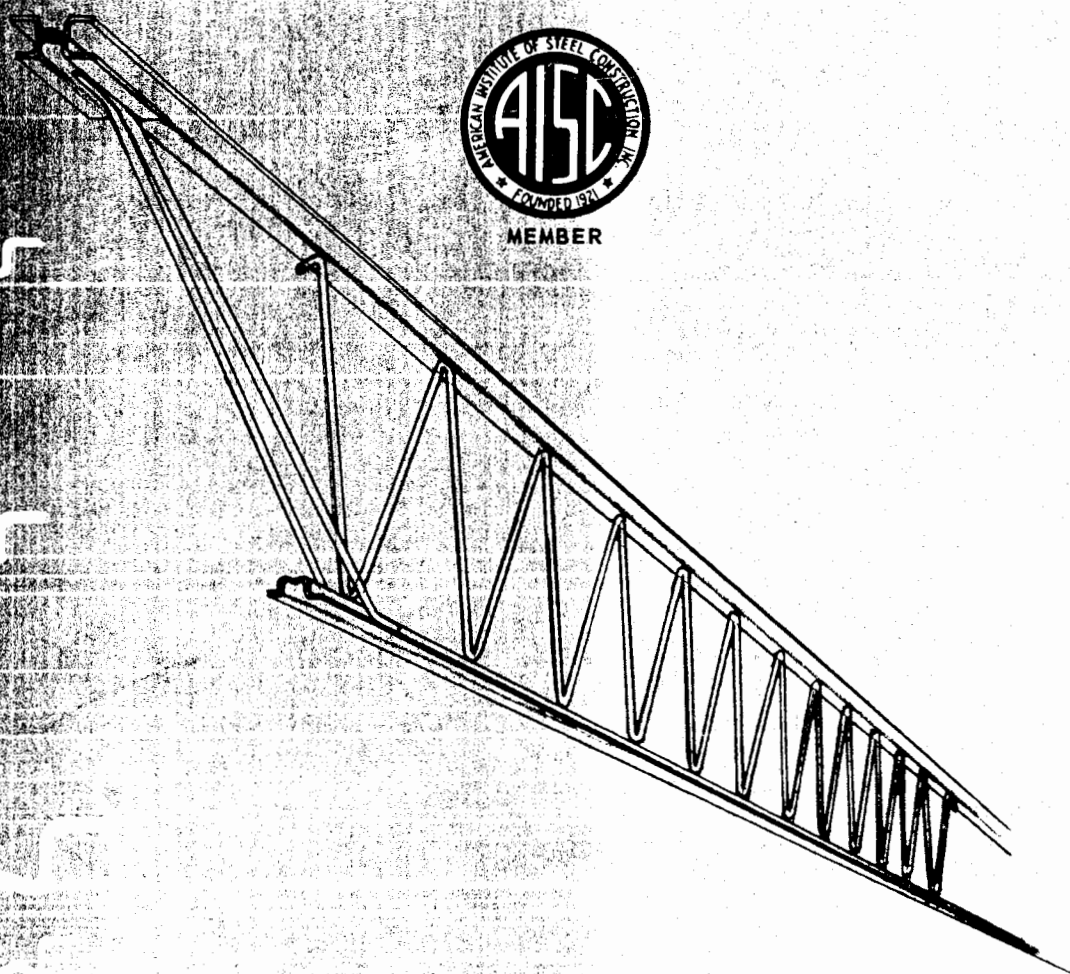


1974 +/-

BERGER COLDFORMED JOISTS J AND H SERIES



1974

THE
BERGER

STEEL CO., INC.
LAFAYETTE, INDIANA

The Berger Steel Co., Inc. was founded in 1952. In 1960 we produced our first Cold-Formed Joist. Since that time we have devoted much money and time to the careful study of the art of design and production of joists made from coldroll formed sections. Today these years of experience producing joists from cold roll formed sections is an art for our production employees. The specifier and user of Berger Cold-Formed Joists can expect a superior product that can not be excelled by any other Joist.

See our Double Angle Chord Catalog for Spans to 96'-0.

FACILITIES

Our Cold-Formed Joists are produced on equipment that was designed specifically for our special hat section. The chords are rolled from coils that may exceed 1000' on cold roll forming mills which are electronically controlled. The welding of the web to the chords is accomplished automatically by a special resistance welder which is also electronically controlled. Efficient design combined with our modern plant facilities can produce structures which are most economical.

SERVICE

Our large stocks of raw materials combined with the above facilities can produce a quality product for overnight delivery to meet your job requirements.

ENGINEERING

Our engineering department is staffed with trained personnel. Normal engineering capabilities are supplemented by electronic computer calculations to provide a complete engineering approach that is the pride of Berger Steel Company, Inc.



President

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COLDFORMED JOISTS

STANDARD SPECIFICATIONS FOR OPEN WEB STEEL JOISTS J-SERIES AND H-SERIES

Adopted by Steel Joist Institute and American Institute of Steel Construction, Inc., October 1, 1974.

SECTION 1 SCOPE

These specifications cover the design, manufacture and use of Open Web Steel Joists, J- and H-Series.

SECTION 2 DEFINITION

The term "Open Web Steel Joists J- and H- Series," as used herein, refers to open web parallel chord load-carrying members suitable for the direct support of floors and roof decks in buildings, utilizing hot-rolled or cold-formed steel, including cold-formed steel whose yield strength* has been attained by cold working. They are designed in accordance with these specifications to develop the resisting moments and maximum end reactions shown in the Standard Load Tables for Open Web Steel Joists, J- or H-Series, attached hereto.

The design of J-Series joists shall be based on a yield strength of 36,000 psi and steel used for J-Series joists shall have a minimum yield strength of 36,000 psi in the hot-rolled condition prior to forming or fabrication.

The design of chord sections for H-Series joists shall be based on a yield strength of 50,000 psi. The design of web sections for H-Series joists shall be based on a yield strength of either 36,000 psi or 50,000 psi. Steel used for H-Series joist chord or web sections shall have a minimum yield strength, determined in accordance with one of the procedures specified in Section 3.2, which is equal to the yield strength assumed in the design.

SECTION 3 MATERIALS

3.1 Steel

The steel used in the manufacture of chord and web sections shall conform to one of the following ASTM Specifications of latest adoption:

- (a) Structural Steel, ASTM A36
- (b) High-Strength Low-Alloy Structural Steel, ASTM A242
- (c) High-Strength Low-Alloy Structural Manganese Vanadium Steel, ASTM A441
- (d) Hot-Rolled Carbon Steel Sheets and Strip, Structural Quality, ASTM A570
- (e) High-Strength Low-Alloy Columbium-Vanadium Steels of Structural Quality, ASTM A572 Grades 42, 45 and 50
- (f) High-Strength Low-Alloy Structural Steel with 50,000 psi Minimum Yield Point to 4 in. Thick, ASTM A588
- (g) Hot-Rolled or Cold-Rolled Sheet, High-Strength Low-Alloy, with Improved Corrosion Resistance, ASTM A606
- (h) Steel, Cold-Rolled Sheet, Carbon Structural, ASTM A611, Type 2

or shall be of suitable quality ordered or produced to other than the listed specifications, provided that such material in the state used for final assembly and fabrication is weldable and is proved by tests performed by the producer or fabricator to have the properties specified in Section 3.2.

*The term "yield strength" as used herein shall designate the yield level of a material as determined by the applicable method outlined in paragraph 13—"Yield Strength," or paragraph 12—"Yield Point," of ASTM Standard A370, "Mechanical Testing of Steel Products," or as specified in Section 3.2 of this Specification.

3.2 Mechanical Properties

The yield strength used as a basis for the design stresses prescribed in Section 4 shall be either 36,000 psi or 50,000 psi. Evidence that the steel furnished meets or exceeds the design yield strength shall be provided in the form of 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 material the mechanical properties of which conform to the requirements of one of the listed specifications, test specimens and procedure shall conform to those of such specifications and to ASTM A370. In the case of material the mechanical properties of which do not conform to the requirements of one of the listed specifications, the test specimens and procedure shall conform to the applicable requirements of ASTM A370 and the specimens shall exhibit a yield strength equal to or exceeding the design yield strength and an elongation of not less than (a) 20 percent in 2 inches for sheet and strip or (b) 18 percent in 8 inches for plates, shapes and bars with adjustments for thickness for plates, shapes and bars as prescribed in ASTM A36, A242 and A441 for plates, shapes and bars; and ASTM A570, A606 and A611 for sheet and strip.

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 Sections 3.1.1 and 6.3 of the AISI Specifications for the Design of Cold-Formed Steel Structural Members and shall indicate compliance with these provisions and with the following additional requirements:

- (a) The yield strength measured in the tests 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 6 percent greater than the test 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 specimen shall not be greater than 20 times its least radius of gyration.
- (d) If any test specimen fails to pass the requirements of 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 Paint

The standard shop paint shall conform to one of the following:

- (a) Steel Structures Painting Council Specification 15-68T, Type I (red oxide).
- (b) Steel Structures Painting Council Specification 15-68T, Type II (asphalt coating).
- (c) Federal Specification TT-P-636 (red oxide).
- (d) Or, shall be a shop paint which meets the minimum performance requirements of one of the above listed specifications.

SECTION 4 DESIGN AND MANUFACTURE

4.1 Method

Joists shall be designed in accordance with these specifications as simply supported uniformly loaded trusses supporting a floor or roof deck so constructed as to brace the top chord of the joists against lateral buckling. Where any applicable design feature is not specifically covered herein, the design shall be in accordance with the following specifications of latest adoption:

- American Institute of Steel Construction Specification for the Design, Fabrication and Erection of Structural Steel for Buildings, where the material used consists of plates, shapes or bars.
- American Iron and Steel Institute Specification for the Design of Cold-Formed Steel Structural Members, for members which are formed from sheet or strip material.

4.2 Unit Stresses

Joists shall have their components so proportioned that the unit stresses in pounds per square inch shall not exceed the following, where F_y is the yield strength defined in Sect. 3.2.

(a) Tension:

Chord and web members having a minimum yield strength of 50,000 psi 30,000 psi
Chord and web members having a minimum yield strength of 36,000 psi 22,000 psi

(b) Compression:

For members with l/r less than C_c :

$$\frac{\left[1 - \frac{l^2 r^2}{2C_c^2}\right] F_y Q}{5 - \frac{3}{8} \left(\frac{l}{C_c}\right) - \frac{1}{8} \left(\frac{l}{C_c}\right)^3} \text{ where } C_c = \sqrt{\frac{2\pi^2 E}{Q F_y}} \text{ and}$$

where Q is a form factor equal to unity except when the width-thickness ratio of one or more elements of the profile exceeds the limits specified in the AISC Specification, Sect. 1.9 for hot rolled sections and in the AISI Specifications, Sect. 3, for cold formed sections.

For members with l/r greater than C_c :

$$\frac{12\pi^2 E}{23(l/r)^2}$$

In the above formulas l is taken as the distance between panel points for the chord members and the unbraced length clear of attachments for web members, and r is the corresponding least radius of gyration of the member or any component thereof. E is equal to 29,000,000 psi.

(c) Bending:

For chords and for web members other than solid rounds having yield strength of

50,000 psi 30,000 psi
36,000 psi 22,000 psi

For web members of solid round cross-section having yield strength of

50,000 psi 45,000 psi
36,000 psi 32,500 psi

For bearing plates having yield strength of

50,000 psi 37,500 psi
36,000 psi 27,000 psi

4.3 Maximum Slenderness Ratios

The slenderness ratio l/r , where l is as used in Section 4.2(b) and r is the corresponding least radius of gyration shall not exceed the following:

Top chord interior panels 90
Top chord end panels 120
Compression members other than top chord 200
Tension members 240

4.4 Members

(a) Chords

The bottom chord shall be designed as an axially loaded tension member.

The top chord shall be designed for only axial compressive stress when the panel length l does not exceed 24 inches. When the panel length exceeds 24 inches, the top chord shall be designed as a continuous member subject to combined axial and bending stresses and shall be so proportioned that when fully loaded the quantity

$$\frac{f_a}{0.6 F_y} + \frac{f_b}{F_b}$$

does not exceed unity at the panel point and the quantity

$$\frac{f_a}{F_a} + \frac{C_m f_b}{\left(1 - \frac{f_a}{F'_e}\right) F_b}$$

does not exceed unity at mid-panel; in which

$C_m = 1 - 0.3 f_a / F'_e$ for end panels

$C_m = 1 - 0.4 f_a / F'_e$ for interior panels

f_a = Computed axial unit compressive stress

f_b = Computed bending unit compressive stress at the point under consideration

F_a = Permissible axial unit compressive stress based on l/r as defined in Section 4.2(b)

F_b = Permissible bending unit stress

F_y = Specified minimum yield strength

$F'_e = \frac{12\pi^2 E}{23(l/r)^2}$ where l is the panel length as defined in Section 4.2(b) and r is the radius of gyration about the axis of bending

The top chord shall be considered as stayed laterally by the floor slab or roof deck when attachments are in accordance with the requirements of Section 5.8(e) of these specifications.

Lateral stability during erection shall be provided by bridging and the chord properties shall be such that $F_a \geq 10,000$ psi where

$$F_a = \frac{14.15 \times 10^6 C_1 C_2 X}{h S^2 A_t} \sqrt{(I_t + I_b)(J_t + J_b) S^2 + 25.6 l I_t h^2}$$

S = Spacing of bridging (in.)

h = Effective joist depth (in.)

A_t = Area of top chord (in.)

I_t = Moment of inertia of top chord about the vertical axis (in.)

I_b = Moment of inertia of bottom chord about vertical axis (in.)

J_t, J_b = Torsion constant of top and bottom chord respectively (in.)

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The torsion constant of angles or hat-shaped sections is determined from the formula*

$$J = \frac{At^3}{3}$$

where A is the cross-sectional area of the member being considered and t is its thickness.

*It should be noted that this equation applies only for open-section chords (angles, hat-shapes).

The coefficient $C_1 = 0.85$ for two-piece chord joists and $C_1 = 1.0$ for one-piece chord joists. The coefficient C_2 is given in the following table:

Number of Rows of Bridging	C_2
1	4.00
2	3.00
3	4.00
4	3.33
5	4.00

(b) Web

The vertical shears to be used in the design of the web members shall be determined from full uniform loading but such vertical shear shall be not less than 50 percent of the maximum end reaction. Due consideration shall be given to the effect of eccentricity. The effect of combined axial compression and bending may be investigated using the provisions of Section 4.4(a) letting $C_m = 0.4$ when bending due to eccentricity produces reversed curvature.

(c) Bearings

The bearing area shall be proportioned so that unit bearing pressure in pounds per square inch does not exceed the following values:

On masonry laid in cement mortar.....250 psi
On structural concrete.....750 psi

(d) Fillers or Ties

Fillers or ties are required in interior top chord panels which exceed 24 inches in length and in compression web members of joists more than 28 inches deep. Fillers or ties are not required in top chord end panels; nor are they required in interior panel lengths of 24 inches or less.

(e) Extended Ends

Extended ends shall be designed as cantilever beams with their reactions carried back at least to the first interior panel point of the joist.

4.5 Connections

(a) Method

Joint connections and splices shall be made by attaching the members to one another by arc or resistance welding or other approved methods.

(b) Strength

Joint connections shall be capable of withstanding the forces due to an ultimate load equal to at least two times the design load shown in the applicable Standard Load Table.

(c) Splices

Splices may occur at any point in chord or web members. Butt welded splices shall have a net weld throat area equal to the cross-sectional area of the member spliced and shall develop a minimum tensile strength of 57,000 psi on the full cross-sectional area of the member.

(d) Eccentricity

Members connected at a joint shall have their centroidal axes meet at a point if practical. Otherwise, due consideration shall be given to the effect of eccentricity. In no case shall eccentricity of any web member at a joint exceed $\frac{3}{4}$ of the over-all dimension, measured in the plane of the web, of the largest member connected. Such eccentricity shall be the perpendicular distance from a point at the centroid of the joint located on the centroidal axis of the chord to the centroidal axis of the web member.

Ends of joists shall be proportioned to resist bending produced by eccentricity at the support.

4.6 Design Verification Tests

(a) Chord and Web Members

Each manufacturer shall, at the time of design review by the Steel Joist Institute or the American Institute of Steel Construction, verify by tests that his design, in accordance with Sections 4.1 through 4.5 of this specification, will provide a minimum factor of safety of 1.65 on the theoretical design capacity 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 may be conducted on full sections.

(b) Joints and Connections

Each manufacturer shall verify by shear tests on representative joints of typical joists that connections will meet the provisions of Section 4.5(b). Chord and web members may be reinforced for such tests.

4.7 Camber

Camber is optional with the manufacturer but when provided, recommended approximate camber is as follows:

Top Chord Length	Approximate Camber
20 feet	$\frac{1}{4}$ inches
30 feet	$\frac{3}{8}$ inches
40 feet	$\frac{5}{8}$ inches
50 feet	1 inch
60 feet	1½ inches

In no case will joists be manufactured with negative camber.

4.8 Shop Paint

Joists and accessories shall receive one shop coat of paint as specified in Section 3.3

SECTION 5 APPLICATION

5.1 Usage

These specifications shall apply to any type of structure where floors and roofs are to be supported directly by steel joists installed as hereinafter specified. Where joists are used other

than on simple spans under uniformly distributed loading as prescribed in Section 4.1, they shall be investigated and modified if necessary to limit the unit stresses to those listed in Section 4.2.

5.2 Span

The clear span of a joist shall not exceed 24 times its depth.

5.3 End Supports

Tl tr (a) Steel

Due consideration of the end reactions shall be taken in the design of supporting steel.

The ends of joists shall extend a distance of not less than 2½ inches over steel supports.

Where it is deemed necessary to butt opposite joists over a narrow steel support with bearing less than noted above, special ends must be specified, and such ends shall have positive attachment to the support, either by bolting or welding.

(b) Masonry and Concrete

The following minimum bearing lengths, parallel to the length of joists, shall be provided for bearing on masonry and concrete:

Chord Size	Joist Depth	Minimum Bearing Length	
		On Masonry	On Concrete
#3 thru #8	8" thru 24"	4 inches	4 inches
#8	26" thru 30"	5 inches	4 inches
#9	18" thru 30"	5 inches	4 inches
#10 and #11	18" thru 30"	6 inches	4 inches

5.4 Bridging

Bridging is required and shall consist of one of the following types:

(a) Horizontal

Horizontal bridging shall consist of two continuous horizontal steel members, one attached to the top chord and the other attached to the bottom chord. Attachment to the joists shall be made by welding or mechanical means and shall be capable of resisting a horizontal force of not less than 700 pounds.

The ratio of unbraced length to least radius of gyration (l/r) of the bridging member shall not exceed 300, where l is the distance in inches between attachments and r is the least radius of gyration of the bridging member. If the bridging member is a round bar, the diameter shall be at least ½ inch.

(b) Diagonal

Diagonal bridging shall consist of cross-bracing with l/r ratio of not more than 200, where l is the distance in inches 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 l distance shall be taken as the distance in inches between connections at the point of intersection of the bracing members and the connections to the chord of the joists. Connections to chords of steel joists shall be made by positive mechanical means or by welding.

(c) Quantity

In no case shall the number of rows of bridging be less than shown in the following table. Spaces between rows shall be approximately uniform.

Number of Rows of Bridging (Distances are Clear Span Dimensions)					
Chord Size*	1 Row	2 Rows	3 Rows	4 Rows	5 Rows**
#3	Up to 13'	13' to 17'	17' to 28'		
#4	Up to 16'	16' to 21'	21' to 32'		
#5	Up to 16'	16' to 21'	21' to 33'	33' to 38'	38' to 40'
#6	Up to 18'	18' to 22'	22' to 36'	36' to 40'	40' to 48'
#7	Up to 20'	20' to 25'	25' to 41'	41' to 46'	46' to 48'
#8	Up to 21'	21' to 27'	27' to 43'	43' to 48'	48' to 60'
#9	Up to 23'	23' to 30'	30' to 46'	46' to 52'	52' to 60'
#10	Up to 24'	24' to 30'	30' to 47'	47' to 53'	53' to 60'
#11	Up to 24'	24' to 31'	31' to 48'	48' to 55'	55' to 60'

*Last digit(s) of joist designation shown in load tables.

**Where five rows of bridging are required and spans are over 40 feet, the middle row shall be diagonal bridging with bolted connections at chords and intersection.

5.5 Installation of Bridging

All bridging and bridging anchors shall be completely installed before construction loads are placed on the joists. Bridging shall support the top chords against lateral movement during the construction period and shall hold the steel joists in the approximate position as shown on the plans. The ends of all bridging lines terminating at walls or beams shall be anchored thereto at top and bottom chords.

5.6 End Anchor

(a) Masonry Supports

Joists resting on masonry supports shall be bedded in mortar and anchored thereto with an anchor equivalent to a ¾ inch round steel bar not less than 8 inches long. Every third joist in floors and every joist in roofs shall be anchored. In roofs where parapet walls are not present, two ½ inch anchor bolts or other equal means shall be used in lieu of the steel bar.

(b) Steel Supports

Ends of joists resting on steel supports shall be connected thereto with the equivalent of two ¼ inch fillet welds 1 inch long or a ½ inch bolt. In steel framing, where columns are not framed in at least two directions with structural steel members, joists at column lines shall be field bolted at the columns to add lateral stability.

(c) Uplift

Where uplift forces are a design consideration, roof joists shall be anchored to resist such forces.

5.7 Joist Spacing

Joists shall be spaced so that the loading on each joist does not exceed the allowable load for the particular joist design.

5.8 Floors and Roof Decks

(a) Material

Floors and roof decks may consist of cast-in-place or precast concrete or gypsum, formed steel, wood, or other suitable material capable of supporting the required load at the specified joist spacing.

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(b) Thickness

Cast-in-place slabs shall not be less than 2 inches thick.

(c) Centering

Centering for cast-in-place slabs may 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.

(d) Bearing

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

(e) Attachments

Each attachment for slab or deck to top chords of joists shall be capable of resisting a lateral force of not less than 300 pounds. The spacing shall not exceed 36 inches along the top chord.

(f) Wood Nailers

Where wood nailers are used, such nailers in conjunction with deck or slab shall be attached to the top chords of the joists in conformance with Section 5.8(e).

5.9 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

$1/240$ of span for all other cases

5.10 Ponding

Unless a roof surface is provided with sufficient slope toward points of free drainage or adequate individual drains to prevent the accumulation of rain water, the roof system shall be investigated to assure stability under ponding conditions in accordance with Sec. 1.13.3 of the AISC Specification.*

5.11 Inspection

Joists shall be inspected by the manufacturer before shipment to insure compliance of materials and workmanship with the requirements of these specifications. If the purchaser wishes an inspection of the steel joists by someone other than the manufacturer's own inspectors, he may reserve the right to do so in his "Invitation to Bid" or the accompanying "Job Specifications." Arrangements shall be made with the manufacturer for such inspection of the joists at the manufacturing shop by the purchaser's inspectors at purchaser's expense.

SECTION 6 HANDLING AND ERECTION

Care shall be exercised at all times to avoid damage through careless handling during unloading, storing and erecting.

As soon as joists are erected, all bridging shall be completely installed and the joists permanently fastened into place before the application of any loads except the weight of the erectors. Many joists exhibit some degree of lateral instability under the weight of an erector until bridging is installed. Therefore, where three or more rows of bridging are required by the table in Section 5.4 (c), caution shall be exercised by the erectors until all bridging is completely and properly installed.

Where five rows of bridging are required in spans over 40 feet, each joist shall be adequately braced laterally before the next joist is erected and before any loads are applied. Hoisting cables shall not be released until support has been provided by the center row of diagonal bridging and the bridging line has been anchored to prevent lateral movement, and where joists are bottom bearing, their ends have been restrained laterally.

During the construction period the contractor shall provide means for adequate distribution of concentrated loads so that the carrying capacity of any joist is not exceeded. Field welding shall not damage the joists. The total length of weld at any one point on cold-formed members whose yield strength has been attained by cold working and whose as-formed strength is used in the design shall not exceed 50 percent of the over-all developed width of the cold-formed section.

*For further reference, refer to Steel Joist Institute Technical Digest No. 3, "Structural Design of Steel Joist Roofs to Resist Ponding Loads."

STANDARD LOAD TABLE FOR OPEN WEB STEEL JOISTS, J-SERIES BASED ON ALLOWABLE STRESS OF 22,000 PSI

Adopted by Steel Joist Institute and American Institute of Steel Construction, Inc., November 1, 1972

The **boldface** figures in the following table give the TOTAL safe uniformly-distributed load-carrying capacities, in pounds per linear foot, of J-Series Open Web Steel Joists. The weight of DEAD loads, including the joists, must in all cases be deducted to determine the LIVE load-carrying capacities of the joists. The load table may be used for parallel chord joists installed to a maximum slope of $1/2$ inch per foot.

The light face figures in this load table are the LIVE loads per linear foot of joist which will produce an approximate deflection of $1/360$ of the span. LIVE loads which will produce a deflection of $1/240$ of the span may be obtained by multiplying the figures in light face by 1.5. **In no case shall the total load capacity of the joist be exceeded.*****

Loads above heavy stepped lines are governed by shear.

Footnotes—See tables and text above

*Indicates Nominal Depth of Steel Joists only.

**Approximate Weights per Linear Foot of Steel Joists only. Accessories and nailer strip not included.

***Section 5.9 of the Standard Specifications for Open Web Steel Joists, J-Series and H-Series limits the design LIVE load deflection as follows: Floors $1/360$ of span. Roofs, $1/360$ of span where a plaster ceiling is attached or suspended; $1/240$ of span for all other cases.

See manufacturers' catalogs for detailed information on specific joist types.

Tests on steel joists designed in accordance with the Standard Specifications have demonstrated that the Standard Load Tables are applicable for concentrated top chord loadings (such as are developed in bulb-tee roof construction) when the sum of the equal concentrated top chord loadings does not exceed the allowable uniform loading for the joist type and span and the loads are placed at spacings not exceeding 33" along the top chord.

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STANDARD LOAD TABLE OPEN WEB STEEL JOISTS, J-SERIES

Allowable total safe loads in pounds per linear foot based on allowable stress of 22,000 psi

Joist Designation	8J3	10J3	10J4	12J3	12J4	12J5	12J6
*Depth in Inches	8	10	10	12	12	12	12
Resisting Moment in Inch Kips	70	89	111	108	135	161	196
Maximum End Reaction in Pounds	2000	2200	2400	2300	2500	2700	3000
**Approximate Weight in Pounds per Foot	4.8	4.8	6.0	5.1	6.0	7.0	8.1
Span in Feet	8	500					
	9	444					
	10	400	440	480			
	11	364	400	436			
		345					
	12	324	367	400	383	417	450
		266					
	13	276	338	369	354	385	415
		209	337				
	14	238	303	343	329	357	386
		167	270	334			
	15	207	264	320	307	333	360
		136	219	271			
	16	182	232	289	281	313	338
		112	181	223	264		
	17		205	256	249	294	318
			151	186	220	287	
	18		183	228	222	278	300
			127	157	185	242	284
	19		164	205	199	249	284
			108	133	157	206	241
	20		148	185	180	225	268
			92	114	135	177	207
	21				163	204	243
					117	152	179
	22				149	186	222
					101	133	155
	23				136	170	203
					89	116	136
	24				125	156	186
					78	102	120

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STANDARD LOAD TABLE OPEN WEB STEEL JOISTS, J-SERIES

Allowable total safe loads in pounds per linear foot based on allowable stress of 22,000 psi

Joist Designation	14J3	14J4	14J5	14J6	14J7	16J4	16J5	16J6	16J7	16J8
*Depth in Inches	14	14	14	14	14	16	16	16	16	16
Resisting Moment in Inch Kips	127	159	190	230	276	173	216	258	310	359
Maximum End Reaction in Pounds	2400	2800	3100	3400	3700	3000	3300	3600	4000	4300
**Approximate Weight in Pounds per Foot	5.2	6.4	7.3	8.4	9.7	6.6	7.6	8.5	10.1	11.3
Span in Feet	14	343	400	443	486	529				
	15	320	373	413	453	493				
	16	300	350	388	425	463	375	413	450	538
	17	282	329	365	400	435	353	388	424	506
	18	261	311	344	378	411	333	367	400	478
	19	235	294	326	358	389	316	347	379	453
	20	212	265	310	340	370	288	330	360	430
	21	192	240	287	324	352	262	314	343	410
	22	175	219	262	309	336	238	298	327	391
	23	160	200	239	290	322	218	272	313	374
	24	147	184	220	266	308	200	250	299	358
	25	135	170	203	245	294	185	230	275	344
	26	125	157	187	227	272	171	213	254	331
	27	116	145	174	210	252	158	198	236	319
	28	108	135	162	196	235	147	184	219	305
	29						137	171	205	285
	30						128	160	191	266
	31						120	150	179	249
	32						113	141	168	234
							99	121	143	198
							89	110	129	179
							81	99	117	162
							74	90	107	148

STANDARD LOAD TABLE OPEN WEB STEEL JOISTS, J-SERIES

Allowable total safe loads in pounds per linear foot based on allowable stress of 22,000 psi

Joist Designation		18J5	18J6	18J7	18J8	18J9	18J10	18J11
*Depth in Inches		18	18	18	18	18	18	18
Resisting Moment in Inch Kips		243	293	352	406	462	517	597
Maximum End Reaction in Pounds		3500	3900	4200	4500	4900	5300	5900
**Approximate Weight in Pounds per Foot		7.9	9.0	10.2	11.3	12.4	13.8	15.6
Span in Feet	18	389	433	467	500	544	589	
	19	368	411	442	474	516	558	621
	20	350	390	420	450	490	530	590
	21	333	371	400	429	467	505	562
	22	318	355	382	409	445	482	536
	23	304	339	365	391	426	461	513
	24	281	325	350	375	408	442	492
	25	259	312	336	360	392	424	472
	26	240	289	323	346	377	408	454
	27	222	268	311	333	363	393	437
	28	207	249	299	321	350	379	421
	29	193	232	279	310	338	366	407
	30	180	217	261	300	327	353	393
	31	169	203	244	282	316	342	381
	32	158	191	229	264	301	331	369
	33	149	179	215	249	283	316	358
	34	140	169	203	234	266	298	344
	35	132	159	192	221	251	281	325
	36	125	151	181	209	238	266	307
		81	96	115	132	143	162	183

COLDFORMED JOISTS

STANDARD LOAD TABLE OPEN WEB STEEL JOISTS, J-SERIES

Allowable total safe loads in pounds per linear foot based on allowable stress of 22,000 psi

Joist Designation		20J5	20J6	20J7	20J8	20J9	20J10	20J11
*Depth in Inches		20	20	20	20	20	20	20
Resisting Moment in Inch Kips		265	316	382	455	517	579	669
Maximum End Reaction in Pounds		3800	4100	4300	4600	5000	5400	6000
**Approximate Weight in Pounds per foot		8.1	9.2	10.6	11.9	12.8	14.4	16.1
Span in Feet	20	380	410	430	460	500	540	600
	21	362	390	410	438	476	514	571
	22	345	373	391	418	455	491	545
	23	330	357	374	400	435	470	522
	24	307	342	358	383	417	450	500
	25	283	328	344	368	400	432	480
	26	261	312	331	354	385	415	462
			300					
	27	242	289	319	341	370	400	444
		235	268					
	28	225	269	307	329	357	386	429
		211	240	292				
	29	210	250	297	317	345	372	414
		190	216	263		343		
	30	196	234	283	307	333	360	400
		171	195	238	286	310	350	397
	31	184	219	265	297	323	348	387
		155	177	215	259	281	317	360
	32	173	206	249	288	313	338	375
		141	161	196	236	255	288	327
	33	162	193	234	279	303	327	364
		129	147	178	215	233	263	298
	34	153	182	220	262	294	318	353
		118	134	163	196	213	240	273
	35	144	172	208	248	281	309	343
		108	123	150	180	195	220	250
	36	136	163	197	234	266	298	333
		99	113	137	166	179	203	230
	37	129	154	186	222	252	282	324
		91	104	127	152	165	187	212
	38	122	146	176	210	239	267	309
		84	96	117	141	153	172	195
	39	116	139	167	199	227	254	293
		78	89	108	130	141	159	181
	40	110	132	159	190	215	241	279
		72	82	100	121	131	148	168

STANDARD LOAD TABLE OPEN WEB STEEL JOISTS, J-SERIES

Allowable total safe loads in pounds per linear foot based on allowable stress of 22,000 psi

Joist Designation		22J6	22J7	22J8	22J9	22J10	22J11
*Depth in Inches		22	22	22	22	22	22
Resisting Moment in Inch Kips		335	420	493	572	640	741
Maximum End Reaction in Pounds		4200	4500	4800	5300	5700	6200
**Approximate Weight in Pounds per Foot		9.6	10.5	11.9	13.1	14.4	16.4
Span in Feet	22	382	409	436	482	518	564
	23	365	391	417	461	496	539
	24	350	375	400	442	475	517
	25	336	360	384	424	456	496
	26	323	346	369	408	438	477
	27	306	333	356	393	422	459
	28	285	321	343	379	407	443
	29	266	310	331	366	393	428
	30	248	300	320	353	380	413
	31	232	290	310	342	368	400
	32	218	273	300	331	356	388
	33	205	257	291	321	345	376
	34	193	242	282	312	335	365
	35	182	229	268	303	326	354
	36	172	216	254	294	317	344
	37	163	205	240	279	308	335
	38	155	194	228	264	295	326
	39	147	184	216	251	281	318
	40	140	175	205	238	267	309
	41	133	167	196	227	254	294
	42	127	159	186	216	242	280
	43	121	151	178	206	231	267
	44	115	145	170	197	220	255
		72	88	109	121	136	154

COLDFORMED JOISTS

STANDARD LOAD TABLE OPEN WEB STEEL JOISTS, J-SERIES

Allowable total safe loads in pounds per linear foot based on allowable stress of 22,000 psi

Joist Designation		24J6	24J7	24J8	24J9	24J10	24J11
*Depth in Inches		24	24	24	24	24	24
Resisting Moment in Inch Kips		367	460	540	627	701	813
Maximum End Reaction in Pounds		4400	4700	5000	5600	5900	6400
**Approximate Weight in Pounds per Foot		9.9	11.1	12.4	13.3	14.8	16.7
Span in Feet	24	367	392	417	467	492	533
	25	352	376	400	448	472	512
	26	338	362	385	431	454	492
	27	326	348	370	415	437	474
	28	312	336	357	400	421	457
	29	291	324	345	386	407	441
	30	272	313	333	373	393	427
	31	255	303	323	361	381	413
	32	248	299				
		239	294	313	350	369	400
		225	272				
	33	225	282	303	339	358	388
		205	248				
	34	212	265	294	329	347	376
		188	227	283	314		
	35	200	250	286	320	337	366
		172	208	259	288	323	
	36	189	237	278	311	328	356
		158	191	238	264	297	339
	37	179	224	263	303	319	346
		146	176	219	243	274	312
	38	169	212	249	289	311	337
		135	162	202	225	253	288
	39	161	202	237	275	303	328
		124	150	187	208	234	266
	40	153	192	225	261	292	320
		115	139	174	193	217	247
	41	146	182	214	249	278	312
		107	129	161	179	201	229
	42	139	174	204	237	265	305
		100	120	150	166	187	213
	43	132	166	195	226	253	293
		93	112	140	155	174	199
	44	126	158	186	216	241	280
		87	105	130	145	163	186
	45	121	151	178	206	231	268
		81	98	122	135	152	173
	46	116	145	170	198	221	256
		76	92	114	127	142	162
	47	111	139	163	189	212	245
		71	86	107	119	133	152
	48	106	133	156	181	203	235
		67	81	100	111	125	143

STANDARD LOAD TABLE OPEN WEB STEEL JOISTS, J-SERIES

Allowable total safe loads in pounds per linear foot based on allowable stress of 22,000 psi

Joist Designation	26J8	26J9	26J10	26J11	28J8	28J9	28J10	28J11
*Depth in Inches	25	26	26	25	28	28	28	28
Resisting Moment in Inch Kips	574	682	763	885	621	737	824	957
Maximum End Reaction in Pounds	5400	5900	6300	6800	5700	6200	6600	7100
**Approximate Weight in Pounds per Foot	12.2	14.1	15.4	17.1	13.0	14.3	15.9	17.9
Span in Feet	26	415	454	485	523			
	27	400	437	467	504			
	28	386	421	450	486	407	443	471
	29	372	407	434	469	393	428	455
	30	360	393	420	453	380	413	440
	31	348	381	406	439	368	400	426
	32	338	369	394	425	356	388	413
	33	327	358	382	412	345	376	400
	34	318	347	371	400	335	365	388
	35	309	337	360	389	326	354	377
	36	295	338	350	378	317	344	367
	37	280	319	341	368	302	335	357
	38	265	311	332	358	287	326	347
	39	252	299	323	349	272	318	338
	40	239	284	315	340	259	307	330
	41	228	270	303	332	246	292	322
	42	217	258	288	324	235	279	311
	43	207	246	275	316	224	266	297
	44	198	235	263	305	214	254	284
	45	189	225	251	291	204	243	271
	46	181	215	240	279	196	232	260
	47	173	206	230	267	187	222	249
	48	166	197	221	256	180	213	238
	49	159	189	212	246	172	205	229
	50	153	182	203	236	166	197	220
	51	147	175	196	227	159	189	211
	52	142	168	188	218	153	182	203
	53	137	160	180	205	147	175	196
	54	132	152	172	192	142	168	188
	55	127	144	164	186	137	162	182
	56	122	139	158	180	132	157	175
	57	117	132	148	169	127	152	170
	58	112	126	142	162	122	146	164
	59	107	120	136	156	117	140	158
	60	102	114	130	149	112	134	152
	61	97	108	124	141	107	128	146
	62	92	102	118	135	102	122	140
	63	87	96	112	128	97	116	134
	64	82	90	106	122	92	110	128
	65	77	84	100	116	87	104	122
	66	72	79	94	110	82	98	116
	67	67	74	88	104	77	92	110
	68	62	69	82	98	72	86	104
	69	57	64	76	92	67	80	98
	70	52	59	70	86	62	74	92
	71	47	54	64	80	57	68	86
	72	42	49	58	74	52	62	80
	73	37	44	52	68	47	56	74
	74	32	39	46	62	42	50	68
	75	27	34	40	56	37	44	62
	76	22	29	34	50	32	38	56
	77	17	24	28	44	27	32	50
	78	12	19	22	38	22	26	44
	79	7	14	16	32	17	20	38
	80	2	9	10	26	12	14	32

COLDFORMED JOISTS

STANDARD LOAD TABLE OPEN WEB STEEL JOISTS, J-SERIES

Allowable total safe loads in pounds per linear foot based on allowable stress of 22,000 psi

Joist Designation	30J8	30J9	30J10	30J11		
*Depth in Inches	30	30	30	30		
Resisting Moment in Inch Kips	667	793	885	1029		
Maximum End Reaction in Pounds	5900	6400	6800	7400		
**Approximate Weight in Pounds per Foot	13.8	14.9	16.6	18.3		
Span in Feet	30	393	427	453	493	
	31	381	413	439	477	
	32	369	400	425	463	
	33	358	388	412	448	
	34	347	376	400	435	
	35	337	366	389	423	
	36	328	356	378	411	
	37	319	346	368	400	
	38	308	337	358	389	
	39	292	328	349	379	
	40	278	320	340	370	
	41	265	312	332	361	
	42	252	300	324	352	
	43	240	286	316	344	
	44	230	273	305	336	
	45	220	261	291	329	
	46	210	250	279	322	
	47	201	239	267	311	
	48	193	229	256	298	
	49	185	220	246	286	
	50	178	211	236	274	
	51	171	203	227	264	
	52	164	196	218	254	
	53	158	188	210	244	
	54	152	181	202	235	
	55	147	175	195	227	
	56	142	169	188	219	
	57	137	163	182	211	
	58	132	157	175	204	
	59	128	152	169	197	
	60	124	147	164	191	
		77	91	102	117	

STANDARD LOAD TABLE FOR OPEN WEB STEEL JOISTS, H-SERIES BASED ON ALLOWABLE STRESS OF 30,000 PSI

Adopted by Steel Joist Institute and American Institute of Steel Construction, Inc., October 1, 1974.

The **boldface** figures in the following table give the TOTAL safe uniformly-distributed load-carrying capacities, in pounds per linear foot, of H-Series High Strength Steel Joists. The weight of DEAD loads, including the joists, must in all cases be deducted to determine the LIVE load-carrying capacities of the joists. The load table may be used for parallel chord joists installed to a maximum slope of $\frac{1}{2}$ inch per foot.

The light face figures in this load table are the LIVE loads per linear foot of joist which will produce an approximate deflection of $\frac{1}{360}$ of the span. LIVE loads which will produce a deflection of $\frac{1}{240}$ of the span may be obtained by multiplying the figures in light face by 1.5. **In no case shall the total load capacity of the joist be exceeded.*****

Loads above heavy stepped lines are governed by shear.

Footnotes—See tables and text above

*Indicates Nominal Depth of Steel Joists only.

**Approximate Weights per Linear Foot of Steel Joists only. Accessories and nailer strip not included.

***Section 5.9 of the Standard Specifications for Open Web Steel Joists, J-Series and H-Series limits the design LIVE load deflection as follows: Floors $\frac{1}{360}$ of span. Roofs, $\frac{1}{360}$ of span where a plaster ceiling is attached or suspended; $\frac{1}{240}$ of span for all other cases.

See manufacturers' catalogs for detailed information on specific joist types.

Tests on steel joists designed in accordance with the Standard Specifications have demonstrated that the Standard Load Tables are applicable for concentrated top chord loadings (such as are developed in bulb-tee roof construction) when the sum of the equal concentrated top chord loadings does not exceed the allowable uniform loading for the joist type and span and the loads are placed at spacings not exceeding 33" along the top chord.

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Typical joist installation by Berger Steel Company.

COLDFORMED JOISTS

STANDARD LOAD TABLE OPEN WEB STEEL JOISTS, H-SERIES

Allowable total safe loads in pounds per linear foot based on allowable stress of 30,000 psi

Joist Designation	8H3	10H3	10H4	12H3	12H4	12H5	12H6
*Depth in Inches	8	10	10	12	12	12	12
Resisting Moment in Inch Kips	91	116	148	140	180	222	260
Maximum End Reaction in Pounds	2400	2500	2800	2800	3200	3600	3900
**Approximate Weight in Pounds per Foot	5.0	5.0	6.1	5.2	6.2	7.1	8.2
Span in Feet	8	800					
	9	533					
	10	480	500	580			
		460					
	11	438	455	509			
		345					
	12	400	417	467	487	533	600
		266					650
	13	359	385	431	431	492	554
		209	337	417			600
	14	310	357	400	400	457	514
		167	270	334	393		557
	15	270	333	373	373	427	480
		136	219	271	320	418	520
	16	232	302	350	350	400	450
		112	181	223	264	345	404
						480	488
	17		258	329	323	376	424
			151	186	220	287	337
	18		239	305	288	356	400
			127	157	185	242	284
	19		214	273	259	332	379
			108	133	157	206	241
	20		193	247	233	300	350
			92	114	135	177	207
							246
	21				212	272	336
					117	152	179
	22				193	248	306
					101	133	155
	23				176	227	280
					89	116	136
	24				162	208	257
					78	102	120
							142

STANDARD LOAD TABLE OPEN WEB STEEL JOISTS, H-SERIES

Allowable total safe loads in pounds per linear foot based on allowable stress of 30,000 psi

Joist Designation		14H3	14H4	14H5	14H6	14H7	16H4	16H5	16H6	16H7	16H8
*Depth in Inches		14	14	14	14	14	16	16	16	16	16
Resisting Moment in Inch Kips		165	212	259	307	369	221	289	344	413	478
Maximum End Reaction in Pounds		3200	3500	3800	4200	4600	3800	4300	4600	4900	5200
**Approximate Weight in Pounds per Foot		5.5	6.5	7.4	8.6	10.0	6.6	7.8	8.6	10.3	11.4
Span in Feet	14	457	500	543	600	657					
	15	427	467	507	560	613					
	16	400	438	475	525	575	475	538	575	613	650
	17	378	412	447	494	541	447	506	541	576	612
	18	340	389	422	487	511	422	478	511	544	578
	19	305	368	400	442	484	422	453	484	516	547
	20	275	350	380	420	460	368	430	460	490	520
	21	249	320	362	400	438	334	410	438	467	495
	22	227	292	345	382	418	304	391	418	445	473
	23	208	267	328	365	400	279	364	400	426	452
	24	191	243	300	350	383	256	334	383	408	433
	25	178	228	278	327	368	236	308	367	392	416
	26	163	209	255	303	354	216	285	339	377	400
	27	151	194	237	281	337	202	264	315	363	385
	28	140	180	220	261	314	188	246	293	350	371
	29	129	168	208	248	297	175	229	273	327	359
	30	118	156	195	235	283	164	214	255	306	347
	31	108	142	181	221	269	153	200	239	287	332
	32	96	125	164	204	243	144	188	224	269	311
		85	111	147	187	226	133	177	213	258	303
		76	99	127	166	205	122	151	177	214	246
		68	89	114	153	192	110	135	159	192	220
							99	121	143	172	198
							89	110	129	156	179
							81	99	117	141	162
							74	90	107	128	148

COLDFORMED JOISTS

STANDARD LOAD TABLE OPEN WEB STEEL JOISTS, H-SERIES

Allowable total safe loads in pounds per linear foot based on allowable stress of 30,000 psi

Joist Designation *Depth in Inches	18H5 18	18H6 18	18H7 18	18H8 18	18H9 18	18H10 18	18H11 18
Resisting Moment in Inch Kips	325	383	456	540	627	705	814
Maximum End Reaction in Pounds	4500	4800	5200	5400	5900	6600	7600
**Approximate Weight in Pounds per Foot	8.0	9.2	10.4	11.6	12.6	14.0	15.8
Span In Feet	18	500	533	578	600		
	19	474	505	547	568	621	
	20	450	480	520	540	590	
	21	429	457	495	514	562	629
	409						
	22	409	436	473	491	536	600
	356	420					
	23	391	417	452	470	513	574
	312	368	441				
	24	375	400	433	450	492	550
	274	324	388	444	484	546	619
	25	347	384	416	432	472	528
	243	286	343	393	428	483	548
	26	321	369	400	415	454	508
	216	255	305	349	380	429	487
	27	297	350	385	400	437	489
	193	227	272	312	340	383	435
	28	276	326	371	386	421	471
	173	204	244	280	305	344	390
	29	258	304	359	372	407	455
	155	184	220	252	274	309	351
	30	241	284	345	360	393	440
	140	166	199	227	248	280	317
	31	225	266	323	348	381	426
	127	150	180	206	224	253	287
	32	212	249	303	338	369	413
	116	137	164	187	204	230	261
	33	199	234	285	327	358	400
	106	125	149	171	186	210	238
	34	187	221	269	311	347	388
	96	114	136	156	170	192	218
	35	177	208	254	294	337	377
	88	104	125	143	156	176	200
	36	167	197	240	278	323	363
	81	96	115	132	143	162	183

STANDARD LOAD TABLE OPEN WEB STEEL JOISTS, H-SERIES

Allowable total safe loads in pounds per linear foot based on allowable stress of 30,000 psi

Joist Designation	20H5	20H6	20H7	20H8	20H9	20H10	20H11
*Depth in Inches	20	20	20	20	20	20	20
Resisting Moment in Inch Kips	365	406	499	602	701	789	912
Maximum End Reaction in Pounds	4800	5100	5400	5600	6400	7000	7900
**Approximate Weight in Pounds per Foot	8.4	9.6	10.7	12.2	13.2	14.6	16.4
Span in Feet	20	480	510	540	560	640	
	21	457	486	514	533	610	
	22	438	464	491	509	582	638
	23	417	443	470	487	557	609
		380	434				
	24	400	425	450	467	533	583
		335	382				
	25	384	408	432	448	512	560
		296	338	411			632
	25	360	392	415	431	492	538
		263	300	365	476		608
	27	334	371	400	415	474	519
		235	268	326	392	425	480
	28	310	345	386	400	457	500
		211	240	292	352	381	431
	29	289	322	372	386	441	483
		190	216	263	317	343	388
	30	270	301	360	373	427	467
		171	195	238	286	310	350
	31	253	282	346	361	413	452
		155	177	215	259	281	317
	32	238	264	325	350	400	438
		141	161	196	236	255	288
	33	223	249	305	339	388	424
		129	147	178	215	233	263
	34	210	234	288	329	376	412
		118	134	163	196	213	240
	35	199	221	272	320	366	400
		108	123	150	180	195	220
	36	188	209	257	310	356	389
		99	113	137	166	179	203
	37	178	198	243	293	341	378
		91	104	127	152	165	187
	38	169	187	230	278	324	364
		84	96	117	141	153	172
	39	160	178	219	264	307	346
		78	89	108	130	141	159
	40	152	169	208	251	292	328
		72	82	100	121	131	148

COLDFORMED JOISTS

STANDARD LOAD TABLE OPEN WEB STEEL JOISTS, H-SERIES

Allowable total safe loads in pounds per linear foot based on allowable stress of 30,000 psi

Joist Designation	22H6	22H7	22H8	22H9	22H10	22H11
*Depth in Inches	22	22	22	22	22	22
Resisting Moment in Inch Kips	422	526	653	776	873	1009
Maximum End Reaction in Pounds	5400	5600	5800	6700	7200	8100
**Approximate Weight in Pounds per Foot	9.7	10.7	12.0	13.8	15.2	16.9
Span in Feet	22	491	509	527	609	
	23	470	487	504	583	626
	24	450	467	483	558	600
	25	446	448	464	536	576
	26	432	448	464	536	648
	27	415	431	446	515	554
	28	386	415	430	496	533
	29	359	400	414	479	514
	30	335	386	400	462	497
	31	313	373	387	447	480
	32	293	361	374	432	465
	33	275	342	363	419	450
	34	258	322	352	406	436
	35	243	303	341	394	424
	36	230	286	331	383	411
	37	217	271	322	372	400
	38	206	256	314	362	389
	39	195	243	301	353	379
	40	185	231	286	340	369
	41	176	219	272	323	360
	42	167	209	259	308	346
	43	152	190	235	280	315
	44	145	181	225	267	301

STANDARD LOAD TABLE OPEN WEB STEEL JOISTS, H-SERIES

Allowable total safe loads in pounds per linear foot based on allowable stress of 30,000 psi

Joist Designation	24H6	24H7	24H8	24H9	24H10	24H11
*Depth in Inches	24	24	24	24	24	24
Resisting Moment in Inch Kips	462	576	716	851	957	1106
Maximum End Reaction in Pounds	5600	5800	6000	7000	7500	8200
**Approximate Weight in Pounds per Foot	10.3	11.5	12.7	14.0	15.5	17.5
Span in Feet	24	467	483	500	583	625
	25	448	464	480	560	600
	26	431	446	462	538	577
	27	415	430	444	519	556
	28	393	414	429	500	536
	29	366	400	414	483	517
	30	342	387	400	467	500
	31	320	374	387	452	484
	32	301	363	375	438	469
	33	283	352	364	424	455
	34	266	332	353	412	441
	35	251	313	343	400	429
	36	238	296	333	389	417
	37	225	280	324	378	405
	38	213	266	316	368	395
	39	202	252	308	359	385
	40	193	240	298	350	375
	41	183	228	284	337	366
	42	175	218	271	322	357
	43	167	208	258	307	345
	44	159	198	247	293	330
	45	152	190	236	280	315
	46	146	181	226	268	302
	47	139	174	216	257	289
	48	134	167	207	246	277
	49	129	161	200	236	267
	50	124	155	194	227	257
	51	119	149	188	218	247
	52	115	143	182	210	238
	53	110	137	176	202	229
	54	106	131	170	194	220
	55	102	125	164	186	211
	56	98	119	158	178	202
	57	94	113	152	170	193
	58	90	107	146	162	184
	59	87	101	140	154	175
	60	83	95	134	146	166
	61	80	89	128	138	157
	62	76	83	122	130	148
	63	73	77	116	122	139
	64	69	71	110	114	130
	65	66	65	104	106	121
	66	62	61	98	100	112
	67	59	57	92	94	103
	68	56	54	86	88	94
	69	52	50	80	82	85
	70	49	47	74	76	79
	71	46	44	68	70	73
	72	43	41	62	64	67
	73	40	38	56	58	61
	74	37	35	50	52	55
	75	34	32	44	46	49
	76	31	29	38	40	43
	77	28	26	32	34	37
	78	25	23	26	28	31
	79	22	20	20	22	25
	80	19	17	14	16	19
	81	16	14	12	14	17
	82	13	11	10	12	15
	83	10	9	8	10	13
	84	7	6	6	8	11
	85	4	4	4	6	9
	86	1	1	1	4	6
	87	0	0	0	2	3
	88	0	0	0	0	0
	89	0	0	0	0	0
	90	0	0	0	0	0
	91	0	0	0	0	0
	92	0	0	0	0	0
	93	0	0	0	0	0
	94	0	0	0	0	0
	95	0	0	0	0	0
	96	0	0	0	0	0
	97	0	0	0	0	0
	98	0	0	0	0	0
	99	0	0	0	0	0
	100	0	0	0	0	0

COLDFORMED JOISTS

STANDARD LOAD TABLE OPEN WEB STEEL JOISTS, H-SERIES

Allowable total safe loads in pounds per linear foot based on allowable stress of 30,000 psi

Joist Designation	26H8	26H9	26H10	26H11	28H8	28H9	28H10	28H11
*Depth in Inches	26	25	26	26	28	28	28	28
Resisting Moment in Inch Kips	784	925	1040	1203	846	1000	1124	1300
Maximum End Reaction in Pounds	6700	7200	7600	8300	6700	7200	7700	8400
**Approximate Weight in Pounds per Foot	12.8	14.8	16.2	17.9	13.5	15.2	16.8	18.3
Span in Feet	26	515	554	585	638			
	27	496	533	563	615			
	28	479	514	543	593	479	514	550
	29	462	497	524	572	462	497	531
	30	447	480	507	553	447	480	513
	31	432	465	490	535	432	465	497
	32	419	450	475	519	419	450	481
	33	406	436	461	503	405	436	467
	34	394	424	447	488	394	424	453
	35	383	411	434	474	383	411	440
	36	372	400	422	461	372	400	428
	37	362	389	411	449	362	389	416
	38	353	379	400	437	353	379	405
	39	344	369	390	426	344	369	395
	40	327	360	380	415	335	360	385
	41	311	351	371	405	327	351	376
	42	296	343	362	395	319	343	367
	43	283	334	353	386	305	335	358
	44	270	319	345	377	291	327	350
	45	258	305	338	369	279	320	342
	46	247	291	328	361	267	313	335
	47	237	279	314	353	255	302	328
	48	227	268	301	346	245	289	321
	49	218	257	289	334	235	278	312
	50	209	247	277	321	226	267	300
	51	201	237	267	308	217	256	288
	52	193	228	256	297	209	247	277
	53					201	237	267
	54					193	229	257
	55					186	220	248
	56					180	213	239

STANDARD LOAD TABLE OPEN WEB STEEL JOISTS, H-SERIES

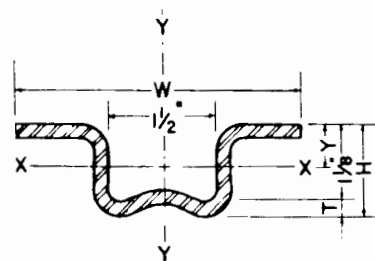
Allowable total safe loads in pounds per linear foot based on allowable stress of 30,000 psi

Joist Designation	30H8	30H9	30H10	30H11		
*Depth in Inches	30	30	30	30		
Resisting Moment in Inch Kips	909	1075	1207	1397		
Maximum End Reaction in Pounds	6800	7500	8100	8700		
**Approximate Weight in Pounds per Foot	14.2	15.4	17.3	18.8		
Span in Feet	30	453	500	540	580	
	31	439	484	523	561	
	32	425	469	506	544	
	33	412	455	491	527	
	34	400	441	476	512	
	35	389	429	463	497	
	36	378	417	450	483	
	359					
	37	368	405	438	470	
	330	387	436			
	38	358	395	426	458	
	305	357	402			
	39	349	385	415	446	
	282	331	372	426		
	40	340	375	405	435	
	262	306	345	395		
	41	332	366	395	424	
	243	285	320	367		
	42	324	357	386	414	
	226	265	298	341		
	43	316	349	377	405	
	211	247	278	318		
	44	309	341	368	395	
	196	230	259	297		
	45	299	333	360	387	
	184	215	242	278		
	46	286	326	352	378	
	172	202	227	260		
	47	274	319	345	370	
	161	189	213	244		
	48	263	311	338	363	
	151	177	200	229		
	49	252	298	331	355	
	142	167	188	215		
	50	242	287	322	348	
	134	157	177	202		
	51	233	276	309	341	
	126	148	166	191		
	52	224	265	298	335	
	119	139	157	180		
	53	216	255	286	328	
	112	132	148	170		
	54	208	246	276	319	
	106	125	140	161		
	55	200	237	266	308	
	101	118	133	152		
	56	193	229	257	297	
	95	112	126	144		
	57	187	221	248	287	
	90	106	119	137		
	58	180	213	239	277	
	86	101	113	130		
	59	174	206	231	268	
	81	95	108	123		
	60	168	199	224	259	
	77	91	102	117		

COLDFORMED JOISTS

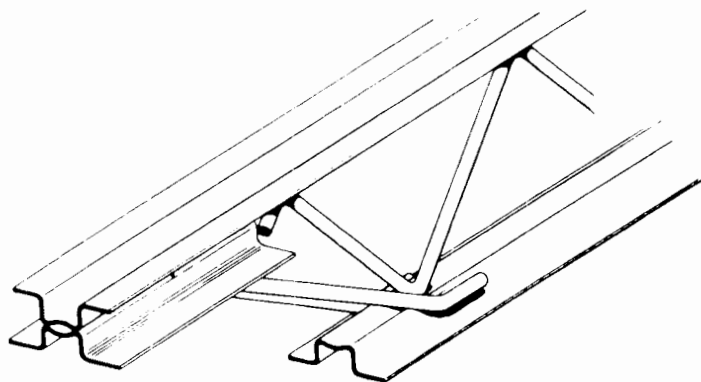
DIMENSIONS AND PROPERTIES OF CHORD MEMBERS

SECTION NO.	AREA SQ. IN.	T IN.	H IN.	W IN.	Y IN.	(H-Y) IN.	ABOUT X-X				ABOUT Y-Y	
							IN 4	IN	IN 3	IN 3	IN 4	IN
							I	R	S ₁	S ₂	I	R
0652	0.313	0.061	1.186	3.228	0.568	0.618	0.062	0.445	0.109	0.100	0.239	0.875
0654	0.341	0.065	1.190	3.356	0.558	0.632	0.068	0.448	0.123	0.108	0.278	0.902
0758	0.434	0.079	1.204	3.618	0.543	0.661	0.088	0.451	0.163	0.134	0.401	0.961
0859	0.451	0.081	1.206	3.682	0.538	0.668	0.092	0.452	0.171	0.138	0.429	0.976
08511	0.495	0.087	1.212	3.812	0.531	0.681	0.102	0.453	0.191	0.149	0.501	1.006
09514	0.552	0.094	1.219	4.005	0.520	0.699	0.114	0.454	0.219	0.163	0.611	1.052
1062	0.649	0.106	1.231	4.265	0.508	0.723	0.134	0.455	0.265	0.186	0.808	1.116
1063	0.674	0.109	1.234	4.330	0.505	0.729	0.140	0.455	0.277	0.191	0.864	1.132
1161	0.691	0.114	1.239	4.209	0.517	0.722	0.143	0.455	0.277	0.198	0.841	1.103
1263	0.755	0.122	1.247	4.340	0.513	0.734	0.157	0.456	0.305	0.213	0.975	1.136
1265	0.808	0.128	1.253	4.470	0.508	0.745	0.168	0.456	0.331	0.225	1.104	1.169
1366	0.842	0.132	1.257	4.536	0.506	0.751	0.175	0.456	0.346	0.233	1.183	1.186
1469	0.919	0.140	1.265	4.730	0.498	0.767	0.191	0.456	0.383	0.249	1.401	1.235
14610	0.961	0.145	1.270	4.797	0.497	0.773	0.199	0.456	0.401	0.258	1.507	1.252
14611	0.990	0.148	1.273	4.862	0.495	0.778	0.205	0.455	0.415	0.264	1.594	1.269
15614	1.073	0.156	1.281	5.056	0.488	0.793	0.222	0.455	0.455	0.280	1.868	1.320
1670	1.155	0.165	1.290	5.188	0.486	0.804	0.239	0.455	0.491	0.297	2.120	1.355
1772	1.218	0.171	1.296	5.318	0.483	0.813	0.251	0.454	0.521	0.309	2.351	1.389
1775	1.309	0.179	1.304	5.512	0.477	0.827	0.269	0.453	0.563	0.325	2.717	1.441
1876	1.342	0.182	1.307	5.578	0.476	0.831	0.275	0.453	0.579	0.331	2.854	1.458
20615	1.408	0.203	1.328	5.158	0.513	0.815	0.294	0.457	0.573	0.361	2.589	1.356
2073	1.459	0.203	1.328	5.408	0.498	0.830	0.302	0.455	0.606	0.364	2.934	1.418
2270	1.540	0.220	1.345	5.234	0.519	0.826	0.323	0.458	0.622	0.391	2.916	1.376
2176	1.608	0.218	1.343	5.606	0.496	0.847	0.333	0.455	0.671	0.393	3.474	1.470
21710	1.662	0.218	1.343	5.856	0.484	0.859	0.342	0.453	0.705	0.398	3.922	1.535
23710	1.754	0.230	1.355	5.865	0.491	0.864	0.362	0.454	0.737	0.419	4.160	1.540
2386	1.926	0.230	1.355	6.615	0.458	0.897	0.383	0.446	0.836	0.427	5.831	1.740
2586	2.094	0.250	1.375	6.632	0.469	0.906	0.409	0.442	0.872	0.452	6.410	1.749
2688	2.210	0.260	1.385	6.765	0.469	0.916	0.431	0.442	0.920	0.471	7.056	1.787

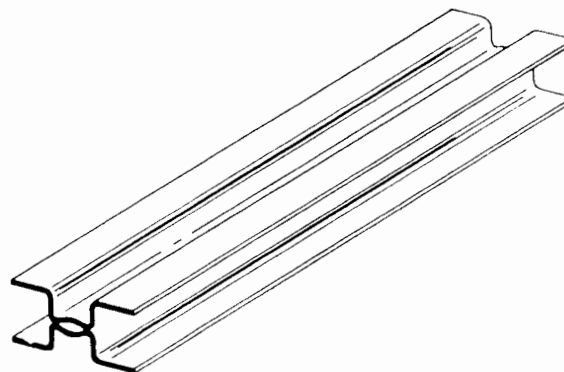


All dimensions are subject to mill and fabrication tolerances.

SPECIAL DETAILS



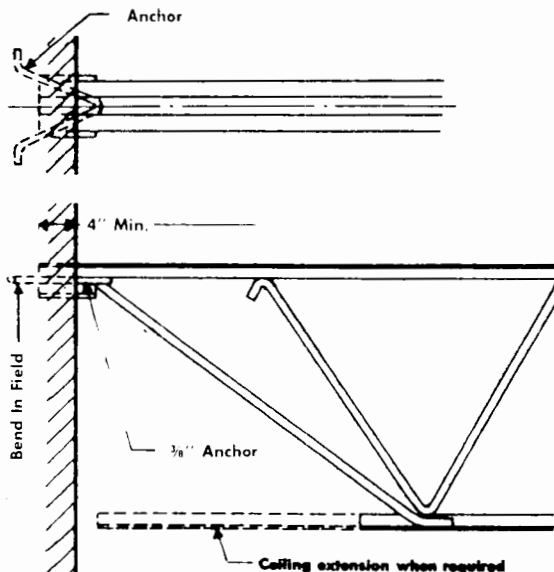
Top chord extensions are available on Berger Cold-Form Joists. Extensions are designed to carry the loads required for each specific application.



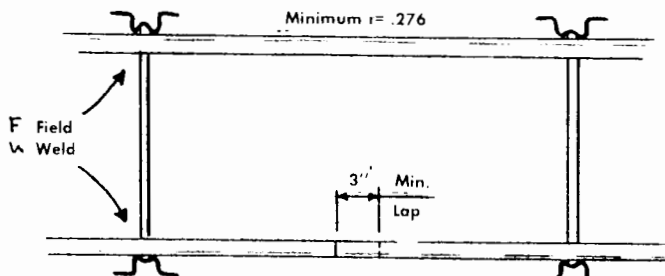
The above double chord sections are available for spans to 12'-0". In most cases these are more economical than joists. Engr. and prices are available on request.

INSTALLATION DETAILS and ACCESSORIES

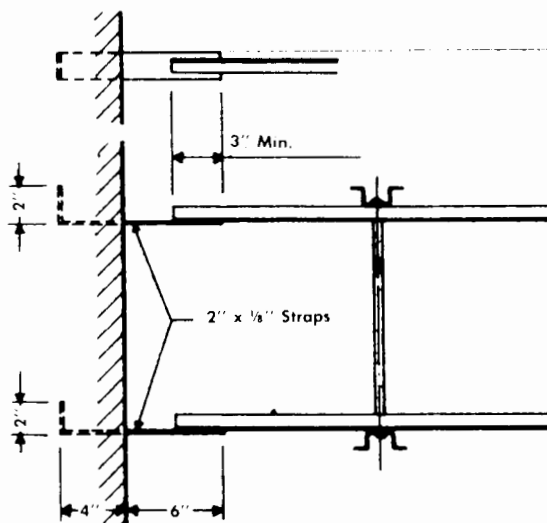
MASONRY BEARING



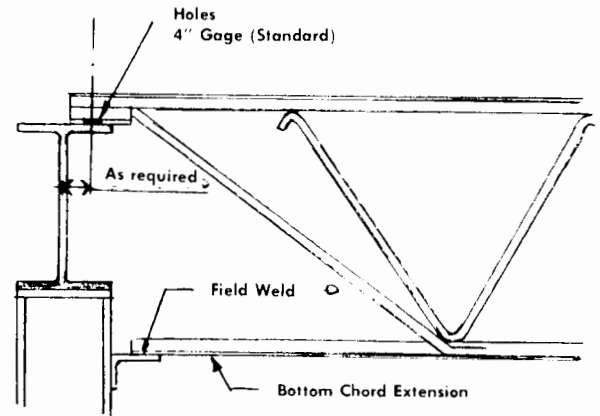
BERGER WB CHANNEL HORIZONTAL BRIDGING



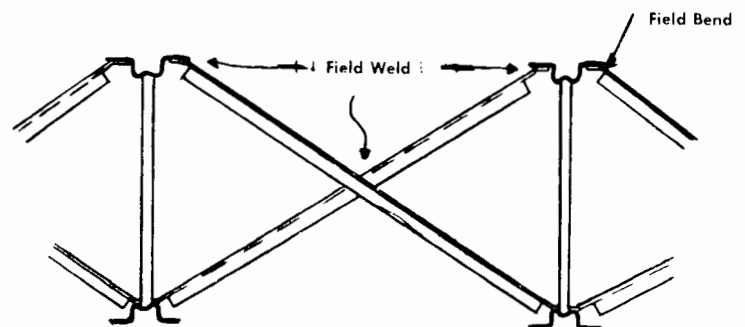
HORIZONTAL BRIDGING TO MASONRY WALL



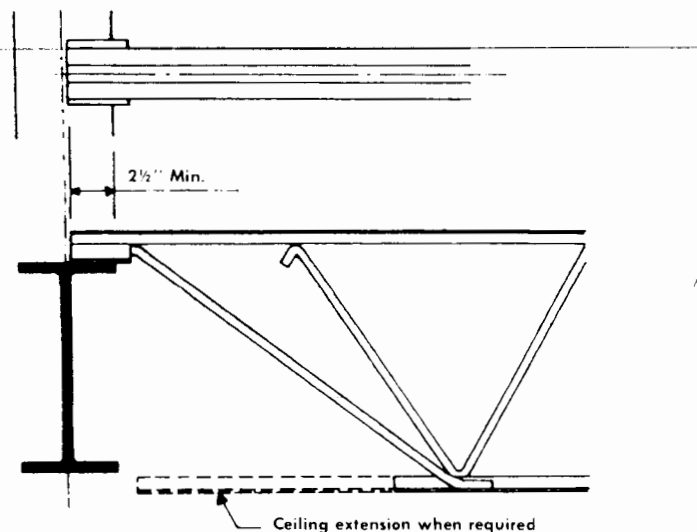
THE JOISTS AT COLUMNS



ANGLE CROSS BRIDGING



STEEL BEARING

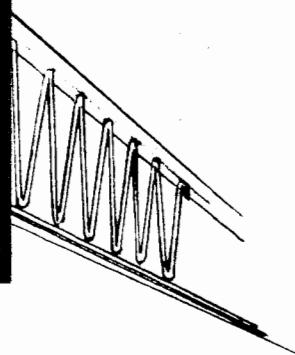


COLDFORMED JOISTS

TYPICAL BERGER JOIST INSTALLATIONS



JOISTS



BERGER

L CO., INC.

AYETTE, INDIANA