FLOOR JOISTS WITH BIG STIFFENED WEB HOLES

A Division of Hephaistos Building Supplies

PRODUCT SPECIFICATION
AND
TECHNICAL DATA

2023

SALES:

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Astoria, NY 11101
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INTRODUCTION

Cold-formed steel (CFS) industry is experiencing a growing need of floor joists with large openings to allow provision for running large plumbing pipes, small air-handling ducts and, of course, the electrical cables through them. In response, HERMES/HEPHAISTOS™ initiated manufacturing metal joists by punching out holes in the web and stiffening them along the edge with a protruded lip. This catalog provides product specification and technical data necessary for selection and design of the HERMES/HEPHAISTOS™ floor joists with big openings. Similar information for other HERMES/HEPHAISTOS™ products including studs, tracks and regular floor joists (without big openings) is available in an existing companion catalog.

CODE APPROVAL

Products manufactured by HERMES/HEPHAISTOS™ comply with New York City Building Code 2014 and meet the minimum requirements of ASTM Standards. In particular, the strength of steel conforms to ASTM A653.

MATERIAL SPECIFICATIONS

Joists with large openings manufactured by HERMES/HEPHAISTOS™ are formed from steel with a minimum yield stress of 50 ksi. All products covered in this catalog are engineered to meet the 2016 Edition of the American Iron and Steel Institute, Standard AISI S100, “North American Specification for the Design of Cold-Formed Steel Structural Members.” The gross structural properties included in this brochure have been computed based on allowable stress design to conform with the same AISI document. The effective structural properties for the joists with large openings are calculated from those for solid joists by applying a reduction factor obtained from test results.

TECHNICAL SUPPORT AND CUSTOMER SERVICE

HERMES/HEPHAISTOS™ Technical Support and Customer Service offers a full complement of services that fit to the specific needs of the client. Our Registered Professional Engineers provide engineering and architectural support from the planning stages through the final stage of the project for general and specific building conditions. Our dedicated Sales Staff and Boom Operators deliver the materials at the job site with our own trucks and up to a height of eight stories with our boom trucks.

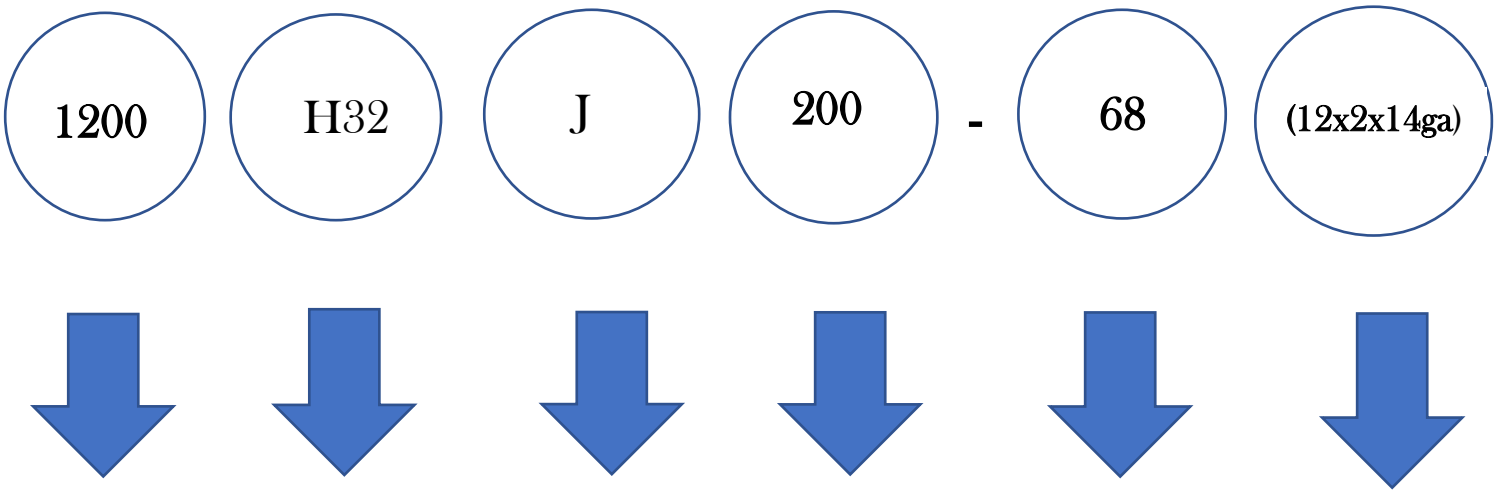
To obtain professional technical assistance and customer service, call HERMES.HEPHAISTOS™ at (718)482-0800.

PRODUCT SPECIFICATION

PRODUCT IDENTIFICATION

HERMES/HEPHAISTOS™ floor joists with big openings have a five-part code which identifies the size (both depth and flange width), spacing of openings, and material thickness of each member.

Example: 1200H32J 200-68 (12x2x14ga)



Web Height in hundredths of an inch

Hole spacing in inches

Joist

Flange width in hundredths of an inch

Base metal thickness in mils (thousandths of an inch)

Joist height and width in inches for quick reference

SHEET METAL FOLDING GEOMETRY

Gauge	Minimum Thickness (mils)	Design Thickness (in)	Inside Corner Radii (in)
16	54	0.0566	0.0849
14	68	0.0713	0.1069
12	97	0.1017	0.1525

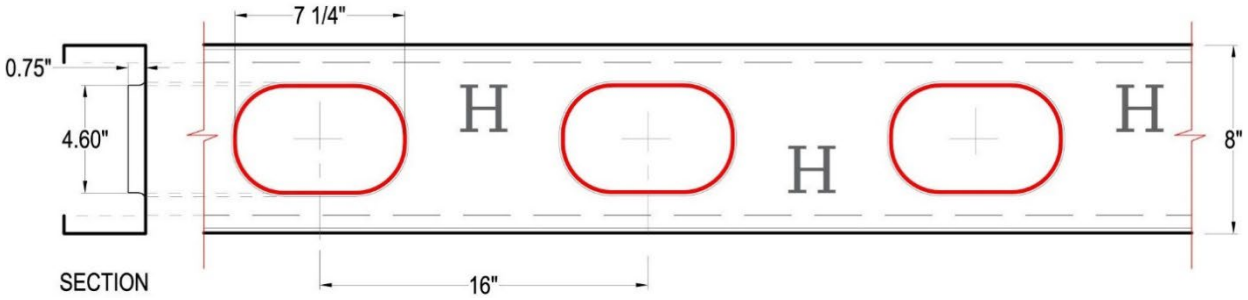
Flange Width (in)	Stiffening Flange Lip Length (in)
2, 2½, 3	0.625

ADVANTAGE

Steel framing covered with materials like metal deck with concrete floor slab can provide fire resistance.

Product Specification

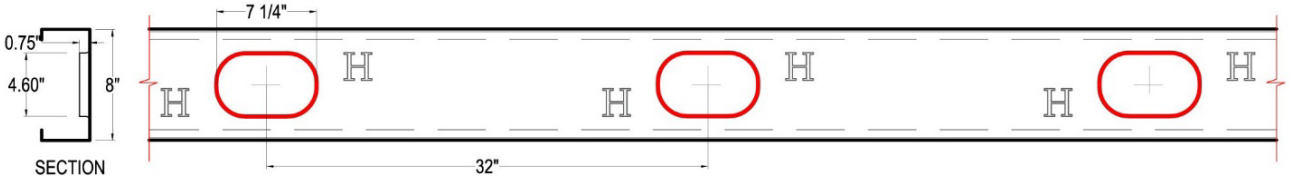
8″ Floor Joists with openings @ 16″ o.c.



ID	Web Height (inch)	Flange Width (inch)	Metal Thickness (gauge/mil)
800H16J 200-54 (8x2x16ga)	8	2	16/54
800H16J 200-68 (8x2x14ga)	8	2	14/68
800H16J 200-97 (8x2x12ga)	8	2	12/97
800H16J 250-54 (8x2½x16ga)	8	2½	16/54
800H16J 250-68 (8x2½x14ga)	8	2½	14/68
800H16J 250-97 (8x2½x12ga)	8	2½	12/97

Product Specification

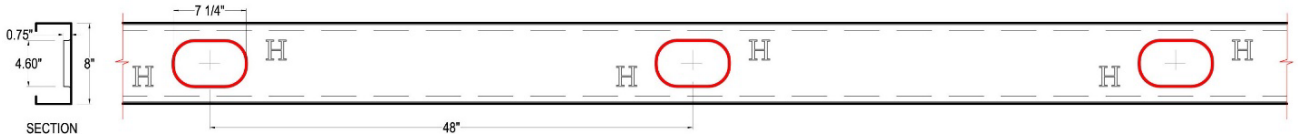
8″ Floor Joists with openings @ 32″ o.c.



ID	Web Height (inch)	Flange Width (inch)	Metal Thickness (gauge/mil)
800H32J 200-54 (8x2x16ga)	8	2	16/54
800H32J 200-68 (8x2x14ga)	8	2	14/68
800H32J 200-97 (8x2x12ga)	8	2	12/97
800H32J 250-54 (8x2½x16ga)	8	2½	16/54
800H32J 250-68 (8x2½x14ga)	8	2½	14/68
800H32J 250-97 (8x2½x12ga)	8	2½	12/97

Product Specification

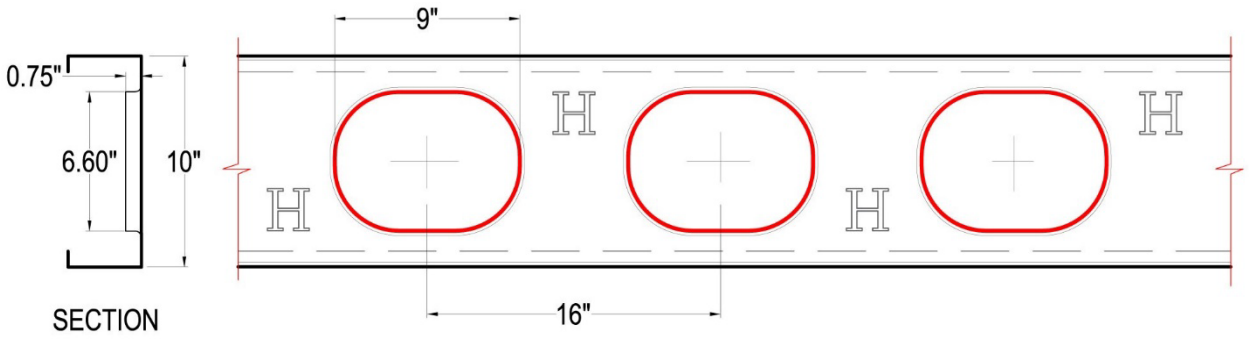
8″ Floor Joists with openings @ 48″ o.c.



ID	Web Height (inch)	Flange Width (inch)	Metal Thickness (gauge/mil)
800H48J 200-54 (8x2x16ga)	8	2	16/54
800H48J 200-68 (8x2x14ga)	8	2	14/68
800H48J 200-97 (8x2x12ga)	8	2	12/97
800H48J 250-54 (8x2½x16ga)	8	2½	16/54
800H48J 250-68 (8x2½x14ga)	8	2½	14/68
800H48J 250-97 (8x2½x12ga)	8	2½	12/97

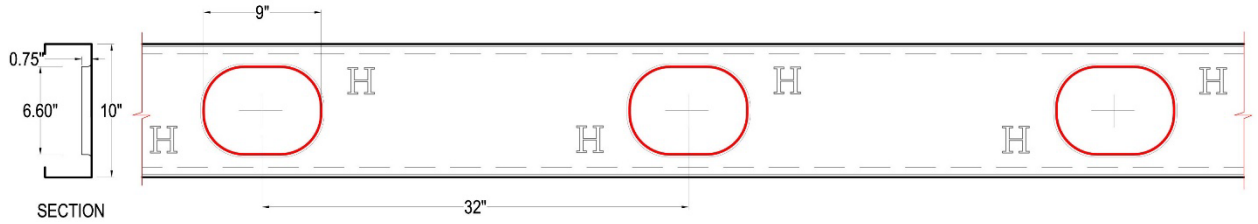
Product Specification

10″ Floor Joists with openings @ 16″ o.c.



ID	Web Height (inch)	Flange Width (inch)	Metal Thickness (gauge/mil)
1000H16J 200-54(10x2x16ga)	10	2	16/54
1000H16J 200-68(10x2x14ga)	10	2	14/68
1000H16J 200-97 (10x2x12ga)	10	2	12/97
1000H16J 250-54 (10x2½x16ga)	10	2½	16/54
1000H16J 250-68 (10x2½x14ga)	10	2½	14/68
1000H16J 250-97 (10x2½x12ga)	10	2½	12/97
1000H 16J 300-54 (10X3x16ga)	10	3	16/54
1000H 16J 300-68 (10x3x14ga)	10	3	14/68
1000H 16J 300-97 (10x3x12ga)	10	3	12/97

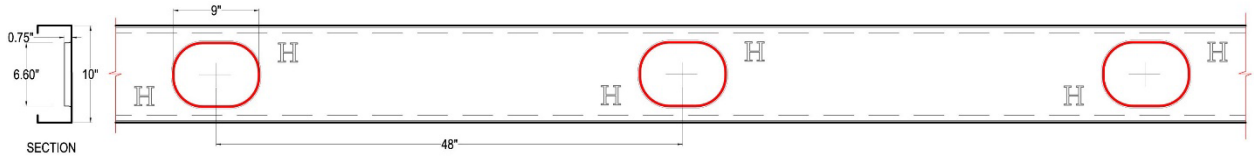
10″ Floor Joists with openings @ 32″ o.c.



ID	Web Height (inch)	Flange Width (inch)	Metal Thickness (gauge/mil)
1000H32J 200-54(10x2x16ga)	10	2	16/54
1000H32J 200-68(10x2x14ga)	10	2	14/68
1000H32J 200-97 (10x2x12ga)	10	2	12/97
1000H32J 250-54 (10x2½x16ga)	10	2½	16/54
1000H32J 250-68 (10x2½x14ga)	10	2½	14/68
1000H32J 250-97 (10x2½x12ga)	10	2½	12/97
1000H32J 300-54 (10x3x16ga)	10	3	16/54
1000H32J 300-68 (10x3x14ga)	10	3	14/68
1000H32J 300-97(10x3x12ga)	10	3	12/97

Product Specification

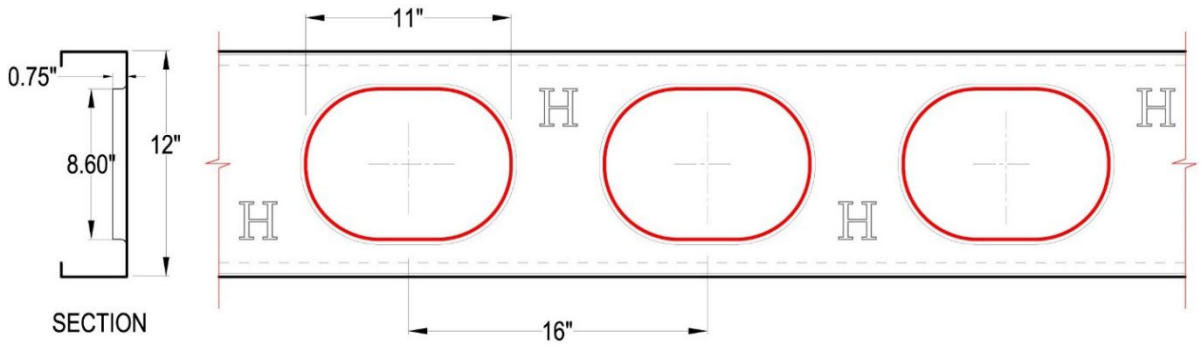
10″ Floor Joists with openings @ 48″ o.c.



ID	Web Height (inch)	Flange Width (inch)	Metal Thickness (gauge/mil)
1000H48J 200-54(10x2x16ga)	10	2	16/54
1000H48J 200-68(10x2x14ga)	10	2	14/68
1000H48J 200-97 (10x2x12ga)	10	2	12/97
1000H48J 250-54 (10x2½x16ga)	10	2½	16/54
1000H48J 250-68 (10x2½x14ga)	10	2½	14/68
1000H48J 250-97 (10x2½x12ga)	10	2½	12/97
1000H48J 300-54 (10x3x16ga)	10	3	16/54
1000H48J 300-68 (10x3x14ga)	10	3	14/68
1000H48J 300-97 (10x3x12ga)	10	3	12/97

Product Specification

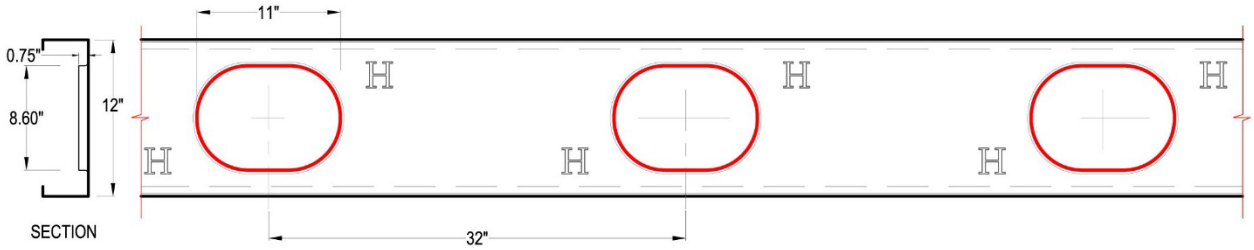
12″ Floor Joists with openings @ 16″ o.c.



ID	Web Height (inch)	Flange Width (inch)	Metal Thickness (gauge/mil)
1200H16J 200-54(12x2x16ga)	12	2	16/54
1200H16J 200-68(12x2x14ga)	12	2	14/68
1200H16J 200-97 (12x2x12ga)	12	2	12/97
1200H16J 250-54 (12x2½x16ga)	12	2½	16/54
1200H16J 250-68 (12x2½x14ga)	12	2½	14/68
1200H16J 250-97 (12x2½x12ga)	12	2½	12/97
1200H16J 300-54 (12x3x16ga)	12	3	16/54
1200H16J 300-68 (12x3x14ga)	12	3	14/68
1200H16J 300-97 (12x3x12ga)	12	3	12/97

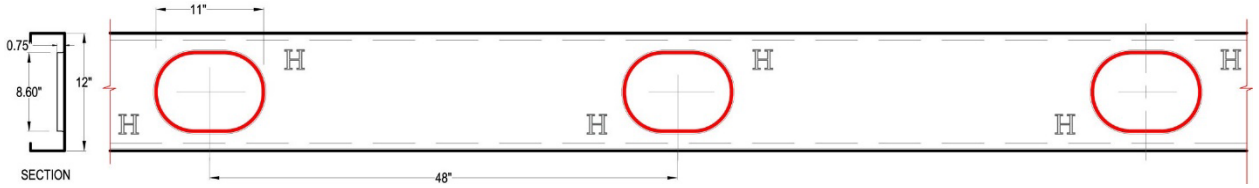
Product Specification

12″ Floor Joists with openings @ 32″ o.c.



ID	Web Height (inch)	Flange Width (inch)	Metal Thickness (gauge/mil)
1200H32J 200-54(12x2x16ga)	12	2	16/54
1200H32J 200-68(12x2x14ga)	12	2	14/68
1200H32J 200-97 (12x2x12ga)	12	2	12/97
1200H32J 250-54 (12x2½x16ga)	12	2½	16/54
1200H32J 250-68 (12x2½x14ga)	12	2½	14/68
1200H32J 250-97 (12x2½x12ga)	12	2½	12/97
1200H32J 300-54 (12x3x16ga)	12	3	16/54
1200H32J 300-68 (12x3x14ga)	12	3	14/68
1200H32J 300-97 (12x3x12ga)	12	3	12/97

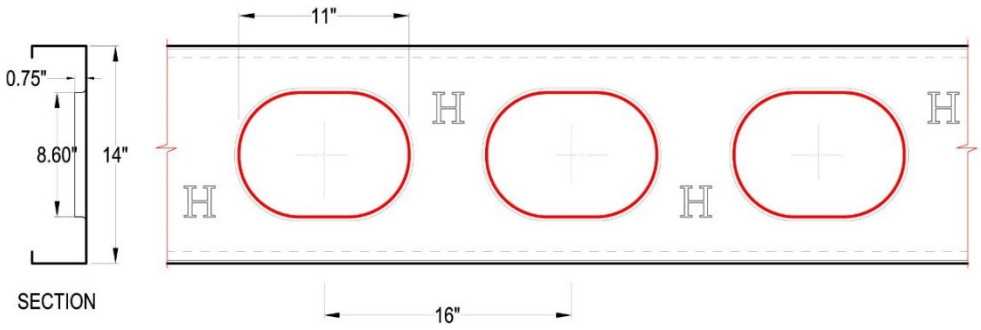
12″ Floor Joists with openings @ 48″ o.c.



ID	Web Height (inch)	Flange Width (inch)	Metal Thickness (gauge/mil)
1200H48J 200-54(12x2x16ga)	12	2	16/54
1200H48J 200-68(12x2x14ga)	12	2	14/68
1200H48J 200-97 (12x2x12ga)	12	2	12/97
1200H48J 250-54 (12x2½x16ga)	12	2½	16/54
1200H48J 250-68 (12x2½x14ga)	12	2½	14/68
1200H48J 250-97 (12x2½x12ga)	12	2½	12/97
1200H48J 300-54 (12x3x16ga)	12	3	16/54
1200H48J 300-68 (12x3x14ga)	12	3	14/68
1200H48J 300-97 (12x3x12ga)	12	3	12/97

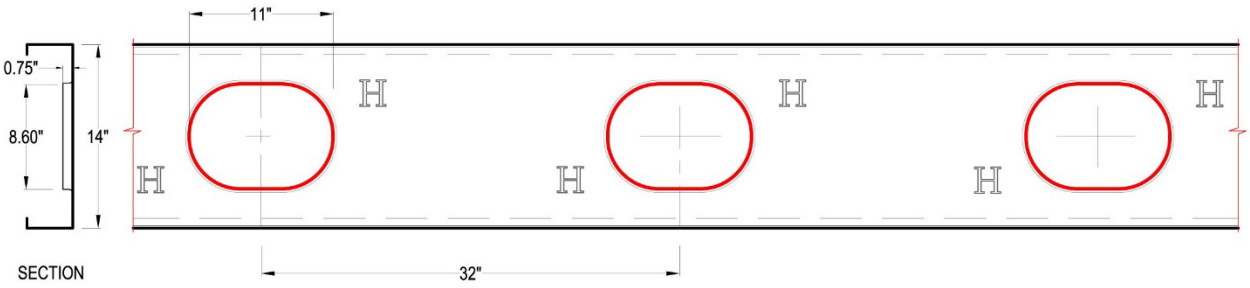
Product Specification

14″ Floor Joists with openings @ 16″ o.c.



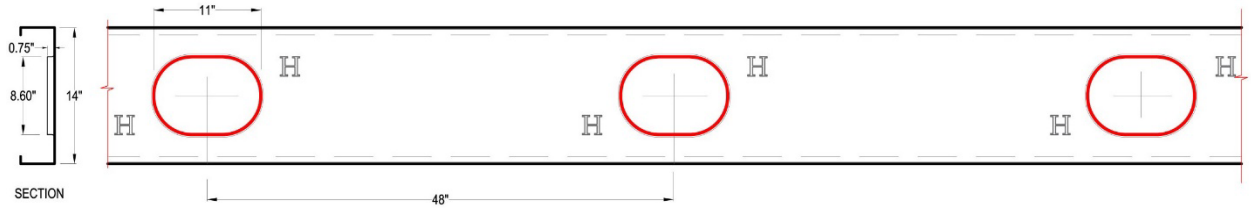
ID	Web Height (inch)	Flange Width (inch)	Metal Thickness (gauge/mil)
1400H16J 200-54(14x2x16ga)	14	2	16/54
1400H16J 200-68(14x2x14ga)	14	2	14/68
1400H16J 200-97 (14x2x12ga)	14	2	12/97
1400H16J 250-54 (14x2½x16ga)	14	2½	16/54
1400H16J 250-68 (14x2½x14ga)	14	2½	14/68
1400H16J 250-97 (14x2½x12ga)	14	2½	12/97
1400H16J 300-54 (14x3x16ga)	14	3	16/54
1400H16J 300-68 (14x3x14ga)	14	3	14/68
1400H16J 300-97 (14x3x12ga)	14	3	12/97

14″ Floor Joists with openings @ 32″ o.c.



ID	Web Height (inch)	Flange Width (inch)	Metal Thickness (gauge/mil)
1400H32J 200-54(14x2x16ga)	14	2	16/54
1400H32J 200-68(14x2x14ga)	14	2	14/68
1400H32J 200-97 (14x2x12ga)	14	2	12/97
1400H32J 250-54 (14x2½x16ga)	14	2½	16/54
1400H32J 250-68 (14x2½x14ga)	14	2½	14/68
1400H32J 250-97 (14x2½x12ga)	14	2½	12/97
1400H32J 300-54 (14x3x16ga)	14	3	16/54
1400H32J 300-68 (14x3x14ga)	14	3	14/68
1400H32J 300-97 (14x3x12ga)	14	3	12/97

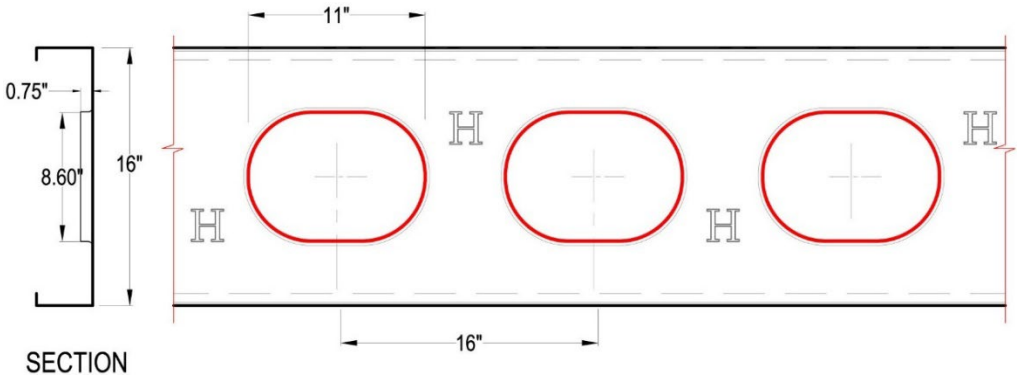
14″ Floor Joists with openings @ 48″ o.c.



ID	Web Height (inch)	Flange Width (inch)	Metal Thickness (gauge/mil)
1400H48J 200-54(14x2x16ga)	14	2	16/54
1400H48J 200-68(14x2x14ga)	14	2	14/68
1400H48J 200-97 (14x2x12ga)	14	2	12/97
1400H48J 250-54 (14x2½x16ga)	14	2½	16/54
1400H48J 250-68 (14x2½x14ga)	14	2½	14/68
1400H48J 250-97 (14x2½x12ga)	14	2½	12/97
1400H48J 300-54 (14x3x16ga)	14	3	16/54
1400H48J 300-68 (14x3x14ga)	14	3	14/68
1400H48J 300-97 (14x3x12ga)	14	3	12/97

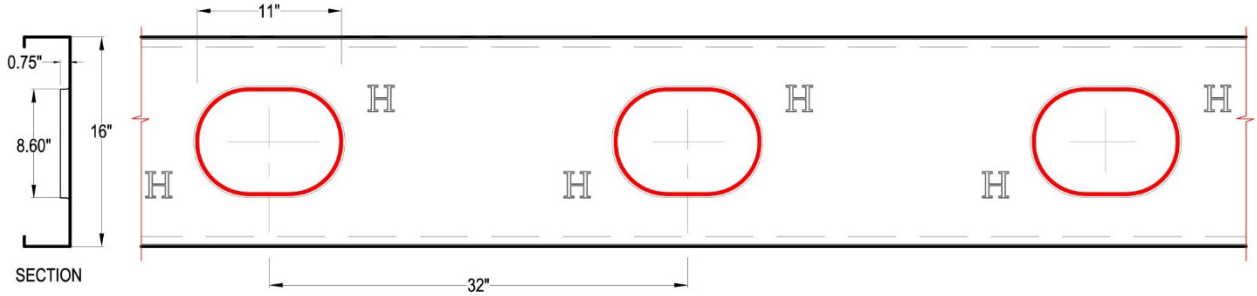
Product Specification

16″ C-Joists with openings @ 16″ o.c.



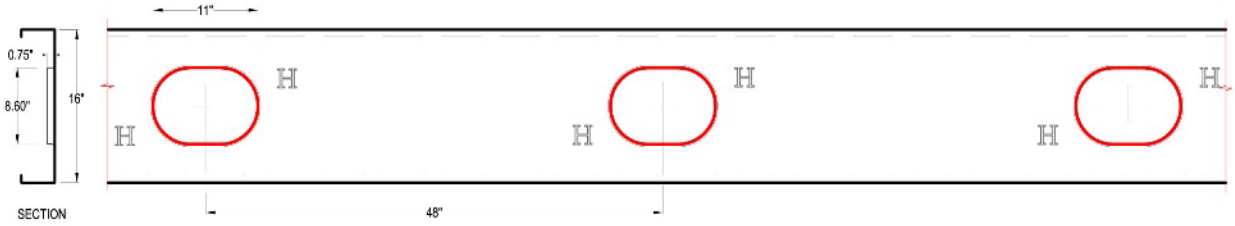
ID	Web Height (inch)	Flange Width (inch)	Metal Thickness (gauge/mil)
1600H16J 200-54(16x2x16ga)	16	2	16/54
1600H16J 200-68(16x2x14ga)	16	2	14/68
1600H16J 200-97 (16x2x12ga)	16	2	12/97
1600H16J 250-54 (16x2½x16ga)	16	2½	16/54
1600H16J 250-68 (16x2½x14ga)	16	2½	14/68
1600H16J 250-97 (16x2½x12ga)	16	2½	12/97
1600H16J 300-54 (16x3x16ga)	16	3	16/54
1600H16J 300-68 (16x3x14ga)	16	3	14/68
1600H16J 300-97 (16x3x12ga)	16	3	12/97

16″ C-Joists with openings @ 32″ o.c.



ID	Web Height (inch)	Flange Width (inch)	Metal Thickness (gauge/mil)
1600H32J 200-54(16x2x16ga)	16	2	16/54
1600H32J 200-68(16x2x14ga)	16	2	14/68
1600H32J 200-97 (16x2x12ga)	16	2	12/97
1600H32J 250-54 (16x2½x16ga)	16	2½	16/54
1600H32J 250-68 (16x2½x14ga)	16	2½	14/68
1600H32J 250-97 (16x2½x12ga)	16	2½	12/97
1600H32300-54 (16x3x16ga)	16	3	16/54
1600H32J 300-68 (16x3x14ga)	16	3	14/68
1600H32J 300-97 (16x3x12ga)	16	3	12/97

16″ C-Joists with openings @ 48″ o.c.



ID	Web Height (inch)	Flange Width (inch)	Metal Thickness (gauge/mil)
1600H48J 200-54(16x2x16ga)	16	2	16/54
1600H48J 200-68(16x2x14ga)	16	2	14/68
1600H48J 200-97 (16x2x12ga)	16	2	12/97
1600H48J 250-54 (16x2½x16ga)	16	2½	16/54
1600H48J 250-68 (16x2½x14ga)	16	2½	14/68
1600H48J 250-97 (16x2½x12ga)	16	2½	12/97
1600H48J 300-54 (16x3x16ga)	16	3	16/54
1600H48J 300-68 (16x3x14ga)	16	3	14/68
1600H48J 300-97 (16x3x12ga)	16	3	12/97

TECHNICAL DATA

GENERAL NOTES FOR ALL TABLES

1. Where AISI S 100-16/S2-20 is referenced, it is the “North American Specification for the Design of Cold-Formed Steel Structural Members”, 2016 Edition, Supplement 2-20m with US provisions.
2. The strength increase from cold work of forming has been incorporated for flexural strength per Section A3.3.2 of AISI S 100-16/S2-20.
3. The effective moment of inertia for deflection (Ixe) of a solid joist is calculated at a stress which results in a section modulus such that the stress times the section modulus at that stress is equal to the allowable moment. AISI S100-16/S20 Specification Procedure 1 for serviceability determination has been used. Ixe of a perforated joist is obtained from Ixe of the corresponding solid by adjusting it, where necessary, with a reduction factor determined from a test program.
4. Factory punch-outs will be located along the centerline of the web of the members and will have a center-to-center spacing as specified in this catalog.
5. Web stiffeners are required at supports.

DEFINITION OF STRUCTURAL PROPERTY SYMBOLS

GROSS PROPERTIES

Ix: Moment of inertia of the gross section about the X-X axis (strong axis).

Sx: Section modulus about the X-X axis (strong axis).

Rx: Radius of gyration of the gross section about the X-X axis (strong axis).

Iy: Moment of inertia of the gross section about the Y-Y axis (weak axis).

Ry: Radius of gyration of the gross section about the Y-Y axis (weak axis).

TORSIONAL PROPERTIES

J: St. Venant Torsional Constant

Cw: Torsional warping constant

Xo: Distance from the shear center to the centroid along the principal X-axis.

Ro: Polar radius of gyration about the centroidal principal axis.

β: $1-(Xo/Ro)^2$

EFFECTIVE PROPERTIES

Ixe: Effective moment of inertia about X-X axis (strong axis).

Md: Allowable design Bending Moment – used in the joist span tables.

Va: Allowable Strong-axis Shear Load away from punchout.

Section Properties Table Notes

1. Calculated properties are based on AISI S100-16/S2-20 “North American Specifications for the Design of Cold-Formed Steel Structural Members.”
2. The centerline bend radius is based upon inside corner radii shown in Sheet Metal Folding Geometry Table.
3. The effective moment on inertia and the design moment of a perforated joist are obtained from properties of the solid joist by adjusting them, where necessary, with a reduction factor determined from a test program to account for possible functional loss due to big holes.

Floor and Roof Joist Span Tables

Allowable Floor and Roof Joist Span Table Notes

1. All loads are computed for simply supported, single span joists by using the effective section properties presented in this catalog.
2. Live loads shown are limited by allowable bending stress, allowable end shear, or deflection of span/360 whichever governs.
3. Total load values in table are based on the allowable bending moment and end shear. To limit total load deflection to 1/240 of span, multiply live load values shown by 1.5.
4. For two equal continuous spans, the total load shown in these tables will not change.
5. Joists must be braced against rotation at all supports.
6. End web crippling check is based on 3.5-inch end bearing. Joist flanges must be fastened to the support. For specific field conditions, web crippling shall be checked using the attached web crippling load table.
7. Spans are based on continuous bracing of compression flange over the full length of the joist.
8. End shear and web crippling capacity have not been reduced for punchouts.
9. Web stiffeners are required at all supports
10. No web hole shall be located closer than 12 inches from a support or a concentrated load.
11. The loads shown on the table are uniformly distributed over the entire joist span. Any other loading conditions, especially concentrated loads, shall be investigated by the designer.

STRUCTURAL GROSS SECTION PROPERTIES

Product ID	Design Thickness (in)	Gross							Torsional				
		Area (in^2)	Weight (lb/ft)	Ix (in^4)	Sx (in^3)	Rx (in)	Iy (in^4)	Ry (in)	J^{x1000} (in^4)	Cw (in^6)	Xo (in)	Ro (in)	β
8" Joists													
800H..J 200-54 (8x2x16ga)	0.0566	0.726	2.47	6.574	1.644	3.009	0.357	0.701	0.775	4.663	-1.265	3.338	0.856
800H..J 200-68 (8x2x14ga)	0.0713	0.907	3.09	8.143	2.036	2.996	0.435	0.692	1.537	5.712	-1.248	3.319	0.859
800H..J 200-97 (8x2x12ga)	0.1017	1.271	4.32	11.207	2.802	2.970	0.577	0.674	4.381	7.684	-1.214	3.278	0.863
800H..J 250-54 (8x2½x16ga)	0.0566	0.783	2.66	7.467	1.867	3.089	0.614	0.886	0.836	7.850	-1.661	3.617	0.789
800H..J 250-68 (8x2½x14ga)	0.0713	0.978	3.33	9.263	2.316	3.077	0.752	0.877	1.658	9.652	-1.644	3.597	0.791
800H..J 250-97 (8x2½x12ga)	0.1017	1.372	4.67	12.793	3.198	3.053	1.009	0.858	4.731	13.091	-1.607	3.555	0.796
10" Joists													
1000H.. J 200-54 (10x2x16ga)	0.0566	0.839	2.86	11.282	2.256	3.666	0.378	0.671	0.896	7.665	-1.135	3.896	0.915
1000H.. J 200-68 (10x2x14ga)	0.0713	1.050	3.57	13.999	2.800	3.652	0.460	0.662	1.779	9.401	-1.120	3.877	0.917
1000H..J 200-97 (10x2x12ga)	0.1017	1.474	5.01	19.343	3.869	3.622	0.610	0.643	5.082	12.679	-1.088	3.836	0.920
1000H..J 250-54 (10x2½x16ga)	0.0566	0.896	3.05	12.681	2.536	3.762	0.653	0.854	0.957	12.922	-1.505	4.141	0.868
1000H..J 250-68 (10x2½x14ga)	0.0713	1.121	3.81	15.756	3.151	3.749	0.799	0.844	1.899	15.909	-1.488	4.121	0.870
1000H..J 250-97 (10x2½x12ga)	0.1017	1.576	5.36	21.834	4.367	3.722	1.073	0.825	5.433	21.632	-1.454	4.080	0.873
1000H..J 300-54 (10x3x16ga)	0.0566	0.953	3.24	14.080	2.816	3.845	1.024	1.037	1.017	19.888	-1.892	4.409	0.816
1000H..J 300-68 (10x3x14ga)	0.0713	1.192	4.06	17.513	3.503	3.833	1.258	1.027	2.020	24.551	-1.874	4.389	0.818
1000H..J 300-97 (10x3x12ga)	0.1017	1.677	5.71	24.325	4.865	3.808	1.703	1.007	5.783	33.570	-1.838	4.347	0.821
12" Joists													
1200H..J 200-54 (12x2x16ga)	0.0566	0.953	3.24	17.668	2.945	4.307	0.394	0.643	1.017	11.550	-1.032	4.475	0.947
1200H..J 200-68 (12x2x14ga)	0.0713	1.192	4.06	21.955	3.659	4.291	0.479	0.634	2.020	14.176	-1.017	4.456	0.948
1200H..J 200-97 (12x2x12ga)	0.1017	1.677	5.71	30.428	5.071	4.259	0.635	0.615	5.783	19.150	-0.987	4.415	0.950
1200H..J 250-54 (12x2½x16ga)	0.0566	1.009	3.43	19.687	3.281	4.417	0.683	0.823	1.078	19.505	-1.378	4.699	0.914
1200H..J 250-68 (12x2½x14ga)	0.0713	1.263	4.30	24.491	4.082	4.403	0.836	0.813	2.141	24.034	-1.362	4.680	0.915
1200H..J 250-97 (12x2½x12ga)	0.1017	1.779	6.05	34.027	5.671	4.373	1.122	0.794	6.134	32.734	-1.329	4.639	0.918
1200H..J 300-54 (12x3x16ga)	0.5660	1.066	3.63	21.705	3.618	4.513	1.074	1.004	1.138	30.051	-1.743	4.941	0.876
1200H..J 300-68 (12x3x14ga)	0.0713	1.335	4.54	27.028	4.505	4.500	1.320	0.994	2.262	37.126	-1.726	4.921	0.877
1200H..J 300-97 (12x3x12ga)	0.1017	1.881	6.40	37.627	6.271	4.473	1.787	0.975	6.484	50.853	-1.691	4.880	0.880
14" Joists													
1400H..J 200-54 (14x2x16ga)	0.0566	1.066	3.63	25.961	3.709	4.936	0.406	0.617	1.138	16.355	-0.946	5.063	0.965
1400H..J 200-68 (14x2x14ga)	0.0713	1.335	4.54	32.297	4.614	4.919	0.494	0.608	2.262	20.083	-0.932	5.043	0.966
1400H..J 200-97 (14x2x12ga)	0.1017	1.881	6.40	44.870	6.410	4.884	0.655	0.590	6.484	27.156	-0.904	5.002	0.967
1400H..J 250-54 (14x2½x16ga)	0.0566	1.122	3.82	28.712	4.102	5.058	0.707	0.794	1.198	27.675	-1.272	5.275	0.942
1400H..J 250-68 (14x2½x14ga)	0.0713	1.406	4.78	35.755	5.108	5.043	0.865	0.784	2.383	34.118	-1.257	5.256	0.943
1400H..J 250-97 (14x2½x12ga)	0.1017	1.983	6.74	49.781	7.112	5.011	1.161	0.765	6.835	46.520	-1.225	5.215	0.945
1400H..J 300-54 (14x3x16ga)	0.0566	1.179	4.01	31.463	4.495	5.166	1.115	0.972	1.259	42.690	-1.617	5.500	0.914
1400H..J 300-68 (14x3x14ga)	0.0713	1.477	5.03	39.213	5.602	5.152	1.370	0.963	2.503	52.772	-1.601	5.480	0.915
1400H..J 300-97 (14x3x12ga)	0.1017	2.084	7.09	54.692	7.813	5.123	1.854	0.943	7.186	72.365	-1.568	5.440	0.917

See general notes for all tables

STRUCTURAL EFFECTIVE SECTION PROPERTIES

8″ Joists Product ID	Design Thickness (in)	Yield Strength 50ksi				
		Ixe (in^4)		Md (in-k)		Va (lb)
		Span 10 ft	Span ≥ 15ft	Span 10 ft	Span ≥ 15ft	
800H48J 200-54 (8x2x16ga)	0.0566	6.11	6.25	35	36	2091
800H48J 200-68 (8x2x14ga)	0.0713	7.57	7.74	46	47	4220
800H48J 200-97 (8x2x12ga)	0.1017	10.42	10.65	80	82	10888
800H48J 250-54 (8x2½x16ga)	0.0566	6.94	7.09	37	38	2091
800H48J 250-68 (8x2½x14ga)	0.0713	8.61	8.80	48	50	4220
800H48J 250-97 (8x2½x12ga)	0.1017	11.90	12.15	78	79	10888
800H32J 200-54 (8x2x16ga)	0.0566	6.05	6.05	34	34	2091
800H32J 200-68 (8x2x14ga)	0.0713	7.49	7.49	45	45	4220
800H32J 200-97 (8x2x12ga)	0.1017	10.31	10.31	79	79	10888
800H32J 250-54 (8x2½x16ga)	0.0566	6.54	6.54	35	35	2091
800H32J 250-68 (8x2½x14ga)	0.0713	8.52	8.52	48	48	4220
800H32J 250-97 (8x2½x12ga)	0.1017	11.77	11.77	76	76	10888
800H16J 200-54 (8x2x16ga)	0.0566	5.66	5.98	30	33	2091
800H16J 200-68 (8x2x14ga)	0.0713	7.00	7.41	42	45	4220
800H16J 200-97 (8x2x12ga)	0.1017	9.64	10.20	74	78	10888
800H16J 250-54 (8x2½x16ga)	0.0566	6.42	6.54	32	34	2091
800H16J 250-68 (8x2½x14ga)	0.0713	7.96	8.43	45	47	4220
800H16J 250-97 (8x2½x12ga)	0.1017	11.00	11.64	71	75	10888

See general notes for all tables

STRUCTURAL EFFECTIVE SECTION PROPERTIES

10″ Joists Product ID	Design Thickness (in)	Yield Strength 50ksi						
		Ixe (in^4)			Md (in-k)			Va (lb)
		Span 15 ft	Span 20 ft	Span 25ft	Span 15 ft	Span 20 ft	Span 25ft	
1000H48J 200-54 (10x2x16ga)	0.0566	9.59	9.59	9.59	41	42	45	1660
1000H48J 200-68 (10x2x14ga)	0.0713	12.74	12.95	12.95	57	58	62	3345
1000H48J 200-97 (10x2x12ga)	0.1017	17.60	18.18	19.00	91	94	49	7175
1000H48J 250-54 (10x2½x16ga)	0.0566	10.48	10.48	10.48	43	45	47	1660
1000H48J 250-68 (10x2½ x14ga)	0.0713	14.34	14.47	14.47	60	62	65	3345
1000H48J 250-97 (10x2½x12ga)	0.1017	19.87	20.52	21.32	97	101	106	7175
1000H48J 300-54 (10x3x16ga)	0.0566	10.93	10.93	10.93	45	46	49	1660
1000H48J 300-68 (10x3x14ga)	0.0713	15.13	15.13	15.13	62	64	68	3345
1000H48J 300-97 (10x3x12ga)	0.1017	22.14	22.86	23.16	102	105	111	7175
1000H32J 200-54 (10x2x16ga)	0.0566	9.59	9.59	9.59	41	42	44	1660
1000H32J 200-68 (10x2x14ga)	0.0713	12.00	12.60	12.95	56	58	61	3345
1000H32J 200-97 (10x2x12ga)	0.1017	17.41	17.41	18.96	90	94	98	7175
1000H32J 250-54 (10x2½x16ga)	0.0566	10.48	10.48	10.48	43	45	47	1660
1000H32J 250-68 (10x2½x14ga)	0.0713	14.18	14.18	14.47	59	62	65	3345
1000H32J 250-97 (10x2½x12ga)	0.1017	19.65	19.65	21.32	96	101	105	7175
1000H32J 300-54 (10x3x16ga)	0.0566	10.93	10.93	10.93	44	46	48	1660
1000H32J 300-68 (10x3x14ga)	0.0713	15.13	15.13	15.13	61	64	67	3345
1000H32J 300-97 (10x3x12ga)	0.1017	21.89	21.89	23.16	100	105	110	7175
1000H16J 200-54 (10x2x16ga)	0.0566	9.02	9.59	9.59	36	38	41	1660
1000H16J 200-68 (10x2x14ga)	0.0713	11.20	11.90	12.74	50	53	57	3345
1000H16J 200-97 (10x2x12ga)	0.1017	15.47	16.44	17.60	80	85	91	7175
1000H16J 250-54 (10x2½x16ga)	0.0566	10.14	10.48	10.48	38	41	43	1660
1000H16J 250-68 (10x2½x14ga)	0.0713	12.61	13.39	14.34	53	56	60	3345
1000H16J 250-97 (10x2½x12ga)	0.1017	17.46	18.56	19.87	86	91	97	7175
1000H16J 300-54 (10x3x16ga)	0.0566	10.93	10.93	10.93	39	42	45	1660
1000H16J 300-68 (10x3x14ga)	0.0713	14.01	14.89	15.13	55	58	60	3345
1000H16J 300-97 (10x3x12ga)	0.1017	19.46	20.68	22.14	89	95	102	7175

See general notes for all tables

STRUCTURAL EFFECTIVE SECTION PROPERTIES

12″ Joists Product ID	Design Thickness (in)	Yield Strength 50ksi						
		Ixe (in^4)			Md (in-k)			Va (lb)
		Span 15 ft	Span 20 ft	Span 25ft	Span 15 ft	Span 20 ft	Span 25ft	
1200H48J 200-54 (12x2x16ga)	0.0566	14.31	15.02	15.37	36	38	39	1102
1200H48J 200-68 (12x2x14ga)	0.0713	17.78	18.66	19.10	60	63	64	2770
1200H48J 200-97 (12x2x12ga)	0.1017	24.65	25.86	26.47	99	104	106	8145
1200H48J 250-54 (12x2½x16ga)	0.0566	15.95	16.74	17.13	38	40	41	1102
1200H48J 250-68 (12x2½x14ga)	0.0713	19.84	20.82	21.31	64	67	69	2770
1200H48J 250-97 (12x2½x12ga)	0.1017	27.56	28.92	29.60	106	111	114	8145
1200H48J 300-54 (12x3x16ga)	0.0566	17.58	18.45	19.88	40	42	43	1102
1200H48J 300-68 (12x3x14ga)	0.0713	21.89	22.97	23.51	67	70	72	2770
1200H48J 300-97 (12x3x12ga)	0.1017	30.48	31.98	32.74	110	116	119	8145
1200H32J 200-54 (12x2x16ga)	0.0566	13.25	14.13	15.19	33	35	38	1102
1200H32J 200-68 (12x2x14ga)	0.0713	16.47	17.56	18.88	55	59	64	2770
1200H32J 200-97 (12x2x12ga)	0.1017	22.82	24.34	26.17	91	97	105	8145
1200H32J 250-54 (12x2½x16ga)	0.0566	14.77	15.75	16.93	36	38	41	1102
1200H32J 250-68 (12x2½x14ga)	0.0713	18.37	19.59	21.06	59	63	68	2770
1200H32J 250-97 (12x2½x12ga)	0.1017	25.52	27.22	29.26	98	104	113	8145
1200H32J 300-54 (12x3x16ga)	0.0566	16.28	17.36	18.67	37	39	42	1102
1200H32J 300-68 (12x3x14ga)	0.0713	20.27	21.60	23.24	62	66	71	2770
1200H32J 300-97 (12x3x12ga)	0.1017	28.22	30.10	32.36	102	109	117	8145
1200H16J 200-54 (12x2x16ga)	0.0566	11.48	12.37	13.25	27	31	33	1102
1200H16J 200-68 (12x2x14ga)	0.0713	14.27	15.37	16.47	48	52	55	2770
1200H16J 200-97 (12x2x12ga)	0.1017	19.78	21.30	22.82	79	85	91	8145
1200H16J 250-54 (12x2½x16ga)	0.0566	12.80	13.78	14.77	31	33	36	1102
1200H16J 250-68 (12x2½x14ga)	0.0713	15.92	17.14	18.37	51	55	59	2770
1200H16J 250-97 (12x2½x12ga)	0.1017	22.12	23.82	25.52	85	91	98	8145
1200H16J 300-54 (12x3x16ga)	0.0566	14.11	15.20	16.28	32	34	37	1102
1200H16J 300-68 (12x3x14ga)	0.0713	17.57	18.92	20.27	54	58	62	2770
1200H16J 300-97 (12x3x12ga)	0.1017	24.46	26.34	28.22	89	95	102	8145

See general notes for all tables

STRUCTURAL EFFECTIVE SECTION PROPERTIES

14″ Joists Product ID	Design Thickness (in)	Yield Strength 50ksi						
		Ixe (in^4)			Md (in-k)			Va (lb)
		Span 15 ft	Span 20 ft	Span 25ft	Span 15 ft	Span 20 ft	Span 25ft	
1400H48J 200-54 (14x2x16ga)	0.0566	23.23	23.23	23.23	45	45	48	941
1400H48J 200-68 (14x2x14ga)	0.0713	29.07	29.07	29.86	76	76	84	2364
1400H48J 200-97 (14x2x12ga)	0.1017	40.38	40.38	43.08	127	127	136	6938
1400H48J 250-54 (14x2½x16ga)	0.0566	25.84	25.84	26.21	49	49	52	941
1400H48J 250-68 (14x2½x14ga)	0.0713	32.18	32.18	33.63	82	82	87	2364
1400H48J 250-97 (14x2½x12ga)	0.1017	44.80	44.80	47.79	137	137	146	6938
1400H48J 300-54 (14x3x16ga)	0.0566	27.33	27.33	27.33	51	51	54	941
1400H48J 300-68 (14x3x14ga)	0.0713	35.29	35.29	36.43	86	86	92	2364
1400H48J 300-97 (14x3x12ga)	0.1017	49.22	49.22	52.50	144	144	167	6938
1400H32J 200-54 (14x2x16ga)	0.0566	21.81	22.07	23.23	42	43	46	941
1400H32J 200-68 (14x2x14ga)	0.0713	27.13	27.45	29.71	71	72	78	2364
1400H32J 200-97 (14x2x12ga)	0.1017	41.82	42.31	45.80	128	130	140	6938
1400H32J 250-54 (14x2½x16ga)	0.0566	24.12	24.41	26.21	45	46	50	941
1400H32J 250-68 (14x2½x14ga)	0.0713	30.03	30.39	32.89	76	77	84	2364
1400H32J 250-97 (14x2½x12ga)	0.1017	37.69	38.1	41.28	119	120	130	6938
1400H32J 300-54 (14x3x16ga)	0.0566	26.43	26.74	27.33	48	48	54	941
1400H32J 300-68 (14x3x14ga)	0.0713	32.94	33.33	36.08	80	81	88	2364
1400H32J 300-97 (14x3x12ga)	0.1017	45.94	46.49	50.32	135	136	147	6938
1400H16J 200-54 (14x2x16ga)	0.0566	19.47	20.77	21.81	38	40	42	941
1400H16J 200-68 (14x2x14ga)	0.0713	24.22	25.84	27.13	63	67	71	2364
1400H16J 200-97 (14x2x12ga)	0.1017	33.65	35.90	37.69	106	113	119	6938
1200H16J 250-54 (12x2½x16ga)	0.0566	21.53	22.97	24.12	41	43	45	941
1400H16J 250-68 (14x2½x14ga)	0.0713	26.82	28.60	30.03	68	73	76	2364
1400H16J 250-97 (14x2½x12ga)	0.1017	37.34	39.82	41.82	114	122	128	6938
1400H16J 300-54 (14x3x16ga)	0.5660	23.60	25.17	26.43	42	45	48	941
1400H16J 300-68 (14x3x14ga)	0.0713	29.41	31.37	32.94	72	76	80	2364
1400H16J 300-97 (14x3x12ga)	0.1017	41.02	43.75	45.94	120	128	135	6938

See general notes for all tables

Floor and Roof Joist Span Tables

Allowable Uniform Load (psf) - Simply Supported Single Span Joist @12″ o.c. Spacing *

8" Joists Product ID	Load	Span 10'-0"	11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"
800H48J 200-54 (8x2x16ga)	Total	233	193	162	142	122	107	94	83	74	66	60	54	50
	Live	233	193	152	119	98	80	66	55	46	39	34	29	25
800H48J 200-68 (8x2x14ga)	Total	307	253	213	181	160	139	122	108	97	87	78	71	65
	Live	307	244	188	148	120	99	81	68	57	48	42	36	31
800H48J 200-97 (8x2x12ga)	Total	533	441	370	316	276	243	214	189	169	151	137	124	113
	Live	448	363	259	204	167	136	112	93	74	67	57	49	43
800H48J 250-54 (8x2½x16ga)	Total	247	204	171	146	128	113	99	88	78	70	63	57	52
	Live	247	204	171	136	110	90	74	62	52	44	38	33	29
800H48J 250-68 (8x2½x14ga)	Total	320	264	222	193	167	148	130	115	103	92	83	76	69
	Live	320	264	214	168	137	112	92	77	65	55	47	41	36
800H48J 250-97 (8x2½x12ga)	Total	520	430	361	308	269	234	206	182	163	146	132	119	109
	Live	511	384	296	233	187	155	127	106	90	76	65	56	49
800H32J 200-54 (8x2x16ga)	Total	227	187	157	134	116	101	89	78	70	63	57	51	47
	Live	227	187	150	118	95	77	63	53	45	38	32	28	24
800H32J 200-68 (8x2x14ga)	Total	300	248	208	178	153	133	117	104	93	83	75	68	62
	Live	300	242	186	146	117	95	79	65	55	47	40	35	30
800H32J 200-97 (8x2x12ga)	Total	527	435	366	312	269	234	206	182	163	146	132	119	109
	Live	443	333	256	202	161	131	108	90	76	65	55	48	42
800H32J 250-54 (8x2½x16ga)	Total	233	193	162	138	119	104	91	81	72	65	58	53	48
	Live	233	193	162	128	102	83	69	57	48	41	35	30	26
800H32J 250-68 (8x2½x14ga)	Total	320	264	222	189	163	142	125	111	99	89	80	73	66
	Live	320	264	212	167	133	108	89	75	63	53	46	40	34
800H32J 250-97 (8x2½x12ga)	Total	506	419	352	300	259	225	198	175	156	140	127	115	105
	Live	506	380	293	230	184	150	123	103	87	74	63	55	47
800H16J 200-54 (8x2x16ga)	Total	200	165	139	122	109	98	86	76	68	61	55	50	45
	Live	200	165	139	113	92	76	63	52	44	37	32	28	24
800H16J 200-68 (8x2x14ga)	Total	280	231	194	170	150	133	117	104	93	83	75	68	62
	Live	280	226	174	141	114	94	78	65	55	46	40	34	30
800H16J 200-97 (8x2x12ga)	Total	493	408	343	296	262	231	193	171	152	137	123	112	102
	Live	414	314	245	194	157	130	107	89	75	64	55	47	41
800H16J 250-54 (8x2½x16ga)	Total	213	176	148	130	112	101	89	78	70	63	57	51	47
	Live	213	176	148	127	102	83	69	57	48	41	35	30	26
800H16J 250-68 (8x2½x14ga)	Total	300	248	208	181	156	139	122	108	97	87	78	71	65
	Live	300	248	200	160	129	107	88	74	62	53	45	39	34
800H16J 250-97 (8x2½x12ga)	Total	473	391	333	288	252	222	195	173	154	139	125	113	103
	Live	473	358	278	221	180	148	122	102	86	73	63	54	47

* For 16″ and 24″ o.c. spacings, multiply the tabulated values by 0.75 and 0.50, resectively. See joist span table notes.

Floor and Roof Joist Span Tables

Allowable Uniform Load (psf) - Simply Supported, Single Span Joist @12″ o.c. Spacing *

10" Joists Product ID	Load	Span																
		15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24 '-0"	25'-0"	26'-0"	27'-0"	28'-0"	30'-0"	32'-0"	34'-0"
1000H48J 200-54 (10x2x16ga)	Total	121	107	95	84	76	70	63	59	54	51	48	44	41	38	33	29	26
	Live	121	101	84	71	60	52	44	39	34	30	26	23	21	19	15	13	10
1000H48J 200-68 (10x2x14ga)	Total	169	148	132	118	107	97	88	81	76	71	66	61	57	53	46	40	36
	Live	162	134	114	94	80	70	60	52	46	40	36	32	28	25	21	17	14
1000H48J 200-97 (10x2x12ga)	Total	270	237	211	190	172	157	143	132	122	113	106	98	91	84	73	64	57
	Live	224	186	155	132	113	97	85	75	65	58	52	46	41	37	30	25	21
1000H48J 250-54 (10x2½x16ga)	Total	127	112	99	91	81	75	68	62	57	52	48	44	41	38	33	29	26
	Live	127	110	92	77	66	56	49	42	37	33	29	26	23	21	17	14	11
1000H48J 250-68 (10x2½ x14ga)	Total	178	156	138	126	113	103	94	85	79	74	69	64	59	54	48	42	37
	Live	178	150	125	106	90	78	67	58	51	45	40	35	32	28	23	19	16
1000H48J 250-97 (10x2½x12ga)	Total	287	253	226	206	185	168	154	142	131	122	113	105	97	90	79	69	61
	Live	253	210	176	149	127	110	96	84	74	66	59	52	47	42	34	28	23
1000H48J 300-54 (10x3x16ga)	Total	133	117	104	93	84	77	70	65	59	56	52	48	45	42	36	32	28
	Live	133	115	96	81	68	59	51	44	39	34	30	27	24	21	17	14	12
1000H48J 300-68 (10x3x14ga)	Total	184	161	143	129	117	107	98	90	84	78	73	67	62	58	50	44	39
	Live	184	159	132	111	95	81	70	61	53	47	42	37	33	30	24	20	17
1000H48J 300-97 (10x3x12ga)	Total	302	266	238	212	192	175	160	147	136	126	118	109	102	94	82	72	64
	Live	282	234	196	166	142	123	106	93	81	72	64	57	51	45	37	30	25
1000H32J 200-54 (10x2x16ga)	Total	121	107	95	84	76	70	63	59	54	50	47	43	40	37	33	29	25
	Live	121	101	84	71	60	52	44	39	34	30	26	23	21	19	15	13	10
1000H32J 200-68 (10x2x14ga)	Total	168	147	131	117	106	97	88	81	75	70	65	60	56	52	45	40	35
	Live	157	129	108	91	77	66	59	51	45	40	36	32	28	25	21	17	14
1000H32J 200-97 (10x2x12ga)	Total	267	236	211	190	172	157	143	132	122	112	105	97	90	83	73	64	57
	Live	222	183	152	128	109	93	82	73	65	58	52	46	41	37	30	25	21
1000H32J 250-54 (10x2½x16ga)	Total	127	112	99	91	81	75	68	62	57	52	48	44	41	38	33	29	26
	Live	127	110	92	77	66	56	49	42	37	33	29	26	23	21	17	14	11
1000H32J 250-68 (10x2½x14ga)	Total	175	155	138	126	113	103	94	85	79	74	69	64	59	54	48	42	37
	Live	175	149	124	104	89	76	66	57	51	45	40	35	32	28	23	19	16
1000H32J 250-97 (10x2½x12ga)	Total	284	252	226	206	185	168	154	141	130	121	112	103	96	89	78	68	61
	Live	250	206	172	145	123	106	93	82	73	65	59	52	47	42	34	28	23
1000H32J 300-54 (10x3x16ga)	Total	130	116	103	93	84	77	70	64	59	55	51	47	44	41	36	31	28
	Live	130	115	96	81	68	59	51	44	39	34	30	27	24	21	17	14	12
1000H32J 300-68 (10x3x14ga)	Total	181	160	143	129	117	107	98	90	83	77	72	66	62	57	50	44	39
	Live	181	159	132	111	95	81	70	61	53	47	42	37	33	30	24	20	17
1000H32J 300-97 (10x3x12ga)	Total	296	263	235	212	192	175	160	147	136	126	117	108	101	94	81	72	63
	Live	279	230	191	161	137	118	103	90	80	71	64	57	51	45	37	30	25
1000H16J 200-54 (10x2x16ga)	Total	107	95	85	77	69	63	58	54	50	47	44	40	37	35	30	27	24
	Live	107	95	81	69	59	52	44	39	34	30	26	23	21	19	15	13	10
1000H16J 200-68 (10x2x14ga)	Total	148	132	118	107	97	88	81	75	70	65	61	56	52	48	42	37	33
	Live	143	119	100	86	74	64	56	49	44	39	35	31	28	25	20	17	14
1000H16J 200-97 (10x2x12ga)	Total	237	211	189	171	155	142	131	120	112	104	97	90	83	77	67	59	52
	Live	197	164	139	118	102	88	77	68	60	54	48	43	39	34	28	23	19

* For 16″ and 24″ o.c. spacings, multiply the tabulated values by 0.75 and 0.50, resectively. See joist span table notes.

Floor and Roof Joist Span Tables

Allowable Uniform Load (psf) - Simply Supported, Single Span Joist @12″ o.c. Spacing *

10" Joists Product ID	Load	Span																
		15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24 '-0"	25'-0"	26'-0"	27'-0"	28'-0"	30'-0"	32'-0"	34'-0"
1000H16J 250-54 (10x2½x16ga)	Total	113	101	90	82	75	68	63	58	53	49	46	42	39	37	32	28	28
	Live	113	101	90	77	66	56	49	42	37	33	29	26	23	21	17	14	11
1000H16J 250-68 (10x2½x14ga)	Total	157	140	125	113	102	93	86	79	74	69	64	59	55	51	44	39	35
	Live	157	134	113	96	83	72	63	56	49	44	39	35	31	28	23	19	16
1000H16J 250-97 (10x2½x12ga)	Total	255	227	203	183	166	152	139	129	119	111	103	96	89	82	72	63	60
	Live	222	185	157	133	115	100	87	77	68	61	55	49	43	39	32	26	22
1000H16J 300-54 (10x3x16ga)	Total	116	103	93	84	76	70	64	60	55	51	48	44	41	38	33	29	26
	Live	116	103	93	81	68	59	51	44	39	34	30	27	24	21	17	14	12
1000H16J 300-68 (10x3x14ga)	Total	163	145	130	117	106	97	88	81	75	69	64	59	55	51	44	39	35
	Live	163	145	125	107	92	80	69	60	53	47	42	37	33	30	24	20	17
1000H16J 300-97 (10x3x12ga)	Total	264	235	211	191	173	158	146	135	125	116	109	101	93	87	76	66	59
	Live	248	207	174	149	128	111	97	86	76	68	61	54	48	43	35	29	24

* For 16″ and 24″ o.c. spacings, multiply the tabulated values by 0.75 and 0.50, resectively. See joist span table notes.

Floor and Roof Joist Span Tables

Allowable Uniform Load (psf) - Simply Supported, Single Span Joist @12″ o.c. Spacing *

12" Joists Product ID	Load	Span																
		15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24 '-0"	25'-0"	26'-0"	27'-0"	28'-0"	30'-0"	32'-0"	34'-0"
1200H48J 200-54 (12x2x16ga)	Total	107	95	85	77	69	63	58	53	49	45	42	38	36	33	29	25	22
	Live	107	95	85	77	69	63	58	53	49	45	42	37	33	29	24	20	16
1200H48J 200-68 (12x2x14ga)	Total	178	158	141	127	115	105	96	87	80	74	68	63	59	54	47	42	37
	Live	178	158	141	127	115	100	87	77	67	59	53	47	42	37	30	25	21
1200H48J 200-97 (12x2x12ga)	Total	293	260	233	210	190	173	158	144	133	121	113	105	97	90	79	69	61
	Live	293	260	220	187	160	139	121	105	93	82	73	65	58	52	42	35	29
1200H48J 250-54 (12x2½x16ga)	Total	113	100	90	81	73	67	61	56	51	47	44	40	37	35	30	27	24
	Live	113	100	90	81	73	67	61	56	51	47	44	40	37	34	27	22	19
1200H48J 250-68 (12x2½x14ga)	Total	189	168	150	135	123	112	102	93	86	79	74	68	63	59	51	45	40
	Live	189	168	150	135	123	112	97	85	75	66	59	52	47	42	34	28	23
1200H48J 250-97 (12x2½x12ga)	Total	314	279	249	224	203	185	169	155	142	131	122	112	104	97	84	74	66
	Live	314	279	246	209	180	155	135	118	104	92	81	72	65	58	47	39	32
1200H48J 300-54 (12x3x16ga)	Total	119	105	94	85	77	70	64	58	54	50	46	42	39	37	32	28	25
	Live	119	105	94	85	77	70	64	58	54	50	46	42	39	37	32	26	22
1200H48J 300-68 (12x3x14ga)	Total	199	176	158	142	128	117	106	98	90	83	77	71	66	61	53	47	42
	Live	199	176	158	142	128	117	106	94	82	73	65	57	51	46	37	31	26
1200H48J 300-97 (12x3x12ga)	Total	326	290	259	234	212	193	176	161	148	137	127	117	109	101	88	77	69
	Live	326	290	259	227	193	172	149	130	115	101	90	80	71	64	52	43	36
1200H32J 200-54 (12x2x16ga)	Total	98	87	78	70	64	58	54	50	46	43	41	37	35	32	28	25	22
	Live	98	87	78	70	64	58	54	50	46	43	41	37	33	30	24	20	17
1200H32J 200-68 (12x2x14ga)	Total	163	145	131	118	107	98	91	84	78	73	68	63	59	54	47	42	37
	Live	163	145	131	118	107	94	83	73	65	58	52	46	41	37	30	25	21
1200H32J 200-97 (12x2x12ga)	Total	270	240	215	195	177	160	149	138	128	119	112	104	96	89	78	68	61
	Live	270	240	205	174	151	131	115	101	90	80	72	64	57	51	42	34	29
1200H32J 250-54 (12x2½x16ga)	Total	107	95	85	77	69	63	58	54	50	47	44	40	37	35	30	27	24
	Live	107	95	85	77	69	63	58	54	50	47	44	40	37	33	27	22	19
1200H32J 250-68 (12x2½x14ga)	Total	175	156	140	126	115	105	97	90	83	78	73	67	62	58	50	44	39
	Live	175	156	140	126	115	105	92	81	72	65	58	51	46	41	34	28	23
1200H32J 250-97 (12x2½x12ga)	Total	290	258	232	209	190	173	160	148	138	129	121	111	103	96	84	74	65
	Live	290	258	229	196	168	146	128	113	100	90	80	72	64	57	47	38	32
1200H32J 300-54 (12x3x16ga)	Total	110	97	87	79	71	65	60	55	51	48	45	41	38	36	31	27	24
	Live	110	97	87	79	71	65	60	55	51	48	45	41	38	36	30	24	20
1200H32J 300-68 (12x3x14ga)	Total	184	164	147	133	120	110	101	94	87	81	76	70	65	60	53	46	41
	Live	184	164	147	133	120	110	101	90	80	71	64	57	51	45	37	30	25
1200H32J 300-97 (12x3x12ga)	Total	302	269	242	219	199	182	167	155	143	134	125	115	107	99	87	76	67
	Live	302	269	242	216	186	162	142	125	111	99	89	79	71	63	51	42	35
1200H16J 200-54 (12x2x16ga)	Total	80	72	66	60	56	52	47	44	41	38	35	33	30	28	24	21	19
	Live	80	72	66	60	56	52	47	44	41	38	35	32	29	26	21	17	14
1200H16J 200-68 (12x2x14ga)	Total	142	127	114	104	95	87	80	73	68	63	59	54	50	47	41	36	32
	Live	142	127	114	104	95	83	73	64	57	51	45	40	36	32	26	22	18
1200H16J 200-97 (12x2x12ga)	Total	234	209	188	170	155	142	130	122	112	104	97	90	83	77	67	59	52
	Live	234	209	178	152	132	114	103	88	78	70	63	56	50	45	36	30	25

* For 16″ and 24″ o.c. spacings, multiply the tabulated values by 0.75 and 0.50, resectively. See joist span table notes.

Floor and Roof Joist Span Tables

Allowable Uniform Load (psf) - Simply Supported, Single Span Joist @12″ o.c. Spacing *

12" Joists Product ID	Load	Span 15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24 '-0"	25'-0"	26'-0"	27'-0"	28'-0"	30'-0"	32'-0"	34'-0"
1200H16J 250-54 (12x2½x16ga)	Total	92	82	73	66	60	55	51	47	44	41	38	36	33	31	27	23	21
	Live	92	82	73	66	60	55	51	47	44	41	38	36	32	29	24	19	16
1200H16J 250-68 (12x2½x14ga)	Total	151	135	121	110	100	92	84	78	72	67	63	58	54	50	44	38	34
	Live	151	135	121	110	100	92	81	71	63	56	51	45	40	36	29	24	20
1200H16J 250-97 (12x2½x12ga)	Total	252	224	202	182	166	152	140	129	120	112	105	97	90	83	73	64	57
	Live	252	224	199	170	147	128	112	99	88	78	70	63	56	50	41	33	28
1200H16J 300-54 (12x3x16ga)	Total	95	84	76	68	62	57	52	48	45	42	39	36	34	31	27	24	21
	Live	95	84	76	68	62	57	52	48	45	42	39	36	34	31	26	21	18
1200H16J 300-68 (12x3x14ga)	Total	160	143	128	116	106	97	89	82	76	71	66	61	57	53	46	40	36
	Live	160	143	128	116	106	97	89	79	70	62	56	50	44	40	32	27	22
1200H16J 300-97 (12x3x12ga)	Total	264	235	211	191	173	158	146	134	125	116	109	101	93	87	76	66	59
	Live	264	235	211	188	163	141	124	109	97	87	78	69	62	55	45	37	31

* For 16” and 24” o.c. spacings, multiply the tabulated values by 0.75 and 0.50, resectively. See joist span table notes.

Floor and Roof Joist Span Tables

Allowable Uniform Load (psf) - Simple Span Joist @12″ o.c. Spacing *

	Load	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24 '-0"	25'-0"	26'-0"	27'-0"	28'-0"	30'-0"	32'-0"	34'-0"
14" Joists																		
1400H48J 200-54 (14x2x16ga)	Total	113	106	100	93	83	75	69	64	59	55	51	47	44	41	36	31	28
	Live	113	106	100	93	83	75	69	64	59	55	51	47	44	41	36	30	25
1400H48J 200-68 (14x2x14ga)	Total	225	198	175	156	140	127	117	106	99	93	87	81	75	70	61	53	47
	Live	225	198	175	156	140	127	117	106	99	92	82	73	65	58	48	39	33
1400H48J 200-97 (14x2x12ga)	Total	378	331	293	261	235	212	195	180	167	155	145	134	124	116	101	89	78
	Live	378	331	293	261	235	212	190	167	148	132	118	105	94	84	69	56	47
1400H48J 250-54 (14x2½x16ga)	Total	113	106	100	95	89	82	75	69	64	59	55	51	48	44	39	34	30
	Live	113	106	100	95	89	82	75	69	64	59	55	51	48	44	39	34	29
1400H48J 250-68 (14x2½x14ga)	Total	243	214	189	169	151	137	125	116	107	100	93	86	80	74	64	57	50
	Live	243	214	189	169	151	137	125	116	107	100	92	82	73	66	54	44	37
1400H48J 250-97 (14x2½x12ga)	Total	407	357	317	282	253	228	210	194	179	167	156	144	134	124	108	95	84
	Live	407	357	317	282	253	228	210	186	165	147	131	117	104	94	76	63	52
1400H48J 300-54 (14x3x16ga)	Total	113	106	100	95	89	85	78	72	67	62	58	53	49	46	40	35	31
	Live	113	106	100	95	89	85	78	72	67	62	58	53	49	46	40	35	30
1400H48J 300-68 (14x3x14ga)	Total	255	224	198	177	159	143	132	122	113	105	98	91	84	78	68	60	53
	Live	255	224	198	177	159	143	132	122	113	105	98	89	80	71	58	48	40
1400H48J 300-97 (14x3x12ga)	Total	427	375	332	296	266	240	225	211	199	188	178	165	153	142	124	109	96
	Live	427	375	332	296	266	240	225	204	181	161	144	128	115	103	84	69	57
1400H32J 200-54 (14x2x16ga)	Total	105	99	94	87	79	72	66	61	56	53	49	45	42	39	34	30	27
	Live	105	99	94	87	79	72	66	61	56	53	49	45	42	39	34	30	25
1400H32J 200-68 (14x2x14ga)	Total	210	185	165	147	133	120	111	101	94	88	83	77	71	66	58	51	45
	Live	210	185	165	147	133	120	111	101	94	88	82	73	65	58	47	39	32
1400H32J 200-97 (14x2x12ga)	Total	353	310	275	246	221	200	184	171	159	148	139	128	119	111	96	85	75
	Live	353	310	275	246	221	200	184	171	157	140	126	112	100	90	73	60	50
1400H32J 250-54 (14x2½x16ga)	Total	105	99	94	89	84	77	71	66	61	57	53	49	46	43	37	33	29
	Live	105	99	94	89	84	77	71	66	61	57	53	49	46	43	37	33	29
1400H32J 250-68 (14x2½x14ga)	Total	225	198	176	158	142	128	119	110	102	96	90	83	77	71	62	55	48
	Live	225	198	176	158	142	128	119	110	102	96	90	80	72	64	52	43	36
1400H32J 250-97 (14x2½x12ga)	Total	379	334	297	266	239	217	200	185	171	160	149	138	128	119	104	91	81
	Live	379	334	297	266	239	217	199	176	157	140	126	112	100	90	73	60	50
1400H32J 300-54 (14x3x16ga)	Total	105	99	94	89	84	80	74	69	65	61	58	53	49	46	40	35	31
	Live	105	99	94	89	84	80	74	69	65	61	58	53	49	46	40	35	30
1400H32J 300-68 (14x3x14ga)	Total	237	209	185	166	149	135	125	115	107	100	94	87	80	75	65	57	51
	Live	237	209	185	166	149	135	125	115	107	100	94	87	79	71	57	47	39
1400H32J 300-97 (14x3x12ga)	Total	400	352	312	279	251	227	209	193	180	168	157	145	135	125	109	96	85
	Live	400	352	312	279	251	227	209	193	172	154	138	123	110	98	80	65	55
1400H16J 200-54 (14x2x16ga)	Total	94	90	85	80	73	66	61	56	52	48	45	41	38	36	31	27	24
	Live	94	90	85	80	73	66	61	56	52	48	45	41	38	36	31	27	24
1400H16J 200-68 (14x2x14ga)	Total	187	166	149	135	122	112	102	94	87	81	76	70	65	60	53	46	41
	Live	187	166	149	135	122	112	102	94	87	81	75	66	59	53	43	36	30
1400H16J 200-97 (14x2x12ga)	Total	314	280	251	227	206	186	173	159	147	136	127	117	109	101	88	77	69
	Live	314	280	251	227	206	186	168	148	131	116	104	92	82	74	60	49	41

* For 16″ and 24″ o.c. spacings, multiply the tabulated values by 0.75 and 0.50, resectively. See joist span table notes.

Floor and Roof Joist Span Tables

Allowable Uniform Load (psf) - Simple Span Joist @12″ o.c. Spacing *

	Load	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24 '-0"	25'-0"	26'-0"	27'-0"	28'-0"	30'-0"	32'-0"	34'-0"
14" Joists																		
1400H16J 250-54 (14x2½x16ga)	Total	94	90	85	82	78	72	66	60	56	52	48	44	41	38	30	29	26
	Live	94	90	85	82	78	72	66	60	56	52	48	44	41	38	30	29	26
1400H16J 250-68 (14x2½x14ga)	Total	201	180	161	146	133	122	111	102	94	87	81	75	70	65	56	49	44
	Live	201	180	161	146	133	122	111	102	94	87	81	73	66	59	48	39	33
1400H16J 250-97 (14x2½x12ga)	Total	338	301	270	244	222	203	186	171	158	147	136	126	117	109	95	83	74
	Live	338	301	270	244	222	203	186	164	145	129	115	102	91	82	67	55	46
1400H16J 300-54 (14x3x16ga)	Total	94	90	85	82	78	75	69	64	59	55	51	47	44	41	36	31	28
	Live	94	90	85	82	78	75	69	64	59	55	51	47	44	41	36	31	28
1400H16J 300-68 (14x3x14ga)	Total	213	190	170	153	139	127	116	107	99	92	85	79	73	68	59	52	46
	Live	213	190	170	153	139	127	116	107	99	92	85	79	72	64	52	43	36
1400H16J 300-97 (14x3x12ga)	Total	356	317	284	257	233	213	196	180	167	155	144	133	123	115	100	88	78
	Live	356	317	284	257	233	213	196	180	159	141	126	112	100	90	73	60	50

* For 16” and 24” o.c. spacings, multiply the tabulated values by 0.75 and 0.50, resectively. See joist span table notes.

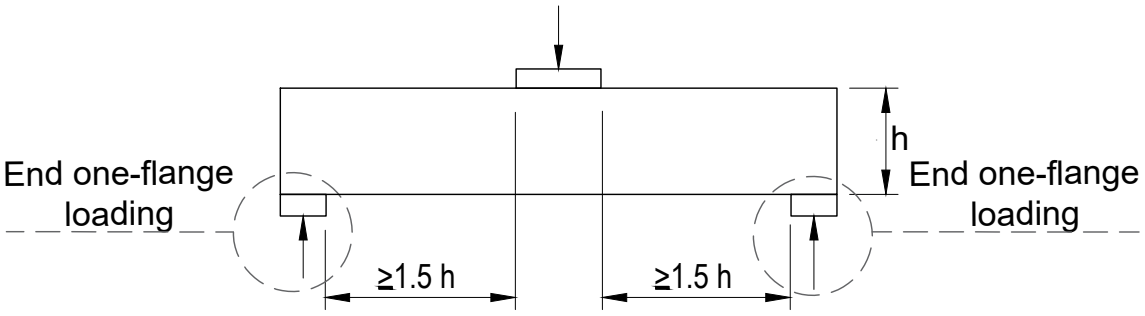
Web Crippling Load Table Notes

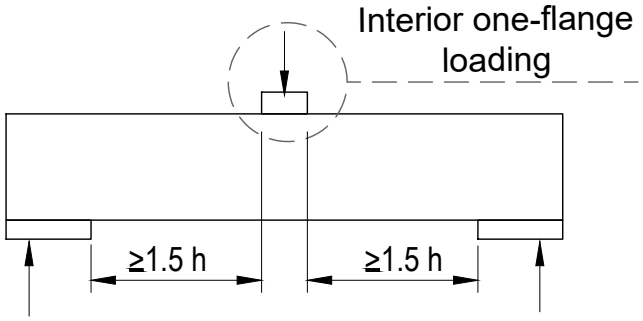
1. All capacities listed are calculated using AISI S100-16/S2-20
2. Web crippling capacities calculated are for joists with stiffened or partially stiffened flanges.
3. Tabulated web crippling capacities are for single members only. For multiple members, multiply the tabulated values by number of members in the assembly.
4. Listed allowable capacities are based on members 'fastened to support', except back-to-back members under two-flanges loading (conditions 3 and 4) for which data for 'fastened to support' is unavailable in the AISI S100-16/S2-20.
5. Listed allowable capacities are for unpunched webs.
6. For each condition, the bearing width (seat) is shown in inches.

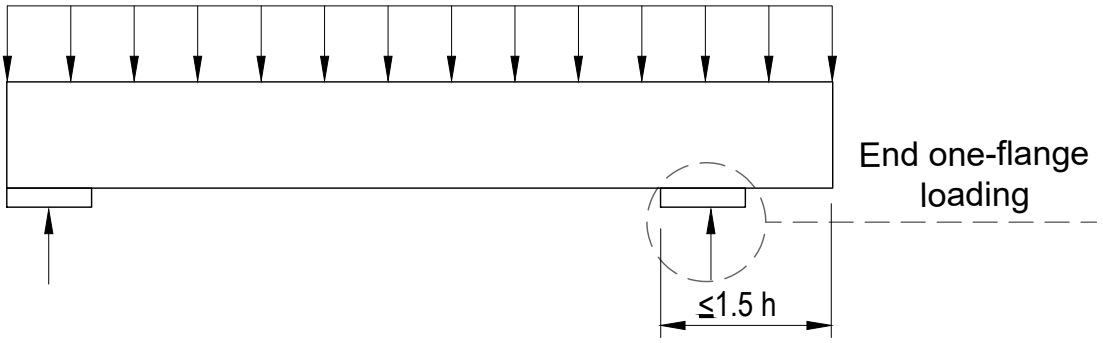
Web Crippling Conditions

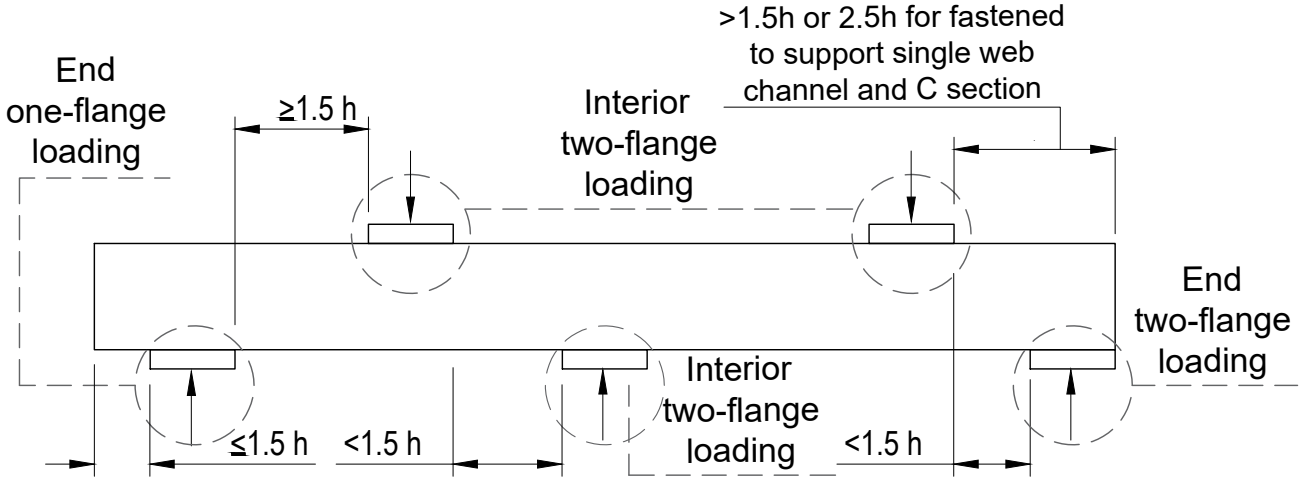
Condition 1: End One- Flange Reaction
Condition 2: Interior One-Flange Reaction
Condition 3: End Two-Flange Reaction
Condition 4: Interior Two-Flange Reaction

Web Crippling Loading Conditions









Web Crippling Load Table

Allowable Web Crippling Loads (lbs) - Single Members, Yield Strength 50 ksi																	
Product ID	Design Thickness (in)	Condition 1				Condition 2				Condition 3				Condition 4			
		1	3.5	4	6	1	3.5	4	6	1	3.5	4	6	1	3.5	4	6
800H..J-54	0.0566	575	872	917	1070	1272	1682	1743	1955	409	529	547	608	1370	1670	1714	1869
800H..J-68	0.0713	882	1318	1382	1607	1966	2555	2642	2946	716	910	939	1038	2250	2701	2768	3001
800H..J-97	0.1017	1702	2477	2592	2992	3850	4873	5025	5553	1618	2003	2060	2259	4761	5593	5716	6146
1000H..J54	0.0566	553	840	882	1031	1251	1655	1715	1923	346	447	462	514	1275	1554	1595	1740
1000H..J68	0.0713	854	1275	1338	1556	1938	2518	2604	2904	629	799	824	912	2119	2544	2607	2827
1000H..J97	0.1017	1657	2413	2525	2914	3805	4816	4966	5488	1476	1827	1879	2060	4545	5338	5456	5866
1200H..J68	0.0713	828	1237	1298	1509	1913	2486	2571	2866	551	699	721	798	2001	2402	2462	2669
1200H..J97	0.1017	1618	2355	2464	2844	3764	4764	4912	5429	1348	1668	1716	1882	4350	5109	5222	5614
1400H..J68	0.0713	805	1202	1261	1466	1890	2456	2540	2832	479	608	627	694	1892	2272	2329	2525
1400H..J97	0.1017	1581	2302	2408	2780	3727	4717	4864	5375	1230	1523	1567	1718	4171	4900	5008	5384

See Web Crippling Load Table Notes