1500 plf</p> <p>Approximate Joist Girder moment of inertia = 0.018 NPLd</p> <p>= 0.018 x 8 x 17.4 x 42 x 44 = 4630 in.<sup>4</sup></p> <p>Allowable deflection for plastered ceilings = L/360 = <math>\frac{42(12)}{360} = 1.40</math> in.</p> <p><math>\Delta = 1.15 \left[ \frac{5wL^4}{384EI} \right] = \frac{1.15(5)(1.500/12)[(42)(12)]^4}{384(29000)(4630)}</math></p> <p>= 0.90 in. &lt;1.40 in., Okay</p>
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**(c) Load Schedule Example**

**LOAD SCHEDULE (all loads are to be shown as unfactored)**

MARK	DESIGNATION <sup>(1)</sup> ( TL/LL ) Joists: (plf) Girders: (kips)	LOADING <sup>(2)</sup>		W WIND		ADD-LOAD <sup>(6)</sup> TL/LL (kips/kips)	BEND-CHECK <sup>(7)</sup>		REMARKS
		DL <sup>(3)</sup> (plf)	LL <sup>(4)</sup> or L <sub>r</sub> /S/R (plf)	DOWN WARD (plf)	NET <sup>(5)</sup> UPLIFT (plf)		D TC (kips)	D BC (kips)	
J1	18KSP	120	185		180	1.0/0.6		0.3	Axial Loads Wind Moments Drift Loads, see diagram
J2	24K7SP	85	155						
J3	28LHSP	110	355	95	175	0.5			
G1	36G5N6.5K/3.5K				360				End Moments

- (1) Joist designation loads include all uniform gravity loads. **Provide both Total and Live loads.**
- (2) Loading values are not required if designation loading values are correct for deflection and load combinations.
- (3) When standard SJI designations are used, the design Dead Load is required for load combinations with Wind or Seismic.
- (4) The Floor or Roof Live load, Snow, or Rain load.
- (5) When Net Uplift is specified for simple loading, it shall already take into account possible reduced Dead Loading present in order to create the largest Net uplift load combination. For more complex loading or when the Dead Load varies greatly for use in load combinations below, **Gross** uplift should be specified with the minimum and maximum Dead Loading values clearly defined. If the uplift cannot be assigned in pounds per lineal foot, a diagram can be shown for joist loading using pounds per square foot.
- (6) A concentrated load applied at any panel point on both the top chord and bottom chord.
- (7) Chord members shall be designed for additional bending stresses created by this concentrated Total load.





When in-plane moments (wind load, seismic load) are specified, continuity moments (live load) **shall** also be specified. A Load Schedule that shows a complete breakdown of all loads by Load Category may be required.

### AXIAL and END MOMENT LOAD SCHEDULE

MARK	DESIGNATION ( TL/LL ) Joists: (plf) Girders: (kips)	MIN. I (in. <sup>4</sup> )	AXIAL			END MOMENTS								TRANSFER DETAILS @ GRIDS	
			W WIND (kips)	E SEISMIC (kips)	E <sub>m</sub> (kips)	LIVE LOAD CONTINUITY MOMENTS (k-ft.)		LATERAL MOMENTS (k-ft.)							
								W WIND		E		E <sub>m</sub>			
						LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT		
J1 J2 G1	18KSP 24K7SP 36G5N6.5K/3.5K	985	W=18.0	E=21.8											9/S8 @ 4  11/S8 @ B,C

When special loads as shown in the tables above are specified, the load combinations to be used for joist and Joist Girder design **shall** be provided. Two examples showing how to list load combinations are shown below:

LRFD example- Basic Load Combinations	ASD example - Basic Load Combinations
1. 1.4D	1. D
2. 1.2D + 1.6L + 0.5(L <sub>r</sub> or S or R)	2. D + L
3. 1.2D + 1.6(L <sub>r</sub> or S or R) + (1.0L or 0.5W)	3. D + (L <sub>r</sub> or S or R)
4. 1.2D + 1.0W + 1.0L + 0.5(L <sub>r</sub> or S or R)	4. D + 0.75L + 0.75(L <sub>r</sub> or S or R)
5. 1.2D + 1.0E + 1.0L + 0.2S	5. D + (0.6W or 0.7E)
6. 0.9D + 1.0W	6a. D + 0.75L + 0.75(0.6W) + 0.75(L <sub>r</sub> or S or R)
7. 0.9D + 1.0E	6b. D + 0.75L + 0.75(0.7E) + 0.75S
	7. 0.6D + 0.6W
	8. 0.6D + 0.7E
Special Seismic Load Combinations	Special Seismic Load Combinations
8. (1.2 + 0.2S <sub>DS</sub> )D + E <sub>h</sub> + L + 0.2S	9. (1.0 + 0.14S <sub>DS</sub> )D + 0.7E <sub>h</sub>
9. (0.9 – 0.2S <sub>DS</sub> )D + E <sub>h</sub>	10. (1.0 + 0.105S <sub>DS</sub> )D + 0.525E <sub>h</sub> + 0.75L + 0.75(L <sub>r</sub> or S or R)
	11. (0.6 – 0.14S <sub>DS</sub> )D + 0.7E <sub>h</sub>

## 2.5 JOIST AND JOIST GIRDER EXTENSIONS

Steel joist and Joist Girder extensions shall be specified and designed in accordance with the requirements of the Steel Joist Institute Standard Specifications of latest adoption.



## 2.6 CEILING EXTENSIONS

Ceiling extensions shall be furnished to support ceilings that are to be attached directly to the bottom of the joists. They are not furnished for the support of suspended ceilings. The ceiling extension shall be either an extended bottom chord element or a loose unit, whichever is standard with the manufacturer, and shall be of sufficient strength to properly support any specified ceiling loads.

## 2.7 BRIDGING AND BRIDGING ANCHORS

- (a) Bridging standard with the manufacturer and complying with the Steel Joist Institute Standard Specifications of latest adoption shall be used for bridging all joists furnished by the joist manufacturer. Positive anchorage shall be provided at the ends of each bridging row at both top and bottom chords.
- (b) For K-Series and LH-Series joists, horizontal bridging is recommended for spans up to and including 60 feet (18288 mm) except where the Steel Joist Institute Standard Specifications Load Tables & Weight Tables require bolted diagonal bridging for erection stability.

LH-Series and DLH-Series joists exceeding 60 feet (18288 mm) in length shall have bolted diagonal bridging for all rows.

Refer to Section 5.5 in the Steel Joist Institute Standard Specification for erection stability requirements.

Refer to Appendix B for OSHA steel joist erection stability requirements.

Horizontal bridging shall consist of continuous horizontal steel members designed per Section 5.5 in the Steel Joist Institute Standard Specifications. The material sizes listed in Table 2.7-1 meet the requirements of the specifications. Alternately, or for “load/length” designation joists, Table 2.7-2 provides the maximum horizontal bridging force,  $P_{br}$ , for various combinations of joist spacing and bridging angle size.

- (c) Diagonal cross bridging consisting of angles or other shapes connected to the top and bottom chords of K-Series, LH-Series, and DLH-Series joists shall be used when required by the Steel Joist Institute Standard Specifications of latest adoption.

Diagonal bridging, when used, shall be designed per Section 5.5 in the Steel Joist Institute Standard Specifications.

When the bridging members are connected at their point of intersection, the material sizes listed in Table 2.7-3 and Table 2.7-4 meet the requirements of the specifications.

For LH-Series and DLH-Series joists, where the joist spacing is less than 70 percent of the joist depth, bolted horizontal bridging shall be provided in addition to the diagonal bridging, as shown in Table 2.7-4.

- (d) When bolted diagonal erection bridging is required, the following shall apply:
1. The bridging shall be indicated on the joist placement plans.
  2. The joist placement plans shall be the exclusive indicator for the proper placement of this bridging.
  3. Shop installed bridging clips, or functional equivalents, shall be provided where the bridging bolts to the steel joist.
  4. When two pieces of bridging are attached to a steel joist by a common bolt, the nut that secures the first piece of bridging shall not be removed from the bolt for the attachment of the second piece.
  5. Bridging attachments shall not protrude above the top chord of the steel joists.
  6. See Table 2.7-5 for bolt sizes that meet the connection requirements of the Steel Joist Institute Standard Specifications Section 5.5.



TABLE 2.7-1

MAXIMUM JOIST SPACING FOR HORIZONTAL BRIDGING							
SPANS OVER 60 ft. (18.3 m) REQUIRE BOLTED DIAGONAL BRIDGING							
JOIST SECTION NUMBER <sup>1</sup>	Nominal Unfactored Force P <sub>br</sub> lbs (N)	BRIDGING MATERIAL SIZE <sup>2</sup>					
		Equal Leg Angles					
		1 x 7/64 (25 x 3 mm) r = 0.20" (5.08 mm)	1-1/4 x 7/64 (32 x 3 mm) r = 0.25" (6.35 mm)	1-1/2 x 7/64 (38 x 3 mm) r = 0.30" (7.62 mm)	1-3/4 x 7/64 (45 x 3 mm) r = 0.35" (8.89 mm)	2 x 1/8 (52 x 3 mm) r = 0.40" (10.16 mm)	2-1/2 x 5/32 (64 x 4 mm) r = 0.50" (12.70 mm)
ft.-in. (mm)	ft.-in. (mm)	ft.-in. (mm)	ft.-in. (mm)	ft.-in. (mm)	ft.-in. (mm)		
K1 – 8	340 (1512)	5'-0" (1524)	6'-3" (1905)	7'-6" (2286)	8'-9" (2667)	10'-0" (3048)	12'-6" (3810)
K9-10, LH02-03	450 (2002)	4'-4" (1321)	6'-1" (1854)	7'-6" (2286)	8'-9" (2667)	10'-0" (3048)	12'-6" (3810)
K11-12, LH04-05	560 (2491)	3'-11" (1194)	5'-6" (1676)	7'-4" (2235)	8'-9" (2667)	10'-0" (3048)	12'-6" (3810)
LH06-08	750 (3336)		4'-9" (1448)	6'-3" (1905)	7'-11" (2413)	10'-0" (3048)	12'-6" (3810)
LH09	850 (3781)		4'-5" (1346)	5'-10" (1778)	7'-5" (2261)	9'-9" (2972)	12'-6" (3810)
LH/DLH10	900 (4003)		4'-4" (1321)	5'-8" (1727)	7'-3" (2210)	9'-5" (2870)	12'-6" (3810)
LH/DLH11	950 (4226)		4'-2" (1270)	5'-7" (1702)	7'-0" (2134)	9'-2" (2794)	12'-6" (3810)
LH/DLH12	1100 (4893)		3'-11" (1194)	5'-2" (1575)	6'-8" (2032)	8'-6" (2591)	12'-6" (3810)
LH/DLH13	1200 (5338)		3'-9" (1143)	4'-11" (1499)	6'-3" (1905)	8'-2" (2489)	12'-6" (3810)
LH/DLH14	1300 (5783)			4'-9" (1448)	6'-0" (1829)	7'-10" (2388)	12'-4" (3759)
LH/DLH15	1450 (6450)			4'-6" (1372)	5'-8" (1727)	7'-5" (2261)	11'-8" (3556)
LH/DLH16-17	1850 (8229)			4'-0" (1219)	5'-0" (1524)	6'-7" (2007)	10'-4" (3150)
LH/DLH18-20	2350 (10453)			3'-7" (1067)	4'-4" (1321)	5'-10" (1778)	9'-1" (2769)
LH/DLH21-22	3150 (14012)				3'-10" (1168)	5'-0" (1524)	7'-11" (2413)
LH/DLH23-24	4130 (18371)				3'-4" (1016)	4'-5" (1346)	6'-11" (2108)
LH/DLH25	4770 (21218)					4'-1" (1245)	6'-5" (1956)

(1) Refer to last two digit(s) of Joist Designation  
(2) Connection to joist shall resist force listed in the Steel Joist Institute Standard Specifications Table 5.5-2



**TABLE 2.7-2**

<b>MAXIMUM BRIDGING FORCE (<math>P_{br}</math>) FOR HORIZONTAL BRIDGING (lbs)</b>							
<b>JOIST SPACING (ft.-in.)</b>	<b>BRIDGING ANGLE SIZE (EQUAL LEG ANGLE)</b>						
	<b>1 x 7/64 r = 0.20"</b>	<b>1¼ x 7/64 r = 0.25"</b>	<b>1½ x 7/64 r = 0.30"</b>	<b>1¾ x 7/64 r = 0.35"</b>	<b>2 x 1/8 r = 0.40"</b>	<b>2½ x 5/32 r = 0.50"</b>	<b>3 x 3/16 r = 0.60"</b>
2'-0"	2150	3960	5600				
2'-6"	1370	2730	4410	5910			
3'-0"	950	1890	3290	4850			
3'-6"	700	1390	2420	3840	6180		
4'-0"	530	1060	1850	2960	5030		
4'-6"	420	840	1460	2340	4000		
5'-0"	340	680	1180	1890	3240		
5'-6"	-	560	980	1560	2670		
6'-0"	-	470	820	1310	2250	5490	
6'-6"	-	-	700	1120	1910	4680	
7'-0"	-	-	600	960	1650	4030	
7'-6"	-	-	520	840	1440	3510	
8'-0"	-	-	-	740	1260	3090	
8'-6"	-	-	-	650	1120	2740	5680
9'-0"	-	-	-	-	1000	2440	5060
9'-6"	-	-	-	-	890	2190	4540
10'-0"	-	-	-	-	810	1970	4100
10'-6"	-	-	-	-	-	1790	3720
11'-0"	-	-	-	-	-	1630	3390
11'-6"	-	-	-	-	-	1490	3100
12'-0"	-	-	-	-	-	1370	2850



**TABLE 2.7-3**

**K, LH, and DLH SERIES JOISTS  
MAXIMUM JOIST SPACING FOR DIAGONAL BRIDGING<sup>1</sup>**

JOIST DEPTH	BRIDGING ANGLE SIZE – (EQUAL LEG ANGLE) <sup>2</sup>							
	1 x 7/64 (25 x 3 mm) r = 0.20" (5.08 mm)	1-1/4 x 7/64 (32 x 3 mm) r = 0.25" (6.35 mm)	1-1/2 x 7/64 (38 x 3 mm) r = 0.30" (7.62 mm)	1-3/4 x 7/64 (45 x 3 mm) r = 0.35" (8.89 mm)	2 x 1/8 (50 x 3 mm) r = 0.40" (10.16 mm)	2 1/2 x 5/32 (64x 4 mm) r=0.50" (12.70 mm)	3 x 3/16 (76 x 5 mm) r = 0.60" (15.24 mm)	3 1/2 x 1/4 (89 x 6 mm) r = 0.70" (17.78 mm)
in. (mm)	ft.-in. (mm)	ft.-in. (mm)	ft.-in. (mm)	ft.-in. (mm)	ft.-in. (mm)	ft.-in. (mm)	ft.-in. (mm)	ft.-in. (mm)
12" (305)	6'-7" (2007)	8'-3" (2514)	9'-11"(3022)	11'-7" (3530)	13'-3"(4038)	16'-7"(5055)	19'-11"(6070)	23'-3"(7086)
14" (356)	6'-6" (1981)	8'-3" (2514)	9'-11"(3022)	11'-7" (3530)	13'-3"(4038)	16'-7"(5055)	19'-11"(6070)	23'-3"(7086)
16" (406)	6'-6" (1981)	8'-2" (2489)	9'-10"(2997)	11'-7" (3530)	13'-3"(4038)	16'-7"(5055)	19'-11"(6070)	23'-3"(7086)
18" (457)	6'-6" (1981)	8'-2" (2489)	9'-10"(2997)	11'-6" (3505)	13'-3"(4038)	16'-7"(5055)	19'-11"(6070)	23'-3"(7086)
20" (508)	6'-5" (1955)	8'-2" (2489)	9'-10"(2997)	11'-6" (3505)	13'-2"(4013)	16'-7"(5055)	19'-11"(6070)	23'-3"(7086)
22" (559)	6'-4" (1930)	8'-1" (2463)	9'-10"(2997)	11'-6" (3505)	13'-2"(4013)	16'-6"(5029)	19'-11"(6070)	23'-3"(7086)
24" (610)	6'-4" (1930)	8'-1" (2463)	9'-9" (2971)	11'-5" (3479)	13'-2"(4013)	16'-6"(5029)	19'-10"(6045)	23'-3"(7086)
26" (660)	6'-3" (1905)	8'-0" (2438)	9'-9" (2971)	11'-5" (3479)	13'-1"(3987)	16'-6"(5029)	19'-10"(6045)	23'-2"(7061)
28" (711)	6'-3" (1905)	8'-0" (2438)	9'-8" (2946)	11'-5" (3479)	13'-1"(3987)	16'-6"(5029)	19'-10"(6045)	23'-2"(7061)
30" (762)	6'-2" (1879)	7'-11" (2413)	9'-8" (2946)	11'-4" (3454)	13'-1"(3987)	16'-5"(5004)	19'-10"(6045)	23'-2"(7061)
32" (813)	6'-1" (1854)	7'-10"(2387)	9'-7" (2921)	11'-4" (3454)	13'-0" (3962)	16'-5"(5004)	19'-9"(6020)	23'-2"(7061)
36" (914)	5'-11"(1803)	7'-9" (2362)	9'-6" (2895)	11'-3" (3429)	12'-11"(3973)	16'-4"(4979)	19'-9"(6020)	23'-1"(7035)
40" (1016)	5'-9"(1753)	7'-7" (2311)	9'-5" (2870)	11'-2" (3403)	12'-10"(3911)	16'-4"(4979)	19'-8"(5994)	23'-1"(7035)
44" (1118)	5'-6"(1676)	7'-5" (2260)	9'-3" (2819)	11'-0" (3352)	12'-9" (3886)	16'-3"(4953)	19'-7"(5969)	23'-0"(7010)
48" (1219)	5'-4"(1626)	7'-3" (2209)	9'-2" (2794)	10'-11"(3327)	12'-8" (3860)	16'-2"(4928)	19'-7"(5969)	22'-11"(6985)
52" (1321)	5'-0"(1524)	7'-1"(2159)	9'-0" (2743)	10'-10" (3302)	12'-7" (3835)	16'-1"(4902)	19'-6"(5943)	22'-11"(6985)
56" (1422)	4'-9"(1448)	6'-10"(2083)	8'-10"(2692)	10'-8" (3251)	12'-5" (3784)	16'-0"(4877)	19'-5"(5918)	22'-10"(6960)
60" (1524)	4'-4"(1321)	6'-8"(2032)	8'-7" (2616)	10'-6" (3200)	12'-4" (3759)	15'-10"(4826)	19'-4"(5893)	22'-9"(6935)
64" (1626)	**	6'-4"(1931)	8'-5" (2565)	10'-4" (3149)	12'-2" (3708)	15'-9" (4801)	19'-3"(5867)	22'-8"(6909)
68" (1727)	**	6'-1"(1854)	8'-2" (2489)	10'-2" (3098)	12'-0" (3657)	15'-8" (4775)	19'-2"(5842)	22'-7"(6884)
72" (1829)	**	5'-9"(1753)	8'-0" (2438)	10'-0" (3048)	11'-10"(3606)	15'-6" (4724)	19'-1" (5816)	22'-6" (6858)
80" (2032)	**	5'-0"(1524)	7'-5"(2260)	9'-6" (2895)	11'-6" (3505)	15'-3" (4648)	18'-10"(5740)	22'-4" (6808)
88" (2235)	**	**	6'-9"(2058)	9'-0" (2743)	11'-1" (3378)	14'-11"(4546)	18'-7" (5664)	22'-1" (6731)
96" (2438)	**	**	6'-0"(1829)	8'-5" (2565)	10'-8"(3251)	14'-7" (4445)	18'-4" (5588)	21'-11"(6680)
104" (2642)	**	**	**	7'-9" (2362)	10'-1"(3073)	14'-2" (4318)	18'-0" (5486)	21'-8" (6604)
112" (2845)	**	**	**	7'-0" (2134)	9'-6"(2895)	13'-9" (4191)	17'-8" (5385)	21'-4" (6503)
120" (3048)	**	**	**	**	8'-9"(2667)	13'-4"(4064)	17'-3" (5258)	21'-1" (6426)

**\*\* INTERPOLATION BELOW THE MINIMUM VALUES SHOWN IS NOT ALLOWED.**

- 1) SEE TABLE 2.7-4 FOR MINIMUM JOIST SPACE FOR DIAGONAL ONLY BRIDGING.
- 2) In the shaded range of the Table, for LH23, 24, and 25, compressive strength requirements may control, reducing the maximum joist spacing shown. Either select a larger bridging angle size (outside of the shaded area) or check compression strength (Ref. Section 2.7(c)) for LH23, 24, and 25.



**TABLE 2.7-4**

<b>LH AND DLH SERIES JOISTS HORIZONTAL PLUS DIAGONAL BRIDGING REQUIREMENTS</b>		
<b>JOIST DEPTH</b>	<b>MINIMUM JOIST SPACE FOR DIAGONAL ONLY BRIDGING  (0.70 x DEPTH)*</b>	<b>HORIZONTAL AND DIAGONAL MINIMUM ANGLE SIZE REQUIRED FOR JOIST SPACING &lt; (0.70 X DEPTH) AND JOIST SPANS &gt; 60'-0" (18.3 m)</b>
<b>in. (mm)</b>	<b>ft.-in. (mm)</b>	<b>in. (mm)</b>
52" (1321)	3'- 0" (914)	1" x 1" x 7/64" (25 x 3)
56" (1422)	3'- 3" (990)	1" x 1" x 7/64" (25 x 3)
60" (1524)	3'- 6" (1066)	1" x 1" x 7/64" (25 x 3)
64" (1626)	3'- 8" (1117)	1 1/4" x 1 1/4" x 7/64" (32 x 3)
68" (1727)	3'-11" (1193)	1 1/4" x 1 1/4" x 7/64" (32 x 3)
72" (1829)	4'- 2" (1270)	1 1/4" x 1 1/4" x 7/64" (32 x 3)
80" (2032)	4'- 8" (1422)	1 1/4" x 1 1/4" x 7/64" (32 x 3)
88" (2235)	5'- 1" (1549)	1 1/2" x 1 1/2" x 7/64" (38 x 3)
96" (2438)	5'- 7" (1702)	1 1/2" x 1 1/2" x 7/64" (38 x 3)
104" (2642)	6'- 0" (1829)	1 3/4" x 1 3/4" x 7/64" (44 x 3)
112" (2845)	6'- 6" (1981)	1 3/4" x 1 3/4" x 7/64" (44 x 3)
120" (3048)	7'- 0" (2134)	2" x 2" x 1/8" (51 x 3)

\*NOTE: WHEN THE JOIST SPACING IS LESS THAN 0.70 x JOIST DEPTH,  
BOLTED HORIZONTAL BRIDGING SHALL BE USED IN ADDITION TO DIAGONAL BRIDGING.

**TABLE 2.7-5**

<b>BOLT SIZES WHICH MEET BOLTED BRIDGING CONNECTION REQUIREMENTS</b>		
<b>JOIST SERIES</b>	<b>SECTION NUMBER*</b>	<b>BOLT DIAMETER</b>
K	ALL	3/8" (10 mm) A307
LH/DLH	2 – 12	3/8" (10 mm) A307
LH/DLH	13 – 17	1/2" (13 mm) A307
LH/DLH	18 – 20	5/8" (16 mm) A307
LH/DLH	21 – 22	5/8" (16 mm) A325
LH/DLH	23 – 25	3/4" (19 mm) A325

\*REFER TO LAST DIGIT(S) OF JOIST DESIGNATION  
NOTE: WASHERS SHALL BE USED WITH SLOTTED OR OVERSIZED HOLES. BOLTS SHALL BE TIGHTENED TO A MINIMUM SNUG TIGHT CONDITION.



## 2.8 HEADERS

Where the end reaction of a steel joist is supported by a header, as outlined and defined in Section 5.2(a), and is not more than 10,000 pounds (44482 N), the header shall be furnished by the Seller. Such headers shall be any type standard with the joist manufacturer. Conditions involving headers shall be investigated during erection and, if necessary, provisions made to provide a safe condition. Headers are not provided for steel joists with end reactions greater than 10,000 pounds (44482 N).

## 2.9 BOTTOM CHORD LATERAL BRACING FOR JOIST GIRDERS

Bottom chord lateral bracing shall be furnished as required to prevent lateral movement of the bottom chord of the Joist Girder and to prevent the ratio of chord length to chord radius of gyration from exceeding that specified in the Steel Joist Institute Standard Specifications of latest adoption. The lateral bracing shall be that which is standard with the joist manufacturer, and shall be sufficient to properly brace the bottom chord of the Joist Girder.

## 2.10 CONNECTIONS

The adequacy of the end anchorage connection (bolted or welded) between the joist or Joist Girder bearing seat and the supporting structure is the responsibility of the *specifying professional*. The contract documents shall clearly illustrate the end anchorage connection. Forces to be considered include end moments, axial loads, and diaphragm boundaries. Particular attention is required where there is net uplift.

### Welded End Anchorage for Uplift

The strength of the joist bearing seat for an uplift loading combination is a function of both the joist seat thickness and length of the end anchorage welds. The minimum end anchorage welds as shown in the Steel Joist Institute Standard Specifications Table 5.7-1 may not develop the full capacity of the joist seat assembly for the specified uplift resistance. When the support dimensions allow, it is recommended the *specifying professional* use a small fillet weld thickness in conjunction with a longer weld length for the connection design to facilitate the design of the joist bearing seat. The joist manufacturer will provide a seat of sufficient thickness and strength to resist the uplift end reaction resulting from the specified uplift. For additional information, including tables for welded end anchorage uplift capacities, refer to Steel Joist Institute Technical Digest 6, "Structural Design of Steel Joist Roofs to Resist Uplift Loads"

### Bolted End Anchorage for Uplift

Typically, joists and Joist Girders with bolted end anchorage also require a final connection by welding in order to provide lateral stability to the supporting member. However, only the bolts are relied on to provide uplift anchorage. The bolt type and diameter designed by the *specifying professional* shall provide sufficient tensile strength to resist the uplift end reaction resulting from the specified uplift. Bolts of higher strength than the minimum required by the Steel Joist Institute Standard Specifications may be required.

When the bearing seats are detailed for a bolted connection, bolts shall be installed. If the bolts are not installed, an equivalent welded connection may be permitted by the *specifying professional*, provided the weld is deposited in the slot on the side farthest from the edge of the seat. Additional weld required to meet that specified for the welded connection shall be placed at a location on the seat away from the outer edge of the slot as shown in Figure 2.10-1.

For additional information, including tables for bolted end anchorage uplift capacities, refer to Steel Joist Institute Technical Digest 6, "Structural Design of Steel Joist Roofs to Resist Uplift Loads"



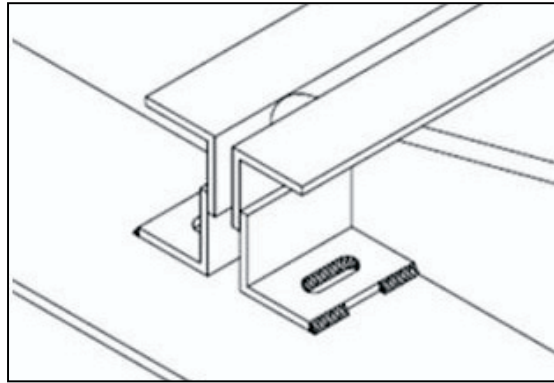


Figure 2.10-1

## SECTION 3. **MATERIALS**

### 3.1 STEEL

The steel used in the manufacture of joists and Joist Girders shall comply with the Steel Joist Institute Standard Specifications of latest adoption.

### 3.2 PAINT

- (a) Standard Shop Paint - The shop coat of paint, when specified, shall comply with the Steel Joist Institute Standard Specifications of latest adoption.
- (b) Disclaimer - The typical shop applied paint that is used to coat steel joists and Joist Girders is a dip applied, air dried paint. The paint is intended to be an impermanent and provisional coating which shall protect the steel for only a short period of exposure in ordinary atmospheric conditions.

Since most joists and Joist Girders are painted using a standard dip coating, the coating shall be permitted to not be uniform and shall be permitted to include drips, runs, and sags. Compatibility of any coating including fire protective coatings applied over the standard shop paint shall be the responsibility of the specifier and/or painting contractor.

The shop applied paint may require field touch-up/repair as a result of, but not limited to, the following:

- 1. Abrasions from: Bundling, banding, loading and unloading, chains, dunnage during shipping, cables and chains during erection, bridging, installation, and other handling at the jobsite.  
NOTE: Rusting should be expected at any abrasion.
- 2. Dirt.
- 3. Diesel smoke.
- 4. Road salt.
- 5. Weather conditions during storage.

The joist manufacturer shall not be responsible for the condition of the paint if it is not properly protected after delivery.



## SECTION 4. **INSPECTION**

Inspections shall be made in accordance with Section 5.14 of the Steel Joist Institute Standard Specifications of latest adoption.

## SECTION 5. **ESTIMATING**

### 5.1 PLANS FOR BIDDING

Plans to serve as the basis for bids shall show the character of the work with sufficient clarity to permit making an accurate estimate and shall show the following:

- Designation and location of Materials [see Section 5.2(a)], including any special design or configuration requirements
- Locations and elevations of all steel and concrete supporting members and bearing walls
- Location and length of joist extended ends
- Location and size of all openings in floors and roofs
- Location of all partitions
- Loads and their locations as defined in Section 6.1
- Construction and thickness of floor slabs, roof deck, ceilings and partitions
- Joists or Joist Girders requiring extended bottom chords
- Paint, if other than manufacturer's standard

### 5.2 SCOPE OF ESTIMATE

(a) Unless otherwise specified, the following items shall be included in the estimate, and requirements shall be determined as outlined in Section 6.1:

- Steel Joists
- Joist Girders
- Joist Substitutes
- Joist Extended Ends
- Ceiling Extensions
- Extended bottom chord used as strut
- Bridging
- Joist Girder bottom chord bracing
- Headers which are defined as members supported by and carrying Open Web Steel Joists with end reactions of no more than 10,000 lbs. (44482 N)
- One shop coat of paint, when specified, shall be in accordance with Section 3.2

(b) The following items shall not be included in the estimate but shall be permitted to be quoted and identified by the joist manufacturer as separate items:

- Headers carrying Open Web Steel Joists with end reactions greater than 10,000 lbs. (44482 N)
- Headers for Deep Longspan Steel Joists, **DLH**-Series



- Reinforcement in slabs over joists
- Centering material, decking, and attachments
- Miscellaneous framing between joists for openings at ducts, dumbwaiters, ventilators, skylights, etc.
- Loose individual or continuous bearing plates and bolts or anchors for such plates
- Erection bolts for joist and Joist Girder end anchorage
- Horizontal bracing in the plane of the top and bottom chords from joist to joist or joist to structural framing and walls
- Bridging anchors and anchorage
- Wood nailers
- Moment plates
- Special joist configuration or bridging layouts for ductwork or sprinkler systems
- Shear studs

## SECTION 6.

# PLANS AND SPECIFICATIONS

### 6.1 PLANS FURNISHED BY BUYER

The Buyer shall furnish the Seller plans and specifications as prepared by the *specifying professional* showing all Material requirements and steel joist and/or steel Joist Girder designations, the layout of walls, columns, beams, girders and other supports, as well as floor and roof openings and partitions correctly dimensioned. The elevation of finished floors, roofs, and bearings shall be shown.

#### (a) Loads

The *specifying professional* shall clearly provide all design loads as described in Section 2.4 This includes the live loads to be used, the wind uplift if any, the weights of partitions and the location and amount of any special loads, such as monorails, fans, blowers, tanks, etc.

#### (b) Connections

Minimum end anchorage for simple span gravity loading shall be in accordance with Steel Joist Institute Standard Specifications of latest adoption, Section 5.7. The end anchorage of a steel joist or Joist Girder is the connection of the joist or Joist Girder bearing seat to the support of the joist or Joist Girder.

The adequacy of the end anchorage connection (bolted or welded) between the joist or Joist Girder bearing seat and the supporting structure is the responsibility of the *specifying professional*. The contract documents shall clearly illustrate the end anchorage connection.

The joist manufacturer is responsible for the design of the bearing seats of joists or Joist Girders for the loads designated by the *specifying professional* in the contract documents.

The *specifying professional* is responsible for bridging termination connections. The contract documents shall clearly illustrate these termination connections.

#### (c) Special Considerations

The *specifying professional* shall indicate on the construction documents special considerations including:

- 1) Profiles for non-standard joist and Joist Girder configurations (Standard joist and Joist Girder configurations are as indicated in the Steel Joist Institute Standard Specifications of latest adoption).
- 2) Oversized or other non-standard web openings
- 3) Extended Ends



- 4) Deflection criteria for live and total loads for non-SJI standard joists
- 5) Non-SJI standard bridging

## 6.2 PLANS FURNISHED BY SELLER

The Seller shall furnish the buyer with steel joist placement plans to show the material as specified on the construction documents and are to be utilized for field installation in accordance with specific project requirements as stated in Section 6.1. Steel placement plans shall include, at a minimum, the following:

- a) Listing of all applicable loads as stated in Section 6.1 and used in the design of the steel joists and Joist Girders as specified in the construction documents.
- b) Profiles for non-standard joist and Joist Girder configurations (standard joist and Joist Girder configurations are as indicated in the Steel Joist Institute Standard Specifications of latest adoption).
- c) Connection requirements for:
  - 1) Joist supports
  - 2) Joist Girder supports
  - 3) Field splices
  - 4) Bridging attachments
- d) Deflection criteria for live load and total loads for non-SJI standard joists.
- e) Size, location, and connections for all bridging
- f) Joist headers

All Material shall be identified with its mark which also appears on the Bill of Materials. The shop paint shall be as noted on the joist placement plans. **Steel joist placement plans do not require the seal and signature of the joist manufacturer's registered design professional.**

## 6.3 DISCREPANCIES

The *specifying professional's* bid plans and specifications shall be assumed to be correct in the absence of written notice from the Buyer to the contrary. When plans are furnished by the Buyer that do not agree with the Architect's bid plans, such detailed plans shall be considered as a written notice of change of plans. However, it shall be the Buyer's responsibility to advise the Seller of those changes which affect the joists or Joist Girders.

## 6.4 APPROVAL

When joist placement plans are furnished by the Seller, they are submitted to the Buyer and owner for examination and approval. The Seller allows a maximum of fourteen (14) calendar days in their schedule for the return of placement plans noted with the owner's and customer's approval, or approval subject to corrections as noted. The Seller makes the corrections, furnishes corrected prints for field use to the owner/customer and is released by the owner/customer to start joist manufacture.

Approval by the owner/customer of the placement plans, sections, notes and joist schedule prepared by the Seller indicates that the Seller has correctly interpreted the contract requirements, and is released by the owner/customer to start joist manufacture. This approval constitutes the owner's/customer's acceptance of all responsibility for the design adequacy of any detail configuration of joist support conditions shown by the Seller as part of the preparation of these placement plans.

Approval does not relieve the Seller of the responsibility for accuracy of detail dimensions on the plans, nor the general fit-up of joists to be placed in the field.



## 6.5 CHANGES

When any changes in plans are made by the Buyer (or the buyer's representative) either prior to or after approval of detailed plans, or when any Material is required and was not shown on the plans used as the basis of the bid, the cost of such changes and/or extra Material shall be paid by the Buyer at a price to be agreed upon between Buyer and Seller.

## 6.6 CALCULATIONS

The Seller shall design the steel joists and/or steel Joist Girders in accordance with the current Steel Joist Institute Standard Specifications of latest adoption to support the load requirements of Section 6.1. The *specifying professional* may require submission of the steel joist and Joist Girder calculations as prepared by a registered design professional responsible for the product design. If requested by the *specifying professional*, the steel joist manufacturer shall submit design calculations with a cover letter bearing the seal and signature of the joist manufacturer's registered design professional. In addition to standard calculations under this seal and signature, submittal of the following shall be included:

- a) Non-SJI standard bridging details (e.g. for cantilevered conditions, net uplift, etc.)
- b) Connection details for:
  - 1) Non-SJI standard connections (e.g. flush framed or framed connections)
  - 2) Field splices
  - 3) Joist headers

## SECTION 7. HANDLING AND ERECTION

The Buyer and Erector shall comply with the requirements of the Steel Joist Institute Standard Specifications of latest adoption in the handling and erection of Material. For additional coverage of this topic, refer to the Steel Joist Institute's Technical Digest 9, "Handling and Erection of Steel Joists and Joist Girders".

The Buyer and/or Erector shall check all materials on arrival at job site and promptly report to Seller any discrepancies and/or damages.

When joists cannot be delivered as a single piece, they shall be permitted to be delivered in several pieces therefore requiring the pieces to be spliced together in the field. The manufacturer's instructions SHALL be followed to ensure matching pieces are joined, proper bolts are used, and any required bolt tensioning is incorporated.

All joists shall be handled by methods which avoid damage to any part of the joist. For long LH-Series joists, DLH-Series joists, or Joist Girders this may require the use of spreader bars, multiple hoisting cables, or multiple cranes as necessary to safely handle the joist. Hoisting cables shall be attached at panel points and shall be at panel point locations selected to minimize erection stresses.

The current OSHA, 29 CFR Part 1926, Safety Standards for Steel Erection; Subpart R- Steel Erection, refers to certain joists at or near columns to be designed with sufficient strength to allow one employee to release the hoisting cable without the need for erection bridging. **This STANDARD shall not be interpreted that any joist at or near a column line is safe to support an employee without bridging installed.** Many limitations exist that prevent these joists from being designed to safely allow an employee on an un-bridged joist. Because of these limitations these joists shall be erected by incorporating erection methods ensuring joist stability and either:

- 1) Installing bridging or otherwise stabilizing the joist prior to releasing the hoisting cable, or
- 2) Releasing the hoisting cable without having a worker on the joist.

A steel joist or Joist Girder shall not be placed on any support structure unless such structure is stabilized. When steel joists or Joist Girders are landed on a structure, they shall be secured to prevent unintentional displacement prior to installation.



A bridging terminus point shall be established before joist bridging is installed.

Steel joist and Joist Girders shall not be used as anchorage points for a fall arrest system unless written directions to do so is obtained from a “qualified person”. (For definition of “qualified person” see Code of Federal Regulations (CFR), Occupational Safety and Health Administration (OSHA), 29 CFR Part 1926, Safety Standards for Steel Erection; Subpart R- Steel Erection, §1926.751 Definitions, January 18, 2001, Washington, D.C.)

No modification that affects the strength of a steel joist or Joist Girder shall be made without the written approval of the project engineer of record.

The Seller shall not be responsible for the condition of paint finish on Material if it is not properly protected after delivery.

The Seller shall not be responsible for improper fit of Material due to inaccurate construction work.

## SECTION 8. **BUSINESS RELATIONS**

### **8.1 PRESENTATION OF PROPOSALS**

All proposals for furnishing Material shall be made on a sales contract form. After acceptance by the Buyer, these proposals shall be approved or executed by a qualified official of the Seller. Upon such approval the proposal becomes a contract.

### **8.2 ACCEPTANCE OF PROPOSALS**

All proposals are intended for prompt acceptance and are subject to change without notice.

### **8.3 BILLING**

Contracts on a lump sum basis are to be billed proportionately as shipments are made.

### **8.4 PAYMENT**

Payments shall be made in full on each invoice without retention.

### **8.5 ARBITRATION**

All business controversies which cannot be settled by direct negotiations between Buyer and Seller shall be submitted to arbitration. Both parties shall sign a submission to arbitration and if possible agree upon an arbitrator. If they are unable to agree, each shall appoint an arbitrator and these two shall appoint a third arbitrator. The expenses of the arbitration shall be divided equally between the parties, unless otherwise provided for in the agreements to submit to arbitration. The arbitrators shall pass final judgment upon all questions, both of law and fact, and their findings shall be conclusive.



# GLOSSARY

**Accessories.** Structural components related to the design, fabrication and erection of *joists* and *Joist Girders* including, but not limited to sloped *end bearings*, *extended ends*, *ceiling extensions*, *bridging* and bridging anchors, *headers* and bottom chord lateral bracing for *Joist Girders*.

**ASD (Allowable Strength Design).** Method of proportioning structural components such that the *allowable strength* equals or exceeds the *required strength* of the component under the action of the *ASD load combinations*.

**ASD Load Combination.** *Load* combination in the *applicable building code* intended for *allowable strength design* (allowable stress design).

**Allowable Strength\*.** *Nominal strength* divided by the *safety factor*,  $R_{\Omega}$ .

**Applicable Building Code.** Building code under which the structure is designed.

**Available Strength\*.** *Design strength* or *allowable strength* as appropriate.

**Bay.** The distance between the main structural frames or walls of a building.

**Bearing.** The distance that the bearing shoe or seat of a *joist* or *Joist Girder* extends over its masonry, concrete or steel support.

**Bearing Plate.** The steel plate used for a *joist* or *Joist Girder* to bear on when it is supported by masonry or concrete supports. The plate is designed by the *Specifying Professional* to carry the *joist* reaction to the supporting structure.

**Bottom Chord Extension (BCX).** The two angle extended part of a *joist* bottom chord from the first bottom chord panel point towards the end of the joist.

**Bridging.** In general, a member connected to a joist to brace it from lateral movement. See also Diagonal Bridging and Horizontal Bridging

**Buckling.** *Limit state* of sudden change in the geometry of a structure or any of its elements under a critical loading condition.

**Buckling Strength.** *Nominal strength* for *buckling* or *instability limit states*.

**Buyer.** The entity that has agreed to purchase *material* from the manufacturer and has also agreed to the terms of sale.

**Camber.** An upward curvature of the chords of a *joist* or *Joist Girder* induced during shop fabrication. Note, this is in addition to the pitch of the top chord.

**Ceiling Extension.** A *bottom chord extension* except that only one angle of the *joist* bottom chord is extended from the first bottom chord panel point towards the end of the joist.

**Chords.** The top and bottom members of a *joist* or *Joist Girder*. When a chord is comprised of two angles there is usually a gap between the members.

**Clear Span.** The actual clear distance or opening between supports for a *joist*, that is the distance between walls or the distance between the edges of flanges of beams.



**Cold-Formed Steel Structural Member.** Shape manufactured by press-braking blanks sheared from sheets, cut lengths of coils or plates, or by roll forming cold- or hot-rolled coils or sheets; both forming operations being performed at ambient room temperature, that is, without manifest addition of heat such as would be required for hot forming.

**Collateral Load.** All additional dead loads other than the weight of the building, such as sprinklers, pipes, ceilings, and mechanical or electrical components.

**Connection.** Combination of structural elements and *joints* used to transmit forces between two or more members. See also Splice.

**Deck.** A floor or roof covering made out of gage metal attached by welding or mechanical means to *joists*, beams, *purlins*, or other structural members and can be galvanized, painted, or unpainted.

**Design Load.** Applied *load* determined in accordance with either *LRFD load combinations* or *ASD load combinations*, whichever is applicable.

**Design Strength\*.** *Resistance factor* multiplied by the *nominal strength*,  $R_{\phi}$ .

**Diagonal Bridging.** Two angles or other structural shapes connected from the top chord of one *joist* to the bottom chord of the next joist to form an 'X' shape. These members are almost always connected at their point of intersection.

**Diaphragm.** Roof, floor or other membrane or bracing system that transfers in-plane forces to the lateral force resisting system.

**Effective Length.** Length of an otherwise identical column with the same strength when analyzed with pin-ended boundary conditions.

**Elastic Analysis.** *Structural analysis* based on the assumption that the structure returns to its original geometry on removal of the *load*.

**End Diagonal or Web.** The first web member on either end of a *joist* or *Joist Girder* which begins at the top chord at the seat and ends at the first bottom chord panel point.

**Erector.** The entity that is responsible for the safe and proper erection of the *materials* in accordance with all applicable codes and regulations.

**Extended End.** The extended part of a *joist* top chord with the seat angles also being extended from the end of the joist extension back into the joist and maintaining the standard end *bearing* depth over the entire length of the extension.

**Factored Load.** Product of a *load factor* and the *nominal load*.

**Filler.** A rod, plate or angle welded between a two angle web member or between a top or bottom chord panel to tie them together, usually located at the middle of the member.

**Flexural Buckling.** Buckling mode in which a compression member deflects laterally without twist or change in cross-sectional shape.

**Flexural-Torsional Buckling.** Buckling mode in which a compression member bends and twists simultaneously without change in cross-sectional shape.

**Girt.** Horizontal structural member that supports wall panels and is primarily subjected to bending under horizontal loads, such as wind load.

**Gravity Load.** *Load*, such as that produced by dead and live loads, acting in the downward direction.



**Header.** A structural member located between two *joists* or between a joist and a wall which carries another joist or joists. It is usually made up of an angle, channel, or beam with saddle angle connections on each end for bearing.

**Horizontal Bridging\*.** A continuous angle or other structural shape connected to the top and bottom chord of a joist.

**Inelastic Analysis.** *Structural analysis* that takes into account inelastic material behavior, including plastic analysis.

**Instability.** *Limit state* reached in the loading of a *structural component*, frame or structure in which a slight disturbance in the *loads* or geometry produces large displacements.

**Joint.** Area where two or more ends, surfaces or edges are attached. Categorized by type of fastener or weld used and the method of force transfer.

**Joist.** A structural load-carrying member with an open web system which supports floors and roofs utilizing hot-rolled or cold-formed steel and is designed as a simple span member. Currently, the SJI has the following joist designations: K-Series including KCS, LH-Series and DLH-Series, and CJ-Series.

**Joist Girder.** A primary structural load-carrying member with an open web system designed as a simple span supporting equally spaced concentrated loads of a floor or roof system acting at the panel points of the member and utilizing hot-rolled or cold-formed steel.

**Joist Substitute.** A structural member whose intended use is for very short spans (10 feet or less) where open web steel joists are impractical. They are usually used for short spans in skewed bays, over corridors or for outriggers. It can be made up of two or four angles to form channel sections or box sections.

**Lateral Buckling.** Buckling mode of a flexural member involving deflection normal to the plane of bending.

**Lateral-Torsional Buckling.** Buckling mode of a flexural member involving deflection normal to the plane of bending occurring simultaneously with twist about the shear center of the cross section.

**Limit State.** Condition in which a structure or component becomes unfit for service and is judged either to be no longer useful for its intended function (*serviceability limit state*) or to have reached its ultimate load-carrying capacity (*strength limit state*).

**Load.** Force or other action that results from the weight of building materials, occupants and their possessions, environmental effects, differential movement, or restrained dimensional changes.

**Load Effect.** Forces, stresses, and deformations produced in a *structural component* by the applied *loads*.

**Load Factor.** Factor that accounts for deviations of the *nominal load* from the actual *load*, for uncertainties in the analysis that transforms the *load* into a *load effect*, and for the probability that more than one extreme *load* will occur simultaneously.

**Local Buckling\*\*.** *Limit state of buckling* of a compression element within a cross section.

**LRFD (Load and Resistance Factor Design).** Method of proportioning *structural components* such that the *design strength* equals or exceeds the *required strength* of the component under the action of the *LRFD load combinations*.

**LRFD Load Combination.** *Load combination* in the *applicable building code* intended for strength design (*Load and Resistance Factor Design*).

**Material.** *Joists, Joist Girders* and *accessories* as provided by the *Seller*.





**Nailers.** Strips of lumber attached to the top chord of a *joist* so plywood or other flooring can be nailed directly to the *joist*.

**Nominal Load.** Magnitude of the *load* specified by the *applicable building code*.

**Nominal Strength\*.** Strength of a structure or component (without the *resistance factor* or *safety factor* applied) to resist the *load effects*, as determined in accordance with these *Standard Specifications*.

**Owner.** The entity that is identified as such in the Contract Documents.

**Permanent Load.** *Load* in which variations over time are rare or of small magnitude. All other *loads* are *variable loads*.

**Placement Plans.** Drawings that are prepared depicting the interpretation of the Contract Documents requirements for the *material* to be supplied by the *Seller*. These floor and/or roof plans are approved by the *Specifying Professional*, *Buyer* or *Owner* for conformance with the design requirements. The *Seller* uses the information contained on these drawings for final material design. A unique piece mark number is typically shown for the individual placement of *joists*, *Joist Girders* and *accessories* along with sections that describe the *end bearing* conditions and minimum attachment required so that *material* is placed in the proper location in the field.

**Ponding.** Retention of water at low or irregular areas on a roof due solely to the deflection of flat roof framing.

**Purlin.** Horizontal structural member that supports roof deck and is primarily subjected to bending under vertical loads such as dead, snow or wind loads.

**Quality Assurance.** System of shop and field activities and controls implemented by the *owner* or his/her designated representative to provide confidence to the *owner* and the building authority that quality requirements are implemented.

**Quality Control.** System of shop and field controls implemented by the *seller* and *erector* to ensure that contract and company fabrication and erection requirements are met.

**Required Strength\*.** Forces, stress, and deformations produced in a *structural component*, determined by either *structural analysis*, for the *LRFD* or *ASD load combinations*, as appropriate, or as specified by these *Standard Specifications*.

**Resistance Factor,  $\phi$ .** Factor that accounts for unavoidable deviations of the *nominal strength* from the actual strength and for the manner and consequences of failure.

**Safety Factor,  $\Omega$ .** Factor that accounts for deviations of the actual strength from the *nominal strength*, deviations of the actual *load* from the *nominal load*, uncertainties in the analysis that transforms the *load* into a *load effect* and for the manner and consequences of failure.

**Seller.** A company certified by the Joist Institute engaged in the manufacture and distribution of *joists*, *Joist Girders* and *accessories*.

**Service Load.** *Load* under which serviceability limit states are evaluated.

**Serviceability Limit State.** Limiting condition affecting the ability of a structure to preserve its appearance, maintainability, durability, or the comfort of its occupants or function of machinery, under normal usage.

**Slenderness Ratio.** The ratio of the effective length of a column to the radius of gyration of the column about the same axis of bending.

**Span.** The centerline-to-centerline distance between structural steel supports such as a beam, column or *Joist Girder* or the *clear span* distance plus four inches onto a masonry or concrete wall.



**Specified Minimum Yield Stress.** Lower limit of *yield stress* specified for a material as defined by ASTM.

**Specifying Professional.** The licensed professional who is responsible for sealing the building Contract Documents, which indicates that he or she has performed or supervised the analysis, design and document preparation for the structure and has knowledge of the load-carrying structural system.

**Splice.** *Connection* between two structural members joined at their ends by either bolting or welding to form a single, longer member.

**Stability.** Condition reached in the loading of a *structural component*, frame or structure in which a slight disturbance in the *loads* or geometry does not produce large displacements.

**Stabilizer Plate.** A steel plate at a column or wall inserted between the end of a bottom *chord* of a *joist* or *Joist Girder*.

**Standard Specifications.** Documents developed and maintained by the Steel Joist Institute for the design and manufacture of open web steel joists and Joist Girders. The term “SJI Standard Specifications” encompass by reference the following:

ANSI SJI 100 - 2020 Standard Specification for K-Series, LH-Series and DLH-Series Open Web Steel Joists and for Joist Girders

ANSI SJI 200 - 2020 Standard Specifications for Composite Steel Joists.

**Strength Limit State.** Limiting condition affecting the safety of the structure, in which the ultimate load-carrying capacity is reached.

**Structural Analysis.** Determination of *load effects* on members and connections based on principles of structural mechanics.

**Structural Drawings.** The graphic or pictorial portions of the Contract Documents showing the design, location and dimensions of the work. These documents generally include plans, elevations, sections, details, connections, all loads, schedules, diagrams and notes.

**Tagged End.** The end of a *joist* or *Joist Girder* where an identification or piece mark is shown by a metal tag. The member must be erected with this tagged end in the same position as the tagged end noted on the *placement plan*.

**Tensile Strength (of material).** Maximum tensile stress that a material is capable of sustaining as defined by ASTM.

**Tie Joist.** A *joist* that is bolted at a column.

**Top Chord Extension (TCX).** The extended part of a *joist* top chord. This type of extension only has the two top chord angles extended past the joist seat.

**Torsional Buckling.** *Buckling* mode in which a compression member twists about its shear center axis.

**Unbraced Length.** Distance between braced points of a member, measured between the centers of gravity of the bracing members.

**Variable Load.** *Load* not classified as *permanent load*.

**Webs.** The vertical or diagonal members joined at the top and bottom *chords* of a *joist* or *Joist Girder* to form triangular patterns.



**Yield Point.** First stress in a material at which an increase in strain occurs without an increase in stress as defined by ASTM.

**Yield Strength.** Stress at which a material exhibits a specified limiting deviation from the proportionality of stress to strain as defined by ASTM.

**Yield Stress.** Generic term to denote either *yield point* or *yield strength*, as appropriate for the material.

NOTES:

\* These terms are usually qualified by the type of *load effect*, e.g., nominal tensile strength, available compressive strength, design flexural strength.

\*\* Term usually qualified by the type of component, e.g. local web buckling, local flange buckling, etc.



# APPENDIX A

## FIRE-RESISTANCE RATINGS WITH STEEL JOISTS

The Underwriters Laboratories (U.L.) Fire Resistance Directory lists hundreds of assemblies and their fire resistance ratings. The Specifying Professional can choose between numerous Floor-Ceiling and Roof-Ceiling assemblies that include steel joists and Joist Girders.

As a convenience, a selected number of assemblies are listed on the following pages. In addition, the Steel Joist Institute's Technical Digest #10 "Design of Fire Resistive Assemblies with Steel Joists" has a complete listing of steel joist assemblies and additional information about fire ratings. However, the listing that follows and the Technical Digest are intended as a guide only, and the Specifying Professional must refer to the current U.L. Fire Resistance Directory for complete design requirements.

Hundreds of fire tests on steel joist-supported assemblies have been conducted at nationally recognized testing laboratories in accordance with ASTM Standard E119, ANSI A2.1/UL 263, and NFPA 251. Because of practical loading restrictions and limitations of furnace dimensions, the vast majority of these tests were run using lightweight joists – normally from 8 inches to 14 inches (203 mm to 356 mm) deep. This practice was advantageous in that it established the *minimum* acceptable joists at the shallow and lightweight end of the joist load tables. This also resulted in a specified minimum joist designation being listed in the U.L. Fire Resistance Assembly, which is the joist that combines the required minimum depth and minimum weight per foot. Joists of the same series which equal or exceed the specified minimum joist depth and joist weight per foot may be used provided the accessories are compatible. The dimension from the bottom chord of the joists to the ceiling, whether given or calculated, is a minimum.

Where a U.L. Fire Resistance Assembly is being utilized, the Specifying Professional shall indicate the assembly number being used on the structural contract drawings. In addition, the Specifying Professional shall consider the following, as applicable:

- Joist designations specified on the structural contract drawings shall not be less than the minimum size for that assembly. The assembly may also require a minimum bridging size that may be larger than required by the SJI Specifications for the particular designation and joist spacing.
- Some assemblies stipulate minimum size materials or minimum cross sectional areas for individual joist and Joist Girder components. It is the responsibility of the Specifying Professional to show all special requirements on the contract drawings.
- Note that the maximum joist spacing shown for Floor-Ceiling Assemblies may be increased from the spacing listed in the U.L. Fire Resistance Directory to a maximum of 48 inches on center, provided the floor slab meets the structural requirements and the spacing of hanger wires supporting the ceiling is not increased.
- Some assemblies stipulate an allowable maximum joist design stress level less than the 30 ksi (207 MPa) used in the joist and Joist Girder specifications. It is the responsibility of the Specifying Professional to apply the proper stress level reductions (when applicable) when selecting joists and/or Joist Girders. This is accomplished by prorating the joist and/or Joist Girder capacities. To adjust the stress level of joists or Joist Girders, multiply the design load by the ratio of the joist design stress to the required maximum [e.g. 30/26 (207/179), 30/24 (207/165), 30/22 (207/152)], and then using this increased load, select a joist or Joist Girder from the load and/or weight tables.



- Some U.L. Roof-Ceiling Assemblies using direct applied protection limit the spacing of the joists for certain types and gages of metal decking – refer to the U.L. Fire Resistance Directory for this information.
- Where fire protective materials are to be applied directly to the steel joists or Joist Girders, it is often desired to have the joist furnished as unpainted. The Specifying Professional should indicate on the structural contract drawings if the joists or Joist Girders are to be painted or not.
- Certain older U.L. fire rated assemblies may refer to joist series that predate the K-series joists. Where one of these assemblies is selected, refer to the U.L Fire Resistance Directory for special provisions for substituting a K-Series joist in lieu of an S-, J-, and/or H-Series joist.



# APPENDIX A

## FLOOR - CEILING ASSEMBLIES WITH MEMBRANE PROTECTION

Restrained Assembly Rating	Protection Material	Minimum Joist Size	Concrete		Maximum Joist Spacing (in.)	Minimum Primary Support Member	UL Design Number	
			Minimum Thickness (in.)	Type				
1 Hr.	Acoustical	12K1, 18LH02	2.5	LW, NW	NL	20G@13plf W8 x 15	D216 D219	
	Exposed Grid	10K1	2.5	NW	48*	20G@14plf W6 x 12	G205	
		10K1	2.0		72	W6 x 12	G208	
		10K1	2.5		48*	20G@14plf W6 x 12	G256	
	Gypsum Board	10K1	2.5	NW	48	W8 x 24	G548	
1 1/2 Hr.	Acoustical	12K1, 18LH02	2.5	LW, NW	NL	20G@13plf W8 x 15	D216 D219	
	Gypsum Board			NW		20G@20plf W8 x 28	D502	
	Exposed Grid	10K1	2.5	NW	24 (48)	20G@13plf W6 x 12	G203	
		10K1	2.5		48*	20G@14plf W6 x 12	G205	
		10K1	2.0		72	W6 x 12	G208	
		10K1	2.5		24 (48)	W6 x 12	G213	
		10K1	2.5		24 (48)	20G@13plf W8 x 31	G228	
		10K1	2.0		24 (48)	20G@13plf W8 x 24	G229	
		10K1	2.5		24 (48)	20G@13plf W6 x 12	G243	
	10K1	2.5	24 (48)	20G@13plf W8 x 31	G268			
	Gypsum Board	12K1	2.0	NW	24 (48)	NS	G502	
	2 Hr.	Acoustical	12K1, 18LH02	2.5	LW, NW	NL	20G@13plf W8 x 15	D216 D219
		Gypsum Board			NW		20G@20plf W8 x 28	D502
Concealed Grid		10K1	2.25	NW	24 (48)	W6 x 25	G023	
		8K1	2.5		24 (48)	20G@13plf W8 x 20	G031	
		10K1			30 (48)	20G@13plf W10 x 21	G036	
Exposed Grid		10K1	2.5	NW	24 (48)	20G@13plf W6 x 12	G203	
		10K1	2.5		48*	20G@14plf W6 x 12	G205	
		10K1	2.5		72	W6 x 12	G208	



# APPENDIX A

## FLOOR - CEILING ASSEMBLIES WITH MEMBRANE PROTECTION

		10K1	2.5		24 (48)		G213	
		10K1	2.5		24 (48)	W8 x 31	G227	
		10K1	2.5		24 (48)	20G@13plf W8 x 31	G228	
		10K1	2.5		24 (48)	20G@13plf W8 x 24	G229	
		10K1	2.5		24 (48)	20G@13plf W6 x 12	G243	
		10K1	2.5		48*	20G@14plf W6 x 12	G256	
		10K1	2.5		24 (48)	20G@13plf W8 x 31	G268	
	Gypsum Board	10K1	2.0	NW	24 (48)	NS	G505	
		10K1	2.5		24 (48)	20G14plf W8 x 31	G514	
		10K1	2.5		24 (48)	20G@13plf W10 x 21	G523	
		10K1	2.5		24 (48)	20G@13plf W8 x 24	G529	
		10K1	2.5		24 (48)	20G@13plf W10 x 21	G547	
	3 Hr.	Acoustical	12K1, 18LH02	3.25	LW, NW	NL	20G@13plf W8 x 15	D216 D219
		Concealed Grid	10K1	3.5	NW	24 (48)	20G@13plf W8 x 20	G033
			10K1	3.25		30 (48)	20G@13plf W10 x 21	G036
Exposed Grid		10K1	3.5	NW	48*	20G@14plf W6 x 12	G205	
		10K1	3.5		24 (48)	W6 x 12	G213	
		10K1	3.25		24 (48)	20G@13plf W8 x 24	G229	
		10K1	3.5		48*	W6 x 12	G256	
		10K1 (22 ksi max.)	2.63		24 (48)	20G@13plf W8 x 31	G268	
Gypsum Board		10K1	3.0	NW	24 (48)	20G@13plf W10 x 21	G523	
		10K1	2.75		24 (48)	20G@13plf W8 x 24	G529	
		10K1	3.0		24 (48)	20G@13plf W10 x 21	G547	



# APPENDIX A

## FLOOR - CEILING ASSEMBLIES WITH SPRAY APPLIED FIRE RESISTIVE MATERIALS

Restrained Assembly Rating	Protection Material	Minimum Joist Size	Concrete		Maximum Joist Spacing	Minimum Primary Support Member	UL Design Number
			Minimum Thickness (in.)	Type			
1 Hr.	SAFRM	NS	2.5	LW, NW	NL	W8 x 28	D759
		10K1	2.5				D779
		10K1	2.5				D780
		NS	3.25	LW			D782
		10K1*	2.5	LW			D925
			3.5	NW			
		16K6*	NS	LW, NW	42	20G@20plf W8 x 28	G701
		16K6	3.0	LW	50.5	NS	G702
			3.75	NW			
		16K6*	2.5	LW, NW	42	NS	G705
		16K6	3.0	LW	50.5	NS	G706
			3.75	NW			
		16K6*	2.5	LW, NW	42	20G@20plf W8 x 28	G708
		NS	2.5		42	W8 x 28	G709
		16K6*	2.5		42	20g@20plf W8 x 24	G801
		12K1	3.0	LW	50.5	NS	G802
3.75	NW						
1 1/2 Hr.	SAFRM	NS	2.5	LW, NW	NL	W8 x 28	D759
		10K1	2.5				D779
		10K1	2.5				D780
		NS	3.25	LW			D782
		10K1*	3.0	LW			D925
			4.0	NW			
		16K6*	2.5	LW, NW	42	20G@20plf W8 x 28	G701
		16K6	3.5	LW	50.5	NS	G702
			4.5	NW			
		16K6*	2.5	LW, NW	42	NS	G705
		16K6	3.5	LW	50.5	NS	G706
			4.5	NW			
		16K6*	2.5	LW, NW	42	20G@20plf W8 x 28	G708
		NS	2.5		42	W8 x 28	G709
		16K6*	2.5		42	20G@20plf W8 x 24	G801
		12K5	3.5	LW	50.5	NS	G802
4.5	NW						





# APPENDIX A

## FLOOR - CEILING ASSEMBLIES WITH SPRAY APPLIED FIRE RESISTIVE MATERIALS

2 Hr.	SAFRM	NS	2.5	LW, NW	NL	W8 x 28	D759
		10K1	2.5				D779
		10K1	2.5				D780
		NS	3.25	LW			D782
		10K1*	3.25	LW			D925
			4.5	NW			
		16K6*	2.5	LW, NW	42	20G@20plf W8 x 28	G701
		16K6	4.0	LW	50.5	NS	G702
			5.25	NW			
		16K6*	2.5	LW,NW	42	NS	G705
		16K6	4.0	LW	50.5	NS	G706
			5.25	NW			
		16K6*	2.5	LW, NW	42	20G@20plf W8 x 28	G708
		NS	2.5		42	W8 x 28	G709
		16K6*	2.5		42	20G@20plf W8 x 24	G801
12K5	4.0	LW	50.5	NS	G802		
	5.25	NW					
3 Hr.	SAFRM	NS	2.5	LW, NW	NL	W8 x 28	D759
		10K1	2.5				D779
		10K1	2.5				D780
		NS	3.25	LW			D782
		10K1*	4.19	LW			D925
			5.25	NW			
		16K6*	NS	LW, NW	42	20G@20plf W8 x 28	G701
		16K6*	2.75		42	NS	G705
		16K6*	2.75		42	20G@20plf W8 x 28	G708
		NS	2.75		42	W8 x 28	G709
		16K6*	2.75		42	20G@20plf W8 x 24	G801
4 Hr.	SAFRM	10K1	2.5	LW, NW	NL	W8 x 28	D779
		NS	3.25	LW			D782

\* Special Area Requirements



# APPENDIX A

## ROOF - CEILING ASSEMBLIES WITH MEMBRANE PROTECTION

Restrained Assembly Rating	Protection Material	Minimum Joist Size	Built Up Roof		Maximum Joist Spacing (in.)	Minimum Primary Support Member	UL Design Number	
			Deck Material Description	Insulation				
1 Hr.	Exposed Grid	12K1	22 MSG Min.	Fiber Board	84	W8 x 17	P201	
		10K1	26 MSG Min.		48	W6 x 12	P202	
		10K1	26 MSG Min.		48	20G@13plf	P211	
		12K3	28 MSG Min.		72	20G@13plf W8 x 17	P214	
		12K1	26 MSG Min.		72	20G@13plf W6 x 12	P225	
		12K3	24 MSG Min.	Building Units	48	NS	P227	
		12K3	26 MSG Min.	Fiber Board	72	20G@13plf W6 x 12	P230	
		12K1	26 MSG Min.	Insulating Concrete	48	20G@14plf* W8 x 15	P231	
		12K3	24 MSG Min.	Foamed Plastic	72	W8 x 15	P235	
		10K1	28 MSG Min.	Insulating Concrete	72	20G@13plf W8 x 15	P246	
		12K5	26 MSG Min.	Fiber Board	48	W6 x 12	P250	
		12K1	28 MSG Min.	Insulating Concrete	72	20G@13plf W6 x 12	P251	
		10K1	22 MSG Min.	Fiber Board	72	W6 x 12	P254	
		10K1	28 MSG Min.	Insulating Concrete	72	W8 x 15	P255	
		10K1	24 MSG Min.	Fiber Board	72	NS	P259	
		12K1	28 MSG Min.	Insulating Concrete	72	20G@13plf W6 x 12	P261	
		12K1	26 MSG Min.	Insulating Concrete	72	W8 x 15	P264	
		10K1	Metal Roof Deck Panels	Batts and Blankets	60	NS	P265	
		10K1	26 MSG Min.	Fiber Board	48	W6 x 16	P267	
		10K1	Metal Roof Deck Panels	Batts and Blankets	60	NS	P268	
			12K1	26 MSG Min.	Insulating Concrete	72	20G@14plf* W8 x 15	P269
		Fiber Board	10K1	24 MSG Min.	Fiber Board	NS	W6 x 16	P301
			10K1	22 MSG Min.		48	NS	P302
			10K1	22 MSG Min.		NS	W6 x 16	P303
		Gypsum Board	12K3	26 MSG Min.	Insulating Concrete	60	W8 x 24	P509
			12K3	24 MSG Min.	Fiber Board	72	20G@13plf	P510



# APPENDIX A

## ROOF - CEILING ASSEMBLIES WITH MEMBRANE PROTECTION

						W8 x 13		
		10K1	22 MSG Min.	Fiber Board	72	20G@13plf	P514	
		10K1	20 MSG Min.	Fiber Board	48	NS	P519	
1 1/2 Hr.	Exposed Grid	12K1	26 MSG Min.	Fiber Board	72	20G@13plf W6 x 12	P225	
		12K3	24 MSG Min.	Building Units	48	NS	P227	
		12K3	26 MSG Min.	Fiber Board	48	20G@13plf W6 x 12	P230	
		12K1	26 MSG Min.	Insulating Concrete	48	20G@14plf* W8 x 24	P231	
		12K5	26 MSG Min.	Fiber Board	48	W6 x 12	P250	
		12K1	28 MSG Min.	Insulating Concrete	72	20G@13plf W6 x 12	P251	
		10K1	24 MSG Min.	Fiber Board	72	NS	P259	
		10K1	Metal Roof Deck Panels	Batts and Blankets	60	NS	P265	
		10K1	20 MSG Min.	Fiber Board	48	NS	P266	
		10K1	Metal Roof Deck Panels	Batts and Blankets	60	NS	P268	
		12K1	26 MSG Min.	Insulating Concrete	72	20G@14plf* W8 x 24	P269	
			Fiber Board	10K1	24 MSG Min.	Fiber Board	NS	W6 x 16
		Metal Lath	12K5	22 MSG Min.	Fiber Board	72	NS	P404
		Gypsum Board	12K3	24 MSG Min.	Fiber Board	72	20G@13plf W8 x 13	P510
2 Hr.	Exposed Grid	10K1	24 MSG Min.	Fiber Board	72	W6 x 12	P237	
		12K1	28 MSG Min.	Insulating Concrete	72	20G@13plf W6 x 12	P251	
		10K1	20 MSG Min.	Fiber Board	48	NS	P266	
		Fiber Board	10K1	24 MSG Min.	Fiber Board	NS	W6 x 16	P301
		Metal Lath	12K5	22 MSG Min.	Fiber Board	72	NS	P404
	Gypsum Board	10K1	22 MSG Min.	Fiber Board	72	20G@13plf	P514	
			20 MSG Min.		48	NS	P519	
		14K1	26 MSG Min.	Insulating Concrete	66	NS	P520	
3 Hr.	Metal Lath	10K1	28 MSG Min.	Insulating Concrete	48	NS	P405	

\*Special Area Requirements



# APPENDIX A

## ROOF - CEILING ASSEMBLIES WITH SPRAY APPLIED FIRE RESISTIVE MATERIALS

Restrained Assembly Rating	Protection Material	Minimum Joist Size	Built Up Roof		Maximum Joist Spacing (in.)	Minimum Primary Support Member	UL Design Number
			Deck Material Description	Insulation			
1 Hr.	SAFRM	10K1	22 MSG Min.	Building Units	NS	NS	P822
		12K3	22 MSG Min.	Fiber Board	NS	W8 x 20	P824
1 Hr. and 1-1/2 Hr.	SAFRM	12K5	28 MSG Min.	Insulating Concrete	96	W6 x 16	P919
1-1/2 Hr. and 2 Hr.	SAFRM	10K1	22 MSG Min.	Building Units	NS	W6 x 16	P728
1 Hr., 1-1/2 Hr. and 2 Hr.	SAFRM	14K4	22 MSG Min.	Fiber Board	NS	20G@13plf W6 x 16	P701
		14K4	22 MSG Min.	Fiber Board	NS	20G@13plf W6 x 16	P711
		12K3	22 MSG Min.	Foamed Plastic	NS	W6 x 16	P717
		10K1	22 MSG Min.	Foamed Plastic	NS	20G@13plf W8 x 28	P725
		10K1	22 MSG Min.	Fiber Board	NS	20G@13plf W6 x 16	P726
		14K4	22 MSG Min.	Fiber Board	NS	20G@13plf W6 x 16	P734
		14K4	22 MSG Min.	Fiber Board	NS	20G@13plf W6 x 16	P736
		10K1	22 MSG Min.	Foamed Plastic	NS	W6 x 16	P739
		10K1	22 MSG Min.	Fiber Board	NS	W6 x 16	P740
		10K1	22 MSG Min.	Foamed Plastic	NS	W6 x 16	P743
		12K3	22 MSG Min.	Fiber Board	NS	20G@13plf W6 x 16	P801
		10K1	22 MSG Min.	Fiber Board	NS	20G@13plf W6 x 16	P815
		10K1	22 MSG Min.	Fiber Board	NS	W6 x 16	P816
		10K1	22 MSG Min.	Foamed Plastic	NS	W6 x 16	P819
		10K1	22 MSG Min.	Foamed Plastic	NS	W6 x 16	P825
		10K1	22 MSG Min.	Foamed Plastic	NS	W6 x 16	P827
12K1	22 MSG Min.	Fiber Board	NS	20G@13plf W8 x 20	P828		
10K1	28 MSG Min.	Insulating Concrete	NS	20G@13plf W8 x 10	P902		



# APPENDIX A

## ROOF - CEILING ASSEMBLIES WITH SPRAY APPLIED FIRE RESISTIVE MATERIALS

		10K1	28 MSG Min.	Insulating Concrete	NS	W8 x 10	P907
		10K1	28 MSG Min.	Insulating Concrete	NS	20G@13pfl W8 x 10	P908
		10K1	28 MSG Min.	Insulating Concrete	NS	W8 x 10	P920
		12K5	28 MSG Min.	Insulating Concrete	NS	20G@13pfl W8 x 10	P921
		10K1	28 MSG Min.	Insulating Concrete	NS	W6 x 16	P922
		10K1	28 MSG Min.	Insulating Concrete	NS	20G@13pfl W8 x 10	P923
		10K1	28 MSG Min.	Insulating Concrete	NS	20G@13pfl W8 x 10	P925
		12K5	28 MSG Min.	Insulating Concrete	NS	W8 x 10	P926
		14K4	28 MSG Min.	Insulating Concrete	NS	20G@13pfl W8 x 10	P927
		12K5	28 MSG Min.	Insulating Concrete	NS	20G@13pfl W8 x 10	P928
		12K3	28 MSG Min.	Insulating Concrete	NS	20G@13pfl W8 x 10	P929
		10K1	28 MSG Min.	Insulating Concrete	NS	W6 x 16	P936
2 Hr.	SAFRM	12K3	22 MSG Min.	Foamed Plastic	NS	W6 x 16	P718
		12K3	22 MSG Min.	Foamed Plastic	NS	20G@13pfl W6 x 16	P720
		12K3	22 MSG Min.	Foamed Plastic	NS	W6 x 16	P729
1 Hr., 1-1/2 Hr. 2 Hr. and 3 Hr.	SAFRM	10K1	22 MSG Min.	Foamed Plastic	NS	20G@13pfl W6 x 16	P719
		10K1	22 MSG Min.	Foamed Plastic	NS	W6 x 16	P722
		10K1	22 MSG Min.	Foamed Plastic	NS	W6 x 16	P723
		10K1	22 MSG Min.	Foamed Plastic	NS	W8 x 28	P732
		10K1*, 16K2	22 MSG Min.	Foamed Plastic	NS	W6 x 16	P733
		10K1*	22 MSG Min.	Foamed Plastic	NS	W6 x 16	P826

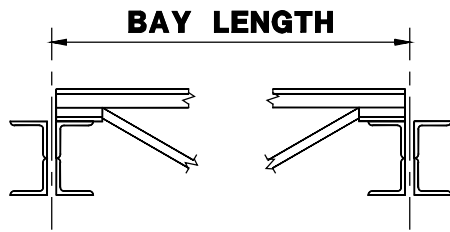
\* Special Area Requirements



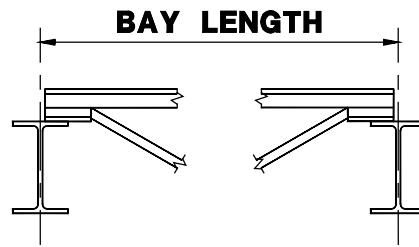
# APPENDIX B

## BAY LENGTH, OSHA ERECTION STANDARDS, BRIDGING ILLUSTRATIONS

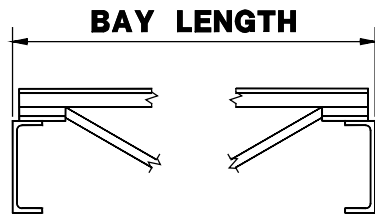
### BAY LENGTH DEFINITIONS



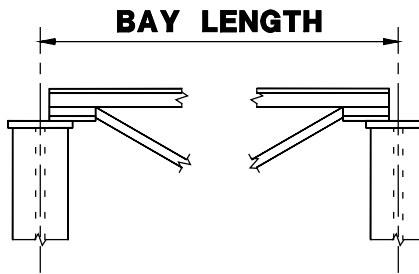
**JOIST GIRDERS**



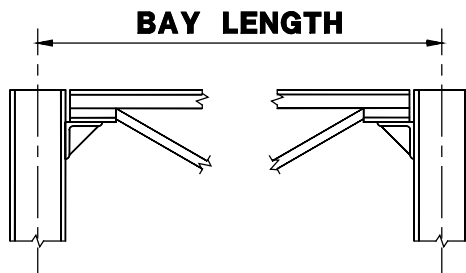
**STEEL BEAM**



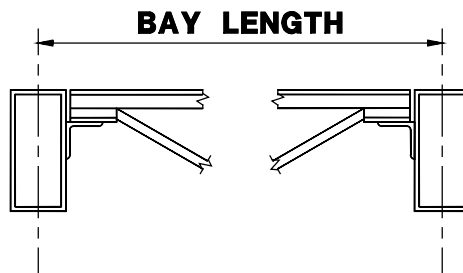
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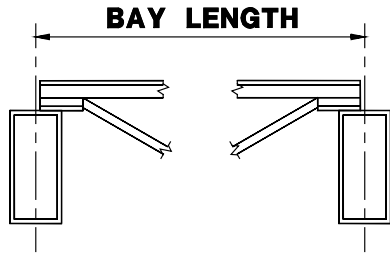
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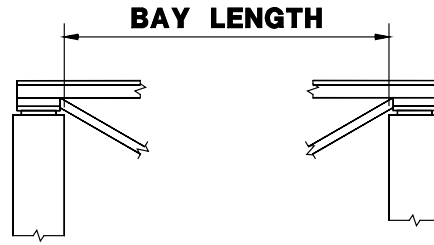
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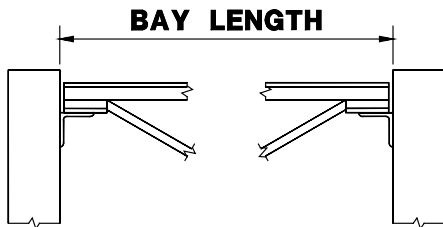
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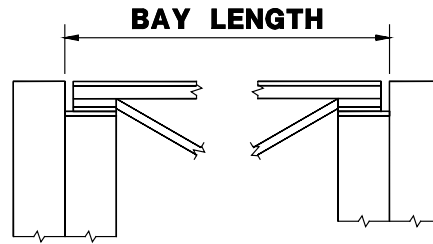
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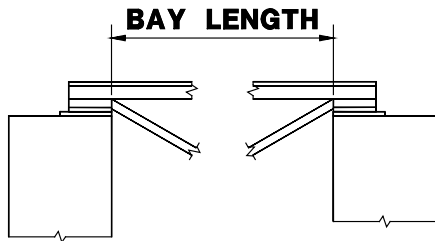
**MASONRY OR TILT-UP**



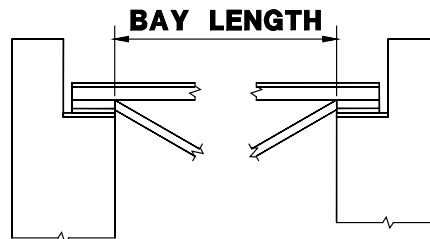
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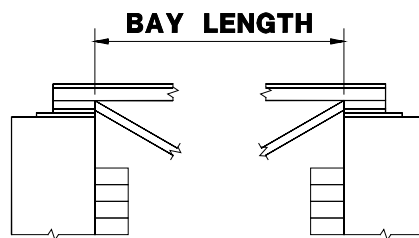
**MASONRY WITH PILASTER**



**MASONRY OR TILT-UP**



**MASONRY OR TILT-UP**



**MASONRY WITH FACE BRICK**

# APPENDIX B

## OSHA STEEL ERECTION STANDARD PARTS §1926.751 AND §1926.757 OPEN WEB STEEL JOISTS

### §1926.751 Definitions.

**Anchored bridging** means that the steel joist bridging is connected to a bridging terminus point.

**Bolted diagonal bridging** means diagonal bridging that is bolted to a steel joist or joists.

**Bridging clip** means a device that is attached to the steel joist to allow the bolting of the bridging to the steel joist.

**Bridging terminus point** means a wall, a beam, tandem joists (with all bridging installed and a horizontal truss in the plane of the top chord) or other element at an end or intermediate point(s) of a line of bridging that provides an anchor point for the steel joist bridging.

**Column** means a load-carrying vertical member that is part of the primary skeletal framing system. Columns do not include posts.

**Constructability** means the ability to erect structural steel members in accordance with subpart R without having to alter the over-all structural design.

**Construction load** (for joist erection) means any load other than the weight of the employee(s), the joists and the bridging bundle.

**Erection bridging** means the bolted diagonal bridging that is required to be installed prior to releasing the hoisting cables from the steel joists.

**Personal fall arrest system** means a system used to arrest an employee in a fall from a working level. A personal fall arrest system consists of an anchorage, connectors, a body harness and may include a lanyard, deceleration device, lifeline, or suitable combination of these. The use of a body belt for fall arrest is prohibited.

**Project structural engineer** means the registered, licensed professional responsible for the design of structural steel framing and whose seal appears on the structural contract documents.

**Qualified person** means one who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training, and experience, has successfully demonstrated the ability to solve or resolve problems relating to the subject matter, the work, or the project.

**Steel joist** means an open web, secondary load-carrying member of 144 feet (43.9 m) or less, designed by the manufacturer, used for the support of floors and roofs. This does not include structural steel trusses or cold-formed joists.

**Steel joist girder** means an open web, primary load-carrying member, designed by the manufacturer, used for the support of floors and roofs. This does not include structural steel trusses.

**Structural steel** means a steel member, or a member made of a substitute material (such as, but not limited to, fiberglass, aluminum or composite members). These members include, but are not limited to, steel joists, joist girders, purlins, columns, beams, trusses, splices, seats, metal decking, girts, and all bridging, and cold formed metal framing which is integrated with the structural steel framing of a building.





## § 1926.757 Open web steel joists.

### (a) General.

- (1) Except as provided in paragraph (a)(2) of this section, where steel joists are used and columns are not framed in at least two directions with solid web structural steel members, a steel joist shall be field-bolted at the column to provide lateral stability to the column during erection. For the installation of this joist:
  - (i) A vertical stabilizer plate shall be provided on each column for steel joists. The plate shall be a minimum of 6 inch by 6 inch (152 mm by 152 mm) and shall extend at least 3 inches (76 mm) below the bottom chord of the joist with a 13 /16 inch (21 mm) hole to provide an attachment point for guying or plumbing cables.
  - (ii) The bottom chords of steel joists at columns shall be stabilized to prevent rotation during erection.
  - (iii) Hoisting cables shall not be released until the seat at each end of the steel joist is field-bolted, and each end of the bottom chord is restrained by the column stabilizer plate.
- (2) Where constructability does not allow a steel joist to be installed at the column:
  - i. an alternate means of stabilizing joists shall be installed on both sides near the column and shall:
    - (A) provide stability equivalent to paragraph (a)(1) of this section;
    - (B) be designed by a qualified person;
    - (C) be shop installed; and
    - (D) be included in the erection drawings.
  - ii. hoisting cables shall not be released until the seat at each end of the steel joist is field-bolted and the joist is stabilized.
- (3) Where steel joists at or near columns span 60 feet (18.3 m) or less, the joist shall be designed with sufficient strength to allow one employee to release the hoisting cable without the need for erection bridging.

SJI User Note: See OSHA Directive number CPL-02-01-040 below for alternate compliance methods.

- (4) Where steel joists at or near columns span more than 60 feet (18.3m), the joists shall be set in tandem with all bridging installed unless an alternative method of erection, which provides equivalent stability to the steel joist, is designed by a qualified person and is included in the site-specific erection plan.
- (5) A steel joist or steel joist girder shall not be placed on any support structure unless such structure is stabilized.
- (6) When steel joist(s) are landed on a structure, they shall be secured to prevent unintentional displacement prior to installation.
- (7) No modification that affects the strength of a steel joist or steel joist girder shall be made without the approval of the project structural engineer of record.



- (8) Field-bolted joists.
  - (i) Except for steel joists that have been pre assembled into panels, connections of individual steel joists to steel structures in bays of 40 feet (12.2 m) or more shall be fabricated to allow for field bolting during erection.
  - (ii) These connections shall be field-bolted unless constructability does not allow.
- (9) Steel joists and steel joist girders shall not be used as anchorage points for a fall arrest system unless written approval to do so is obtained from a qualified person.
- (10) A bridging terminus point shall be established before bridging is installed.

**(b) Attachment of steel joists and steel joist girders.**

- (1) Each end of “K” series steel joists shall be attached to the support structure with a minimum of two 1/8 -inch (3 mm) fillet welds 1 inch (25 mm) long or with two 1/2 -inch (13 mm) bolts, or the equivalent.

SJI User Note: For a welded K-series connection, the SJI Specification requires a minimum final length of 2-1/2 inches.

- (2) Each end of “LH” and “DLH” series steel joists and steel joist girders shall be attached to the support structure with a minimum of two 1/4 -inch (6 mm) fillet welds 2 inches (51 mm) long, or with two 3/4 -inch (19 mm) bolts, or the equivalent.
- (3) Except as provided in paragraph (b)(4) of this section, each steel joist shall be attached to the support structure, at least at one end on both sides of the seat, immediately upon placement in the final erection position and before additional joists are placed.
- (4) Panels that have been pre-assembled from steel joists with bridging shall be attached to the structure at each corner before the hoisting cables are released.

**(c) Erection of steel joists.**

- (1) Both sides of the seat of one end of each steel joist that requires bridging under Tables A and B shall be attached to the support structure before hoisting cables are released.
- (2) For joists over 60 feet, both ends of the joist shall be attached as specified in paragraph (b) of this section and the provisions of paragraph (d) of this section met before the hoisting cables are released.
- (3) On steel joists that do not require erection bridging under Tables A and B, only one employee shall be allowed on the joist until all bridging is installed and anchored.



► TABLE A.—ERECTION BRIDGING FOR SHORT SPAN JOISTS

Joist	Span	Joist	Span
10K1	NM	22K11	NM
12K1	23-0	24K4	36-0
12K3	NM	24K5	38-0
12K5	NM	24K6	39-0
14K1	27-0	24K7	43-0
14K3	NM	24K8	43-0
14K4	NM	24K9	44-0
14K6	NM	24K10	NM
16K2	29-0	24K12	NM
16K3	30-0	26K5	38-0
16K4	32-0	26K6	39-0
16K5	32-0	26K7	43-0
16K6	NM	26K8	44-0
16K7	NM	26K9	44-0
16K9	NM	26K10	49-0
18K3	31-0	26K12	NM
18K4	32-0	28K6	40-0
18K5	33-0	28K7	43-0
18K6	35-0	28K8	44-0
18K7	NM	28K9	45-0
18K9	NM	28K10	49-0
18K10	NM	28K12	53-0
20K3	32-0	30K7	44-0
20K4	34-0	30K8	45-0
20K5	34-0	30K9	45-0
20K6	36-0	30K10	50-0
20K7	39-0	30K11	52-0
20K9	39-0	30K12	54-0
20K10	NM		
22K4	34-0		
22K5	35-0		
22K6	36-0		
22K7	40-0		
22K9	40-0		
22K10	NM		

NM = diagonal bolted bridging not mandatory



► TABLE A.—ERECTION BRIDGING  
FOR SHORT SPAN JOISTS-  
[Continued]

Joist	Span
10KCS1 .....	NM
10KCS2 .....	NM
10KCS3 .....	NM
12KCS1 .....	NM
12KCS2 .....	NM
12KCS3 .....	NM
14KCS1 .....	NM
14KCS2 .....	NM
14KCS3 .....	NM
16KCS2 .....	NM
16KCS3 .....	NM
16KCS4 .....	NM
16KCS5 .....	NM
18KCS2 .....	35-0
18KCS3 .....	NM
18KCS4 .....	NM
18KCS5 .....	NM
20KCS2 .....	36-0
20KCS3 .....	39-0
20KCS4 .....	NM
20KCS5 .....	NM
22KCS2 .....	36-0
22KCS3 .....	40-0
22KCS4 .....	NM
22KCS5 .....	NM
24KCS2 .....	39-0
24KCS3 .....	44-0
24KCS4 .....	NM
24KCS5 .....	NM
26KCS2 .....	39-0
26KCS3 .....	44-0
26KCS4 .....	NM
26KCS5 .....	NM
28KCS2 .....	40-0
28KCS3 .....	45-0
28KCS4 .....	53-0
28KCS5 .....	53-0
30KCS3 .....	45-0
30KCS4 .....	54-0
30KCS5 .....	54-0

NM = diagonal bolted bridging not mandatory

► TABLE B.—ERECTION BRIDGING  
FOR LONG SPAN JOISTS

Joist	Span
18LH02 .....	33-0
18LH03 .....	NM.
18LH04 .....	NM.
18LH05 .....	NM.
18LH06 .....	NM.
18LH07 .....	NM.
18LH08 .....	NM.
18LH09 .....	NM.
20LH02 .....	33-0
20LH03 .....	38-0
20LH04 .....	NM.
20LH05 .....	NM.
20LH06 .....	NM.
20LH07 .....	NM.
20LH08 .....	NM.
20LH09 .....	NM.
20LH10 .....	NM.
24LH03 .....	35-0
24LH04 .....	39-0
24LH05 .....	40-0
24LH06 .....	45-0
24LH07 .....	NM.
24LH08 .....	NM.
24LH09 .....	NM.
24LH10 .....	NM.
24LH11 .....	NM.
28LH05 .....	42-0
28LH06 .....	46-0
28LH07 .....	54-0
28LH08 .....	54-0
28LH09 .....	NM.
28LH10 .....	NM.
28LH11 .....	NM.
28LH12 .....	NM.
28LH13 .....	NM.
32LH06 .....	47-0 through 60-0
32LH07 .....	47-0 through 60-0
32LH08 .....	55-0 through 60-0
32LH09 .....	NM through 60-0
32LH10 .....	NM through 60-0
32LH11 .....	NM through 60-0
32LH12 .....	NM through 60-0
32LH13 .....	NM through 60-0
32LH14 .....	NM through 60-0
32LH15 .....	NM through 60-0
36LH07 .....	47-0 through 60-0
36LH08 .....	47-0 through 60-0
36LH09 .....	57-0 through 60-0
36LH10 .....	NM through 60-0
36LH11 .....	NM through 60-0
36LH12 .....	NM through 60-0
36LH13 .....	NM through 60-0
36LH14 .....	NM through 60-0
36LH15 .....	NM through 60-0

NM = diagonal bolted bridging not mandatory



(4) Employees shall not be allowed on steel joists where the span of the steel joist is equal to or greater than the span shown in Tables A and B except in accordance with § 1926.757(d).

(5) When permanent bridging terminus points cannot be used during erection, additional temporary bridging terminus points are required to provide stability.

**(d) Erection bridging.**

(1) Where the span of the steel joist is equal to or greater than the span shown in Tables A and B, the following shall apply:

- i. A row of bolted diagonal erection bridging shall be installed near the midspan of the steel joist;
- ii. Hoisting cables shall not be released until this bolted diagonal erection bridging is installed and anchored; and
- iii. No more than one employee shall be allowed on these spans until all other bridging is installed and anchored.

(2) Where the span of the steel joist is over 60 feet (18.3 m) through 100 feet (30.5 m), the following shall apply:

- i. All rows of bridging shall be bolted diagonal bridging;
- ii. Two rows of bolted diagonal erection bridging shall be installed near the third points of the steel joist;
- iii. Hoisting cables shall not be released until this bolted diagonal erection bridging is installed and anchored; and
- iv. No more than two employees shall be allowed on these spans until all other bridging is installed and anchored.

(3) Where the span of the steel joist is over 100 feet (30.5 m) through 144 feet (43.9 m), the following shall apply:

- i. All rows of bridging shall be bolted diagonal bridging;
- ii. Hoisting cables shall not be released until all bridging is installed and anchored; and
- iii. No more than two employees shall be allowed on these spans until all bridging is installed and anchored.

(4) For steel members spanning over 144 feet (43.9 m), the erection methods used shall be in accordance with § 1926.756.

(5) Where any steel joist specified in paragraphs (c)(2) and (d)(1), (d)(2), and (d)(3) of this section is a bottom chord bearing joist, a row of bolted diagonal bridging shall be provided near the support(s). This bridging shall be installed and anchored before the hoisting cable(s) is released.



(6) When bolted diagonal erection bridging is required by this section, the following shall apply:

- i. The bridging shall be indicated on the erection drawing;
- ii. The erection drawing shall be the exclusive indicator of the proper placement of this bridging;
- iii. Shop-installed bridging clips, or functional equivalents, shall be used where the bridging bolts to the steel joists;
- iv. When two pieces of bridging are attached to the steel joist by a common bolt, the nut that secures the first piece of bridging shall not be removed from the bolt for the attachment of the second; and
- v. Bridging attachments shall not protrude above the top chord of the steel joist.

**(e) Landing and placing loads.**

- (1) During the construction period, the employer placing a load on steel joists shall ensure that the load is distributed so as not to exceed the carrying capacity of any steel joist.
- (2) Except for paragraph (e)(4) of this section, no construction loads are allowed on the steel joists until all bridging is installed and anchored and all joist-bearing ends are attached.
- (3) The weight of a bundle of joist bridging shall not exceed a total of 1,000 pounds (454 kg). A bundle of joist bridging shall be placed on a minimum of three steel joists that are secured at one end. The edge of the bridging bundle shall be positioned within 1 foot (.30 m) of the secured end.
- (4) No bundle of decking may be placed on steel joists until all bridging has been installed and anchored and all joist bearing ends attached, unless all of the following conditions are met:
  - (i) The employer has first determined from a qualified person and documented in a site-specific erection plan that the structure or portion of the structure is capable of supporting the load;
  - (ii) The bundle of decking is placed on a minimum of three steel joists;
  - (iii) The joists supporting the bundle of decking are attached at both ends;
  - (iv) At least one row of bridging is installed and anchored;
  - (v) The total weight of the bundle of decking does not exceed 4,000 pounds(1816 kg); and
  - (vi) Placement of the bundle of decking shall be in accordance with paragraph (e)(5) of this section.
- (5) The edge of the construction load shall be placed within 1 foot (.30 m) of the bearing surface of the joist end.



## OSHA Directive number CPL 02-01-040

The industry has conducted a number of tests to determine if joists that are now available would meet the requirements of 1926.757(a)(3). Their tests showed that of the joists now available, some would meet the requirement, but only if erectors followed a number of erection criteria that are not in the steel erection standard. Also, for some spans and dimensions, there are still no joists that would meet the requirement (even if those additional criteria were followed).

Therefore, the enforcement policy which was set to expire on July 18, 2004, will remain in effect indefinitely. That policy is as follows: for all joists at or near columns that span 60 feet or less, employers will be considered to be in compliance with § 1926.757(a)(3) if they erect these joists either by: (1) installing bridging or otherwise stabilizing the joist prior to releasing the hoisting cable, or (2) releasing the cable without having a worker on the joists.

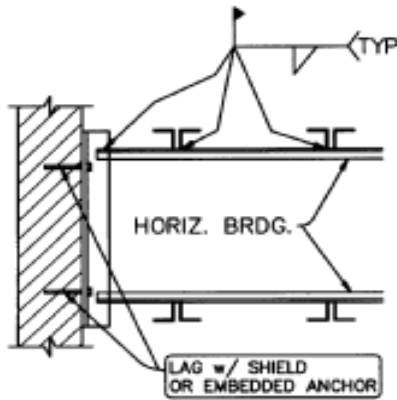
SJI User Note: While the OSHA directive provides alternates to provision 1926.757(a)(3), SJI member companies do not specifically check or design column joists for self-weight plus the weight of one erector releasing the hoisting cable without any erection bridging; they are NOT designed to satisfy 1926.757(a)(3). The SJI requires that the directive CPL 02-01-040 be followed, and that bridging be installed prior to releasing the hoisting cable or that the hoisting cable be released without walking on the joist. For further information, see Steel Joist Institute Technical Digest No. 9, "Handling and Erection of Steel Joists and Joist Girders".



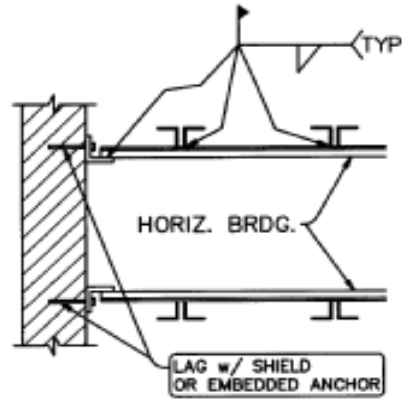
# APPENDIX B

## ILLUSTRATIONS OF OSHA BRIDGING TERMINUS POINTS (NON-MANDATORY)

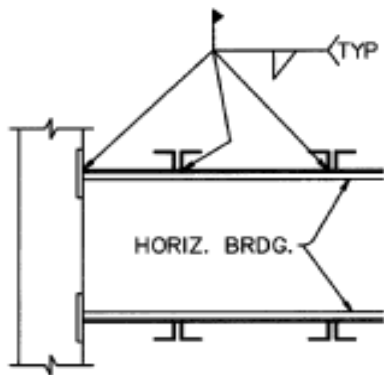
Guidelines for Complying with OSHA Steel Erection Standard, Paragraph §1926.757(a)(10) and §1926.757(c)(5).



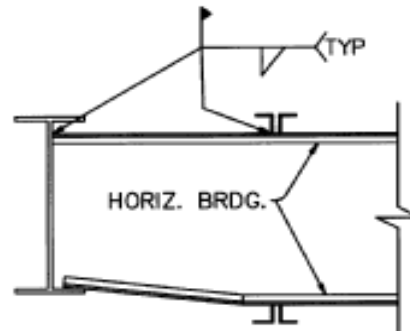
HORIZONTAL BRIDGING  
TERMINUS AT WALL



HORIZONTAL BRIDGING  
TERMINUS AT WALL



HORIZONTAL BRIDGING  
TERMINUS AT PANEL WALL



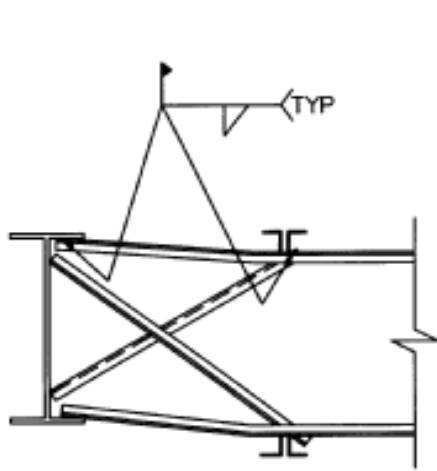
HORIZONTAL BRIDGING  
TERMINUS AT  
STRUCTURAL SHAPE



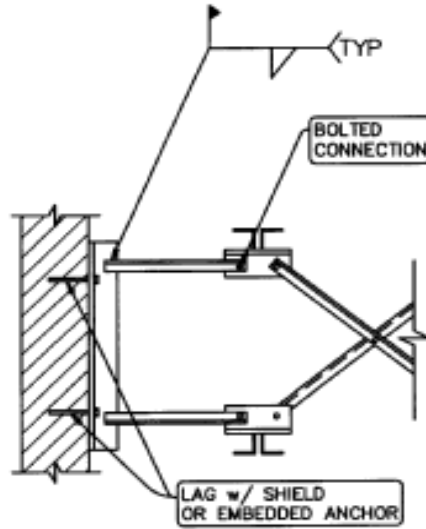
# APPENDIX B

## ILLUSTRATIONS OF OSHA BRIDGING TERMINUS POINTS (NON-MANDATORY)

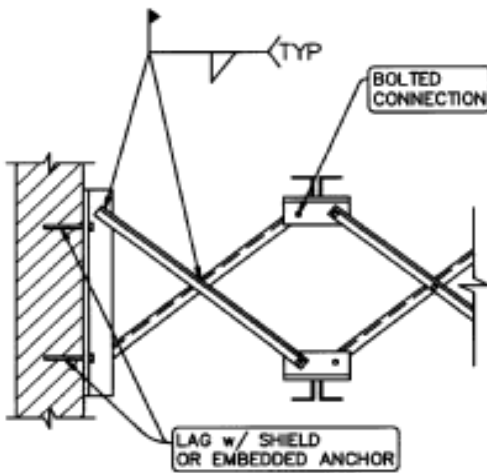
Guidelines for Complying with OSHA Steel Erection Standard, Paragraph §1926.757(a)(10) and §1926.757(c)(5).



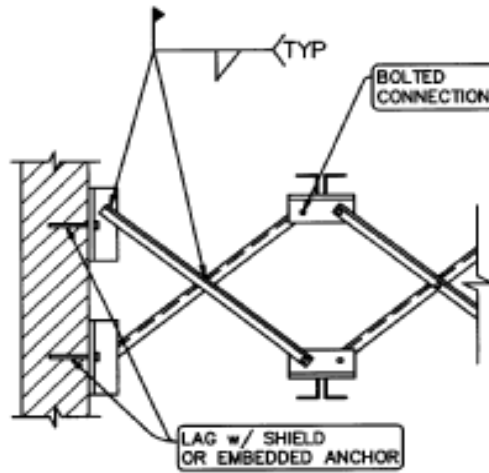
HORIZONTAL BRIDGING  
TERMINUS AT STRUCTURAL  
SHAPE WITH OPTIONAL  
"X-BRIDGING"



BOLTED DIAGONAL BRIDGING  
TERMINUS AT WALL



BOLTED DIAGONAL BRIDGING  
TERMINUS AT WALL

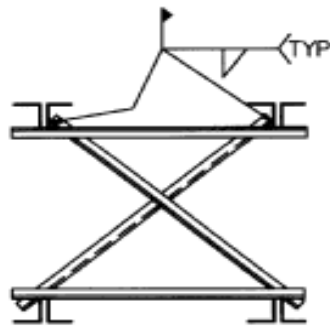


BOLTED DIAGONAL BRIDGING  
TERMINUS AT WALL

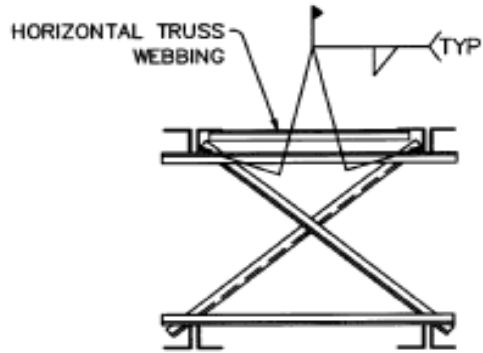
# APPENDIX B

## ILLUSTRATIONS OF OSHA BRIDGING TERMINUS POINTS (NON-MANDATORY)

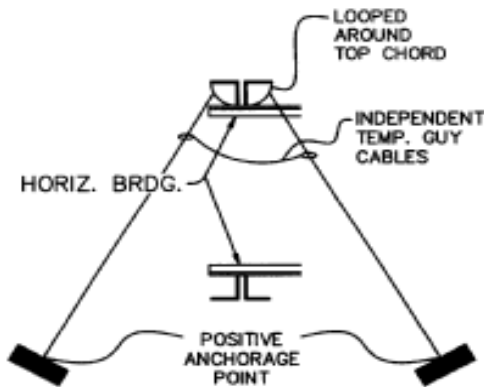
Guidelines for Complying with OSHA Steel Erection Standard, Paragraph §1926.757(a)(10) and §1926.757(c)(5).



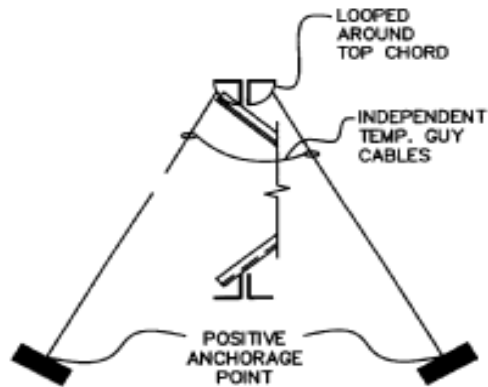
JOISTS PAIR BRIDGING  
TERMINUS POINT



JOISTS PAIR BRIDGING  
TERMINUS POINT



HORIZONTAL BRIDGING  
TERMINUS POINT  
SECURED BY TEMP.  
GUY CABLES



DIAGONAL BRIDGING  
TERMINUS POINT  
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GUY CABLES

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