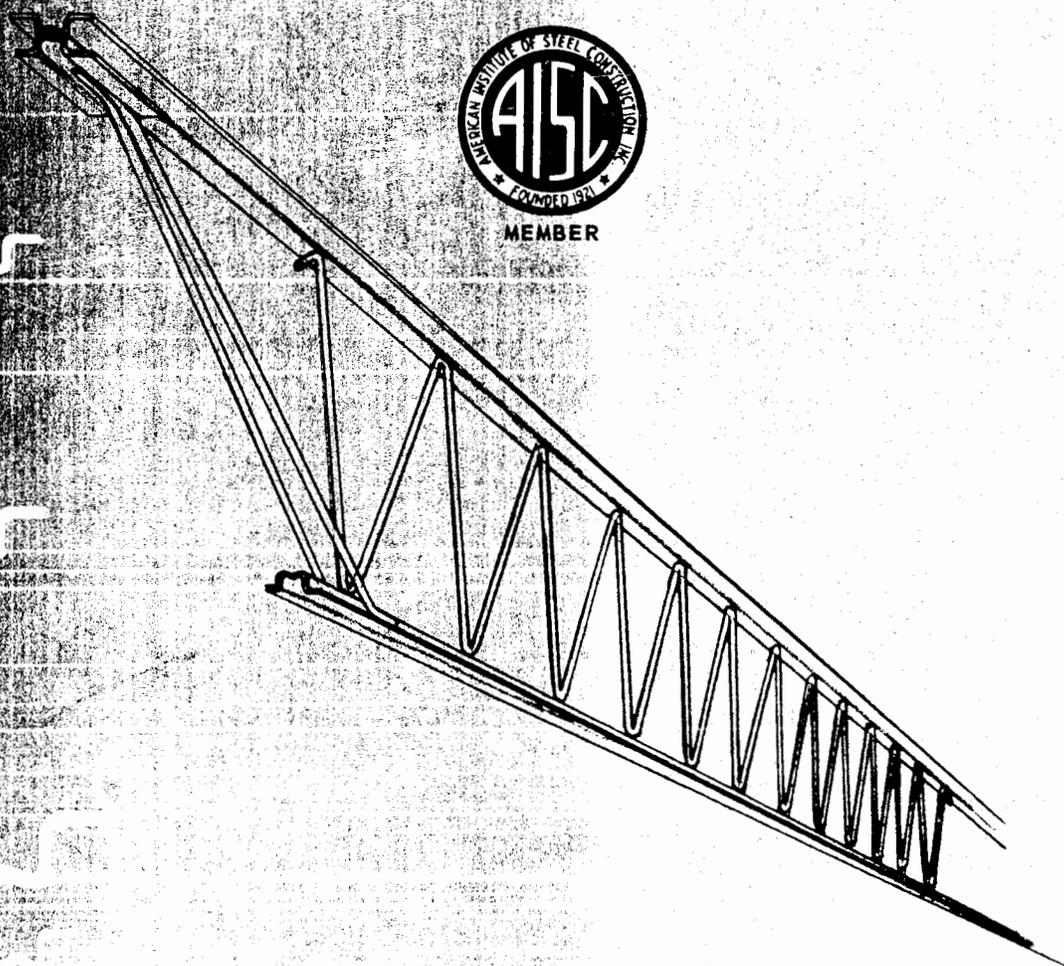


1974 1/2

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:

- (a) 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.
- (b) 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 :

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

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

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

does not exceed unity at mid-panel; in which

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

$C_m = 1 - 0.4f_a/F'_c$ 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

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

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

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

(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.

Chord Size*	Number of Rows of Bridging (Distances are Clear Span Dimensions)				
	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	500	
	17	282	329	365	400	435	353	388	424	471	506
	18	261	311	344	378	411	333	367	400	444	478
	19	235	294	326	358	389	316	347	379	421	453
	20	212	265	310	340	370	288	330	360	400	430
	21	192	240	287	324	352	262	314	343	381	410
	22	175	219	262	309	336	238	298	327	364	391
	23	160	200	239	290	322	218	272	313	348	374
	24	147	184	220	266	308	200	250	299	333	358
	25	135	170	203	245	294	185	230	275	320	344
	26	125	157	187	227	272	171	213	254	306	331
	27	116	145	174	210	252	158	198	236	283	319
	28	108	135	162	196	235	147	184	219	264	305
	29	68	89	104	125	147	110	135	159	192	220
	30						137	171	205	246	285
	31						99	121	143	172	198
	32						128	160	191	230	266
							89	110	129	156	179
							120	150	179	215	249
							81	99	117	141	162
							113	141	168	202	234
							74	90	107	128	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
	20	350	390	420	450	490	530
	21	333	371	400	429	467	505
	22	318	355	382	409	445	482
	23	304	339	365	391	426	461
	24	281	325	350	375	408	442
	25	274	312	336	360	392	424
	26	259	289	323	346	377	408
	27	243	268	311	333	363	393
	28	222	249	299	321	350	379
	29	193	204	244	280	305	344
	30	180	232	279	310	338	366
	31	155	184	220	252	274	309
	32	140	217	261	300	327	353
	33	169	203	244	282	316	342
	34	127	150	180	206	224	253
	35	158	191	229	264	301	331
	36	116	137	164	187	204	230
	37	149	179	215	249	283	316
	38	106	125	149	171	186	210
	39	140	169	203	234	266	298
	40	96	114	136	156	170	192
	41	132	159	192	221	251	281
42	88	104	125	143	156	176	
43	125	151	181	209	238	266	
44	81	96	115	132	143	162	
45							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	600
	21	362	390	410	438	476	571
	22	345	373	391	418	455	545
	23	330	357	374	400	435	522
	24	307	342	358	383	417	500
	25	283	328	344	368	400	480
	26	261	312	331	354	385	462
	27	242	289	319	341	370	444
	28	225	269	307	329	357	429
	29	210	250	297	317	345	414
	30	196	234	283	307	333	400
	31	184	219	265	297	323	387
	32	173	206	249	288	313	375
	33	162	193	234	279	303	364
	34	153	182	220	262	294	353
	35	144	172	208	248	281	343
	36	136	163	197	234	266	333
	37	129	154	186	222	252	324
	38	122	146	176	210	239	309
	39	116	139	167	199	227	293
40	110	132	159	190	215	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
		281					
	29	266	310	331	366	393	428
		253	307				
	30	248	300	320	353	380	413
		228	277				
	31	232	290	310	342	368	400
		207	251				
	32	218	273	300	331	356	388
		188	228	282	314	352	
	33	205	257	291	321	345	376
		172	208	257	286	321	366
	34	193	242	282	312	335	365
		157	190	235	261	294	335
	35	182	229	268	303	326	354
		144	175	216	240	269	307
	36	172	216	254	294	317	344
		132	160	198	220	247	282
	37	163	205	240	279	308	335
		122	148	183	203	228	260
	38	155	194	228	264	295	326
		112	136	169	187	210	240
	39	147	184	216	251	281	318
		104	126	156	173	195	222
	40	140	175	205	238	267	309
		96	117	145	161	180	205
	41	133	167	196	227	254	294
		89	109	134	149	167	191
	42	127	159	186	216	242	280
		83	101	125	139	156	177
	43	121	151	178	206	231	267
		78	94	116	129	145	165
	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	153	173	193	142	168	188
	55	127	146	166	180	137	162	182
	56	122	140	158	180	132	157	175
		117	133	148	169	127	151	169
		112	128	143	164	122	146	164
		107	123	138	159	117	141	159
		102	118	133	154	112	136	153
		97	113	128	149	107	131	148
		92	108	123	144	102	126	143
		87	103	118	139	97	121	138
		82	98	113	134	92	116	133
		77	93	108	129	87	111	128
		72	88	103	124	82	106	123
		67	83	98	119	77	101	118
		62	78	93	114	72	96	113
		57	73	88	109	67	91	108
		52	68	83	104	62	86	103
		47	63	78	99	57	81	98
		42	58	73	94	52	76	93
		37	53	68	89	47	71	88
		32	48	63	84	42	66	83
		27	43	58	79	37	61	78
		22	38	53	74	32	56	73
		17	33	48	69	27	51	68
		12	28	43	64	22	46	63
		7	23	38	59	17	41	58
		2	18	33	54	12	36	53

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	
		305				
	39	292	328	349	379	
		282				
	40	278	320	340	370	
		262	306			
	41	265	312	332	361	
		243	285	320		
	42	252	300	324	352	
		226	265	298	341	
	43	240	286	316	344	
		211	247	278	318	
	44	230	273	305	336	
		196	230	259	297	
	45	220	261	291	329	
		184	215	242	278	
	46	210	250	279	322	
		172	202	227	260	
	47	201	239	267	311	
		161	189	213	244	
	48	193	229	256	298	
		151	177	200	229	
	49	185	220	246	286	
	142	167	188	215		
50	178	211	236	274		
	134	157	177	202		
51	171	203	227	264		
	126	148	166	191		
52	164	196	218	254		
	119	139	157	180		
53	158	188	210	244		
	112	132	148	170		
54	152	181	202	235		
	106	125	140	161		
55	147	175	195	227		
	101	118	133	152		
56	142	169	188	219		
	95	112	126	144		
57	137	163	182	211		
	90	106	119	137		
58	132	157	175	204		
	86	101	113	130		
59	128	152	169	197		
	81	95	108	123		
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	467	533	600	650
		266						
	13	358	385	431	431	492	554	600
		209	337	417				
	14	310	357	400	400	457	514	557
		167	270	334	393			
	15	270	333	373	373	427	480	520
		136	219	271	320	418		
	16	232	302	350	350	400	450	488
		112	181	223	264	345	404	480
	17		258	328	323	376	424	459
			151	186	220	287	337	400
	18		239	305	288	356	400	433
			127	157	185	242	284	337
	19		214	273	259	332	379	411
			108	133	157	206	241	286
	20		193	247	233	300	350	390
			92	114	135	177	207	246
21				212	272	336	371	
				117	152	179	212	
22				193	248	306	355	
				101	133	155	185	
23				176	227	280	328	
				89	116	136	162	
24				162	208	257	301	
				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	
	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	420	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	287	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	130	168	208	250	295	175	229	273	327	359
	30	120	156	196	239	285	164	214	255	306	347
	31	110	144	184	227	275	153	200	239	287	332
	32	100	132	172	215	265	144	188	224	269	311
							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	18H5	18H6	18H7	18H8	18H9	18H10	18H11	
*Depth in Inches	18	18	18	18	18	18	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	
	22	409	436	473	491	536	600	
	23	391	417	452	470	513	574	
	24	375	400	433	450	492	550	633
	25	347	384	416	432	472	528	608
	26	321	369	400	415	454	508	585
	27	297	350	385	400	437	489	563
	28	276	326	371	386	421	471	543
	29	258	304	359	372	407	455	524
	30	241	284	345	360	393	440	507
	31	225	266	323	348	381	426	490
	32	212	249	303	338	369	413	475
	33	199	234	285	327	358	400	461
	34	187	221	269	311	347	388	447
	35	177	208	254	294	337	377	434
	36	167	197	240	278	323	363	419
		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	
	24	380	434					
		400	425	450	467	533	583	
	25	335	382					
		384	408	432	448	512	560	632
	25	296	338	411				
		360	392	415	431	492	538	608
	27	263	300	365		476		
		334	371	400	415	474	519	585
	28	235	268	326	392	425	480	545
		310	345	386	400	457	500	564
	29	211	240	292	352	381	431	488
		289	322	372	386	441	483	545
	30	190	216	263	317	343	388	440
		270	301	360	373	427	467	527
	31	171	195	238	286	310	350	397
		253	282	346	361	413	452	510
	32	155	177	215	259	281	317	360
		238	264	325	350	400	438	494
	33	141	161	196	236	255	288	327
		223	249	305	339	388	424	479
	34	129	147	178	215	233	263	298
		210	234	288	329	376	412	465
	35	118	134	163	196	213	240	273
		199	221	272	320	366	400	451
	36	108	123	150	180	195	220	250
		188	209	257	310	356	389	439
	37	99	113	137	166	179	203	230
		178	198	243	293	341	378	427
	38	91	104	127	152	165	187	212
		169	187	230	278	324	364	416
	39	84	96	117	141	153	172	195
		160	178	219	264	307	346	400
	40	78	89	108	130	141	159	181
		152	169	208	251	292	328	380
		72	82	100	121	131	148	168

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	648
		395					
	26	415	431	446	515	554	623
		351					
	27	386	415	430	496	533	600
		313					
	28	359	400	414	479	514	579
		281					
	29	335	386	400	462	497	559
		253					
	30	313	373	387	447	480	540
		228					
	31	293	361	374	432	465	523
		207					
	32	275	342	363	419	450	506
		188					
	33	258	322	352	406	436	491
		172					
	34	243	303	341	394	424	476
		157					
	35	230	286	331	383	411	463
144							
36	217	271	322	372	400	450	
	132						
37	206	256	314	362	389	438	
	122						
38	195	243	301	353	379	426	
	112						
39	185	231	286	340	369	415	
	104						
40	176	219	272	323	360	405	
	96						
41	167	209	259	308	346	395	
	89						
42	159	199	247	293	330	381	
	83						
43	152	190	235	280	315	364	
	78						
44	145	181	225	267	301	347	
	72						

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	586
		336	406				
	29	366	400	414	483	517	566
		303	365				
	30	342	387	400	467	500	547
		273	330		457		
	31	320	374	387	452	484	529
		248	299	373	414	465	
	32	301	363	375	438	469	513
		225	272	339	376	423	482
	33	283	352	364	424	455	497
		205	248	309	343	386	440
	34	266	332	353	412	441	482
		188	227	283	314	353	402
	35	251	313	343	400	429	469
		172	208	259	288	323	369
	36	238	296	333	389	417	456
		158	191	238	264	297	339
	37	225	280	324	378	405	443
		146	176	219	243	274	312
	38	213	266	316	368	395	432
		135	162	202	225	253	288
	39	202	252	308	359	385	421
		124	150	187	208	234	266
	40	193	240	298	350	375	410
		115	139	174	193	217	247
	41	183	228	284	337	366	400
		107	129	161	179	201	229
	42	175	218	271	322	357	390
		100	120	150	166	187	213
	43	167	208	258	307	345	381
		93	112	140	155	174	199
	44	159	198	247	293	330	373
		87	105	130	145	163	186
	45	152	190	236	280	315	354
		81	98	122	135	152	173
	45	146	181	226	268	302	348
		76	92	114	127	142	162
	47	139	174	216	257	289	334
		71	86	107	119	133	152
	48	134	167	207	246	277	320
		67	81	100	111	125	143

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	186	220	248	287	201	237	267	
54	180	213	239	276	193	229	257	
55	174	207	233	267	186	220	248	
56	168	201	227	258	180	213	239	

STANDARD LOAD TABLE OPEN WEB STEEL JOISTS, H-SERIES

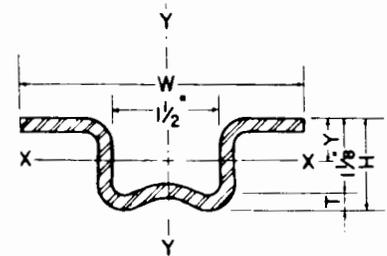
Allowable total safe loads in pounds per linear foot based on allowable stress of 30,000 psi

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		
	37	368	405	438	470		
	38	358	395	426	458		
	39	349	385	415	446		
	40	340	375	405	435		
	41	332	366	395	424		
	42	324	357	386	414		
	43	316	349	377	405		
	44	309	341	368	395		
	45	299	333	360	387		
	46	286	326	352	378		
	47	274	319	345	370		
	48	263	311	338	363		
	49	252	298	331	355		
	50	242	287	322	348		
	51	233	276	309	341		
	52	224	265	298	335		
	53	216	255	286	328		
	54	208	246	276	319		
	55	200	237	266	308		
	56	193	229	257	297		
	57	187	221	248	287		
	58	180	213	239	277		
	59	174	206	231	268		
	60	168	199	224	259		
		77	91	102	117		

COLDFORMED JOISTS

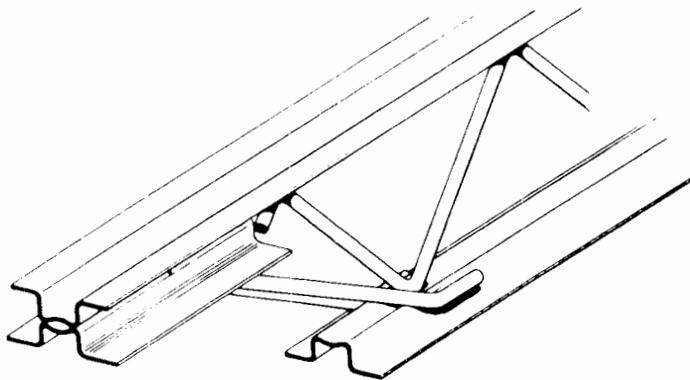
DIMENSIONS AND PROPERTIES OF CHORD MEMBERS

SECTION NO.	AREA SQ. IN.	T IN.	H IN.	W IN.	Y IN.	(H-Y) IN.	ABOUT X-X				ABOUT Y-Y	
							IN 4 I	IN R	IN 3 S ₁	IN 3 S ₂	IN 4 I	IN R
							0652	0.313	0.061	1.186	3.228	0.568
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

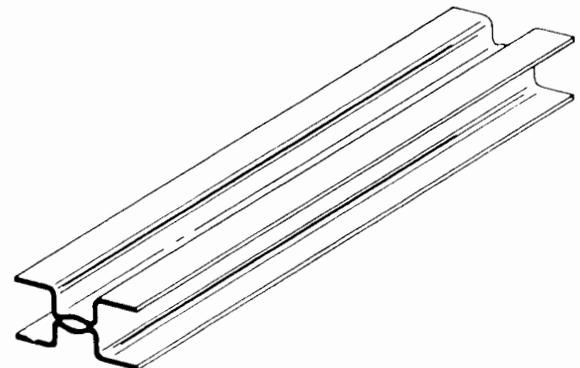


All dimensions are subject to mill and fabrication tolerances.

SPECIAL DETAILS



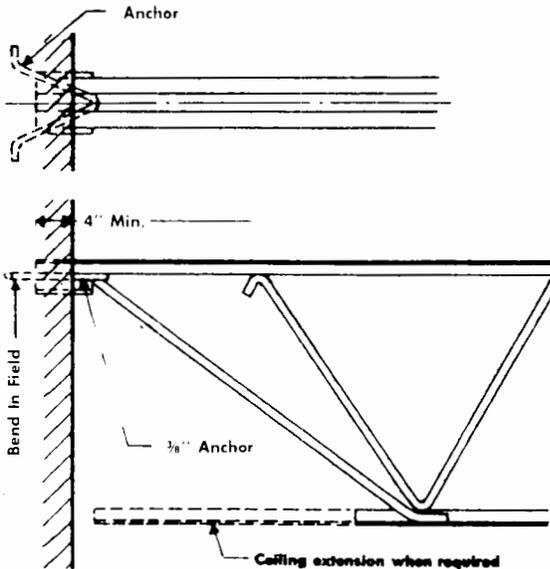
Top chord extensions are available on Berger Cold-Form Joists. Extensions are designed to carry the loads required for each specific application.



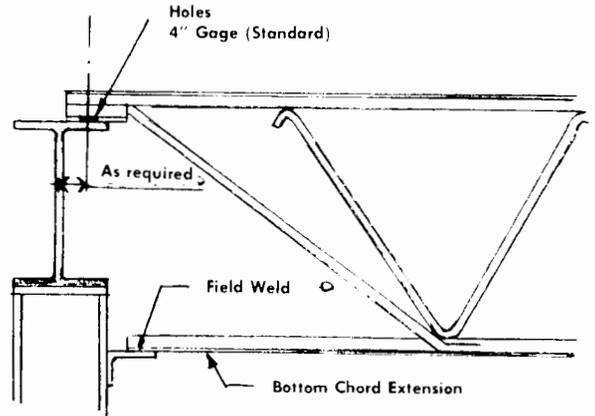
The above double chord sections are available for spans to 12'-0". In most cases these are more economical than joists. Engr. and prices are available on request.

INSTALLATION DETAILS and ACCESSORIES

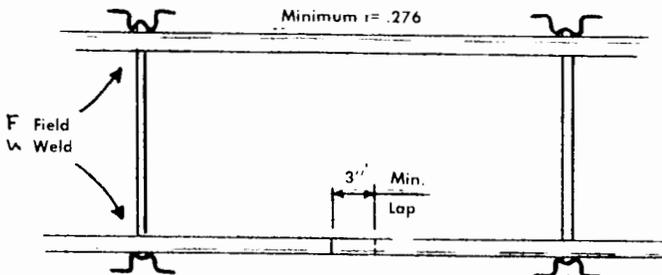
MASONRY BEARING



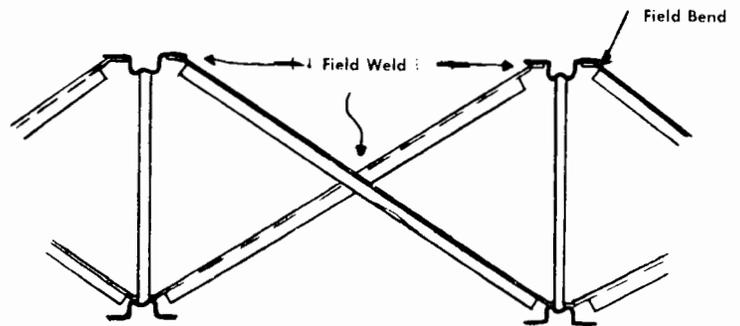
THE JOISTS AT COLUMNS



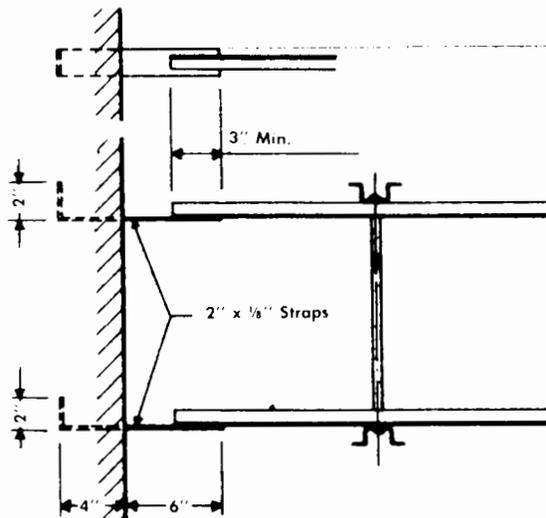
BERGER WB CHANNEL HORIZONTAL BRIDGING



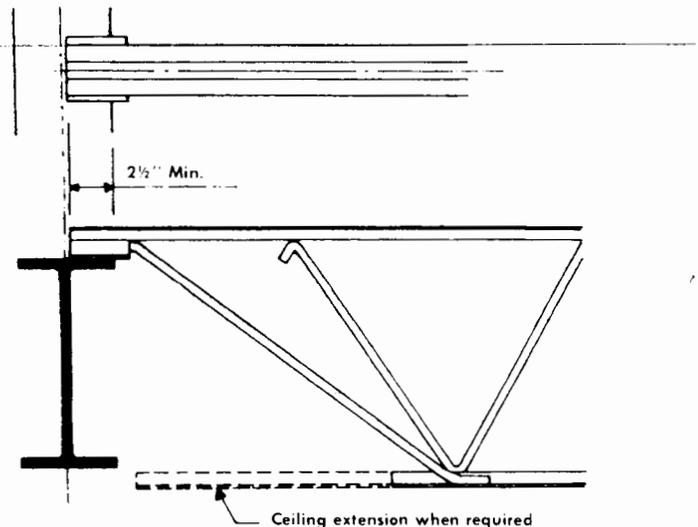
ANGLE CROSS BRIDGING



HORIZONTAL BRIDGING TO MASONRY WALL



STEEL BEARING

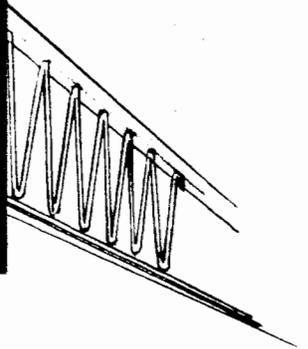


COLDFORMED JOISTS

TYPICAL BERGER JOIST INSTALLATIONS



JOISTS



BERGER

L CO., INC.

AYETTE, INDIANA