American
Iron and Steel
Institute

AISI S230-07 w/S2-08

American Iron and Steel Institute

AISI STANDARD

Standard for Cold-Formed Steel Framing - Prescriptive Method for One and Two Family Dwellings

2007 Edition with Supplement 2

Revision of:
AISI/COFS/PM-2006

Endorsed by Steel Framing Alliance

Steel Framing Alliance℠

DISCLAIMER

The material contained herein has been developed by the American Iron and Steel Institute Committee on Framing Standards. The Committee has made a diligent effort to present accurate, reliable, and useful information on cold-formed steel framing design and installation. The Committee acknowledges and is grateful for the contributions of the numerous researchers, engineers, and others who have contributed to the body of knowledge on the subject. Specific references are included in the *Commentary*.

With anticipated improvements in understanding of the behavior of cold-formed steel framing and the continuing development of new technology, this material will become dated. It is anticipated that AISI will publish updates of this material as new information becomes available, but this cannot be guaranteed.

The materials set forth herein are for general purposes only. They are not a substitute for competent professional advice. Application of this information to a specific project should be reviewed by a design professional. Indeed, in many jurisdictions, such review is required by law. Anyone making use of the information set forth herein does so at their own risk and assumes any and all liability arising therefrom.

1st Printing – October 2008

PREFACE

The American Iron and Steel Institute Committee on Framing Standards has developed AISI S230-07, the 2007 edition of the *Standard for Cold-Formed Steel Framing - Prescriptive Method for One and Two Family Dwellings* to provide prescriptive requirements for cold-formed steel-framed detached one- and two-family dwellings, townhouses, attached multi-family dwellings, and other attached single-family dwellings. This edition supersedes the previous edition designated as AISI/COFS/PM-2006.

In 2008, the Committee on Framing Standards has developed Supplement 2 to AISI S230-07 to revise and clarify certain wall bracing provisions.

Supplement 2 to AISI S230-07 replaced Supplement 1 to AISI S230-07 and has been fully integrated into this document.

The Committee acknowledges and is grateful for the contributions of the numerous engineers, researchers, producers and others who have contributed to the body of knowledge on the subjects. The Committee wishes to also express their appreciation for the support of the Steel Framing Alliance.

The Committee acknowledges the significant investment and guidance provided by the Construction Market Council of the Steel Market Development Institute, a business unit of AISI.

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TABLE OF CONTENTS

STANDARD FOR COLD-FORMED STEEL FRAMING –
PRESCRIPTIVE METHOD FOR ONE AND TWO FAMILY DWELLINGS
2007 EDITION WITH SUPPLEMENT 2

LIST OF FIGURES

LIST OF TABLES

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STANDARD FOR COLD-FORMED STEEL FRAMING – PRESCRIPTIVE METHOD FOR ONE AND TWO FAMILY DWELLINGS 2007 EDITION WITH SUPPLEMENT 2

A. GENERAL

A1 Scope

The provisions in this standard shall apply to the construction of detached one- and two-family dwellings, townhouses, and other attached single-family dwellings not more than three stories in height using *repetitive* in-line *framing* practices.

Buildings complying with the limitations herein shall be constructed in accordance with this standard and AISI S200. Alternatively, such dwellings shall be permitted to be designed by a *design professional*.

This standard shall not preclude the use of other materials, assemblies, structures or designs not meeting the criteria herein, when the other materials, assemblies, structures or designs demonstrate equivalent performance for the intended use to those specified in this standard. Where there is a conflict between this standard and other reference documents, the requirements contained within this standard shall govern.

This standard shall include Sections A through F inclusive.

A1.1 Limits of Applicability

This standard shall be limited to buildings meeting the limitations set forth in Table A1-1.

In *high seismic areas*, the limits of applicability of this standard shall be modified as shown in Table A1-2.

Detached one and two family dwellings classified in *Seismic Design Category E,* but meeting the limitations for a *regular building* and having no floors cantilevering past exterior walls, shall be permitted to be designed in accordance with the requirements for *Seismic Design Category* D_2.

Where building codes or local ordinances regulate building construction based upon fastest mile wind speed, the equivalent *basic wind speed* (3 sec. gust) shall be determined by Table A1-3.

In *high seismic areas*, buildings in locations with ground snow loads greater than 30 psf (1.44 kN/m^2) and with either a *normal weight roof/ceiling assembly* or *light weight roof/ceiling assembly*, shall be constructed in accordance with the requirements for buildings with a *heavy weight roof/ceiling assembly*.

A1.2 Limitations in High Seismic Areas and High Wind Areas

In *high seismic areas*, stemwall height shall be limited to 4 feet (1220 mm) from top of footing to top of stemwall.

Buildings in *high seismic areas* and *high wind areas* shall be subject to the additional limitations of this section.

Floor and roof *diaphragm* aspect ratios shall not be less than 0.25:1 nor exceed 4:1. The *diaphragm* aspect ratio shall be determined by dividing the distance between *braced wall lines* (*diaphragm span*) by the length of the *diaphragm* parallel to the *braced wall lines*.

Floor and roof *diaphragm* plan offsets shall not exceed 4 feet (1220 mm).

Exception: Buildings where *diaphragm* plan offsets exceed four feet shall be analyzed as separate buildings, separated by a *braced wall line* or lines. See Figure A1-1.

Braced wall lines shall be placed on all exterior walls, and on interior walls as required.

Where a *braced wall line* separates two portions of a building, the required length of braced wall panels separating the two portions shall be determined by summing the required lengths of braced wall panels for each portion of the building as shown in Figure A1-1.

Vertical offsets in floor and roof *diaphragms* shall be supported by *braced wall lines*. See Figure A1-2(a).

Braced wall lines shall be continuous from foundation and in a single vertical plane from the foundation to the uppermost story in which they are required.

There shall be no horizontal offsets of *braced wall lines*. See Figure A1-2(b).

A1.2.1 Irregular Buildings In High Seismic Areas and High Wind Areas

In *high seismic areas,* a building with one or more irregularities, as defined in this Section, shall have an engineered lateral-force resisting system designed in accordance with the *applicable building code*.

Where an irregularity is isolated to a portion of a building and that portion of the building is designed in accordance with accepted engineering practice so that the irregularity does not affect the performance of the remaining building, the remainder of the building shall be permitted to be designed in accordance with the provisions of this standard.

For the purposes of this standard, any of the following conditions constitute an irregularity:

- When exterior *braced wall lines* are not in one plane vertically from the foundation to the uppermost story in which they are required.
- When a section of a floor or roof is not laterally supported by *braced wall lines* on all edges.

  Exception: Portions of floors that do not support *Type I* or *Type II braced walls* above, or roofs, shall be permitted to extend not more than 6 feet (1829 mm) beyond a *braced wall line*. See Figure A1-3.
- When an opening in a floor or roof exceeds the lesser of 12 feet (3658 mm) or 50 percent of the least floor or roof dimension.
- When portions of a floor are vertically offset and not supported by a *braced wall line*.
- When *braced wall lines* do not occur in two perpendicular directions.
- When a *braced wall line* is constructed of dissimilar *bracing* systems or *braced wall lines* in a given plan direction on any one level above grade are constructed of dissimilar *bracing* systems.

A2 Definitions

Where terms appear in this standard in italics, such terms shall have the meaning as defined in AISI S200 or as defined herein. Where terms are included in both this standard and AISI S200, such terms shall have the meaning as defined herein. Where terms are not included, such terms shall have ordinary accepted meaning in the context for which they are intended.

Basic Wind Speed. The 3-second gust wind speed in accordance with the *applicable building code* or in absence of a building code in accordance with ASCE 7.

Braced Wall Line. A straight line through the building plan that represents the location of the lateral resistance provided by the wall bracing.

Eave Height. The distance from the ground surface adjacent to the building to the roof eave line at a particular wall. If the height of the eave varies along the wall, the average height shall be used.

Heavy Weight Roof/Ceiling Assembly. A roof/ceiling assembly with an average unit weight greater than 15 psf (0.72 kN/m^2) and less than or equal to 25 psf (1.20 kN/m^2).

Heavy Weight Exterior Walls. An exterior wall with a unit weight greater than 7 psf (0.34 kN/m^2) and less than or equal to 14 psf (0.68 kN/m^2).

High Seismic Area. An area where the *Seismic Design Category* is D_0, D_1, D_2 or E.

High Wind Area. An area where *basic wind speeds* are equal to 110 mph (177 km/hr) up to and including 150 mph (241 km/hr)**.**

Light Weight Roof/Ceiling Assembly. A roof/ceiling assembly with an average unit weight less than or equal to 12 psf (0.51 kN/m^2).

Light Weight Exterior Walls. An exterior wall with a unit weight less than or equal to 7 psf (0.34 kN/m^2).

Limited Attic Storage. Attic where the maximum clear height between *joist* and *roof rafter* is greater than or equal to 42 inches and the attic area is accessible by a pull-down stairway or framed opening.

Normal Weight Roof/Ceiling Assembly. A roof/ceiling assembly with an average unit weight greater than 12 psf (0.51 kN/m^2) and less than or equal to 15 psf (0.72 kN/m^2).

No Attic Storage. Attic where the maximum clear height between *joist* and *roof rafter* is less than 42 inches.

SDC D_0. The *Seismic Design Category* corresponding to a calculated Short Period Design Spectral Response Acceleration greater than 0.50g, and less than or equal to 0.67g.

SDC D_1. The *Seismic Design Category* corresponding to a calculated Short Period Design Spectral Response Acceleration greater than 0.67g, and less than or equal to 0.83g.

SDC D_2. The *Seismic Design Category* corresponding to a calculated Short Period Design Spectral Response Acceleration greater than 0.83g, and less than or equal to 1.17g.

SDC E. The *Seismic Design Category* corresponding to a calculated Short Period Design Spectral Response Acceleration greater than 1.17g.

Seismic Design Category (SDC). A classification assigned to a building based upon its importance and the severity of the design earthquake ground motion at the building site as given in the local building code or, where there is no building code, as given in ASCE 7.

Wind Exposure B. The *wind exposure* generally referring to suburban or wooded terrain.

Wind Exposure C. The *wind exposure* generally referring to open terrain with scattered obstructions or water exposure in hurricane-prone regions.

A3 Referenced Documents

The following documents or portions thereof are referenced within this standard and shall be considered part of the requirements of this document.

1. AISI S100-07, *North American Specification for the Design of Cold-Formed Steel Structural Members*, American Iron and Steel Institute, Washington, DC.
2. AISI S200-07, *North American Standard for Cold-Formed Steel Framing –General Provisions*, American Iron and Steel Institute, Washington, DC.
3. AISI S201-07, *North American Standard for Cold-Formed Steel Framing – Product Data*, American Iron and Steel Institute, Washington, DC.
4. AISI S214-07, *North American Standard for Cold-Formed Steel Framing –Truss Design*, American Iron and Steel Institute, Washington, DC.
5. ASCE 7-05 Including Supplement 1, *Minimum Design Load for Buildings and Other Structures*, American Society of Civil Engineers, Reston, VA.
6. ASTM A307-04, *Standard Specification for Carbon Steel Bolts and Studs, 60000 PSI Tensile Strength*, ASTM International, West Conshohocken, PA.
7. ASTM Standard A653/A653M-06a, *Standard Specification for Sheet Steel, Zinc Coated (Galvanized) or Zinc-Iron Alloy Coated (Galvannealed) by the Hot Dip Process*, ASTM International, West Conshohocken, PA.
8. ASTM Standard A792/A792M-06a, *Standard Specification for Steel Sheet, 55% Aluminum-Zinc Alloy Coated by the Hot Dip Process*, ASTM International, West Conshohocken, PA.
9. ASTM A1003/A1003M-05, *Standard Specification for Sheet Steel, Carbon, Metallic and Non-Metallic Coated for Cold-Formed Framing Members*, ASTM International, West Conshohocken, PA.
10. ASTM C645-07, *Standard Specification for Nonstructural Steel Framing Members*, ASTM International, West Conshohocken, PA.
11. ASTM F1554-04, Standard Specification for Anchor Bolts, Steel, 36, 55, and 105-ksi Yield Strength, ASTM International, West Conshohocken, PA.
12. CSA O325.0-92 (R2003), *Construction Sheathing*, Canadian Standards Association, Mississauga, Ontario, Canada.
13. CSA O437-Series-93 (R2006), *Standards on OSB and Waferboard*, Canadian Standards Association, Mississauga, Ontario, Canada.
14. DOC PS 1-07, *Structural Plywood*, United States Department of Commerce, National Institute of Standards and Technology, Gaithersburg, MD.
15. DOC PS 2-04, *Performance Standard for Wood-Based Structural-Use Panels*, United States Department of Commerce, National Institute of Standards and Technology, Gaithersburg, MD.

A4 Limitations of Framing Members

A4.1 General

Structural and non-structural framing members shall comply with AISI S201 and the additional limitations of this section. Such limitations shall not apply where design is provided by a *design professional*.

Sheet steel that is in compliance with the requirements of ASTM A653 Type SS or ASTM A792 Type SS shall be deemed to comply with the material specification requirements of AISI S201 and this standard.

A4.2 Physical Dimensions

Cold-formed structural steel members shall comply with the dimensional requirements specified in Table A4-1.

A4.3 Material Properties

The minimum *yield strength*, F_y, of cold-formed steel framing members shall be 33 ksi (230 MPa) unless otherwise specified as 50 ksi (340 MPa).

A4.3.1 Material Properties in High Wind Areas and High Seismic Areas

Wall *studs* and *track* used in the construction of braced walls in *high seismic areas* shall be of ASTM A1003 Structural Grade 33 (Grade 230) Type H steel for members with a *designation thickness* of 33 or 43 and A1003 Structural Grade 50 (Grade 340) Type H steel for members with a *designation thickness* equal to or greater than 54.

Steel sheet used as a wall *bracing* material in *high wind areas* and *high seismic areas* shall have a minimum *base steel thickness* of 0.0269 inches (0.683 mm) and shall be of ASTM A1003 Structural Grade 33 (Grade 230) Type H steel.

A4.4 Web Holes

Holes in *webs* of *structural members* shall comply with the requirements for factory *punchouts* (perforations) in Section C5 of AISI S201, as shown in Figure A4-1 and all the following requirements:

(1) *Web* hole width for *studs* shall not be greater than 1-1/2 inches (38.1 mm).

(2) Minimum distance between the edge of bearing and the near edge of a *web* hole shall be 10 inches (254 mm), as shown in Figure A4-2.

Members with holes violating the above requirements shall be reinforced in accordance with Section A4.5, patched in accordance with Section A4.6 or designed in accordance with accepted engineering practices.

A4.5 Hole Reinforcing

Web holes in *floor joists*, *ceiling joists* and gable endwall *studs* violating the requirements of Section A4.4 shall be permitted to be reinforced if the hole is located fully within the center 40 percent of the *span* and the depth and length of the hole does not exceed 65% of the flat width of the *web*. The reinforcing shall be a steel plate or *C-shape* section with a hole that does not exceed the above *web* hole size limitation for the member being reinforced. The steel reinforcing shall be of a minimum thickness as the receiving member and shall extend at least 1 inch (25.4 mm) beyond all edges of the hole. The steel reinforcing shall be fastened to the *web* of the receiving member with No.8 screws spaced no greater than 1 inch (25.4

mm) center-to-center along the edges of the patch with minimum edge distance of 1/2 inch (12.7 mm).

A4.6 Hole Patching

Web holes violating the requirements of Section A4.4 shall be permitted to be patched if the depth of the hole does not exceed 70% of the flat width of the *web* and the length of the hole measured along the *web* does not exceed 10 inches (254 mm) or the depth of the *web*, whichever is greater. The patch shall be a solid steel plate, *stud* section, or *track* section in accordance with Figures A4-3 or A4-4. The steel patch shall be of a minimum thickness as the receiving member and shall extend at least 1 inch (25.4 mm) beyond all edges of the hole. The steel patch shall be fastened to the *web* of the receiving member with No.8 screws spaced no greater than 1 inch (25.4 mm) center-to-center along the edges of the patch with minimum edge distance of 1/2 inch (12.7 mm).

Structural members shall be replaced or designed in accordance with accepted engineering practices when *web* holes exceed either of the following size limits:

(a) The depth of the hole, measured across the *web*, exceeds 70% of the flat width of the *web*.

(b) The length of the hole measured along the *web*, exceeds 10 inches (254 mm) or the depth of the *web*, whichever is greater.

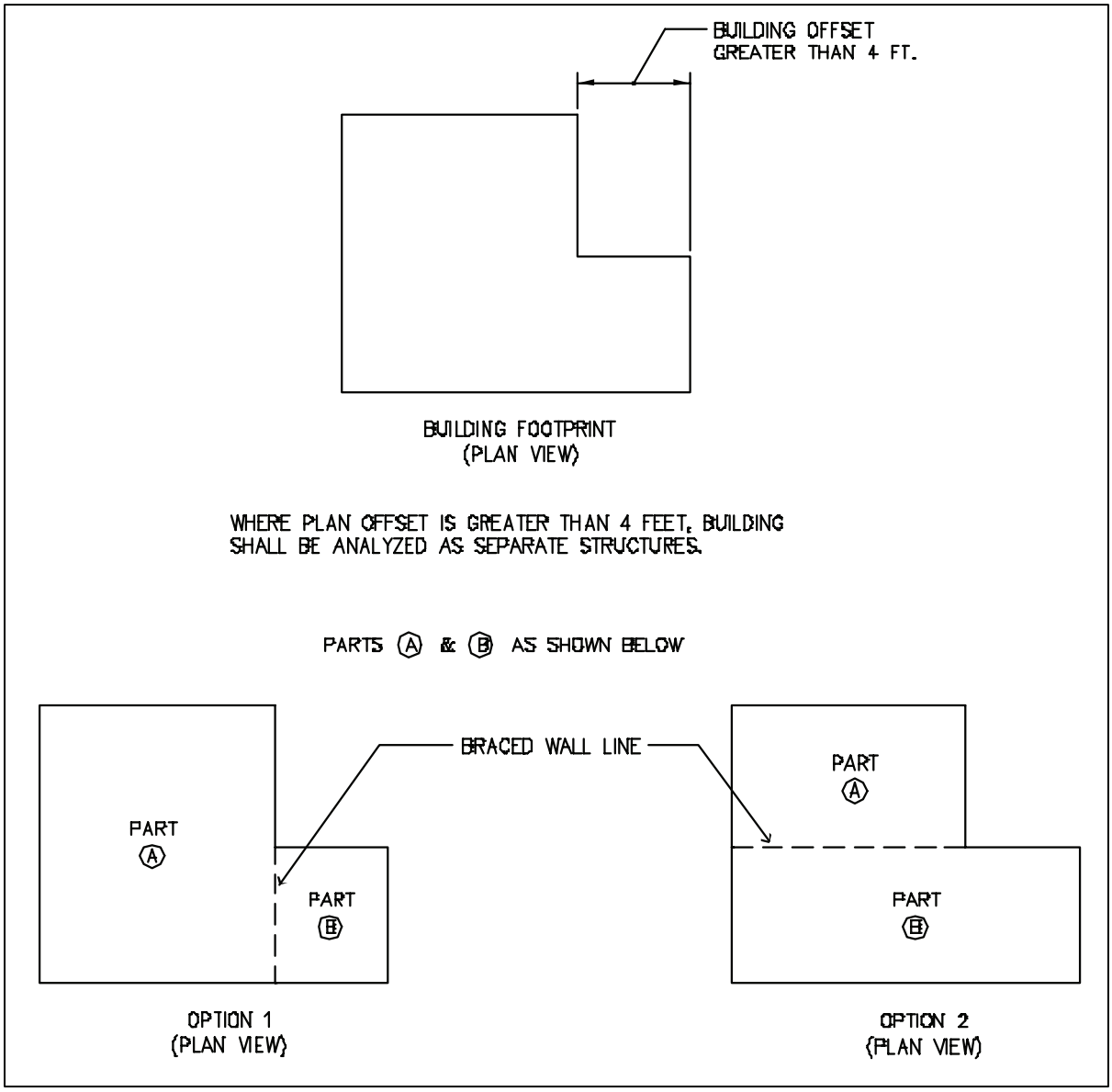


Figure A1-1 Building Configuration

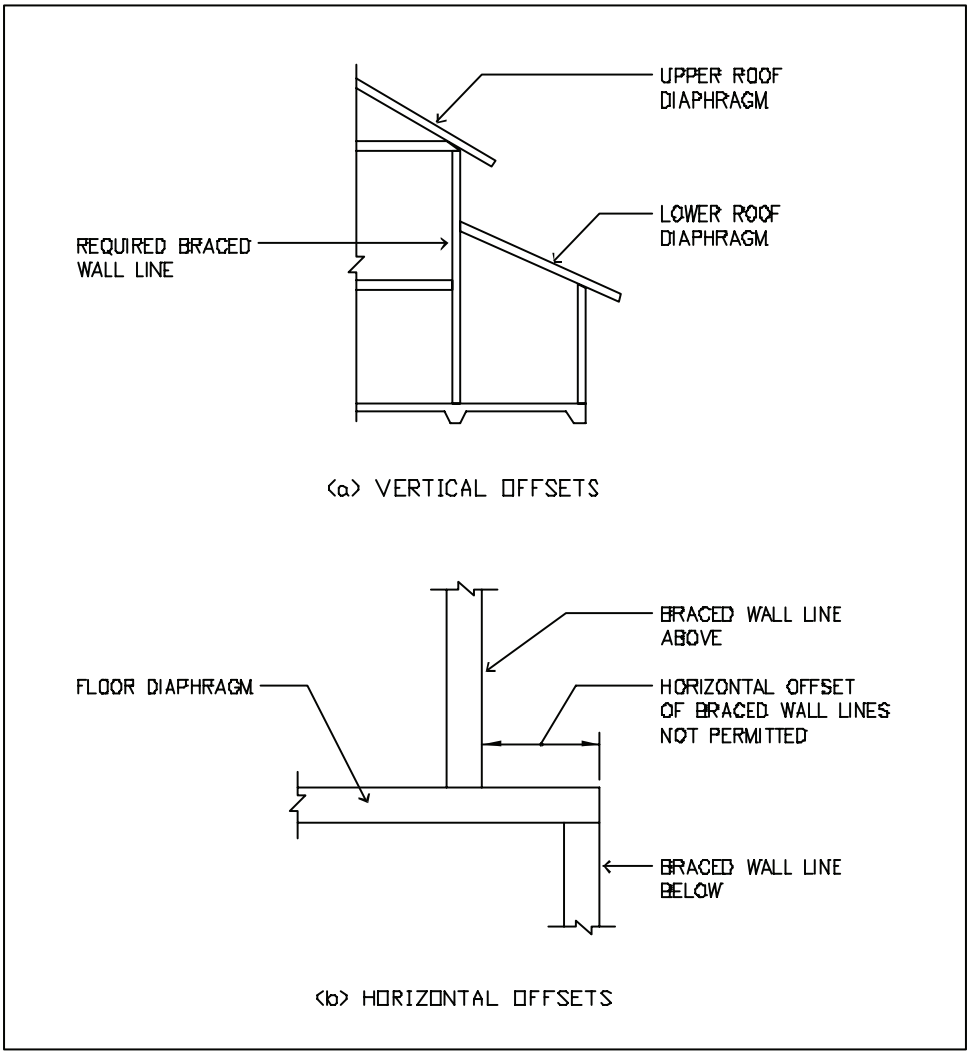


Figure A1-2 Building Configuration Limitations

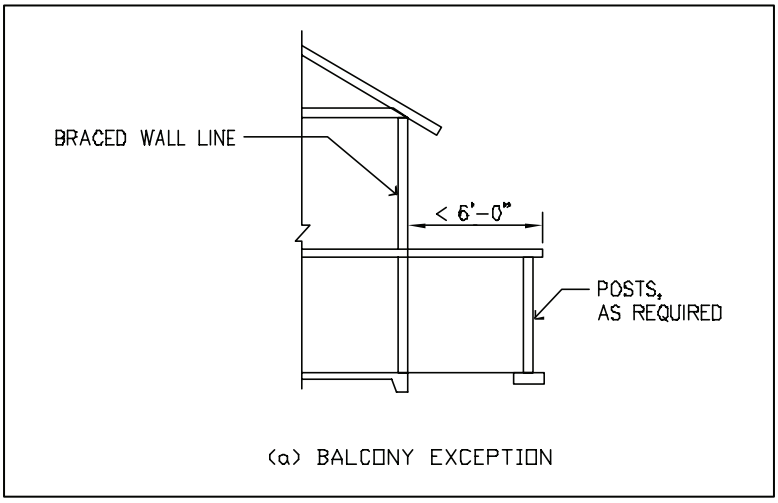


Figure A1-3 Irregular Buildings

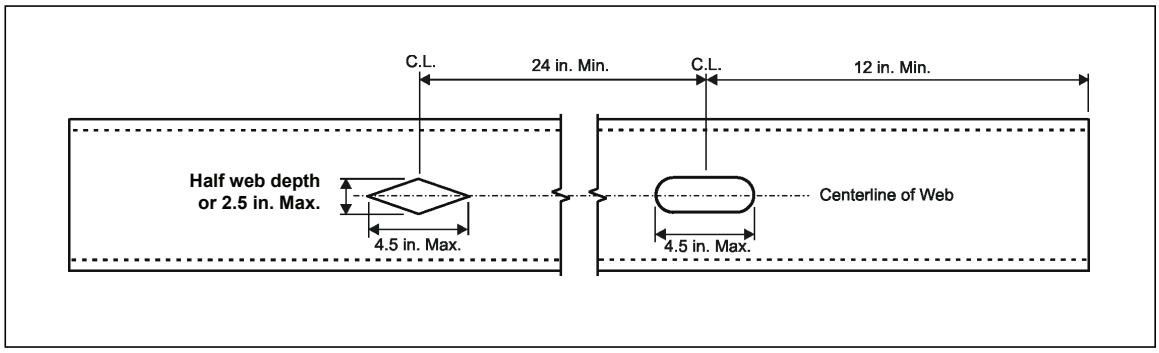


Figure A4-1 Web Hole Limitations

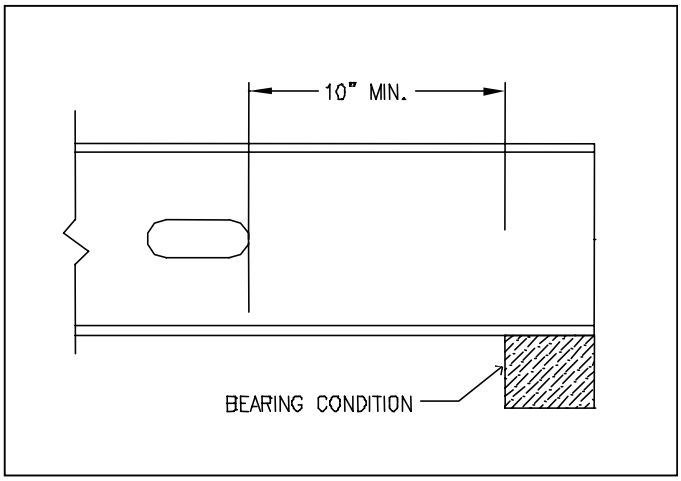


Figure A4-2 Web Hole Limitation Adjacent to Bearing

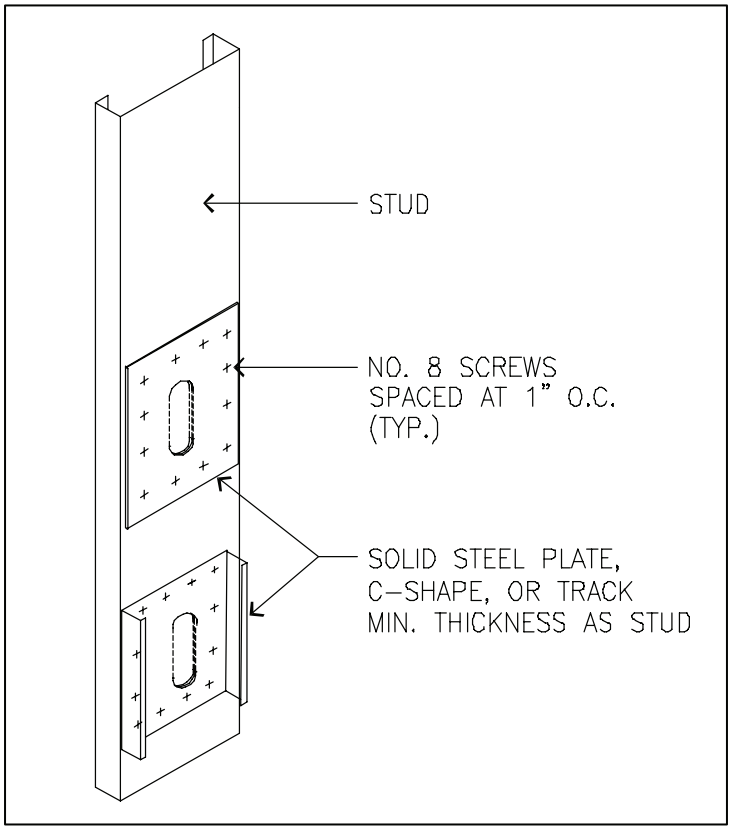


Figure A4-3 Stud Web Hole Patch

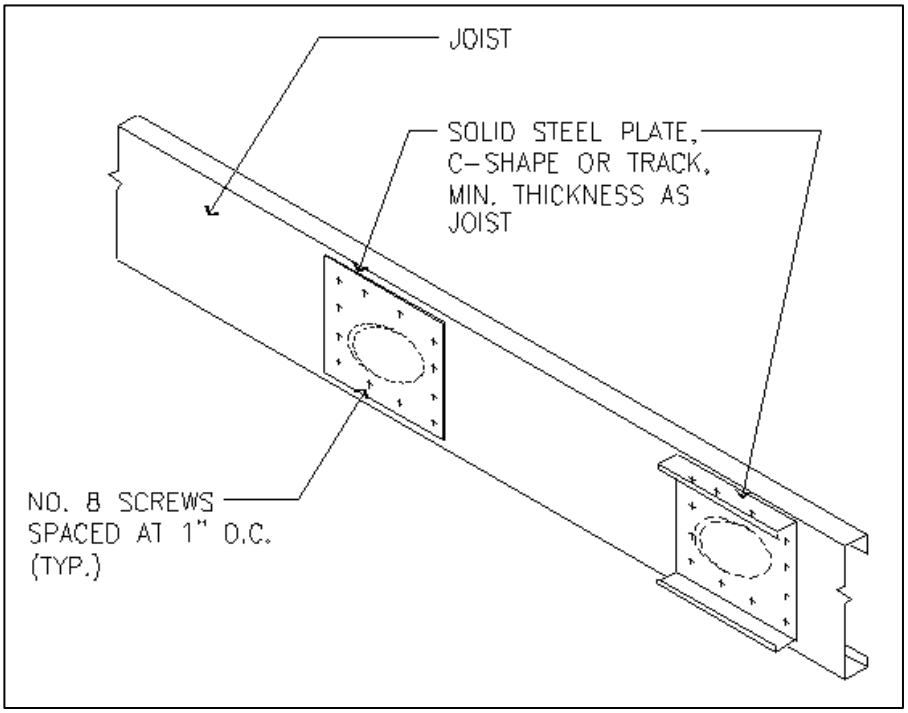


Figure A4-4 Joist Web Hole Patch

Table A1-1
Limits of Applicability

ATTRIBUTE	LIMITATION
General	
Building Dimension	Maximum width[1] is 40 feet (12.2 m) Maximum length[2] is 60 feet (18 m)
Number of Stories	3 story with a basement
Maximum Story Height	10 feet (3.05 m), plus a height of floor or roof framing at the eaves not to exceed 16 inches (406 mm)
Maximum *Mean Roof Height*	33 feet (10.1 m) above *average grade*
Basic Wind Speed	Up to 150 mph (241 km/hr)[3]
Wind Exposure	Exposures C (open terrain or hurricane coastline) Exposures B (suburban/wooded)
Ground Snow Load	70 psf (3.35 kN/m^2) maximum ground snow load
Seismic Design Category	A, B, C, D_0, D_1, D_2 and E
Floors	
Floor Dead Load	10 psf (0.48 kN/m^2) maximum
Floor Live Load	40 psf (1.92 kN/m^2) maximum (rooms other than sleeping rooms) 30 psf (1.44 kN/m^2) maximum (sleeping rooms)
Cantilever	24 inches (610 mm) maximum
Walls	
Wall Dead Load	10 psf (0.48 kN/m^2) maximum
Structural Wall Height	10 feet (3.05 m) maximum
Roofs	
Roof Dead Load	12 psf (0.58 kN/m^2) maximum total roof and ceiling load 7 psf (0.34 kN/m^2) maximum for roof covering only
Roof Snow/Live Load	70 psf (3.35 kN/m^2) maximum ground snow load (16 psf (0.77 kN/m^2) minimum roof live load)
Ceiling Dead Load	5 psf (0.24 kN/m^2) maximum
Roof Slope	3:12 to 12:12
Rake Overhang	12 inches (305 mm) maximum
Eave Overhang	24 inches (610 mm) maximum
Attic Live Load (Attics with storage) Attic Live Load (Attics without storage)	20 psf (0.96 kN/m^2) maximum 10 psf (0.48 kN/m^2) maximum

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m.
[1] Building width is in the direction of horizontal framing members supported by the wall *studs*.
[2] Building length is in the direction perpendicular to *floor joists*, *ceiling joists*, or roof *trusses*.
[3] To convert to fastest-mile wind speed refer to Table A1-3.

Table A1-2
Additional Limitations in High Seismic Areas

ATTRIBUTE	LIMITATION
General	
Number of Stories	3 story slab on grade or on continuous concrete or masonry foundation[1]
Ground Snow Load[3]	70 psf (3.35 kN/m^2) maximum with *normal* or *light weight*[2] *roof system* 30 psf (1.44 kN/m^2) maximum with *heavy weight*[2] *roof system*
Seismic Design Category	*Seismic Design Category* D_0, D_1, D_2, E[4]
Walls	
Wall Dead Load	7 psf (0.34 kN/m^2) maximum for *light weight wall system* 14 psf (0.68 kN/m^2) maximum for *heavy weight wall system*
Roofs	
Roof/Ceiling Dead Load	12 psf (0.57 kN/m^2) maximum total load for *light weight roof system* 15 psf (0.72 kN/m^2) maximum total load for *normal weight roof system* 25 psf (1.20 kN/m^2) maximum total load for *heavy weight roof system*
Roof Slope	3:12 to 6:12

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 mph = 1.61 km/hr = 0.447 m/s, 1 foot = 0.305 m

[1] Maximum height from *average grade* to *mean roof height* is limited to 33' (10.1 m).

[2] *Normal, light*, and *heavy weight roof systems* are as defined in this table

[3] In *high seismic areas*, buildings in locations with ground snow loads greater than 30 psf (1.44 kN/m^2) and with a *normal* or *light weight roof/ceiling assembly* are to be constructed in accordance with the requirements for buildings with a *heavy weight roof/ceiling assembly*.

[4] Buildings constructed in *Seismic Design Category E* per this standard are limited to *regular buildings* which do not have any floors cantilevered past exterior walls.

Table A1-3
Equivalent Basic Wind Speeds (mph) [1]

Fastest Mile	71	76	85	90	95	104	114	123	133
3-Second Gust	85	90	100	105	110	120	130	140	150

For SI: 1 mph = 1.61 km/hr = 0.447 m/sec

[1] Linear interpolation is permitted.

Table A4-1
Cold-Formed Steel Member Sizes

Member Designation[1]	Web Depth (inches)	Minimum Flange Width (inches)	Maximum Flange Width (inches)	Minimum Lip Size (inches)
350S162-t	3.5	1.625	2	0.5
550S162-t	5.5	1.625	2	0.5
800S162-t	8	1.625	2	0.5
1000S162-t	10	1.625	2	0.5
1200S162-t	12	1.625	2	0.5

For SI: 1 inch = 25.4 mm.

[1] "t" indicates the *designation thickness* of the steel; i.e., the minimum *base steel thickness* expressed in mils (1/1000 inches) and rounded to a whole number.

B. CONNECTIONS

B1 Fastening Requirements

Screw fasteners shall conform to the requirements of AISI S200. All screw sizes specified in this standard shall be minimums. Other fastening techniques, such as the use of pneumatically driven fasteners, powder-actuated fasteners, crimping, clinching, or welding, shall be permitted when *approved*.

Where No.8 screws are specified, the required number of screws in a steel-to-steel connection shall be permitted to be reduced in accordance with the reduction factors in Table B1-1 when larger screws are used or when one of the sheets of steel being connected is thicker than 33 mils (0.84 mm). When applying the reduction factor, the resulting number of screws shall be rounded up.

B2 Bearing Stiffeners

A *bearing stiffener* shall be fabricated from a *C-shaped*, *track* or clip angle member with a minimum size that is in accordance with the one of following:

(a) *C-shaped* Bearing Stiffeners:
   a. Where the *joist* is not carrying a structural wall above, the *bearing stiffener* shall be a minimum 33 mil (0.84 mm) thickness.
   b. Where the *joist* is carrying a structural wall above, the *bearing stiffener* shall be at least the same *designation thickness* as the wall *stud* above.

(b) *Track* Bearing Stiffeners:
   a. Where the *joist* is not carrying a structural wall above, the *bearing stiffener* shall be a minimum 43 mil (1.09 mm) thickness.
   b. Where the *joist* is carrying a structural wall above, the *bearing stiffener* shall be at least one *designation thickness* greater than the wall *stud* above.

(c) Clip Angle Bearing Stiffeners:
   a. Where the clip angle *bearing stiffener* is fastened to both the *web* of the member it is stiffening and an adjacent *rim track* using the fastener pattern shown in Figure B2-1, the *bearing stiffener* shall be a minimum 2-inch x 2-inch (51 mm x 51 mm) angle sized in accordance with Tables B2-1through B2-4.

The minimum length of a *bearing stiffener* shall be the depth of member being stiffened minus 3/8 inch (9.5 mm). Each *bearing stiffener* shall be fastened to the *web* of the member it is stiffening as shown in Figure B2-1. Each clip angle *bearing stiffener* shall also be fastened to the *web* of the adjacent *rim track* using the fastener pattern shown in Figure B2-1. No. 8 screws shall be used for *C-shaped* and *track* members of any thickness and for clip angle members with a *designation thickness* less than or equal to 54. No. 10 screws shall be used for clip angle members with a *designation thickness* greater than 54. *Bearing stiffeners* shall be installed in accordance with the alignment requirements of Section C1 of AISI S200 for inline framing.

B3 Clip Angles

Clip angles shall have a minimum size of 2 inches x 2 inches by 33 mil (51 mm x 51 mm x 0.84 mm) and have sufficient leg length to provide minimum 1-inch (25.4 mm) overlap on the connected material, unless otherwise noted. All *clip angle* materials shall comply with Section A.

B4 Anchor Bolts

Anchor bolts connecting steel framing to the foundation structure shall be installed so that the distance from the center of the bolt hole to the edge of the connected member is not less than one and one-half bolt diameters. Anchor bolts shall include appropriate size and grade washers. Anchor bolts shall meet or exceed the requirements of ASTM F1554.

In *high wind areas* and *high seismic areas*, anchor bolts shall have a minimum 3"x3"x 0.229" (76 mm by 76 mm by 5.8 mm) steel plate washer, unless a standard hole size is provided in the connected member and a standard cut or hardened washer is provided between the connected member and the nut.

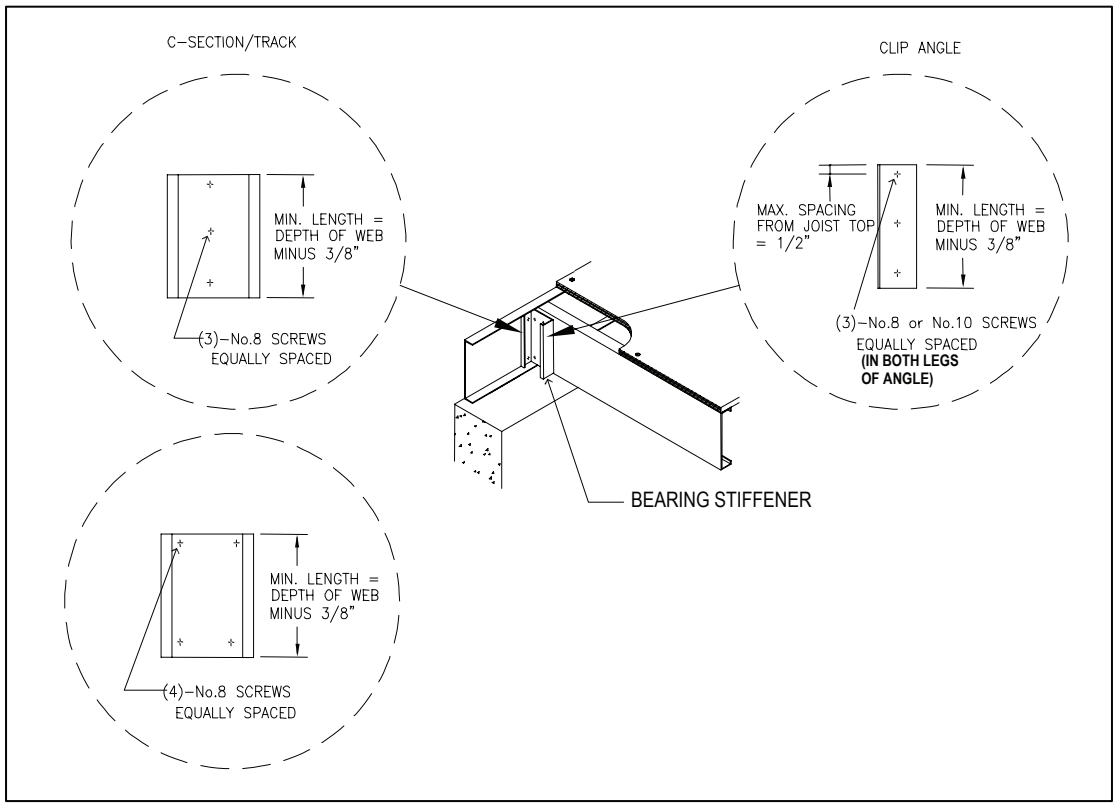


Figure B2-1 Bearing Stiffener (Web Stiffener)

Table B1-1
Screw Substitution Factor

Screw Size	Thinnest Connected Steel Sheet (mils)	
	33	43
No.8	1.0	0.67
No.10	0.93	0.62
No.12	0.86	0.56

For SI: 1 mil = 0.0254 mm.

Table B2-1
Clip Angle Bearing Stiffeners
20 psf Equivalent Snow Load

Joist Designation	Minimum Thickness (Mils) of 2-inch x 2-inch (50.8 mm x 50.8 mm) Clip Angle											
	Top Floor				Bottom Floor in 2 Story Middle Floor in 3 Story				Bottom Floor in 3 Story			
	Joist Spacing (inches)				Joist Spacing (inches)				Joist Spacing (inches)			
	12	16	19.2	24	12	16	19.2	24	12	16	19.2	24
800S162-33	43	43	43	43	43	54	68	68	68	97	97	-
800S162-43	43	43	43	43	54	54	68	68	97	97	97	97
800S162-54	43	43	43	43	43	54	68	68	68	97	97	-
800S162-68	43	43	43	43	43	43	54	68	54	97	97	-
800S162-97	43	43	43	43	43	43	43	43	43	43	54	97
1000S162-43	43	43	43	43	54	68	97	97	97	-	-	-
1000S162-54	43	43	43	43	54	68	68	97	97	97	-	-
1000S162-68	43	43	43	43	54	68	97	97	97	-	-	-
1000S162-97	43	43	43	43	43	43	43	54	43	68	97	-
1200S162-43	43	54	54	54	97	97	97	97	-	-	-	-
1200S162-54	54	54	54	54	97	97	97	97	-	-	-	-
1200S162-68	43	43	54	54	68	97	97	97	-	-	-	-
1200S162-97	43	43	43	43	43	54	68	97	97	-	-	-

For SI: 1 mil = 0.0254 mm.

Table B2-2
Clip Angle Bearing Stiffeners
30 psf Equivalent Snow Load

Joist Designation	Minimum Thickness (Mils) of 2-inch x 2-inch (50.8 mm x 50.8 mm) Clip Angle											
	Top Floor				Bottom Floor in 2 Story Middle Floor in 3 Story				Bottom Floor in 3 Story			
	Joist Spacing (inches)				Joist Spacing (inches)				Joist Spacing (inches)			
	12	16	19.2	24	12	16	19.2	24	12	16	19.2	24
800S162-33	43	43	43	43	54	68	68	97	97	97	97	-
800S162-43	43	43	43	54	68	68	68	97	97	97	97	-
800S162-54	43	43	43	43	54	68	68	97	97	97	-	-
800S162-68	43	43	43	43	43	54	68	97	68	97	97	-
800S162-97	43	43	43	43	43	43	43	43	43	43	68	97
1000S162-43	54	54	54	54	68	97	97	97	97	-	-	-
1000S162-54	54	54	54	54	68	97	97	97	97	-	-	-
1000S162-68	43	43	54	68	68	97	97	-	97	-	-	-
1000S162-97	43	43	43	43	43	43	54	68	54	97	-	-
1200S162-43	54	68	68	68	97	97	97	-	-	-	-	-
1200S162-54	68	68	68	68	97	97	-	-	-	-	-	-
1200S162-68	68	68	68	68	97	97	97	-	-	-	-	-
1200S162-97	43	43	43	43	54	68	97	-	97	-	-	-

For SI: 1 mil = 0.0254 mm.

Table B2-3
Clip Angle Bearing Stiffeners
50 psf Equivalent Snow Load

Joist Designation	Minimum Thickness (Mils) of 2-inch x 2-inch (50.8 mm x 50.8 mm) Clip Angle											
	Top Floor				Bottom Floor in 2 Story Middle Floor in 3 Story				Bottom Floor in 3 Story			
	Joist Spacing (inches)				Joist Spacing (inches)				Joist Spacing (inches)			
	12	16	19.2	24	12	16	19.2	24	12	16	19.2	24
800S162-33	54	54	54	54	68	97	97	97	97	-	-	-
800S162-43	68	68	68	68	97	97	97	97	-	-	-	-
800S162-54	54	68	68	68	97	97	97	97	-	-	-	-
800S162-68	43	43	54	54	68	97	97	97	97	-	-	-
800S162-97	43	43	43	43	43	43	43	54	54	68	97	-
1000S162-43	97	68	68	68	97	97	97	97	-	-	-	-
1000S162-54	97	97	68	68	97	97	97	-	-	-	-	-
1000S162-68	68	97	97	97	97	-	-	-	-	-	-	-
1000S162-97	43	43	43	43	54	68	97	97	-	-	-	-
1200S162-43	97	97	97	97	-	-	-	-	-	-	-	-
1200S162-54	-	97	97	97	-	-	-	-	-	-	-	-
1200S162-68	97	97	97	97	-	-	-	-	-	-	-	-
1200S162-97	54	68	68	97	97	-	-	-	-	-	-	-

For SI: 1 mil = 0.0254 mm.

Table B2-4
Clip Angle Bearing Stiffeners
70 psf Equivalent Snow Load

Joist Designation	Minimum Thickness (Mils) of 2-inch x 2-inch (50.8 mm x 50.8 mm) Clip Angle											
	Top Floor				Bottom Floor in 2 Story Middle Floor in 3 Story				Bottom Floor in 3 Story			
	Joist Spacing (inches)				Joist Spacing (inches)				Joist Spacing (inches)			
	12	16	19.2	24	12	16	19.2	24	12	16	19.2	24
800S162-33	68	68	68	68	97	97	97	97	-	-	-	-
800S162-43	97	97	97	97	97	97	97	-	-	-	-	-
800S162-54	97	97	97	97	97	-	-	-	-	-	-	-
800S162-68	68	68	68	97	97	97	97	-	-	-	-	-
800S162-97	43	43	43	43	43	54	68	97	97	97	-	-
1000S162-43	97	97	97	97	-	-	-	-	-	-	-	-
1000S162-54	-	97	97	97	-	-	-	-	-	-	-	-
1000S162-68	97	97	-	-	-	-	-	-	-	-	-	-
1000S162-97	68	68	68	68	97	97	-	-	-	-	-	-
1200S162-43	97	97	97	97	-	-	-	-	-	-	-	-
1200S162-54	-	-	-	-	-	-	-	-	-	-	-	-
1200S162-68	-	-	-	-	-	-	-	-	-	-	-	-
1200S162-97	97	97	97	-	-	-	-	-	-	-	-	-

For SI: 1 mil = 0.0254 mm.

C. FOUNDATION

C1 General

The building foundation shall comply with the applicable building code. Steel framing shall be attached to the foundation structure according to the requirements of Sections D and E of this document. Foundation anchor bolts shall be located not more than 12 inches (305 mm) from corners or the termination of bottom *tracks*.

D. FLOOR FRAMING

D1 Floor Construction

Floor framing shall be constructed in accordance with this section.

D2 Floor to Foundation or Structural Wall Connection

Floor framing shall be anchored to foundations, wood sills, or structural walls in accordance with Table D2-1 and Figures D2-1 through D2-6. Anchor bolts shall be located not more than 12 inches (305 mm) from corners or the termination of bottom *tracks*. Continuous steel joists supported by interior structural walls shall be constructed in accordance with Figure D2-7. Lapped steel joists shall be constructed in accordance with Figure D2-8. End *floor joists* constructed on foundation walls parallel to the joist *span* shall be doubled unless a *C-shaped bearing stiffener*, sized in accordance with Section B2, is installed *web*-to-*web* with the *floor joist* beneath each supported wall *stud*, as shown in Figure D2-9. Fastening of steel joists to other framing members shall be in accordance with Table D2-2.

In *high seismic areas* and *high wind areas*, the anchorage of floors to foundations and structural walls shall be in accordance with the provisions of Sections E11, E12 and E13 as applicable.

D3 Minimum Floor Joist Sizes

Floor joist size and thickness shall be determined in accordance with the limits set forth in Table D3-1 for *single spans*, and Tables D3-2a and D3-2b for *multiple spans*. When continuous joist members are used, the interior bearing supports shall be located within two feet (0.61 m) of mid-*span* of the steel joists, and the individual *spans* shall not exceed the *spans* in Tables D3-2a or D3-2b as applicable. *Floor joists* shall have a bearing support length of not less than 1.5 inches (38 mm) for exterior wall supports and 3.5 inches (89 mm) for interior wall supports. *Tracks* shall be a minimum of 33 mils (0.84 mm) thick except when used as part of floor *header* or trimmer in accordance with Section D7.

D3.1 Floor Cantilevers

Floor cantilevers for the top floor of a two or three story building or the first floor of a one-story building shall not exceed 24 inches (610 mm). Cantilevers, not exceeding 24 inches (610 mm) and supporting two stories and roof (i.e., first floor of a two-story building), shall be permitted provided that all cantilevered joists are doubled (nested or back-to-back). The doubled cantilevered joists shall extend a minimum of 6 feet (1.83 m) toward the inside and shall be fastened with a minimum of two No.8 screws spaced at 24 inches (610 mm) on center through the *webs* (for back-to-back) or *flanges* (for nested joists).

D4 Bearing Stiffeners

Bearing stiffeners shall be installed at each joist bearing location in accordance with Section B2, except for *joists* lapped over an interior support not carrying a structural wall above. Floor *joists* supporting jamb *studs* with multiple members shall have two *bearing stiffeners* in accordance with Figure D4-1.

D5 Joist Bracing and Blocking

D5.1 Joist Top Flange Bracing

The top *flanges* of *floor joist* members shall be laterally braced by the application of floor sheathing fastened to the joists in accordance with Section D9.

D5.2 Joist Bottom Flange Bracing/Blocking

Floor joists with *spans* that exceed 12 feet (3.66 m) shall have the bottom *flanges* laterally braced in accordance with one of the following:

(a) Gypsum board installed with No.6 screws at 12 inches (305 mm) on center on edges and in the field. Edges perpendicular to framing members need not be blocked.

(b) Continuous steel *straps* installed in accordance with Figure D5-1. Steel *straps* shall be spaced at a maximum of 12 feet (3.66 m) on center and shall be at least 1-1/2 inches (38 mm) in width and 33 mils (0.84 mm) in thickness. *Straps* shall be fastened to the bottom *flange* of each joist with one No.8 screw, fastened to *blocking* with two No.8 screws, and fastened at each end (of *strap*) with two No.8 screws. *Blocking* (Figure D5-1 or Figure D5-2) shall be installed between joists at each end of the continuous *strapping* and at a maximum spacing of 12 feet (3.66 m) measured along the continuous *strapping* (perpendicular to the joist run). *Blocking* shall also be located at the termination of all *straps*. As an alternative to *blocking* at the ends, the *strap* shall be permitted to be anchored to a stable building component with two No.8 screws.

D5.3 Blocking at Interior Bearing Supports

Blocking is not required for continuous back-to-back *floor joists* at bearing supports. *Blocking* shall be installed between every other joist for single continuous *floor joists* across bearing supports in accordance with Figure D2-7. *Blocking* shall consist of *C-shape* or *track* section with a minimum thickness of 33 mils (0.84 mm). *Blocking* shall be fastened to each adjacent joist through a 33 mil *clip angle*, bent *web* of *blocking* or *flanges* of *web* stiffener with two No.8 screws on each side. The minimum depth of the *blocking* shall be equal to the depth of the joist minus 2 inches (51 mm). The minimum length of the angle shall be equal to the depth of the joist minus 2 inches (51 mm).

D5.4 Blocking at Cantilevers

Blocking shall be installed between every other joist over cantilever bearing supports in accordance with Figures D2-4, D2-5 or D2-6. *Blocking* shall consist of *C-shape* or *track* section with minimum thickness of 33 mils (0.84 mm). *Blocking* shall be fastened to each adjacent joist through bent *web* of *blocking*, 33 mil *clip angle* or *flange* of *web* stiffener with two No.8 screws at each end. The depth of the *blocking* shall be equal to the depth of the joist. The minimum length of the angle shall be equal to the depth of the joist minus 2 inches (51 mm). *Blocking* shall be fastened through the floor sheathing and to the support with 3 No.8 screws (top and bottom).

D6 Splicing

Joists and other *structural members* shall not be spliced without an *approved* design. Splicing of *tracks* shall conform to Figure D6-1.

D7 Framing of Floor Openings

Openings in floors shall be framed with *header* and trimmer joists. *Header* joist *spans* shall not exceed 6 feet (1.83 m) or 8 feet (2.44 m) in length in accordance with Figures D7-1 and D7-2, respectively. *Header* and trimmer joists shall be fabricated from joist and *track* members, having a minimum size and thickness at least equivalent to the adjacent *floor joists* and shall be installed in accordance with Figures D7-1, D7-2, D7-3, and D7-4. Each *header* joist shall be connected to trimmer joists with four 2 inch x 2 inch (51 mm x 51 mm) *clip angles*. Each *clip angle* shall be fastened to both the *header* and trimmer joists with four No.8 screws evenly spaced through each leg of the *clip angle*. The *clip angles* shall have a thickness not less than that of the *floor joist*. Each *track* section for a built-up *header* or trimmer joist shall extend the full length of the joist (continuous).

D8 Floor Trusses

Cold-formed steel floor *trusses* shall be designed, braced, and installed in accordance with the *Standard for Cold-Formed Steel Framing – Truss Design*. *Truss* members shall not be notched, cut, or altered in any manner without an *approved* design.

D9 Diaphragms

A floor *diaphragm* shall be provided by attaching a minimum of 19/32 inch (15.1 mm) wood structural panel, which complies with DOC PS 1, DOC PS 2, CSA O437, or CSA O325 to *floor joists* in accordance with Table D2-2. Screws used to attach the *floor diaphragm* shall have minimum head diameter of 0.29 inch (7 mm).

D9.1 Floor Diaphragms in High Seismic Areas and High Wind Areas

In *high seismic areas* and *high wind areas,* floor *diaphragms* shall be constructed in accordance with Section D9 except that the screw spacing shall be 6 inches (152 mm) on panel edges and in the field. The *diaphragms* shall be permitted to be unblocked, and shall be permitted to be constructed in any panel configuration.

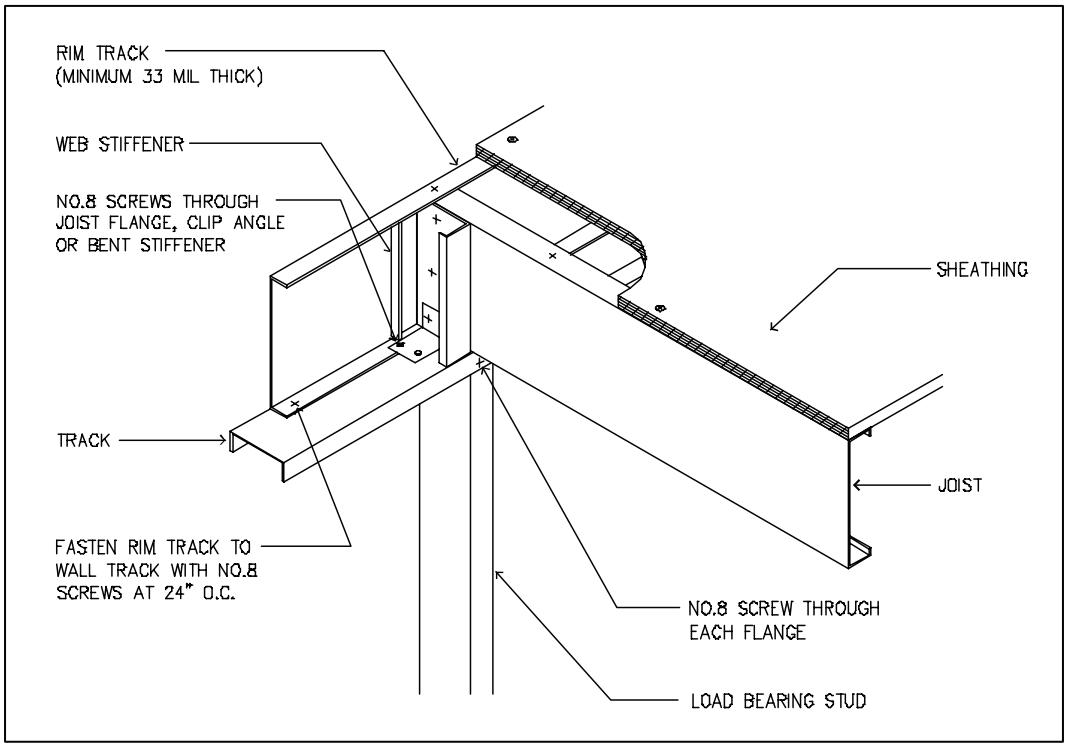


Figure D2-1 Floor to Exterior Structural Wall Connection

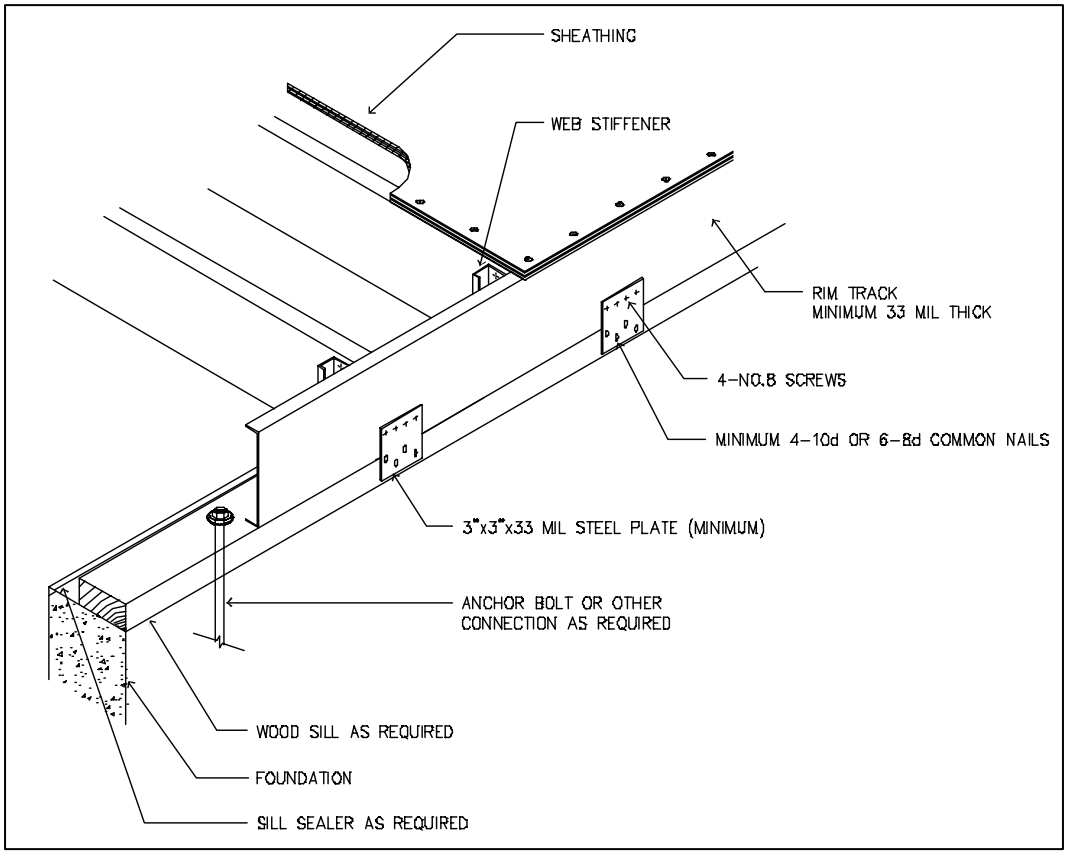


Figure D2-2 Floor to Wood Sill Connection

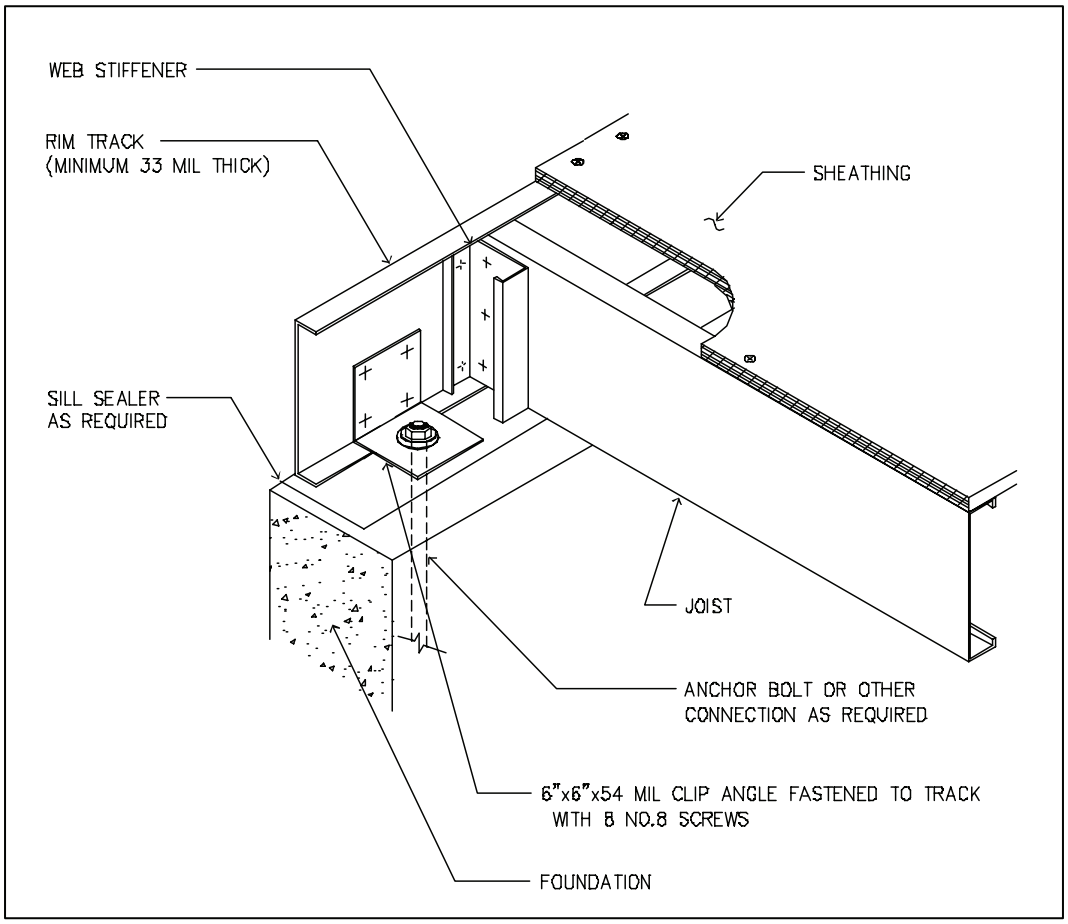


Figure D2-3 Floor to Foundation Connection

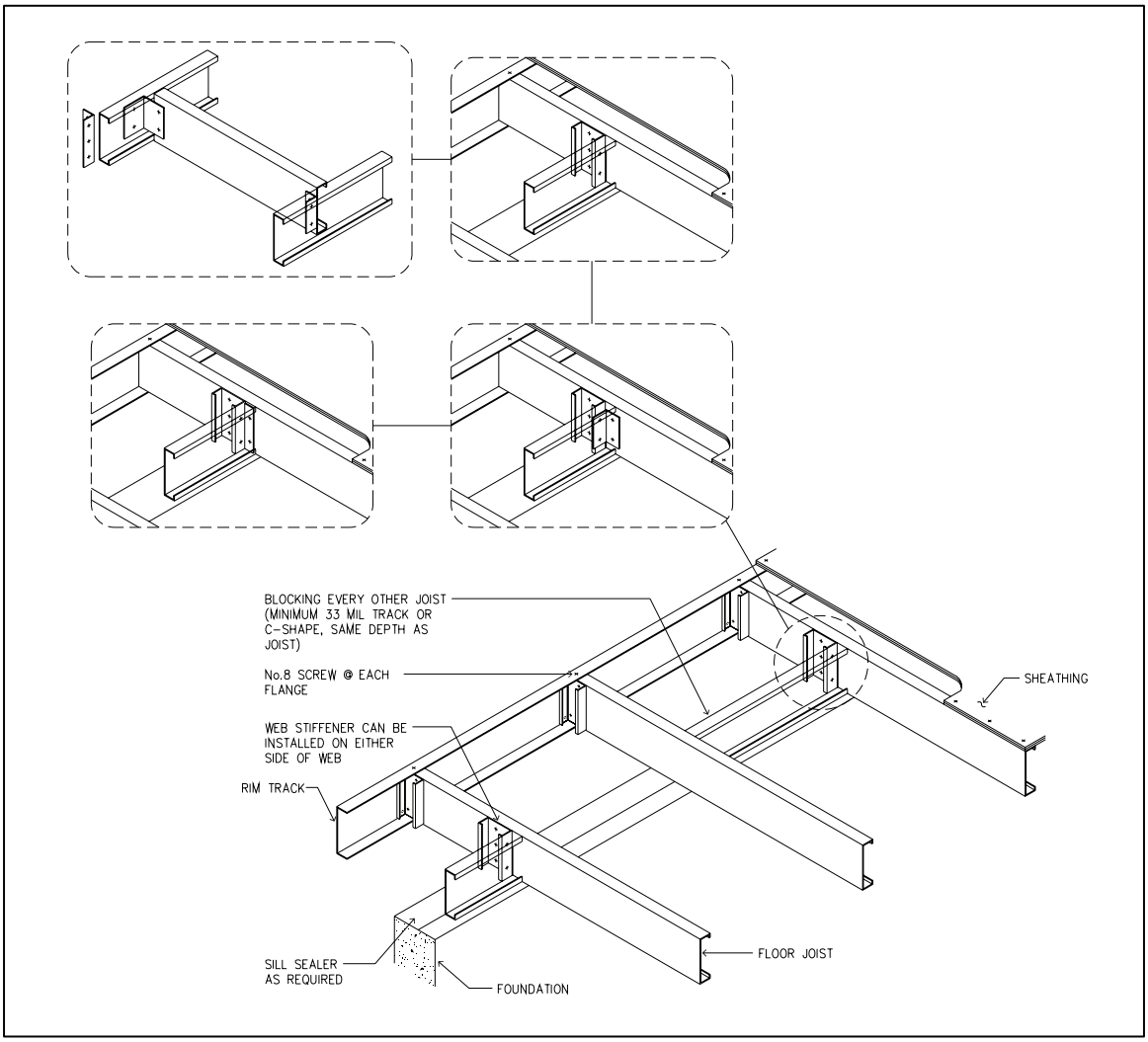


Figure D2-4 Cantilevered Floor to Foundation Connection

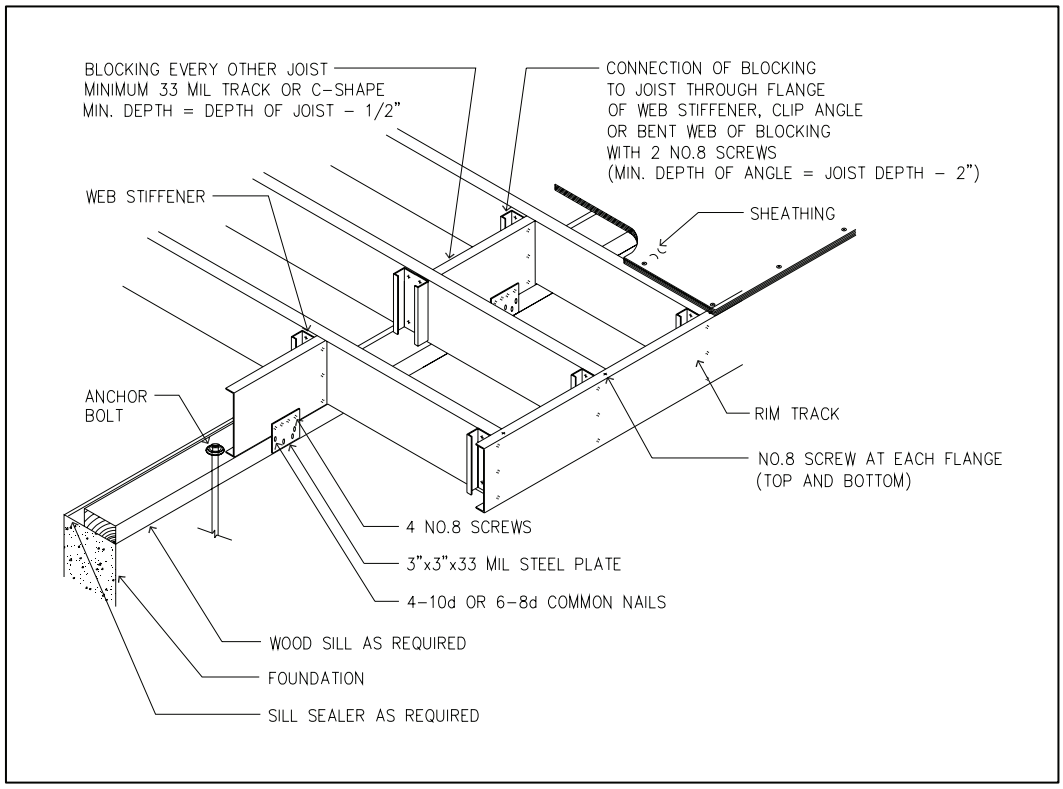


Figure D2-5 Cantilevered Floor to Wood Sill Connection

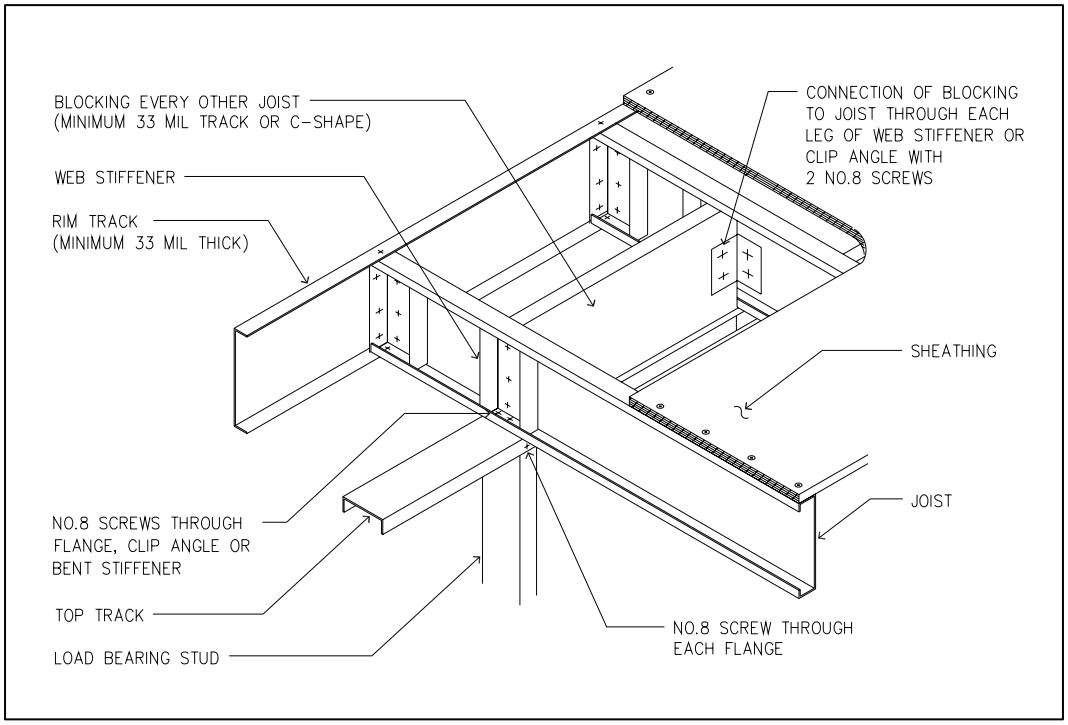


Figure D2-6 Cantilevered Floor to Exterior Structural Wall Connection

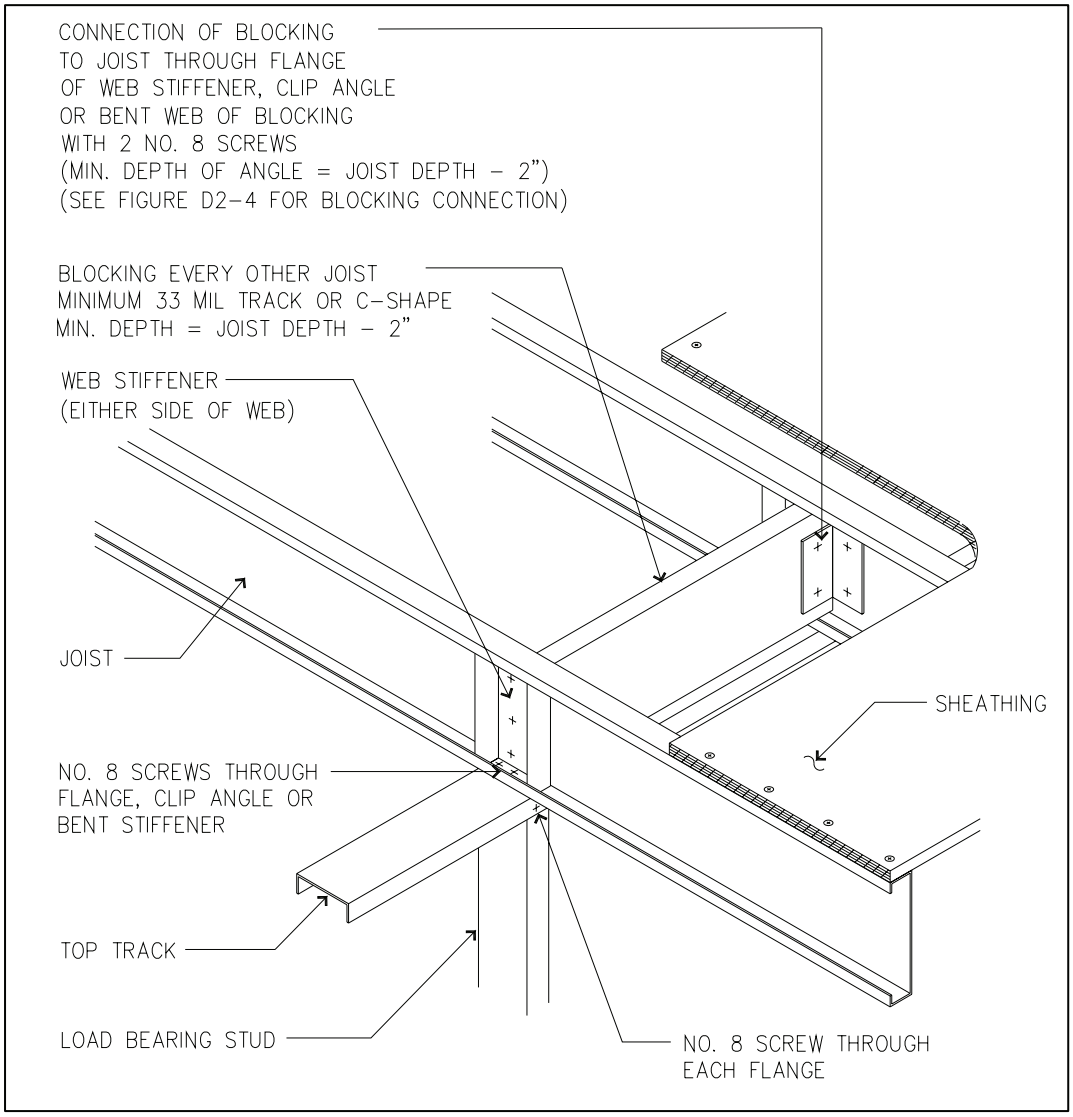


Figure D2-7 Continuous Span Joist Supported on an Interior Structural Wall

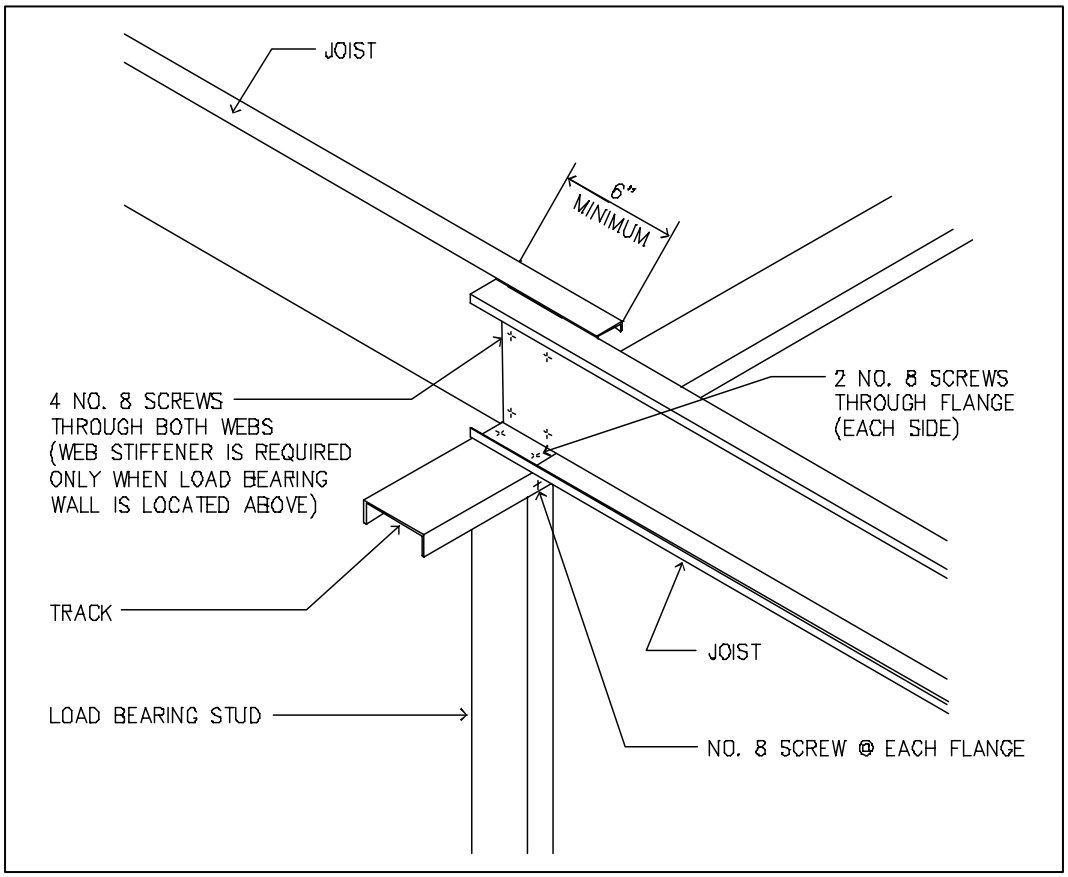


Figure D2-8 Lapped Joist Supported on Interior Structural Wall

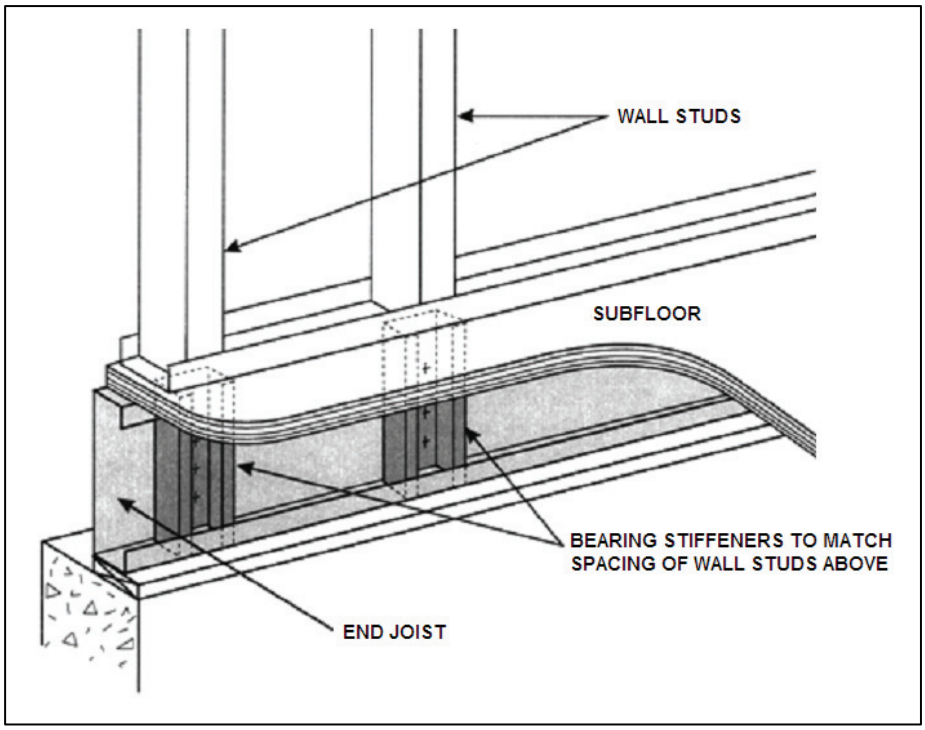


Figure D2-9 Bearing Stiffeners for End Joist

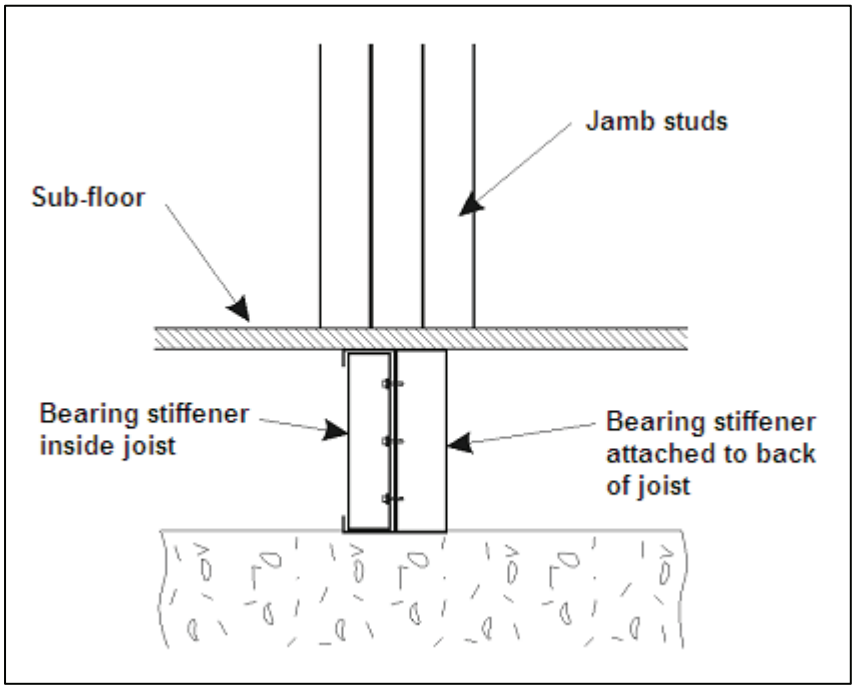


Figure D4-1 Bearing Stiffeners Under Jamb Studs

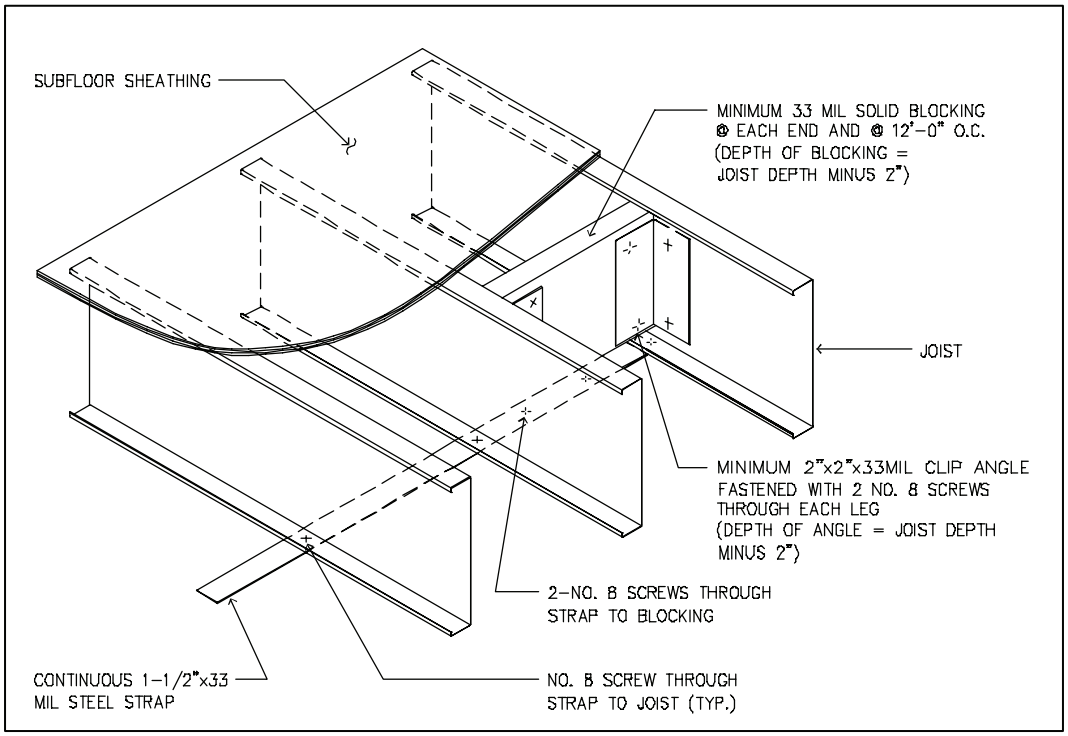


Figure D5-1 Joist Blocking (Solid)

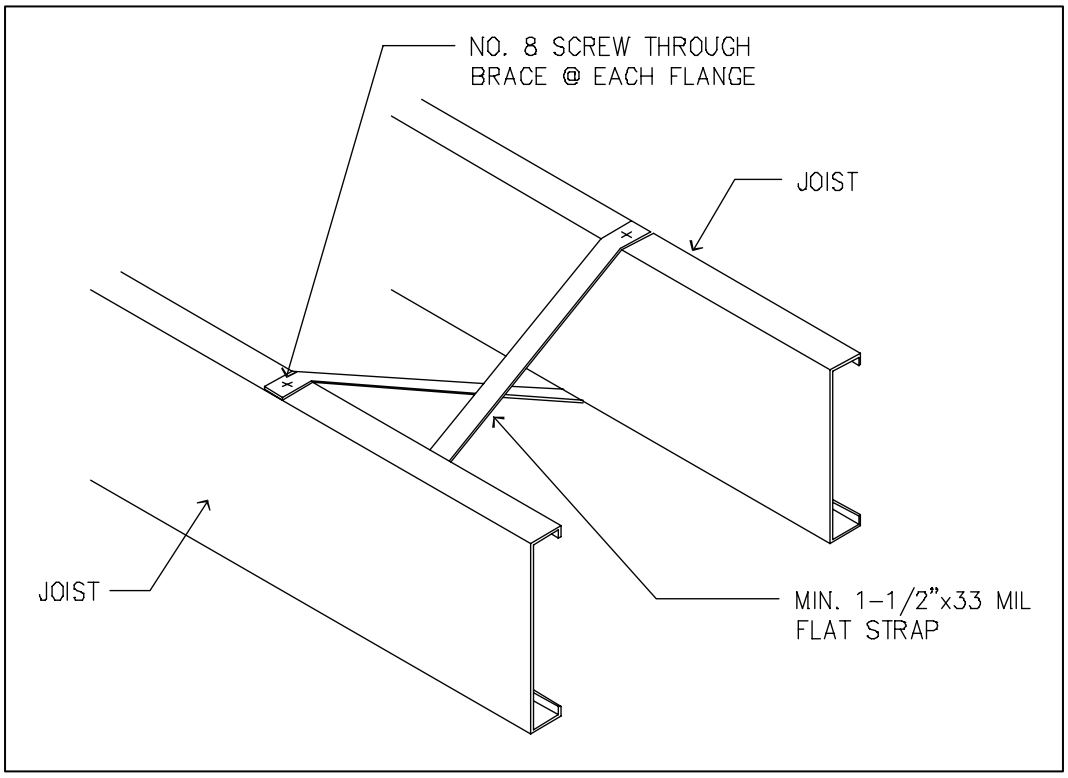


Figure D5-2 Joist Blocking (Strap)

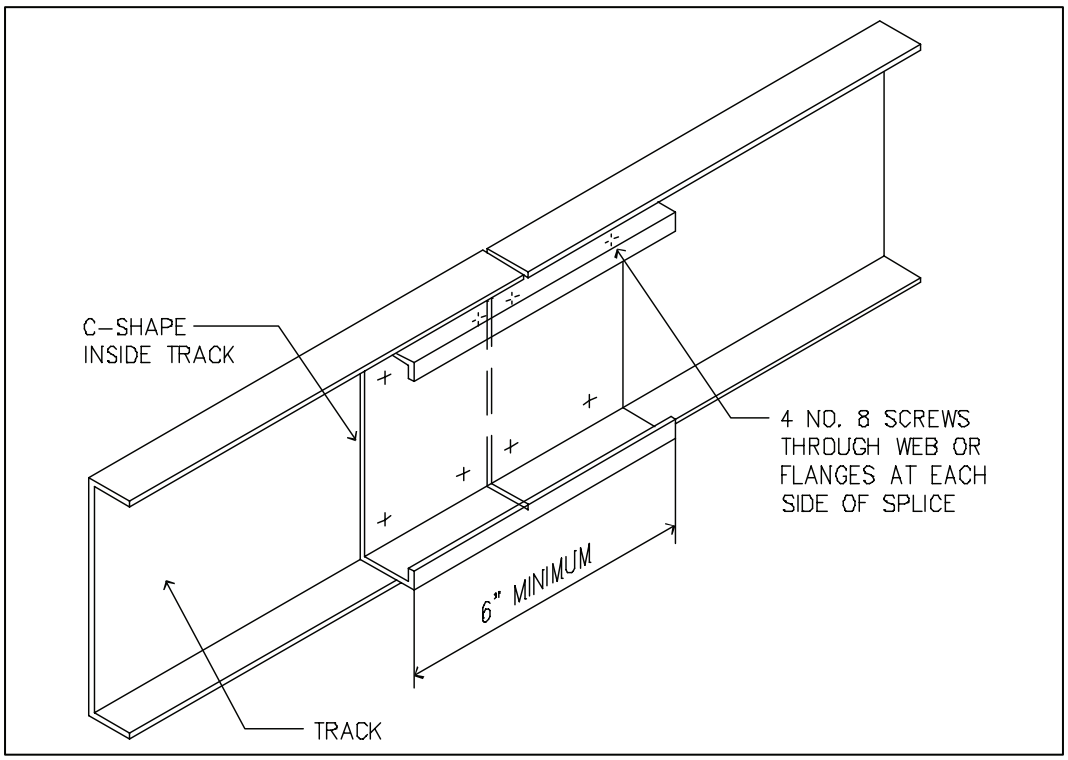


Figure D6-1 Track Splice

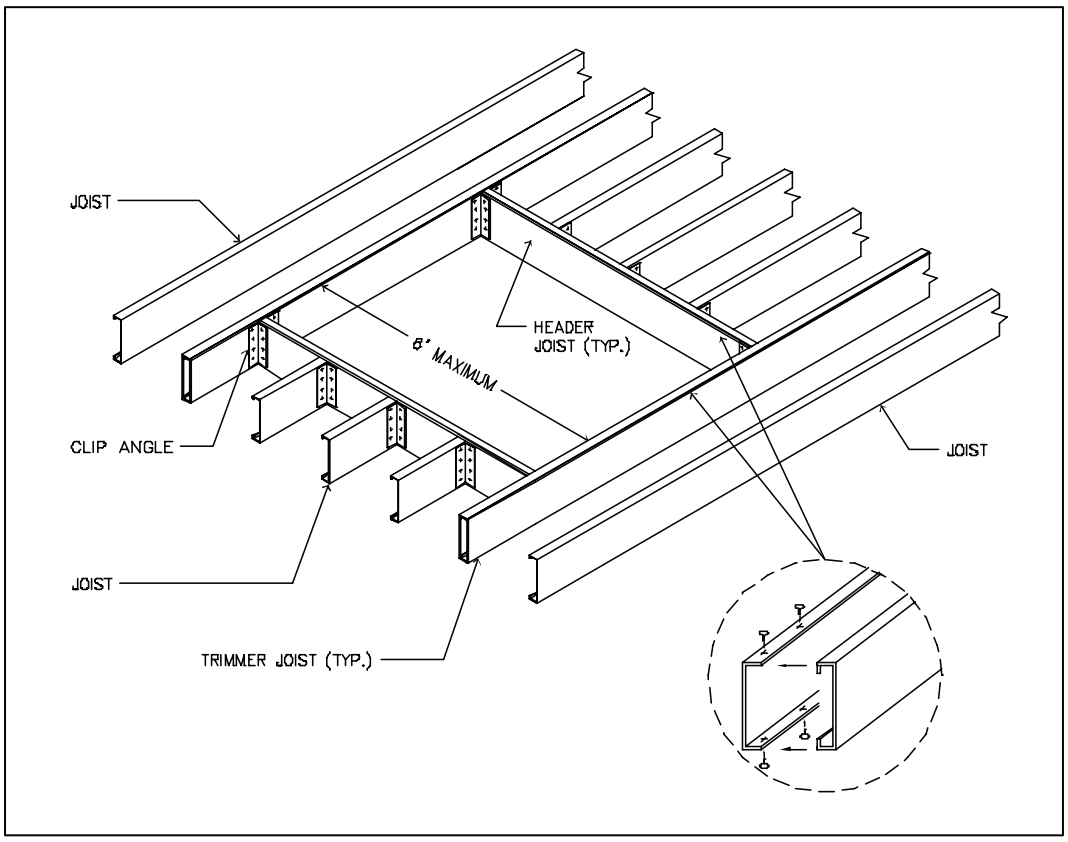


Figure D7-1 Six-Foot Floor Opening

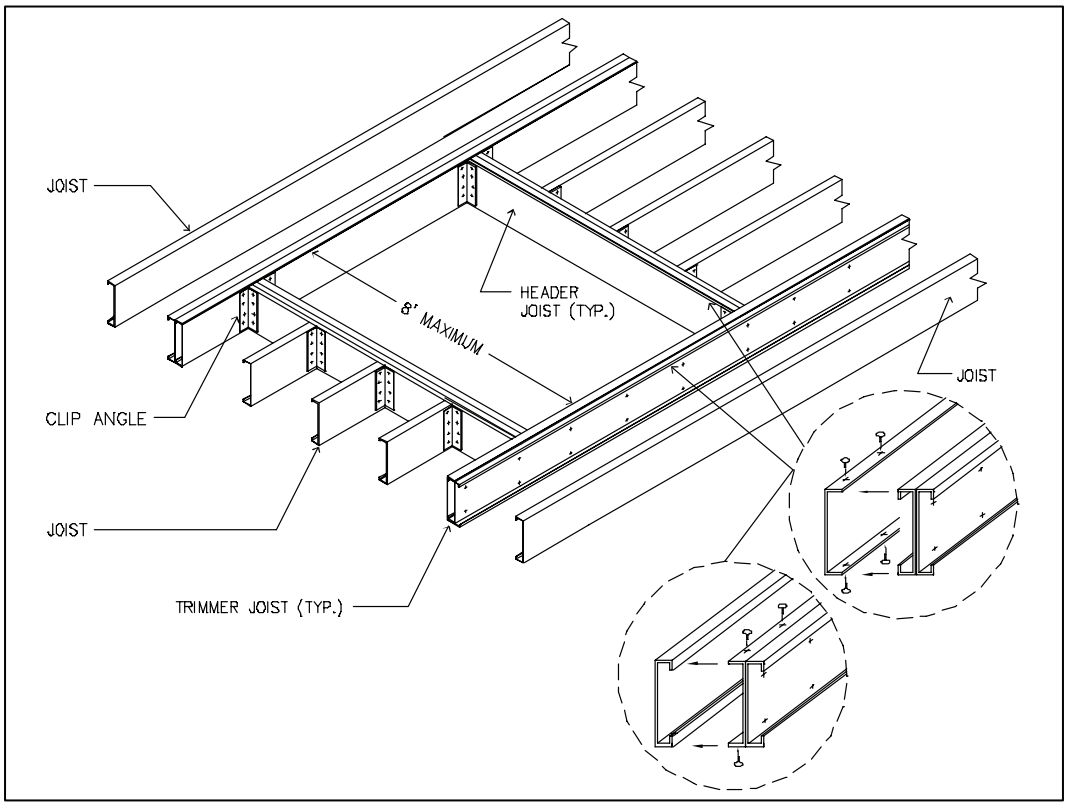


Figure D7-2 Eight-Foot Floor Opening

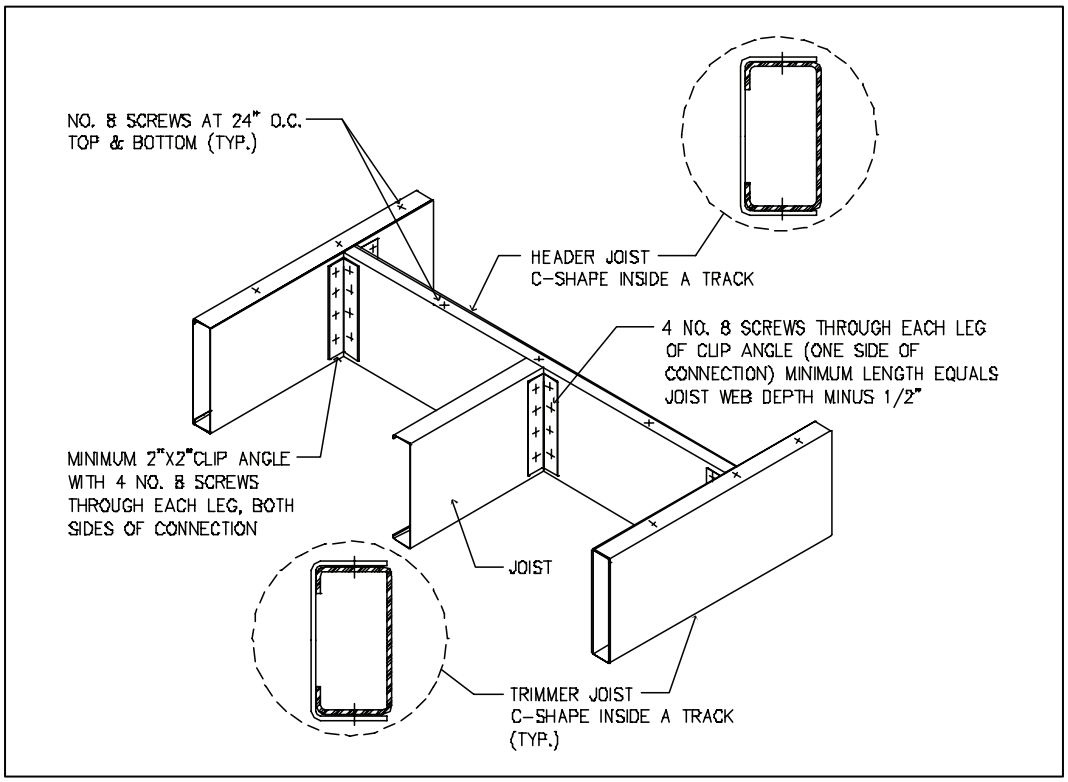


Figure D7-3 Floor Header to Trimmer Connection – 6-Foot Opening

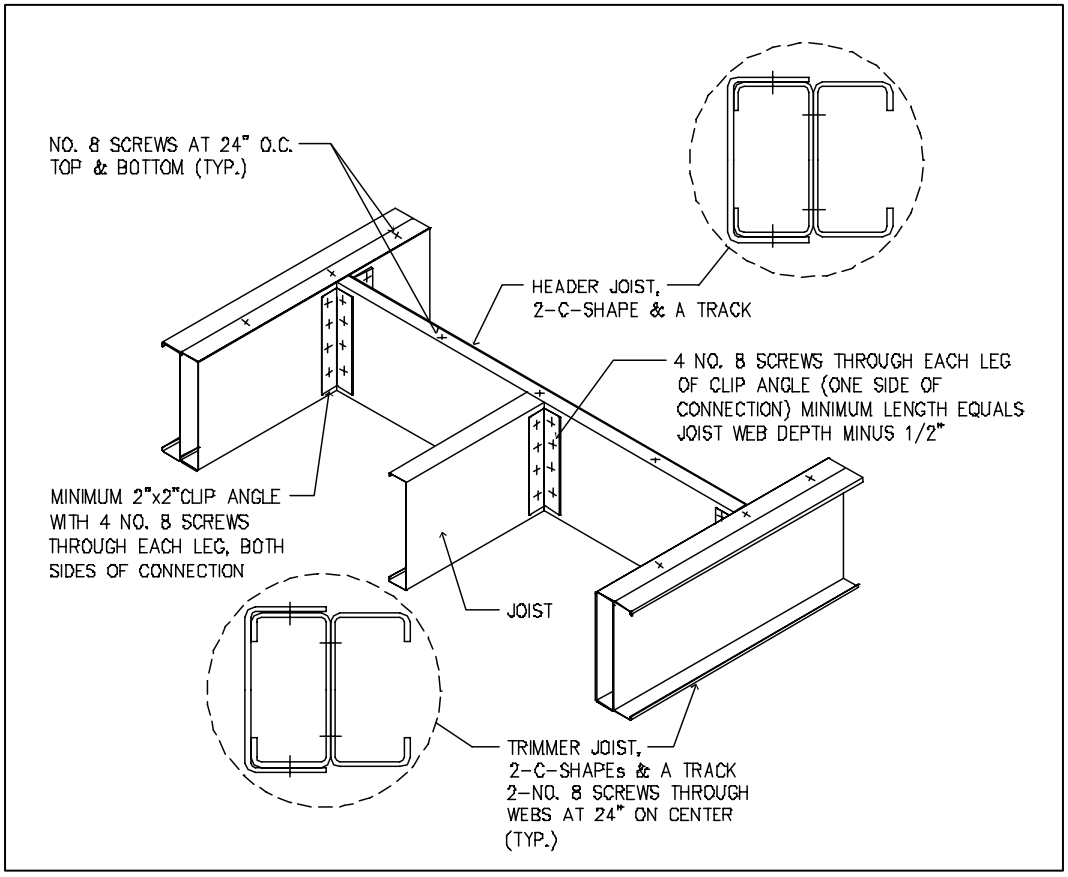


Figure D7-4 Floor Header to Trimmer Connection – 8-Foot Opening

Table D2-1
Floor to Foundation or Structural Wall Connection Requirements [1, 2]

Framing Condition	Basic Wind Speed (mph), Exposure, and Seismic Design Category [3]	
	85 MPH Exposure C or less than 110MPH Exposure B – Seismic Design Categories A, B & C	Less than 110 MPH Exposure C
Floor joist to wall *track* of exterior wall per Figure D2-1	2-No.8 screws	3-No.8 screws
Rim track or end joist to structural wall top *track* per Figure D2-1	1-No.8 screw at 24" o.c.	1-No.8 screw at 24" o.c.
Rim track or end joist to wood sill per Figure D2-2	Steel plate spaced at 4' o.c. with 4-No.8 screws and 4-10d or 6-8d common nails	Steel plate spaced at 2' o.c. with 4-No.8 screws and 4-10d or 6-8d common nails
Rim track or end joist to foundation per Figure D2-3	1/2" minimum diameter anchor bolt and *clip angle* spaced at 6' o.c. with 8-No.8 screws	1/2" minimum diameter anchor bolt and *clip angle* spaced at 4' o.c. with 8-No.8 screws
Cantilevered joist to foundation per Figure D2-4	1/2" minimum diameter anchor bolt and *clip angle* spaced at 6' o.c. with 8-No.8 screws	1/2" minimum diameter anchor bolt and *clip angle* spaced at 4' o.c. with 8-No.8 screws
Cantilevered joist to wood sill per Figure D2-5	Steel plate spaced at 4' o.c. with 4-No.8 screws and 4-10d or 6-8d common nails	Steel plate spaced at 2' o.c. with 4-No.8 screws and 4-10d or 6-8d common nails
Cantilevered joist to wall *track* per Figure D2-6	2-No.8 screws	3-No.8 screws

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 mph = 1.61 km/hr, 1 foot = 0.305 m

[1] Use the highest of the wind speed and exposure or the seismic requirements for a given site.

[2] Anchor bolts are to be located not more than 12 inches (305 mm) from corners or the termination of bottom *tracks* (e.g. at door openings or corners).

[3] See Sections E11 through E13 for floor connection requirements in *high seismic areas* and *high wind areas*.

Table D2-2
Floor Fastening Schedule

Description of Building Elements	Number and Size of Fasteners	Spacing of Fasteners
Floor joist to *track* of an interior structural wall in accordance with Figures D2-7 and D2-8	2-No.8 screws	Each joist
Floor joist to *rim track* at end of joist	2-No.8 screws	One per *flange* or two per *bearing stiffener*
Subfloor sheathing to *floor joists*	No.8 screws [1]	6 inches on center on edges and 12 inches on center at intermediate supports [2]

For SI: 1 inch = 25.4 mm

[1] Screws to attach subfloor sheathing to *floor joists* are to have minimum head diameter of 0.29 inch (7 mm).

[2] Fastener spacing on intermediate supports is 6 inches o.c. for *high seismic areas* and *high wind areas* per Section D9.1.

33
KSI

Table D3-1
Floor Joists – Single Spans [1,2,3,4]
F_y = 33 ksi

Joist Designation	30 psf Live Load				40 psf Live Load			
	Spacing (inches)				Spacing (inches)			
	12	16	19.2	24	12	16	19.2	24
550S162-33	11'-7"	10'-7"	9'-6"	8'-6"	10'-7"	9'-3"	8'-6"	7'-6"
550S162-43	12'-8"	11'-6"	10'-10"	10'-2"	11'-6"	10'-5"	9'-10"	9'-1"
550S162-54	13'-7"	12'-4"	11'-7"	10'-9"	12'-4"	11'-2"	10'-6"	9'-9"
550S162-68	14'-7"	13'-3"	12'-6"	11'-7"	13'-3"	12'-0"	11'-4"	10'-6"
550S162-97	16'-2"	14'-9"	13'-10"	12'-10"	14'-9"	13'-4"	12'-7"	11'-8"
800S162-33	15'-8"	13'-11"	12'-9"	11'-5"	14'-3"	12'-5"	11'-3"	9'-0"
800S162-43	17'-1"	15'-6"	14'-7"	13'-7"	15'-6"	14'-1"	13'-3"	12'-4"
800S162-54	18'-4"	16'-8"	15'-8"	14'-7"	16'-8"	15'-2"	14'-3"	13'-3"
800S162-68	19'-9"	17'-11"	16'-10"	15'-8"	17'-11"	16'-3"	15'-4"	14'-2"
800S162-97	22'-0"	20'-0"	18'-10"	17'-5"	20'-0"	18'-2"	17'-1"	15'-10"
1000S162-43	20'-6"	18'-8"	17'-6"	15'-8"	18'-8"	16'-11"	15'-6"	13'-11"
1000S162-54	22'-1"	20'-0"	18'-10"	17'-6"	20'-0"	18'-2"	17'-2"	15'-11"
1000S162-68	23'-9"	21'-7"	20'-3"	18'-10"	21'-7"	19'-7"	18'-5"	17'-1"
1000S162-97	26'-6"	24'-1"	22'-8"	21'-0"	24'-1"	21'-10"	20'-7"	19'-1"
1200S162-43	23'-9"	20'-10"	19'-0"	16'-8"	21'-5"	18'-6"	16'-6"	13'-2"
1200S162-54	25'-9"	23'-4"	22'-0"	20'-1"	23'-4"	21'-3"	20'-0"	17'-10"
1200S162-68	27'-8"	25'-1"	23'-8"	21'-11"	25'-1"	22'-10"	21'-6"	21'-1"
1200S162-97	30'-11"	28'-1"	26'-5"	24'-6"	28'-1"	25'-6"	24'-0"	22'-3"

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 foot = 0.305 m.
[1] Table provides the maximum clear *span* in feet and inches.
[2] *Bearing stiffeners* are to be installed at all support points and concentrated loads.
[3] Deflection criteria: L/480 for live loads, L/240 for total loads.
[4] Floor dead load = 10 psf (0.479 kN/m^2)

33 KSI

Table D3-2a
Floor Joists – Multiple Spans [1,2,3,4,5,6]
F_y = 33 ksi

Joist Designation	30 psf Live Load				40 psf Live Load			
	Spacing (inches)				Spacing (inches)			
	12	16	19.2	24	12	16	19.2	24
550S162-33	12'-1"	10'-5"	9'-6"	8'-6"	10'-9"	9'-3"	8'-6"	7'-6"
550S162-43	14'-5"	12'-5"	11'-4"	10'-2"	12'-9"	11'-11"	10'-1"	9'-0"
550S162-54	16'-3"	14'-1"	12'-10"	11'-6"	14'-5"	12'-6"	11'-5"	10'-2"
550S162-68	19'-7"	17'-9"	16'-9"	15'-6"	17'-9"	16'-2"	15'-2"	14'-1"
550S162-97	21'-9"	19'-9"	18'-7"	17'-3"	19'-9"	17'-11"	16'-10"	15'-4"
800S162-33	14'-8"	11'-10"	10'-4"	8'-8"	12'-4"	9'-11"	8'-7"	7'-2"
800S162-43	20'-0"	17'-4"	15'-9"	14'-1"	17'-9"	15'-4"	14'-0"	12'-0"
800S162-54	23'-7"	20'-5"	18'-8"	16'-8"	21'-0"	18'-2"	16'-7"	14'-10"
800S162-68	26'-5"	23'-1"	21'-0"	18'-10"	23'-8"	20'-6"	18'-8"	16'-9"
800S162-97	29'-6"	26'-10"	25'-3"	22'-8"	26'-10"	24'-4"	22'-6"	20'-2"
1000S162-43	22'-2"	18'-3"	16'-0"	13'-7"	18'-11"	15'-5"	13'-6"	11'-5"
1000S162-54	26'-2"	22'-8"	20'-8"	18'-6"	23'-3"	20'-2"	18'-5"	16'-5"
1000S162-68	31'-5"	27'-2"	24'-10"	22'-2"	27'-11"	24'-2"	22'-1"	19'-9"
1000S162-97	35'-6"	32'-3"	29'-11"	26'-9"	32'-3"	29'-2"	26'-7"	23'-9"
1200S162-43	21'-8"	17'-6"	15'-3"	12'-10"	18'-3"	14'-8"	12'-8"	10'-6"
1200S162-54	28'-5"	24'-8"	22'-6"	19'-6"	25'-3"	21'-11"	19'-4"	16'-6"
1200S162-68	33'-7"	29'-1"	26'-6"	23'-9"	29'-10"	25'-10"	23'-7"	21'-1"
1200S162-97	41'-5"	37'-8"	34'-6"	30'-10"	37'-8"	33'-6"	30'-7"	27'-5"

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 foot = 0.305 m

[1] Table provides the maximum clear *span* in feet and inches to either side of the interior support.

[2] Interior bearing supports for *multiple span* joists consist of structural walls or beams.

[3] *Bearing stiffeners* are to be installed at all support points and concentrated loads.

[4] Deflection criteria: L/480 for live loads, L/240 for total loads

[5] Floor dead load = 10 psf (0.479 kN/m^2)

[6] Interior supports shall be located within two feet (0.61 m) of mid *span* provided that each of the resulting *span*s does not exceed the appropriate maximum *span* shown in the table above.

50
KSI

Table D3-2b
Floor Joists – Multiple Spans [1,2,3,4,5,6]
F_y = 50 ksi

Joist Designation	30 psf Live Load				40 psf Live Load			
	Spacing (inches)				Spacing (inches)			
	12	16	19.2	24	12	16	19.2	24
550S162-33	13'-11"	12'-0"	11'-0"	9'-3"	12'-3"	10'-8"	9'-7"	8'-4"
550S162-43	16'-3"	14'-1"	12'-10"	11'-6"	14'-6"	12'-6"	11'-5"	10'-3"
550S162-54	18'-2"	16'-6"	15'-4"	13'-8"	16'-6"	14'-11"	13'-7"	12'-2"
550S162-68	19'-6"	17'-9"	16'-8"	15'-6"	17'-9"	16'-1"	15'-2"	14'-0"
550S162-97	21'-9"	19'-9"	18'-6"	17'-2"	19'-8"	17'-10"	16'-8"	15'-8"
800S162-33	15'-6"	12'-6"	10'-10"	9'-1"	13'-0"	10'-5"	8'-11"	6'-9"
800S162-43	22'-0"	19'-1"	17'-5"	15'-0"	19'-7"	16'-11"	14'-10"	12'-8"
800S162-54	24'-6"	22'-4"	20'-6"	17'-11"	22'-5"	19'-9"	17'-11"	15'-10"
800S162-68	26'-6"	24'-1"	22'-8"	21'-0"	24'-1"	21'-10"	20'-7"	19'-2"
800S162-97	29'-3"	26'-8"	25'-2"	23'-5"	26'-8"	24'-3"	22'-11"	21'-4"
1000S162-43	23'-6"	19'-2"	16'-9"	14'-2"	19'-11"	16'-2"	14'-0"	11'-9"
1000S162-54	28'-2"	23'-10"	21'-7"	18'-11"	24'-8"	20'-11"	18'-9"	18'-4"
1000S162-68	31'-10"	28'-11"	27'-2"	25'-3"	28'-11"	26'-3"	24'-9"	22'-9"
1000S162-97	35'-4"	32'-1"	30'-3"	28'-1"	32'-1"	29'-2"	27'-6"	25'-6"
1200S162-43	22'-11"	18'-5"	16'-0"	13'-4"	19'-2"	15'-4"	13'-2"	10'-6"
1200S162-54	32'-8"	28'-1"	24'-9"	21'-2"	29'-0"	23'-10"	20'-11"	17'-9"
1200S162-68	37'-1"	32'-5"	29'-4"	25'-10"	33'-4"	28'-6"	25'-9"	22'-7"
1200S162-97	41'-2"	37'-6"	35'-3"	32'-9"	37'-6"	34'-1"	32'-1"	29'-9"

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 foot = 0.305 m

[1] Table provides the maximum clear *span* in feet and inches to either side of the interior support.

[2] Interior bearing supports for *multiple span* joists consist of structural walls or beams.

[3] *Bearing stiffeners* are to be installed at all support points and concentrated loads.

[4] Deflection criteria: L/480 for live loads, L/240 for total loads

[5] Floor dead load = 10 psf (0.479 kN/m^2)

[6] Interior supports are to be located within two feet (0.61 m) of mid *span* provided that each of the resulting *spans* does not exceed the appropriate maximum *span* shown in the table above.

E. WALL FRAMING

E1 Wall Construction

Structural walls shall be constructed in accordance with the provisions of this section. Non-structural walls shall be constructed in accordance with ASTM C 645 and shall have a minimum *base metal thickness* of 18 mils (0.45 mm).

E2 Wall to Foundation or Floor Connection

Structural walls shall be anchored to foundations or floors in accordance with Table E2-1 and Figures E2-1 through E2-4. Gable endwalls with *stud* heights greater than 10 feet (3.05 m) shall be anchored to foundations or floors in accordance with Tables E2-2 and E2-3. In *high seismic areas* and *high wind areas*, the anchorage of structural walls to foundations and floors shall be in accordance with the provisions of Sections E11, E12 and E13 as applicable.

Anchor bolts shall be located not more than 12 inches (305 mm) from corners or the termination of bottom *tracks*. Anchor bolts shall extend a minimum of 15 inches (381 mm) into masonry or 7 inches (178 mm) into concrete. Foundation anchor straps shall be permitted, in lieu of anchor bolts, if spaced as required to provide equivalent anchorage to the required anchor bolts and installed in accordance with manufacturer's requirements. Anchorage requirements shall also be determined in the foundation design in accordance with Section C1.

E2.1 Uplift Connection In High Wind Areas - Wall Assembly to Foundation or Floor Assembly

In *high wind areas,* exterior wall *studs* in bottom story walls shall be attached to a wood sill plate or directly attached to the foundation by connections capable of resisting the uplift loads listed in Table E2-4. Alternatively, a continuous 1-1/4 inch (32 mm) by 33 mil (0.84 mm) steel uplift *strap* shall be permitted when placed under the wood sill and attached to both *flanges* of the exterior *stud* as shown in Figure E2-5. The uplift *strap* shall be fastened to each *flange* with minimum No.8 screws as required by Table E2-5. Uplift connection requirements shall be permitted to be multiplied by 0.70 for framing not located within 8 feet (2.44 m) of building corners.

E3 Minimum Stud Sizes

Structural walls shall be constructed in accordance with Figures E2-1, E2-2, E2-3 and E2-4, as applicable. The alternate wall to foundation connection shown in Figure E2-2 shall be permitted only where the centerline of the anchor bolt or other connection, as required, is located not greater than 3 inches from the *stud*. Exterior wall *stud* size and thickness shall be determined in accordance with the limits set forth in Tables E3-1a through E3-15b. The size and thickness of gable endwall *studs* with heights less than or equal to 10 feet (3.05 m) shall be permitted to be determined in accordance with the limits set forth in Tables E3-16a and E3-16b. The size and thickness of gable endwall *studs* with heights greater than 10 feet (2.94 m) shall be determined in accordance with the limits set forth in Tables E3-17a and E3-17b. Interior structural wall *stud* size and thickness shall be determined in accordance with the limits set forth in Tables E3-1a through E3-15b based upon an 85 mph (137 km/hr) Exposure B wind value and the building width, *stud* spacing and snow load as appropriate. Fastening requirements shall be in accordance with Section B and Table E3-18. Top and bottom *tracks* shall have the same minimum thickness as the wall *studs*.

Exterior wall *studs* shall be permitted to be reduced to the next thinner size, as shown in Tables E3-1a through E3-15b, but not less than 33 mils (0.84 mm) when both of the following conditions exist:

(1) Minimum of 1/2 inch (13 mm) gypsum board is installed and fastened in accordance with Table E3-18 on the interior surface.

(2) Wood *structural sheathing* panels of minimum 7/16 inch (11 mm) thick oriented strand board or 15/32 inch (12 mm) thick plywood is installed and fastened in accordance with Section E8.2 on the outside surface.

Interior structural walls shall be permitted to be reduced to the next thinner size, as shown in Tables E3-1a through E3-15b, but not less than 33 mils (0.84 mm) when a minimum of 1/2 inch (13 mm) gypsum board is installed and fastened in accordance with Table E3-18 on both sides of the wall.

The tabulated *stud* thickness for structural walls shall be used when the attic load is 10 psf (0.48 kN/m^2) or less. A *limited attic storage* load of 20 psf (0.96 kN/m^2) shall be permitted provided that the next higher snow load column is used to select the *stud* size from Tables E3-1a through E3-15b.

For two-story buildings, the tabulated *stud* thickness for walls supporting one floor, roof and ceiling shall be used when the second floor live load is 30 psf (1.44 kN/m^2). Second floor live loads of 40 psf (1.92 kN/m^2) shall be permitted provided that the next higher snow load column is used to select the *stud* size from Tables E3-1a through E3-10b.

For three-story buildings, the tabulated *stud* thickness for walls supporting one or two floors, roof and ceiling shall be used when the third floor live load is 30 psf (1.44 kN/m^2). Third floor live loads of 40 psf (1.92 kN/m^2) shall be permitted provided that the next higher snow load column is used to select the *stud* size from Tables E3-11a through E3-15b.

E4 Stud Bracing

The *flanges* of *structural studs* shall be laterally braced in accordance with one of the following methods:

1. Gypsum board on both sides, *structural sheathing* on both sides, or gypsum board on one side and *structural sheathing* on the other side of structural walls fastened in accordance with Table E3-18 and Figure E4-1. Screws for attachment of *structural sheathing* panels shall be bugle-head, flat-head, or similar head style with a minimum head diameter of 0.29 inches (8 mm).
2. Horizontal steel *straps* fastened in accordance with Figure E4-2 on both sides at mid-height for 8 foot (2.44 m) walls, and at one-third points for 9 and 10 foot (2.74 and 3.05 m) walls. Horizontal steel *straps* shall be at least 1-1/2 inches in width and 33 mils in thickness (38 x 0.84 mm). *Straps* shall be attached to the *flanges* of *studs* with one No.8 screw. In-line *blocking* shall be installed between *studs* at the termination of all *straps* and at 12 foot (3.66 m) intervals along the *strap*. S*traps* shall be fastened to the *blocking* with two No.8 screws.
3. Sheathing on one side and *strapping* on the other side fastened in accordance with Figure E4-3. Sheathing shall be installed in accordance with Method 1 above. Steel *straps* shall be installed in accordance with Method 2 above.

E5 Splicing

Structural studs and *headers* shall not be spliced without an *approved* design. Splicing of *tracks* shall conform to Figure E5-1.

E6 Corner Framing

In exterior walls, corner *studs* and the top *track* shall be installed in accordance with Figure E6-1. Other *approved* corner framing details shall be permitted.

E7 Headers

Headers shall be installed above wall openings in structural walls in accordance with Sections E7.1 through E7.4. *Headers* shall not be required for openings in non-structural walls.

E7.1 Box Beam Headers

Box beam *headers* shall be constructed in accordance with Figure E7-1 and Tables E7-1a through E7-6b. *Header spans* for building widths between those tabulated shall be permitted to be determined by interpolation. *Headers* shall be constructed from two equal sized *C-shaped* members in a box type configuration. *Headers* shall be connected to *king studs* in accordance with Table E7-13. One-half of the total number of required screws shall be applied to the *header* and one half to the *king stud* by use of *C-shaped* or *track* member in accordance with Figure E7-1. The *track* or *C-shape* sections shall extend the depth of the *header* minus 1/2 inch (13 mm) and shall have a minimum thickness not less than the wall *studs*.

Exceptions:

1. *Headers* in gable endwalls shall be permitted to be constructed with the header directly above the opening, as shown in Figure E7-3.
2. *Headers* in gable endwalls shall be permitted to be sized as follows:
   (a) 362S162-33 for openings less than or equal to 4 feet (1.22 m)
   (b) 600S162-43 for openings greater than 4 feet (1.22 m) but less than or equal to 6 feet (1.83 m)
   (c) 800S162-54 for openings greater than 6 feet (1.83 m) but less than or equal to 9 feet (2.74 m)

E7.2 Back-to-Back Headers

Back-to-back *headers* shall be constructed in accordance with Figure E7-2 and Tables E7-7a through E7-12b. *Header spans* for house widths between those tabulated shall be permitted to be determined by interpolation. *Headers* shall be formed from two equal sized *C-shaped* members in a back-to-back configuration. *Headers* shall be connected to *king studs* in accordance with Table E7-13. One-half of the total number of screws shall be applied to the *header* and one half to the *king stud* by use of a minimum 2 x 2 inch (51 x 51 mm) *clip angle* in accordance with Figure E7-2. The *clip angle* shall extend the depth of the *header* minus 1/2 inch (13 mm) and shall have a minimum thickness not less than the wall *studs*.

Exceptions:

1. *Headers* in gable endwalls shall be permitted to be constructed with the header directly above the opening, as shown in Figure E7-4.
2. *Headers* in gable endwalls shall be permitted to be sized as follows:
   (a) 362S162-33 for openings less than or equal to 4 feet (1.22 m)
   (b) 600S162-43 for openings greater than 4 feet (1.22 m) but less than or equal to 6 feet (1.83 m)
   (c) 800S162-54 for openings greater than 6 feet (1.83 m) but less than or equal to 9 feet (2.74 m)

E7.3 L-Headers

An L-*header* shall consist of a cold-formed steel angle with one short leg lapping over the top *track* of the wall and one leg extending down the side of the wall above window or door openings, as shown in Figures E7-4 and E7-6. Each angle shall be fastened to top *track* above an opening with No.8 screws spaced at 12 inches (305 mm) on center. The "L" angle shall be placed on both sides of the wall opening to form a double angle L-shaped *header* (double L-*header*). The long leg of the L-*header* angle shall be attached to each *cripple stud(s)* and a minimum of one *king stud* at each end with one No.8 screw at top and bottom.

E7.3.1 Double L-Headers

Double L-*headers* shall be constructed in accordance with Figure E7-5 and Tables E7-14a through E7-19b for gravity loading and Tables E7-20a through E7-34b for uplift loading.

E7.3.2 Single L-Headers

Single L-*headers* shall be constructed in accordance with Figure E7-6 and Tables E7-35a through E7-40b. Use of single L-*headers* shall be limited to the following applications:

1. Single L-*headers* supporting one floor, roof and ceiling, where the wind speed is less than or equal to 85 mph Exposure C.
2. Single L-*headers* supporting two floors, roof and ceiling, where the wind speed is less than or equal to 100 mph Exposure C.

E7.3.3 Inverted L-Header Assemblies

Inverted double L-*headers* shall be constructed in accordance with Tables E7-14a though E7-19b for gravity loading and Tables E7-41a through E7-55b for uplift loading.

Inverted single L-*headers* shall be constructed in accordance with Tables E7-35a though E7-40b for gravity loading and Tables E7-56a through E7-70b for uplift loading.

Inverted double or single L-*headers* shall be constructed in accordance with the following, as shown in Figure E7-7:

(1) The horizontal leg of the inverted L-*header* shall be coped to permit the vertical leg to lap over at least one bearing *stud* at each end. The horizontal leg after coping shall be within ½ inch (12.7 mm) of the bearing *stud* at each end.

(2) The horizontal leg of the inverted L-*header* shall be attached to the head *track* at each end and at 12 inches (304.8 mm) on center with minimum #8 screws.

(3) The vertical leg of the inverted L-*header* shall be attached to at least one bearing *stud* at each end and each cripple *stud* with a minimum #8 screw top and bottom. The top screw in the vertical leg of the inverted L-*header* shall be located not more than 1 inch (25.4 mm) from the top edge of the vertical leg.

E7.4 Jack and King Studs

The number of jack and *king studs*, installed on each side of a *header* shall comply with Table E7-71. Jack, king, and *cripple studs* shall be of the same dimension and thickness as the adjacent wall *studs*. Jack and *king studs* shall be interconnected with *structural sheathing* in accordance with Figures E7-1 and E7-2.

E7.5 Head and Sill Track

Head *track spans,* above door and window openings, and sill *track spans*, beneath window openings, shall not exceed those shown in Table E7-72. For openings less than 4 feet (1.22 m) in height that have both a head *track* and a sill *track*, the spans in Table E7-72 shall be permitted to be multiplied by 1.75. For openings less than or equal to 6 feet (1.83 m) in height that have both a head *track* and a sill *track*, the spans in Table E7-72 shall be permitted to be multiplied by a factor of 1.5.

E8 Wall Bracing

Exterior walls shall be braced to provide in-plane lateral resistance to wind and seismic loads with diagonal steel *straps* or *structural sheathing* in accordance with Sections E8.1 or E8.2.

E8.1 Strap Bracing (X-brace)

Diagonal steel *straps* or "X-braces" and their connections shall be designed and installed in accordance with an *approved* design.

E8.2 Structural Sheathing

Structural sheathing shall be installed on all sheathable exterior wall surfaces, including areas above and below openings, in accordance with Figure E8-1 and this section.

E8.2.1 Sheathing Materials

Structural sheathing panels shall consist of minimum 7/16-inch (11 mm) thick oriented strand board or 15/32-inch (12 mm) thick plywood.

E8.2.2 Determination of Minimum Length of Full Height Sheathing

The minimum length of full height sheathing on each *braced wall line* shall be determined by multiplying the length of the *braced wall line* by the larger of the percentage for wind or seismic loads obtained from Tables E8-1, E8-2 and E8-3 and by the *plan aspect ratio* adjustment factors obtained from Tables E8-4 and E8-5 for wind and seismic, as applicable. The minimum length of full height sheathing shall not be less than 20 percent of the *braced wall line* length.

To be considered full height sheathing, *structural sheathing* shall extend from the bottom to the top of the wall without interruption by openings. Only sheathed, full height wall sections, uninterrupted by openings, which are a minimum of 48 inches (1220 mm) wide, shall be counted toward meeting the minimum percentages in Tables E8-1, E8-2 and E8-3.

In addition, *structural sheathing* shall comply with all of the following requirements:

(1) Be installed with the long dimension parallel to the *stud* framing (i.e. vertical orientation) and shall cover the full vertical height of wall from the bottom of the bottom *track* to the top of the top *track* of each story. It shall be permitted to install the long dimension perpendicular to the *stud* framing or to use shorter segments provided that the horizontal joint is blocked as described in Item 2 below.

(2) Be blocked when the long dimension installed perpendicular to the *stud* framing (i.e. horizontal orientation). *Blocking* shall be a minimum of 33 mil (0.84 mm) thickness. Each horizontal *structural sheathing* shall be fastened with No.8 screws spaced at 6 inches (152 mm) on center to the *blocking* at the joint.

(3) Be applied to each end (corners) of each of the exterior walls with a minimum 48 inch (1220 mm) wide panel.

E8.2.2.1 The minimum percentage of full-height *structural sheathing* shall be multiplied by 1.10 for 9-foot (2.74 m) high walls and multiplied by 1.20 for 10-foot (3.05 m) high walls.

E8.2.2.2 For hip roofed homes, the minimum percentage of full height sheathing in Table E8-1, based upon wind, shall be permitted to be multiplied by a factor of 0.95 for roof slopes not exceeding 7:12 and a factor of 0.9 for roof slopes greater than 7:12.

E8.2.2.3 In the lowest story of a dwelling, the percent of full height sheathing required in Table E8-1 shall be permitted to be multiplied by 0.6, provided *hold down anchors* are provided in accordance with Section 8.2.4.2.

E8.2.3 Structural Sheathing Fastening

All edges and interior areas of *structural sheathing* panels shall be fastened to framing members and *tracks* in accordance with Figure E8-1 and Table E3-18. Screws for attachment of *structural sheathing* panels shall be bugle-head, flat-head, or similar head style with a minimum head diameter of 0.29 inches (8 mm).

For continuously-sheathed *braced wall lines* using wood structural panels installed with No. 8 screws spaced 4-inch (102 mm) on center at all panel edges and 12-inch (305 mm) on center on intermediate framing members, the following shall apply:

(1) The percentages of full height sheathing, in Table E8-1, E8-2 and E8-3, shall be permitted to be multiplied by 0.72.

(2) For bottom *track* attached to foundations or framing below, the bottom *track* anchor or screw connection spacing in Table D2-1 and Table E2-1 shall be multiplied by 2/3.

E8.2.4 Uplift Connection Requirements

Uplift connections shall be provided in accordance with this section.

E8.2.4.1 Where wind speeds are in excess of 100-mph (161 km/hr) Exposure C, walls shall be provided wind direct uplift connections in accordance with Section E13.3 and Section F7.2, as required for 110 mph, Exposure C.

E8.2.4.2 Where the percent of full height sheathing is adjusted in accordance with Section E.8.2.2.3, a *hold down anchor*, with a strength of 4300 pounds (19.35 kN), shall be provided at each end of each full-height sheathed wall section used to meet the minimum percent sheathing requirements of Section E8.2.2. Hold down anchors shall be attached to back-to-back studs; structural sheathing panels shall have edge fastening to the studs, in accordance with Section E8.2.3 and Table E11-1.

A single *hold down anchor*, installed in accordance with Figure E8-2 shall be permitted at the corners of buildings.

E8.3 Structural Sheathing Fastening

All edges and interior areas of *structural sheathing* panels shall be fastened to framing members and *tracks* in accordance with Figure E8-1 and Table E3-18. Screws for attachment of *structural sheathing* panels shall be bugle-head, flat-head, or similar head style with a minimum head diameter of 0.29 inches (8 mm). The percentages of full height sheathing, in

Table E8-1, E8-2 and E8-3, shall be permitted to be multiplied by 0.72 for 4-inch (102 mm) edge screw spacing.

E8.4 Hold-down Requirements

In conditions where wind speeds are in excess of 100-mph (161 km/hr) Exposure C, hold-down brackets shall be provided in accordance with Table E2-1. The percent of full height sheathing required in Table E8-1 shall be permitted to be multiplied by 0.6 where a *hold down anchor*, with a strength of 4300 pounds (19.35 kN), is provided at each end of exterior walls.

A single *hold down anchor*, installed in accordance with Figure E8-2 shall be permitted at the corners of buildings.

E9 Exterior Wall Covering

The method of attachment of exterior wall covering materials to cold-formed steel *stud* wall framing shall conform to the manufacturer's installation instructions.

E10 Reserved

This section has intentionally been left blank.

E11 Braced Walls In High Wind Areas and High Seismic Areas

E11.1 General

In *high wind areas* and in *high seismic areas, braced wall lines* shall be constructed in accordance with this section. In *high seismic areas*, buildings shall also be constructed in accordance with Section E12. In *high wind areas*, buildings shall also be designed in accordance with Section E13.

Where a building, or portion thereof, does not comply with the provisions of this section those portions shall be designed and constructed in compliance with the building code, or with accepted engineering practice where no building code exists.

E11.2 Braced Wall Lines

Braced wall lines shall be composed of either *Type I* (solid) *braced wall panels* or *Type II* (perforated) *braced walls* as shown in Figure E11-1, and shall extend from the foundation to the roof *diaphragm* or floor *diaphragm* above.

Exception: The provisions of this standard for *Type II* (perforated) *braced walls* shall not be applicable to the first floor of a 3-story structure in a *high wind area* or a *high seismic area*.

The required length of bracing shall be determined in accordance with the greater requirement for seismic or wind loads. Each *braced wall line* shall have not less than two full height braced wall panels, each having a maximum height to width aspect ratio of 2:1.

Braced wall panels shall begin not more than 8 feet (2.44 m) from each end of a braced wall.

Sheathing on *Type I* and *Type II braced walls* shall be wood *structural sheathing* panels or *steel sheets* on one side. Sheathing panels or *steel sheets* used as part of the braced wall panel shall be a minimum of 12 inches (305 mm) wide.

Where wood *structural sheathing* panels are used they shall be 7/16-inch (11 mm) Rated Sheathing (OSB) or 15/32-inch (12 mm) Structural I Plywood Sheathing and shall be attached to framing members with minimum No.8 screws spaced a maximum of 12 inches

(305 mm) in the field and 6 inches (152 mm) on all edges, unless a lesser spacing is used in accordance with Section E11.3 to adjust the required shearwall length.

Where *steel sheets* are used they shall be 27 mil (0.69 mm) thick and shall be attached to framing members with minimum No.8 screws spaced a maximum of 12 inches (305 mm) in the field and 4 inches (152 mm) on all edges, unless a lesser spacing is used in accordance with Section E11.3 to adjust the required shearwall length.

In *braced wall lines*, all edges of wood *structural sheathing* panels or *steel sheets* shall be attached to framing members, 33 mil minimum *blocking*, or 2 inch (51 mm) by 33 mil (0.84 mm) flat *strap*. Fasteners along the edges in shear panels shall be placed not less than 3/8 inches (9.5 mm) in from panel edges.

E11.3 Type I (Solid Sheathed) Braced Wall Panels

Type I braced wall panels shall have no openings and shall be continuous between *hold down anchors*. *Hold down anchors* shall be as required by Section E11.5.

For a wall panel to count toward the required length it shall have a maximum height to width ratio of 2:1.

The required length of *braced wall line* full height sheathing shall be permitted to be adjusted by the edge screw spacing adjustment factors in Table E11-1. The total length of *Type I braced wall panels* on a *braced wall line* shall be the sum of the lengths of panels conforming to the maximum height to width ratio herein. *Type I braced wall panels* shall have *hold down anchors* as required by Section E11.5 at each end of each panel segment.

E11.4 Type II (Perforated) Braced Wall Lines

Type II braced walls shall be permitted to have openings. Where sheathing, of a type specified in Section E11.2 and attached in accordance with that section, extends above and below window openings and above door openings, the height of the unrestrained opening shall be defined as the maximum opening height. Where such sheathing is not provided or does not comply with the minimum width requirements above and below window openings and above door openings, the height of the unrestrained opening shall be defined as the full height of the wall.

The required length of *braced wall line* full height sheathing panels as a percentage of overall length of *Type II braced wall* shall be determined by multiplying the required length of *Type I braced wall panels*, as modified by the adjustments permitted in Section E11.3, by the length adjustment factors in Table E11-2. For a segment to count toward the required length it shall have a maximum height to width ratio of 2:1. *Type II braced wall lines* shall have *hold down anchors* as required by Section E11.5 at each end, which shall be attached to wall segments meeting the maximum height to width ratio.

E11.5 Braced Wall Anchorage and Chord Stud Requirements

Hold down anchors shall be installed at each end of *Type I braced wall panels* and at each end of *Type II braced wall lines* as shown in Figure E11-1. Anchors shall be attached to a minimum of two back-to-back, *chord studs*. Minimum *chord stud* thickness shall be 33 mils (0.84 mm). These *chord studs* shall have the required sheathing edge fastening (see Figure E11-3). *Hold down anchors* shall attach to the foundation, or to framing members below which have the same or greater strength as the *chord studs* above, and which are in addition to the typical load bearing framing. Where *hold down anchors* attach to framing members below, the required anchor force shall be transferred to the foundation. Where *hold down anchors* from an upper story align with those at the lower story, the required lower story

anchor force and the required lower story *chord stud* strength shall be determined by summing the upper and lower story chord forces (see Figure E11-4).

A single *hold down anchor* installed in accordance with Figure E11-2 shall be permitted at the corners of buildings.

E11.6 Attachment of Braced Walls to Foundations and Floor and Roof Diaphragms

The top *track* of *braced wall lines* shall be attached directly to the roof sheathing in accordance with Figure E11-5 or shall have *blocking* connecting the top *track* to the continuous flat *strap* at the roof sheathing at locations specified herein, installed in accordance with Figure E11-6. *Blocking* shall be installed at each end of *Type I braced wall panels*, at each end of *Type II braced wall lines*, at building corners, and at 4 feet (1.22 m) on-center maximum.

Splices in top *tracks* in braced walls shall comply with Figure E11-7. Screws used to attach *blocking* to the top *track* shall be permitted to be counted toward the required number of *track* splice screws. Splices in the top *track* and the *strap* at the roof sheathing shall not occur in the same *stud* bay.

The top and bottom *track* of braced walls shall be attached to floor *diaphragms* in accordance with Figure E11-8.

Splices in the *rim track* shall not occur in the same bay as splices in wall *track* immediately above or below the *rim track* splice. The minimum offset between splice locations shall be two *stud* bays.

The bottom *track* of braced walls supported on foundations shall have anchor bolts installed in accordance with Figure E11-9 or E11-10. Floor *track* or rim joists supporting *braced wall lines* shall be attached to foundations in accordance with Figure E11-11 or E11-12. Anchor bolts shall extend 15 inches (381 mm) into masonry or 7 inches (178 mm) into concrete. An anchor bolt shall be located not more than 12 inches (305 mm) from wall corners, the termination of bottom *track* sections, or splices in the brake shape shown in Figure E11-11 or E11-12.

E12 Braced Wall Design in High Seismic Areas

In *high seismic areas* the design of braced walls shall comply with this section, in addition to the requirements in Section E11.

E12.1 Length of Type I Braced Wall Panels

The required length of *Type I braced wall panels* shall be determined from Tables E12-1 through E12-15, where the *diaphragm span* is the dimension of the *diaphragm* perpendicular to the walls under consideration. Linear interpolation shall be permitted for determining *diaphragm span* values.

The required length of *Type I braced wall panels* shall be increased by the length adjustment factors in Table E12-16 where the dead weight of the roof/ceiling assembly is greater than 15 psf and meets the criteria for *heavy weight roof/ceiling assembly*. The required length of *Type I braced wall panels* shall be permitted to be adjusted by length adjustment factors in Table E12-16 where the average weight of the roof/ceiling assembly meets the criteria for a lightweight roof/ceiling or the exterior walls meet the criteria for lightweight exterior walls. Linear interpolation shall be permitted for roof/ceiling dead unit weights between 15 and 25 psf (0.72 and 1.20 kN/m^2). The length adjustment factors in Table E12-16 shall be permitted to be multiplied by those in Table E11-1.

E12.2 Braced Wall Anchorage and Chord Stud Requirements

Minimum *hold down anchor* strengths to resist uplift in *Seismic Design Categories* D_1 and D_2 shall be as specified in Table E12-17. Where manufacturer's *hold down anchor* strengths are expressed as allowable loads, the anchor forces specified in Table E12-17 shall be permitted to be divided by 1.4 for the purpose of determining an acceptable *hold down anchor*. Published *hold down anchor* strengths that have been increased for wind or earthquake forces shall be reduced to their base values. Required *hold down anchor* strengths for anchors at the first floor of two story buildings and the first or second floor of three story buildings, which resist uplift from two or three stories, shall be determined by summing the required strengths for all floors. A continuous load path shall be provided from each hold down anchor to the foundation.

Maximum anchor bolt spacing requirements for transfer of shear loads shall be as specified in Table E12-18.

Required *chord stud* strength shall be determined from Table E12-17, and a *chord stud* having the required strength shall be selected from TableE12-19. *Chord stud* requirements for *chord studs* at the first floor of two story buildings and the first or second floor of three story buildings, where the first floor *chord studs* align with *chord studs* at the floor above, shall be determined by summing the required strengths for all floors. Where one pair of back-to-back *studs* does not have adequate strength to resist the sum of the accumulated chord forces, two pair of back-to-back *studs* shall be used at the lower floors as shown in Figure E11-3.

E12.3 Wall Top Track

The top *track* thickness of walls supporting floor or roof *diaphragms*, and the number of screws in the top *track* splices, shall be as required in Table E12-20. Minimum top *track* thickness shall be 33 mil (0.84 mm), except where indicated by shading in Table E12-20. In locations indicated by shading in Table E12-20, minimum top *track* thickness shall be 43 mils (1.09 mm).

E13 Braced Wall Design In High Wind Areas

E13.1 General

In *high wind areas* the design of braced walls shall comply with this section, in addition to the requirements in Section E11.

Braced walls shall be covered with *structural sheathing* on one side as required and the other side shall be covered by 1/2 inch (12.7 mm) minimum gypsum board.

For the purpose of this section, the endwall shall be defined as the exterior wall of the building perpendicular to the roof *ridge* and the sidewall shall be defined as the exterior wall of the building parallel to the roof *ridge*. For the purposes of determining uplift and lateral *bracing* requirements, the attic shall be considered an additional story when the roof slope is greater than 6.9 in 12.

E13.2 Length of Braced Walls

The minimum and maximum allowable sidewall lengths shall be determined from Tables E13-1 and E13-2.

The required length of *Type I braced wall panels* shall be determined from Tables E13-3 and E13-4. For 9-foot (2.74 m) wall heights the tabulated values shall be multiplied by 1.13. For 10-foot (3.05 m) wall heights the tabulated values shall be multiplied by 1.25. For *mean*

roof heights of 15 feet (4.92 m) or less, the tabulated values shall be permitted to be multiplied by 0.8. Required lengths shall be permitted to be multiplied by the adjustment factors in Table E11-1 for edge screw spacing other than 6 inch (152 mm), but the resulting sheathing length shall not be less than 5 feet (1.64 m).

Braced wall *hold down anchors* shall comply with Section E11.5. The height to width aspect ratio of *Type I braced wall panels* shall be limited to 3 ½:1. The height to width aspect ratio of full height sheathing segments in *Type II braced walls* shall be limited to 2:1.

Wood *structural sheathing* panels or structural *steel sheet* shall comply with Section E11.2 except in regions where the *basic wind speed* exceeds 110 mph (177 km/hr) wood *structural sheathing* panels attached to framing spaced 24 inches (610 mm) o.c. shall be a minimum of 19/32 inch (15.1 mm).

E13.3 Connections of Walls in High Wind Areas

E13.3.1 General

In *High Wind Areas*, walls shall be connected, as required by this section, to ensure a continuous load path capable of transferring shear and uplift loads from floors, *studs*, and roof framing to the foundation.

E13.3.2 Uplift Connection - Wall Assembly to Wall Assembly

Exterior wall *studs* in the upper story wall of a two or three story building shall be attached to the *in-line framing* wall *studs* in the supporting wall below with connections capable of resisting the uplift loads listed in Table E13-5. Alternatively, a steel uplift *strap* sized in accordance with Table E13-9 shall be permitted with minimum No.8 screws attached to each *stud*, as required by Table E13-6.

Required strengths in Table E13-5 shall be permitted to be multiplied by 0.70 for framing not located within 8 feet (2.44 m) of building corners. Required strengths shall be permitted to be divided by 1.3 when comparing requirements with published strengths expressed as allowable loads.

E13.3.3 Header Uplift Connections

When it is necessary to make an uplift *strap* connection to a back-to-back header the header beam shall be reinforced as shown in Figure E13-1. Uplift *straps* shall be installed on both sides of a back-to-back header beam (inside and outside of the wall) when the header is supporting loads from the roof and ceiling only.

E13.3.3.1 Single Story or Top of a Two or Three Story Building

Uplift connections shall be provided to fasten the *roof rafter* or roof *trusses* to the *header* by connectors capable of resisting the uplift loads listed in Table E13-7.

Uplift connections shall be provided to fasten the *header* to the *jack studs* by connectors capable of resisting the uplift loads listed in Table E13-7, multiplied by the number of framing members displaced, divided by two. An additional uplift *strap* shall be provided to fasten *roof rafters* or roof *trusses* to *king studs* that provide *in-line framing* support in accordance with Table E13-7.

Uplift connections shall be provided to fasten the *jack studs* to the foundation by connectors capable of resisting the uplift loads listed in Table E13-7, multiplied by the number of framing members displaced, divided by two.

As an alternative to the connectors required above, a steel uplift *strap* sized in accordance with Table E13-9 shall be permitted with minimum No.8 screws attached

to each *stud*, as required by Table E13-8.

Required strengths in Table E13-7 shall be permitted to be multiplied by 0.70 for framing not located within 8 feet (2.44 m) of building corners. Required strengths shall be permitted to be divided by 1.3 when comparing requirements with published strengths expressed as allowable loads.

E13.3.3.2 Middle and Bottom Stories of a Two or Three Story Building

Uplift connections shall be provided to fasten the exterior wall *studs* in the upper story walls of a two or three story building to the *header* below by connections capable of resisting the uplift loads listed in Table E13-5.

Uplift connections shall be provided to fasten the *header* to the *jack studs* by connectors capable of resisting the uplift loads listed in Table E13-5, multiplied by the number of framing members displaced, divided by two. An additional uplift *strap* shall be provided to fasten exterior wall *studs* in the upper story to *king studs* that provide *in-line framing* support in accordance with Table E13-5.

Uplift connections shall be provided to fasten the *jack studs* to the foundation by connectors capable of resisting the uplift loads listed in Table E13-5, multiplied by the number of framing members displaced, divided by two.

As an alternative to the connectors required above, a steel uplift *strap* sized in accordance with Table E13-9 shall be permitted with minimum No.8 screws attached to each *stud*, as required by Table E13-6.

Required strengths in Table E13-5 shall be permitted to be multiplied by 0.70 for framing not located within 8 feet (2.44 m) of building corners. Required strengths shall be permitted to be divided by 1.3 when comparing requirements with published strengths expressed as allowable loads.

E13.3.4 Wall Bottom Track to Foundation

Bottom *track* of exterior walls shall be connected to a wood sill plate as shown in Figure E2-5. The *track* shall be attached with steel plates spaced at 2 feet (0.61 m) on center and fastened with 4-No.8 screws and 4-10d or 6-8d common nails. Bottom *track* of interior braced walls shall be connected to supporting floors or foundations as required by Section E2.

The bottom *track* shall be connected to the foundation with ½ inch (13 mm) anchor bolts extending 14 inches (381 mm) into masonry or 7 inches (178 mm) into concrete. Anchor bolts shall be spaced a maximum of 3 feet (0.915 m) on center, with the following exceptions:

1. Anchor bolts located within the 8 feet (2.44 m) end zone in regions with a *basic wind speed* of 120 mph or greater shall be spaced a maximum of 2 feet (0.610 m) on center.
2. Anchor bolts located in exterior braced wall in which the perimeter screw spacing is less than 6 inches (152 mm) on center shall be spaced a maximum of 1-1/2 feet (0.457 m) on center.
3. An anchor bolt shall be located no more than 12 inches (305 mm) from wall corners or the termination of bottom *track* sections.

E13.4 Braced Wall Anchorage and Chord Stud Requirements

Minimum *hold down anchor* strengths to resist uplift in *High Wind Areas* shall be as specified in Table E13-10. Where manufacturer's *hold down anchor* strengths are expressed as allowable loads, the anchor forces specified in Table E13-10 shall be permitted to be divided by 1.3 for the purpose of determining an acceptable *hold down anchor*. Published *hold down anchor* strengths that have been increased for wind or earthquake forces shall be reduced to their base values. Required *hold down anchor* strengths for anchors at the first floor of two story buildings and the first or second floor of three story buildings, which resist uplift from two or three stories, shall be determined by summing the required strengths for all floors.

Required *chord stud* strength shall be determined from Table E13-10, and a *chord stud* having the required strength shall be selected from Table E12-18. *Chord stud* requirements for *chord studs* at the first floor of two story buildings and the first or second floor of three story buildings, where the first floor *chord studs* align with *chord studs* at the floor above, shall be determined by summing the required strengths for all floors. Where one pair of back-to-back *studs* does not have adequate strength to resist the sum of the accumulated chord forces, two pair of back-to-back *studs* shall be used at the lower floors as shown in Figure E11-3.

Required strengths in Table E13-10 shall be permitted to be multiplied by a factor equal to the required full height sheathing length divided by the actual full height sheathing length that is provided.

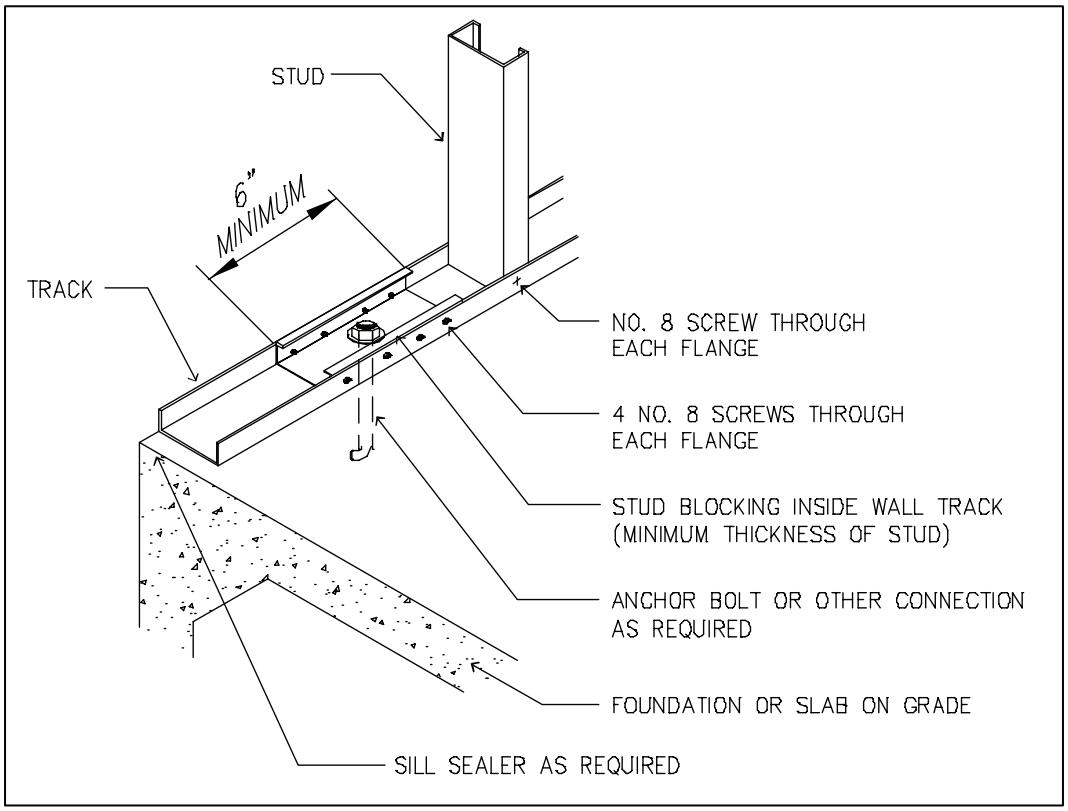


Figure E2-1 Wall to Foundation Connection

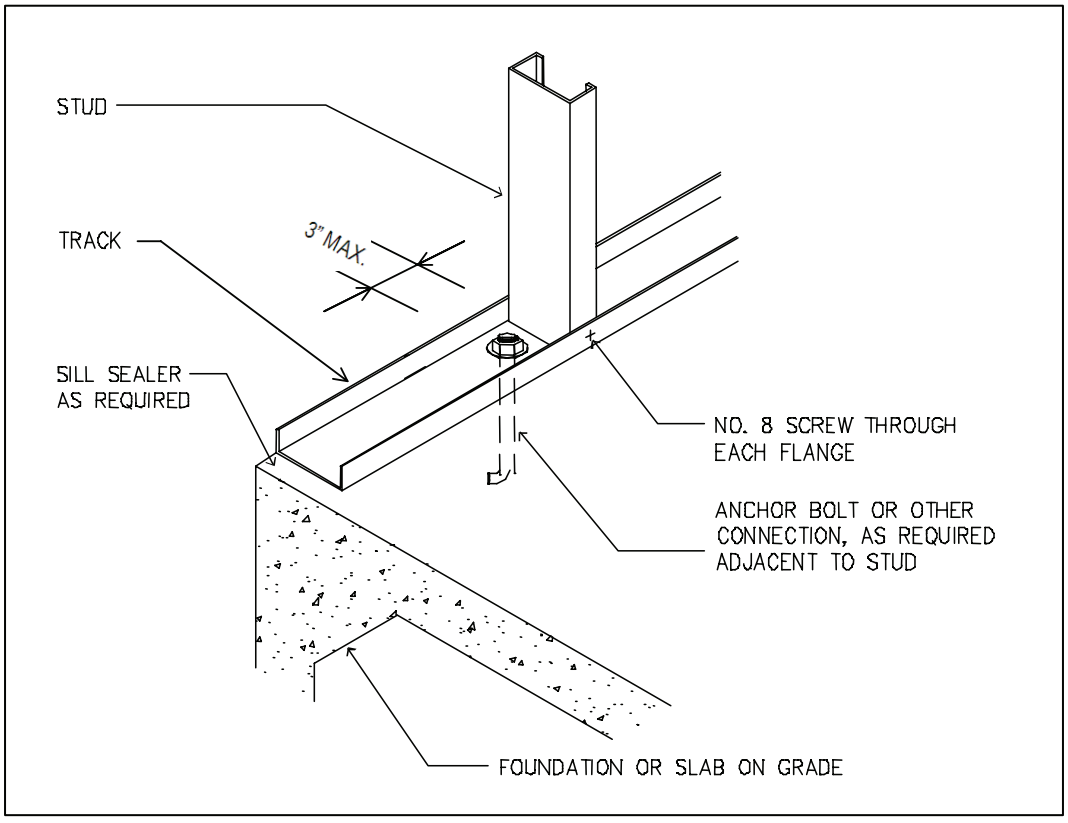


Figure E2-2 Alternate Wall to Foundation Connection

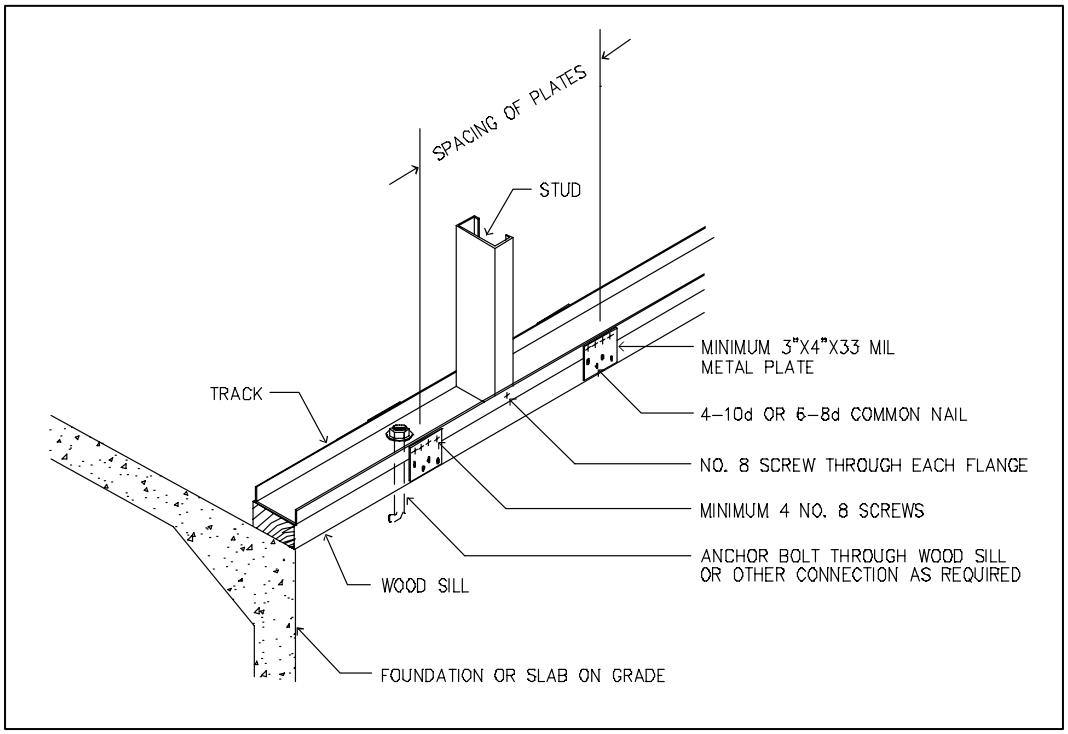


Figure E2-3 Wall to Wood Sill Connection

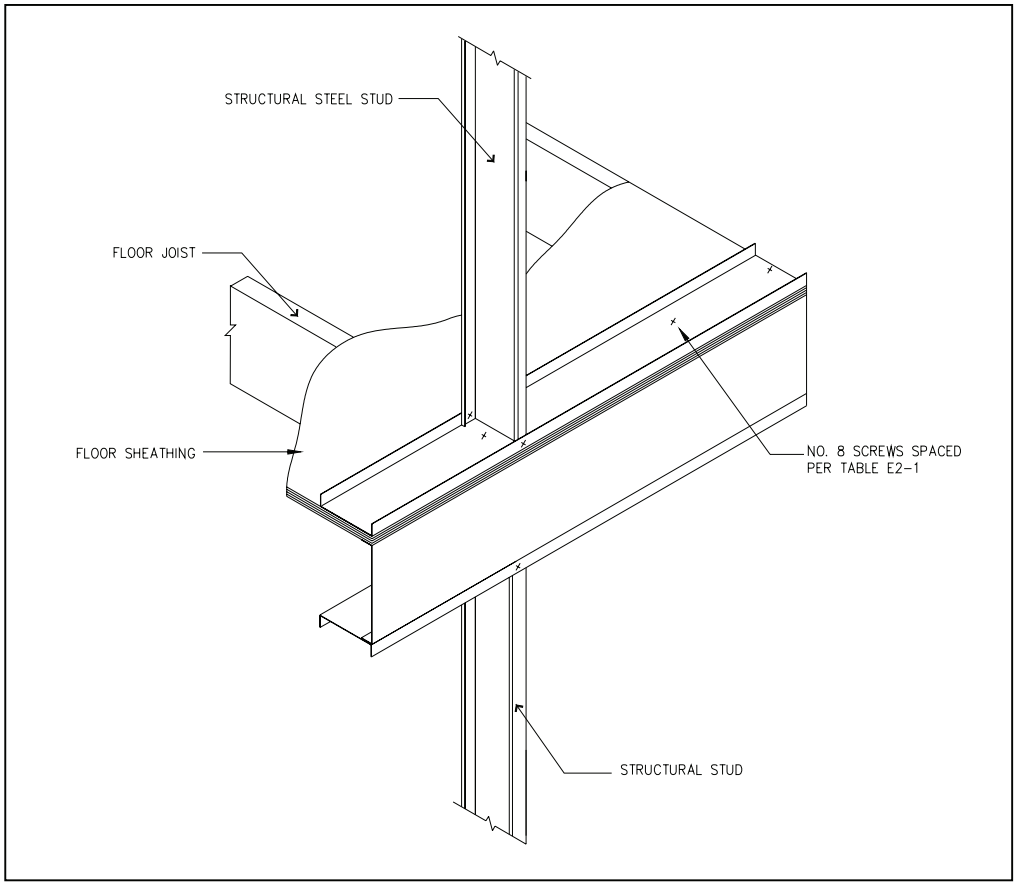


Figure E2-4 Wall to Floor Connection

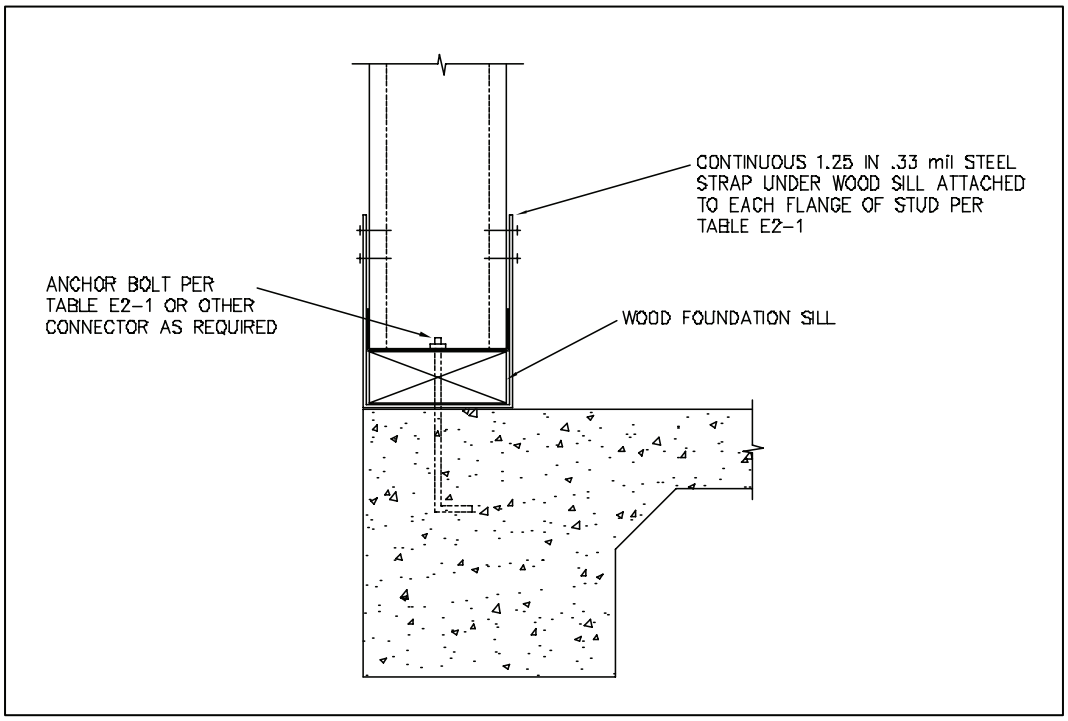


Figure E2-5 Wind Uplift Connector

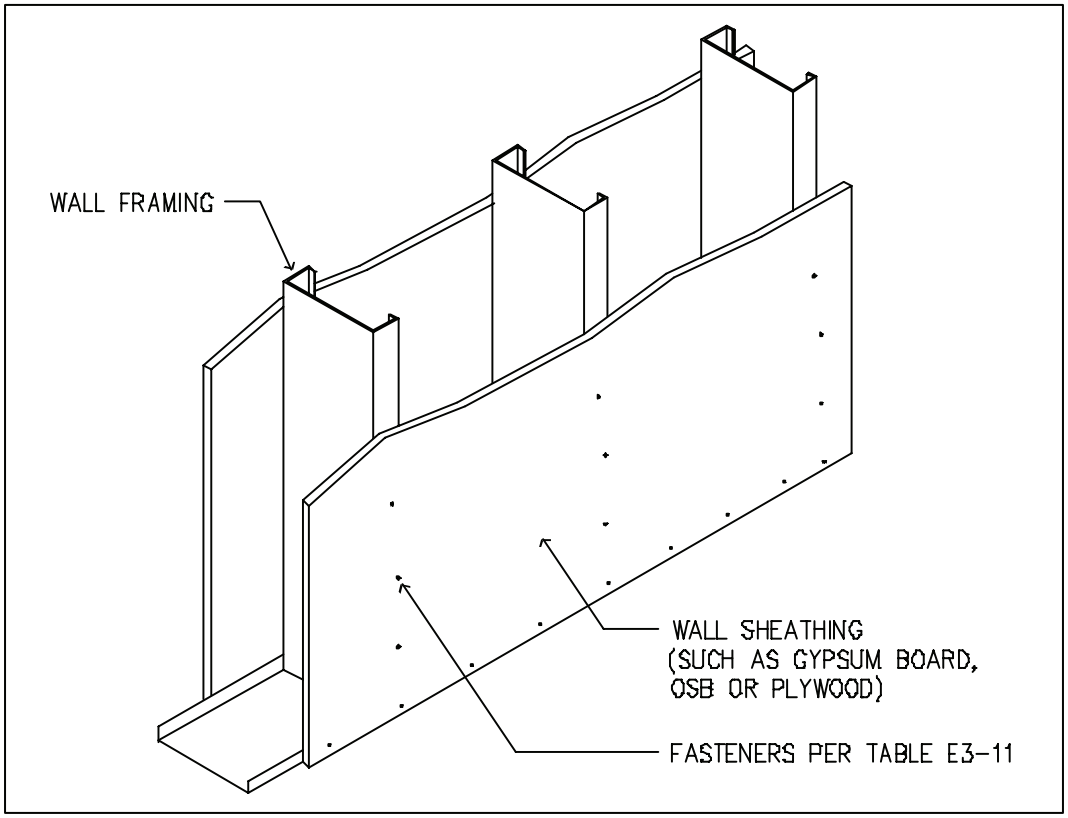


Figure E4-1 Stud Bracing with Sheathing Material Only

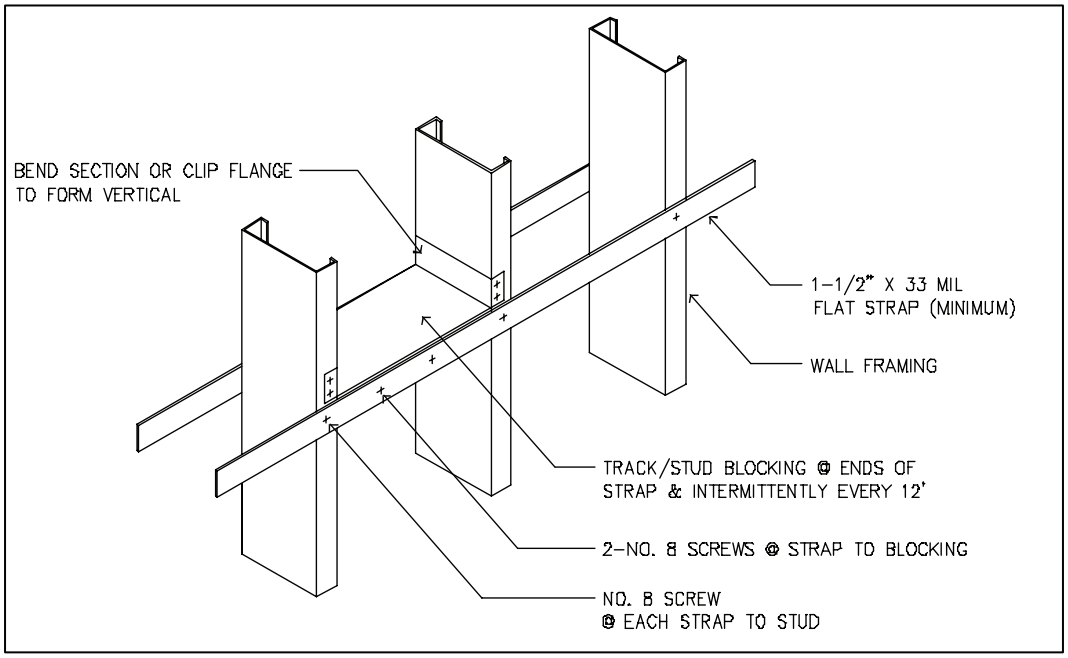


Figure E4-2 Stud Bracing with Strapping Only

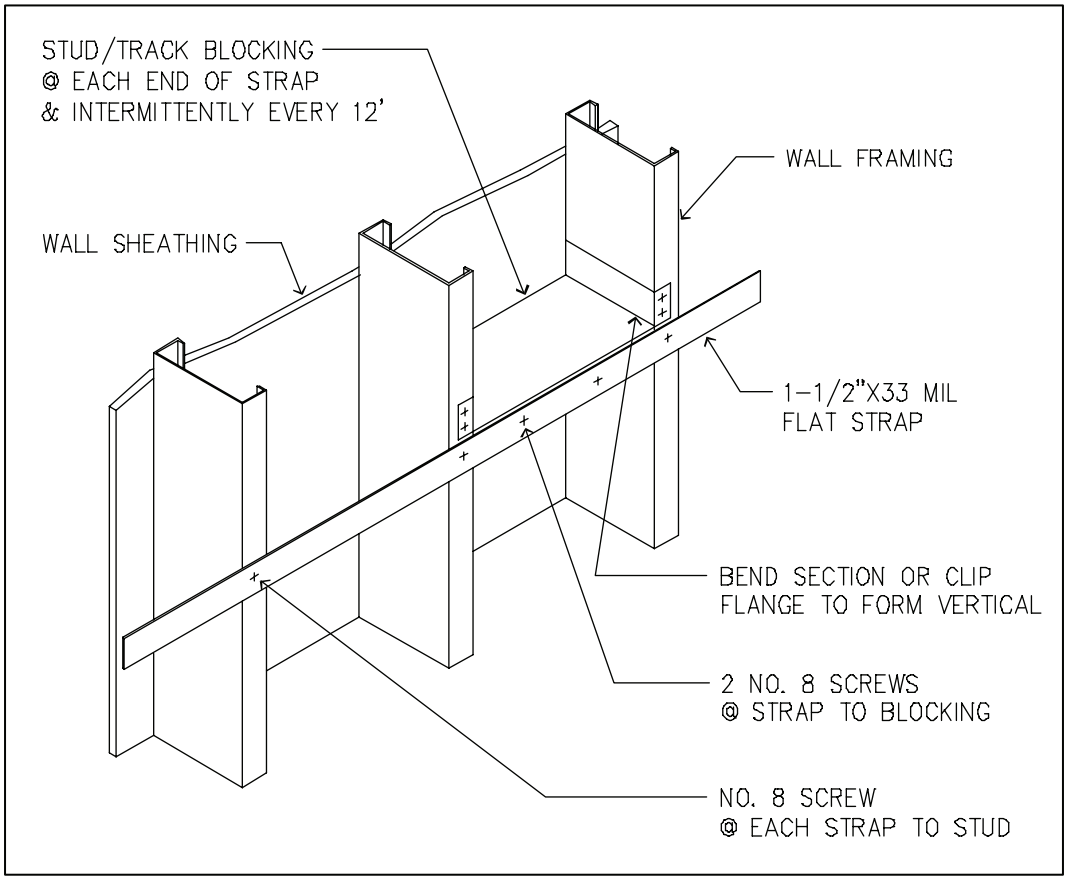


Figure E4-3 Stud Bracing with Strapping and Sheathing Material

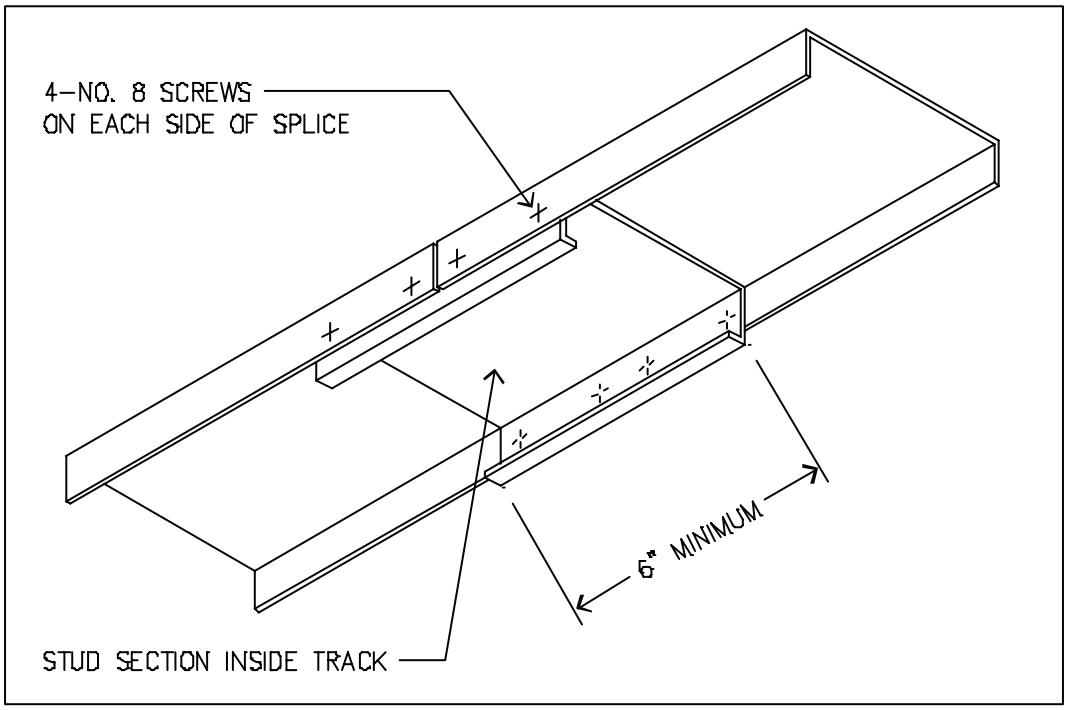


Figure E5-1 Top Track Splice

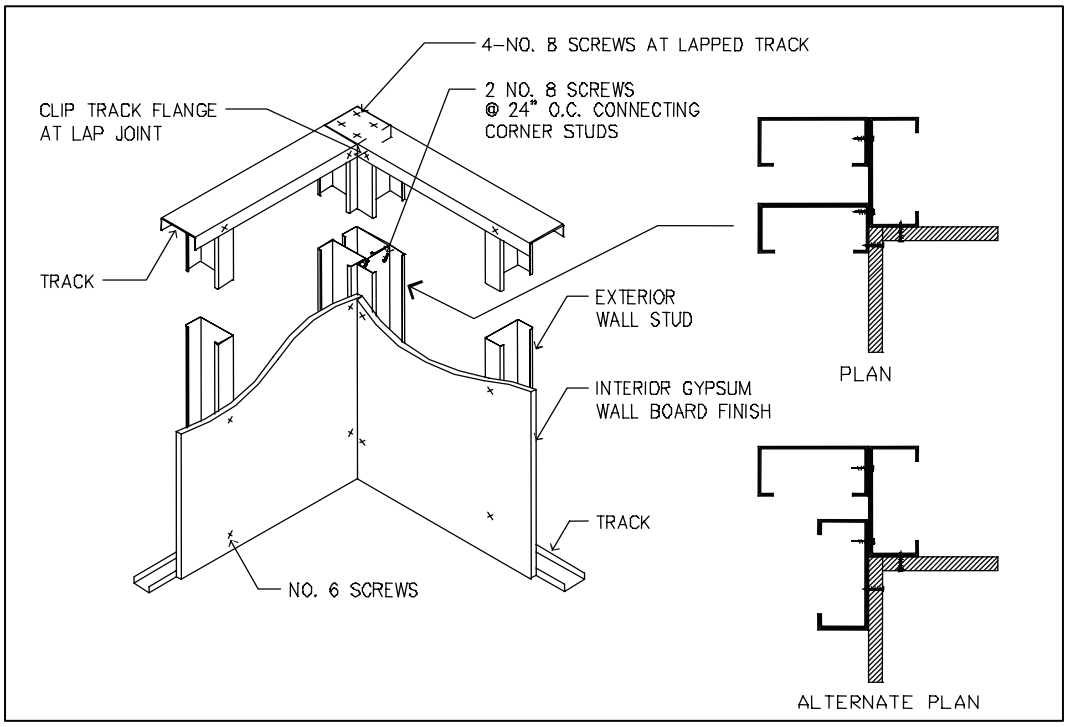


Figure E6-1 Corner Framing Detail

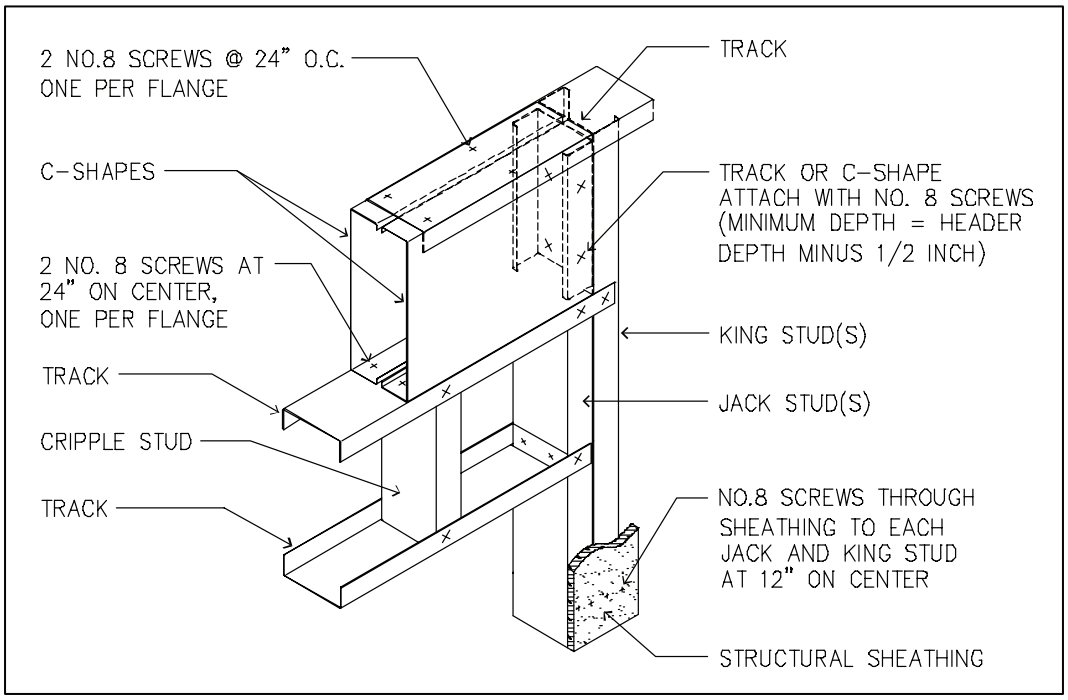


Figure E7-1 Box Beam Header Detail

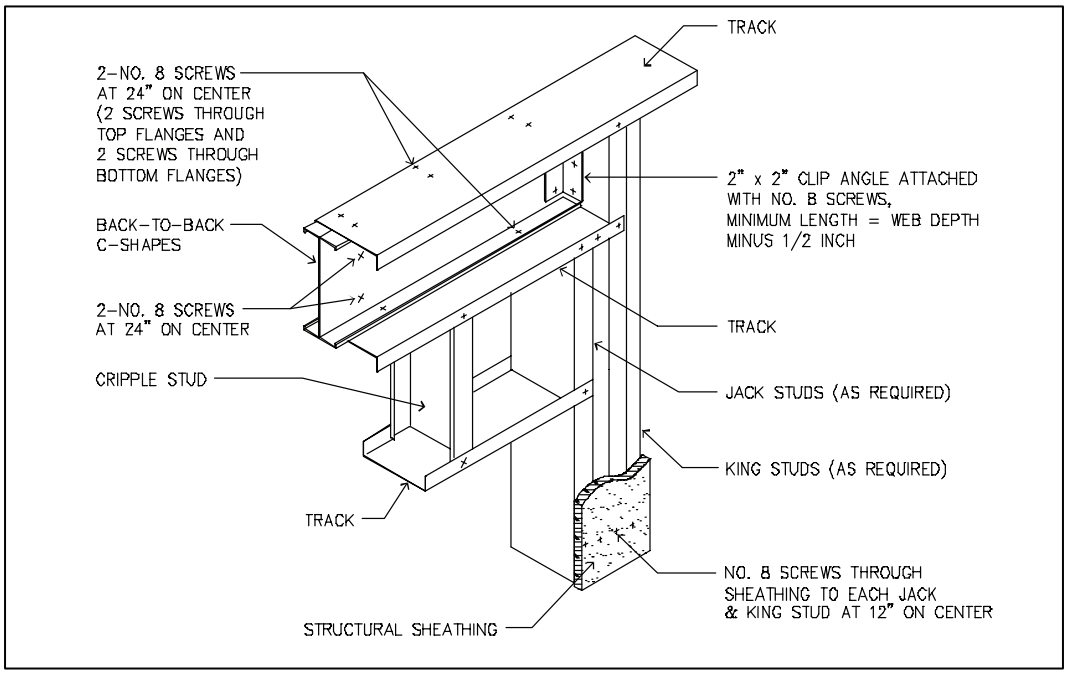


Figure E7-2 Back-to-Back Header Detail

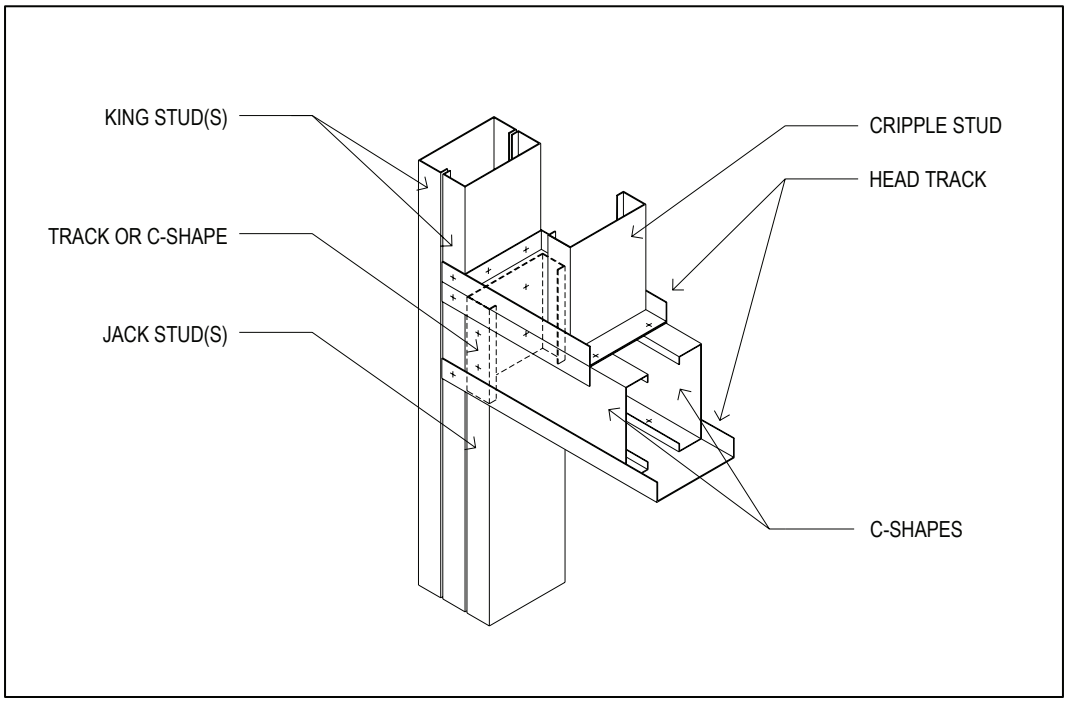


Figure E7-3 Box Beam Header in Gable Endwall

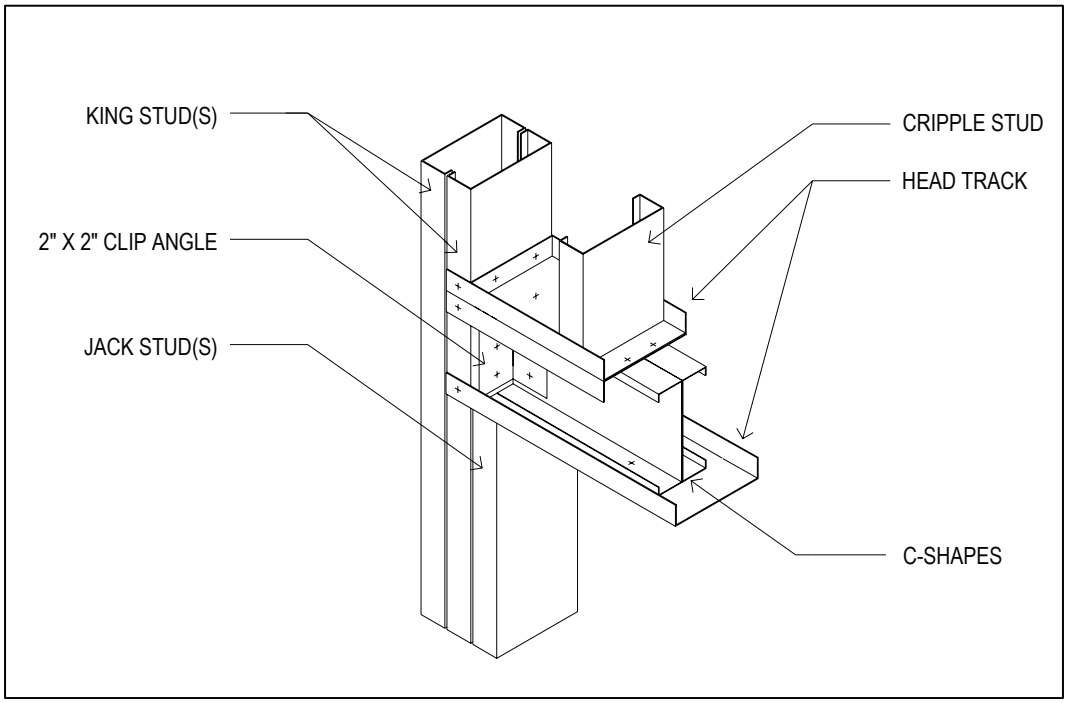


Figure E7-4 Back-to-Back Header in Gable Endwall

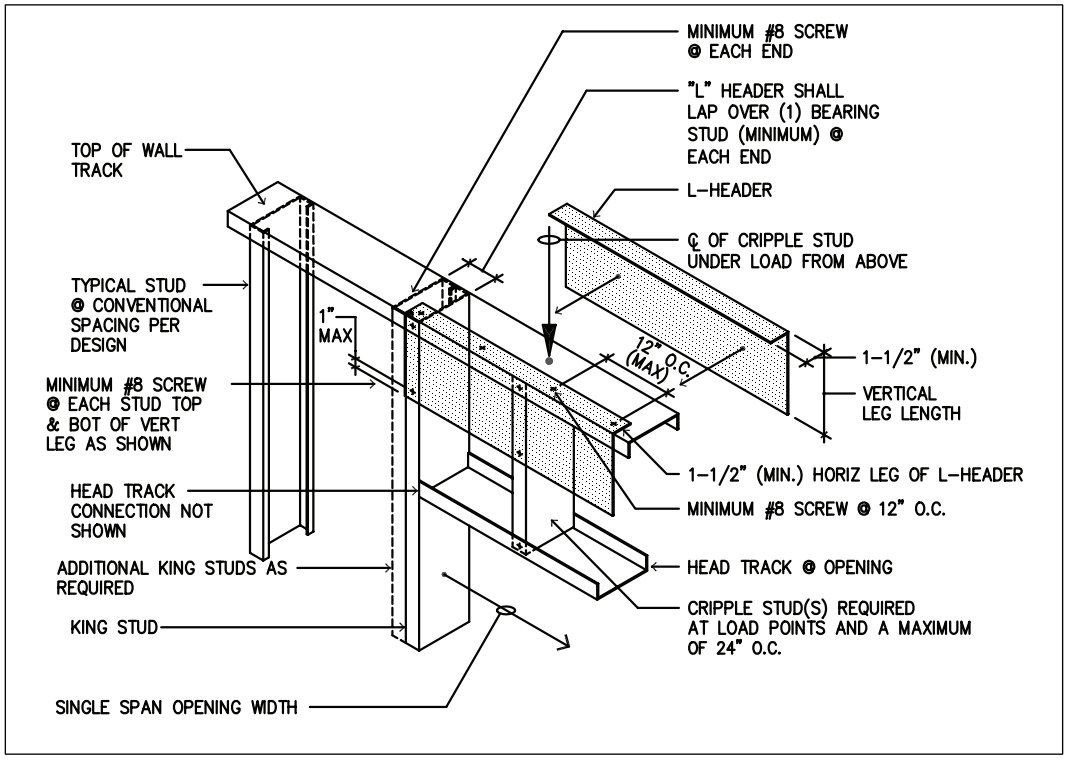


Figure E7-5 Double L-Header

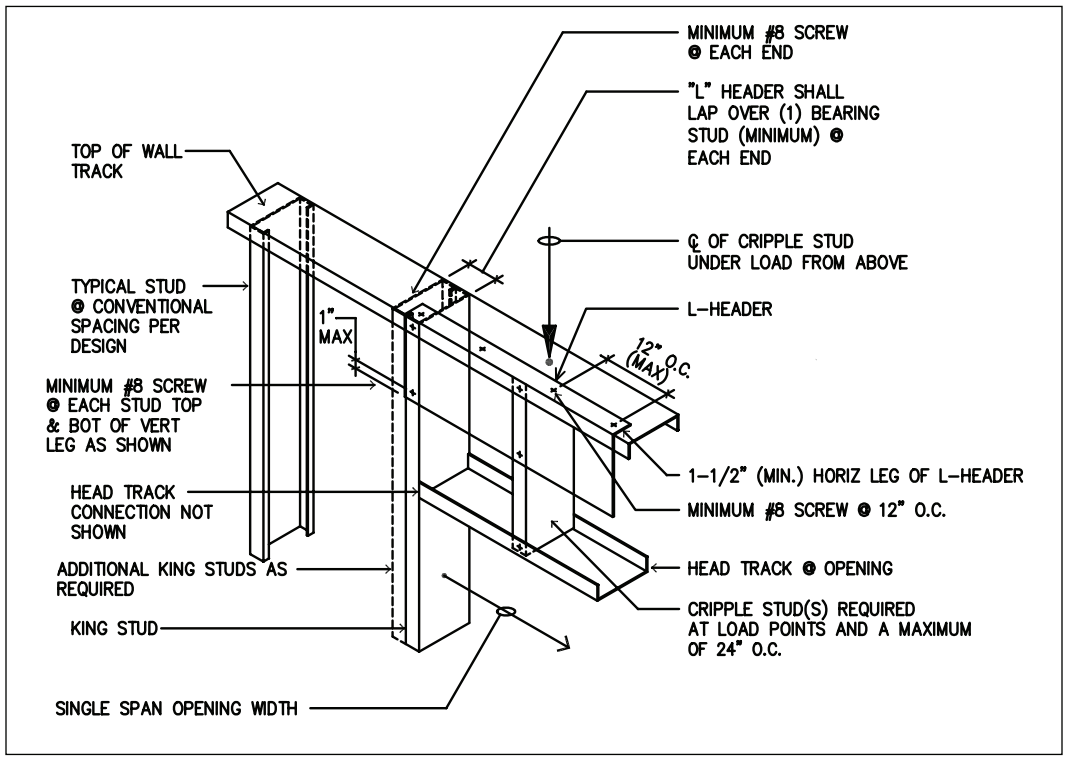


Figure E7-6 Single L-Header

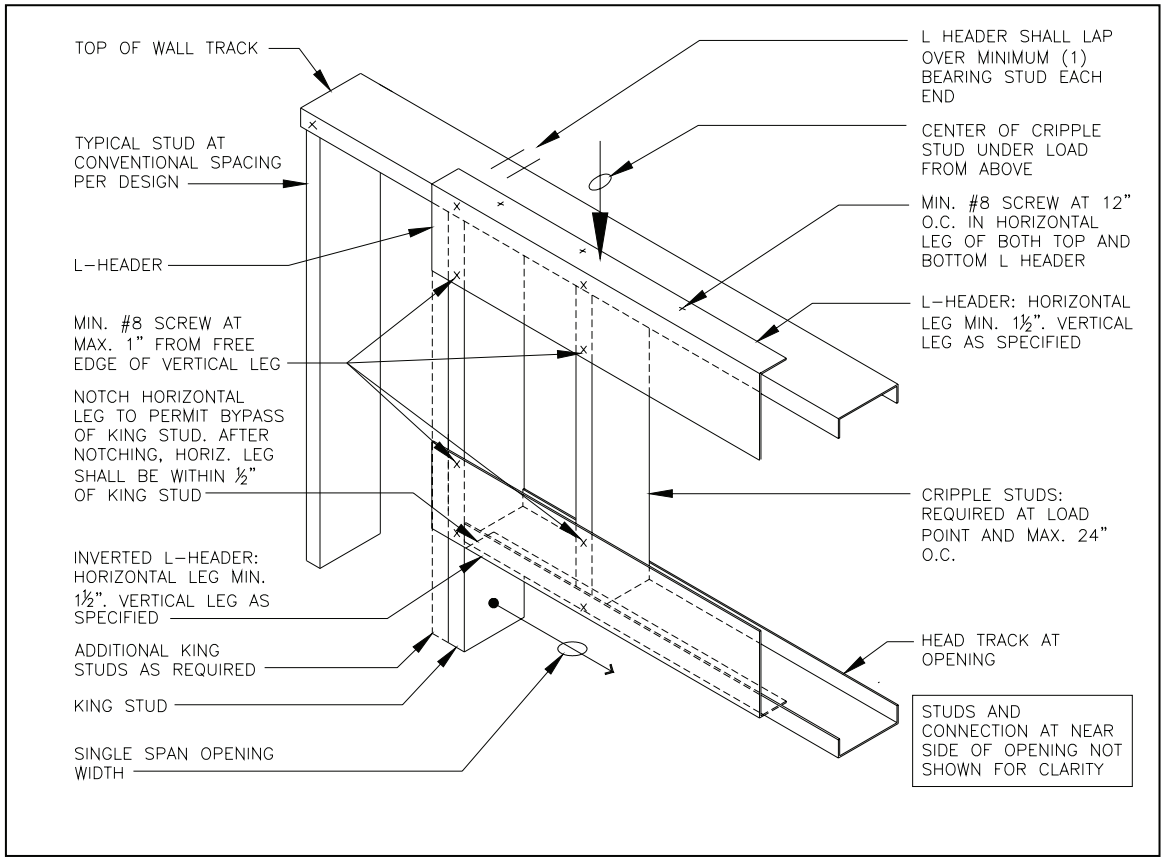


Figure E7-7 Inverted Single or Double L-Header Assembly (Single L-Header Shown)

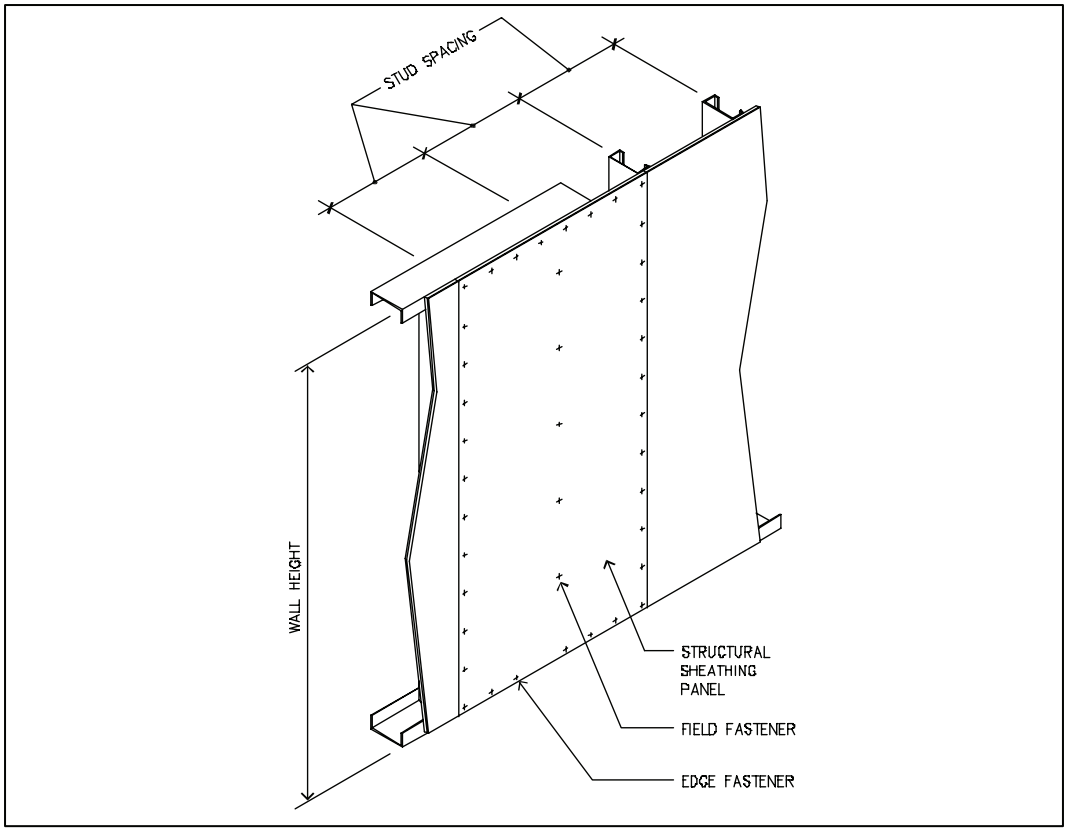


Figure E8-1 Structural Sheathing Fastening Pattern

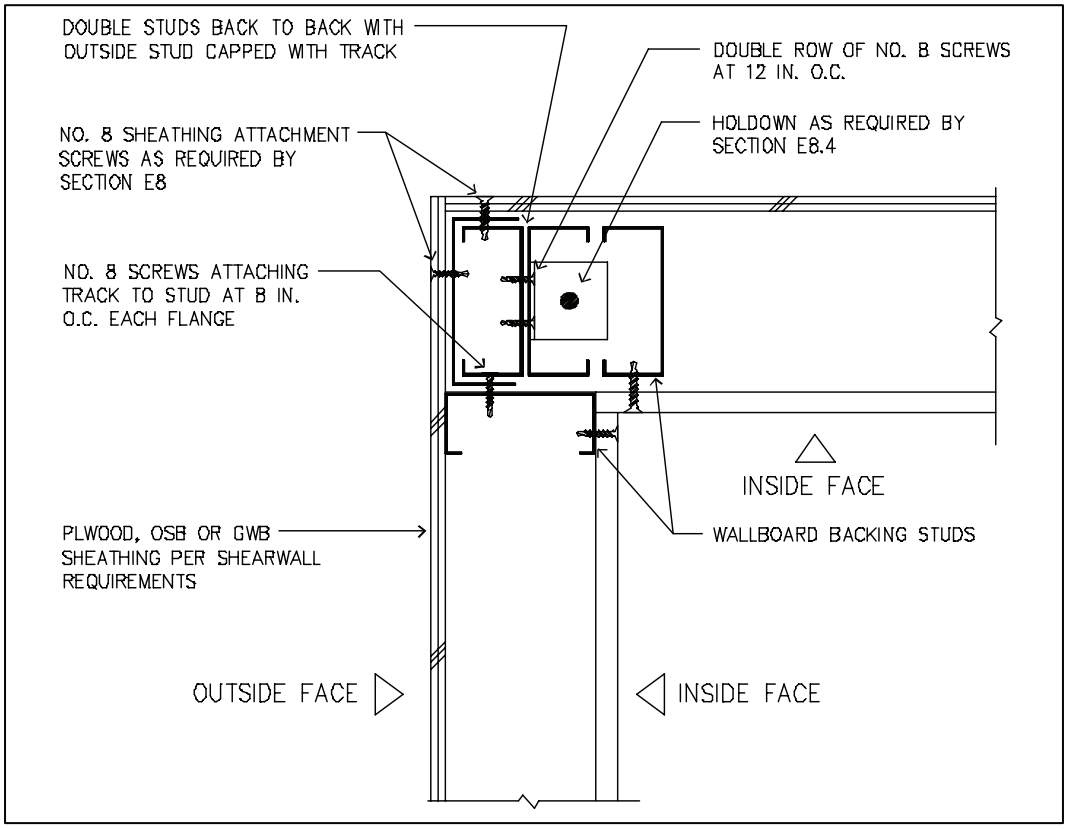


Figure E8-2 Corner Stud Hold-Down Detail

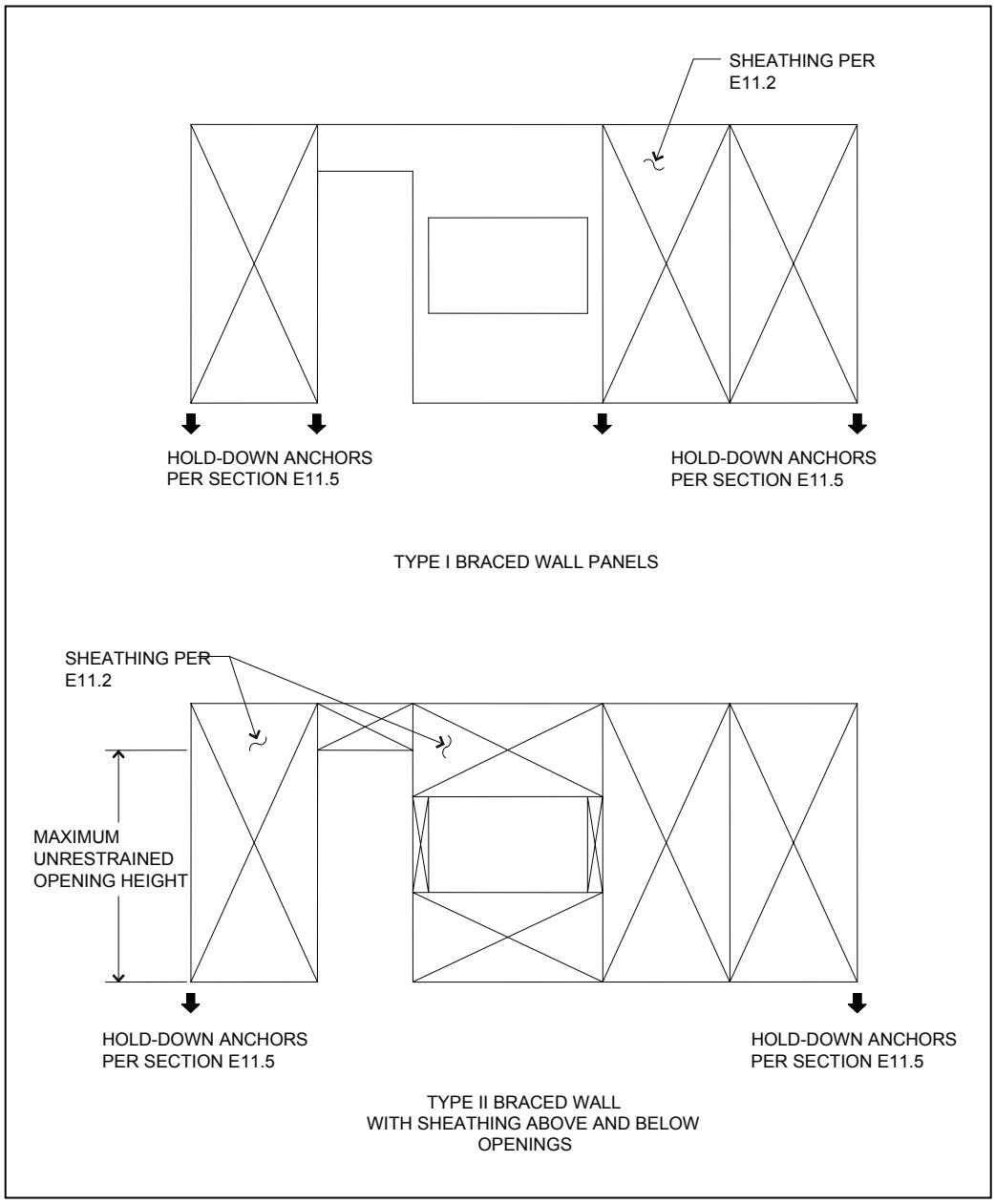


Figure E11-1 Type I and Type II Braced Wall Lines

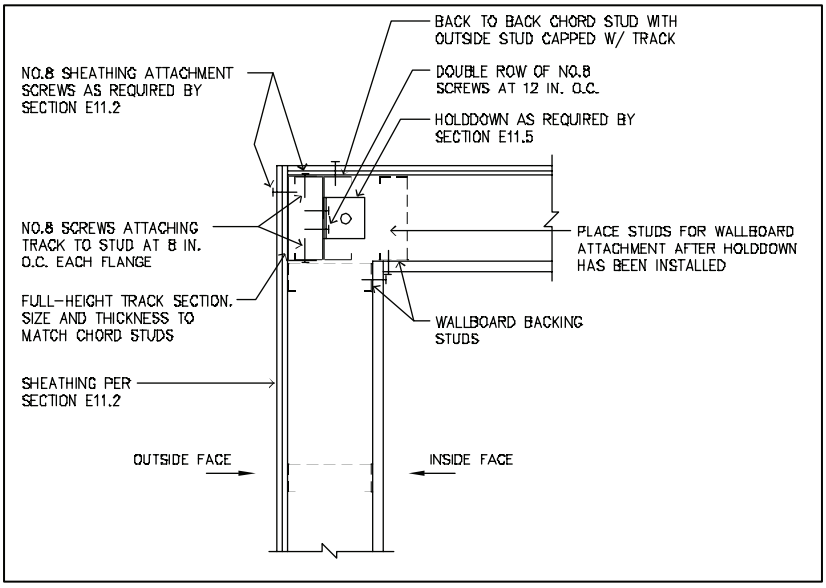


Figure E11-2 Corner Stud Holddown

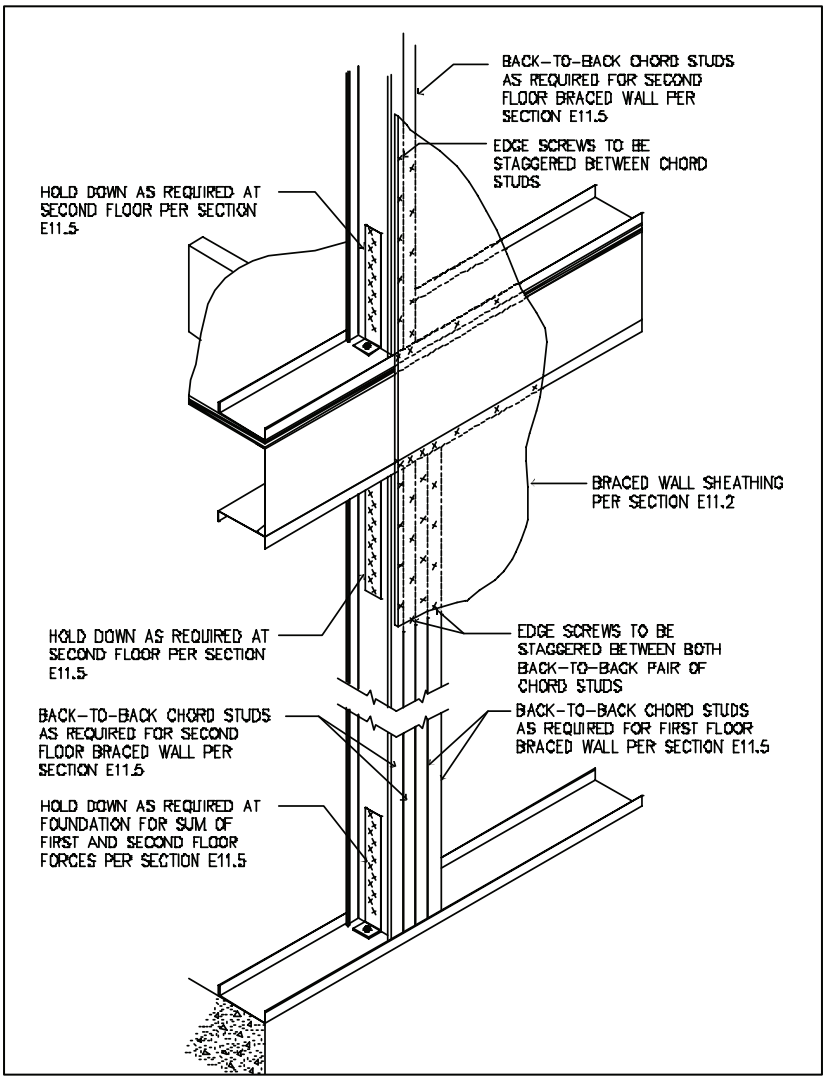


Figure E11-3 Supplemental Chord Stud at First Floor

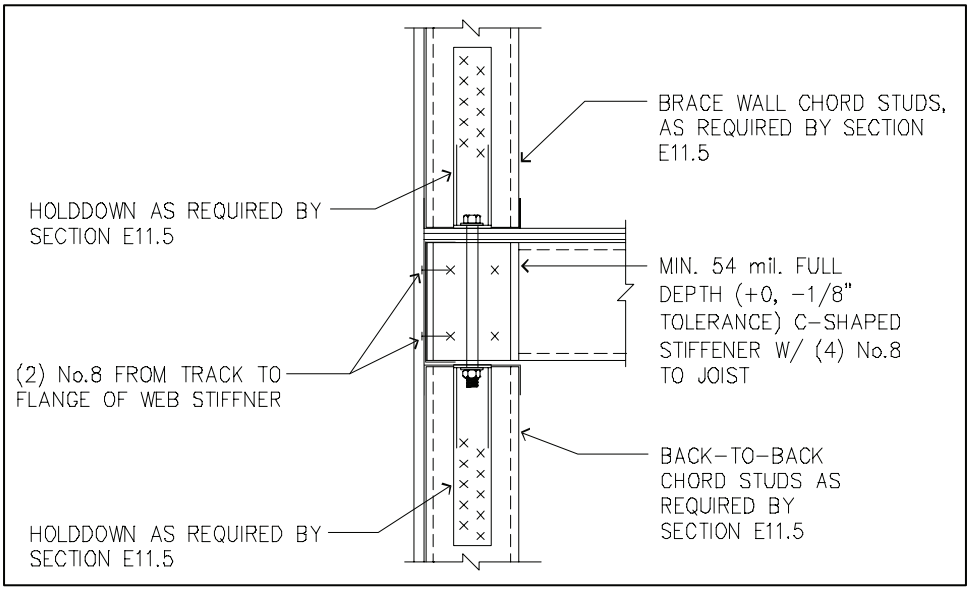


Figure E11-4 Floor to Floor Hold-Down

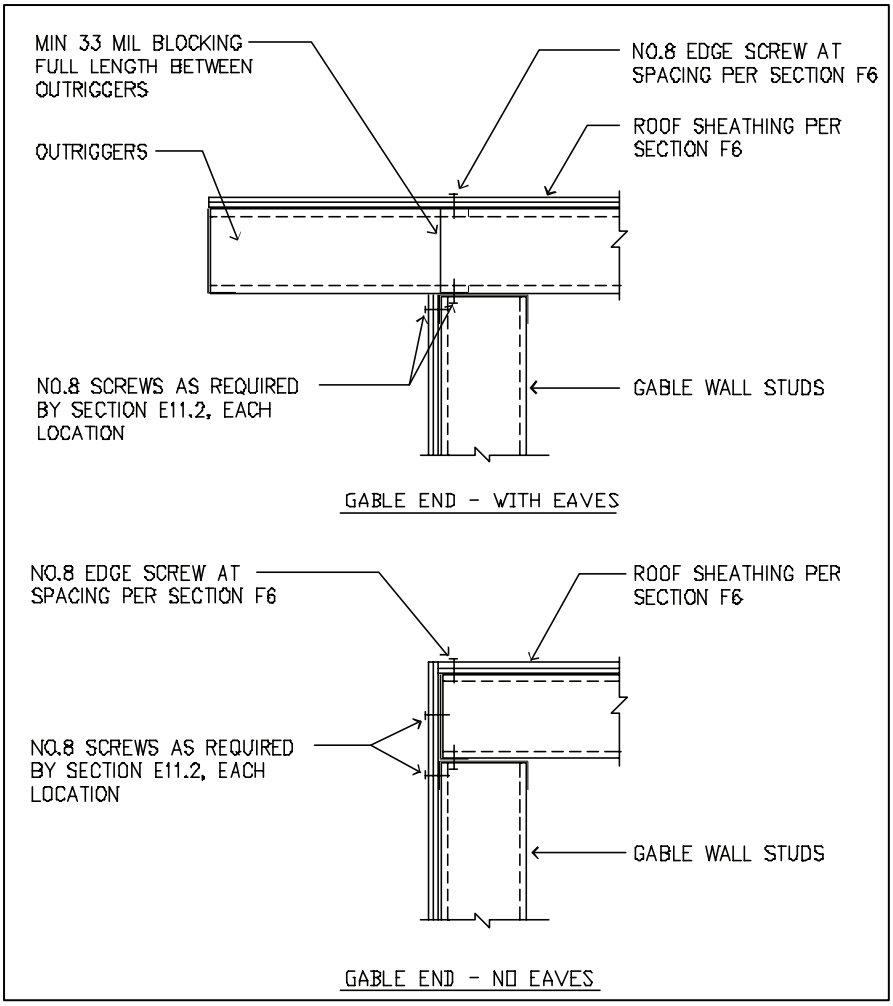


Figure E11-5 Gable Wall Roof Sheathing Attachment to Braced Walls

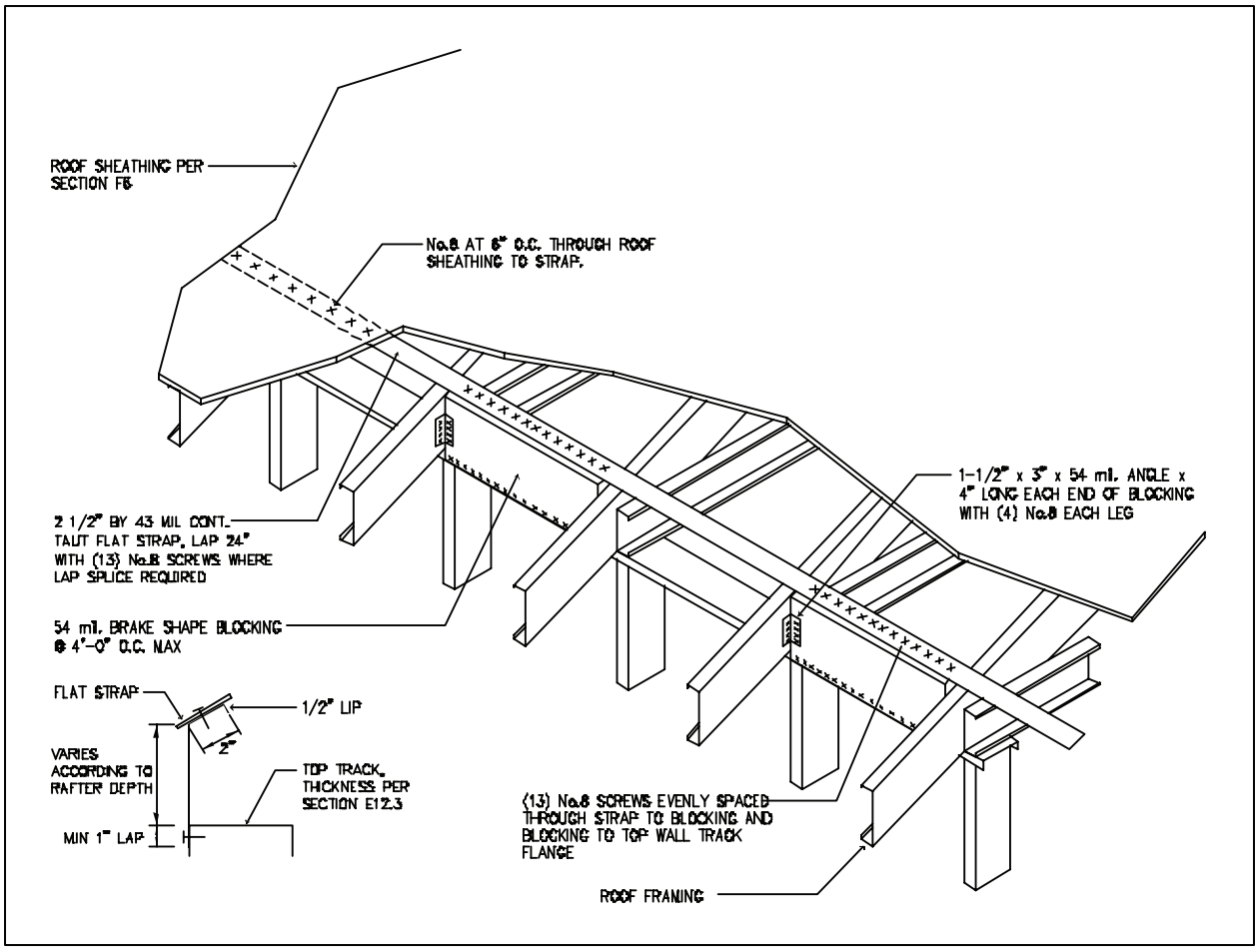


Figure E11-6 Strap and Blocking at Roof Eave

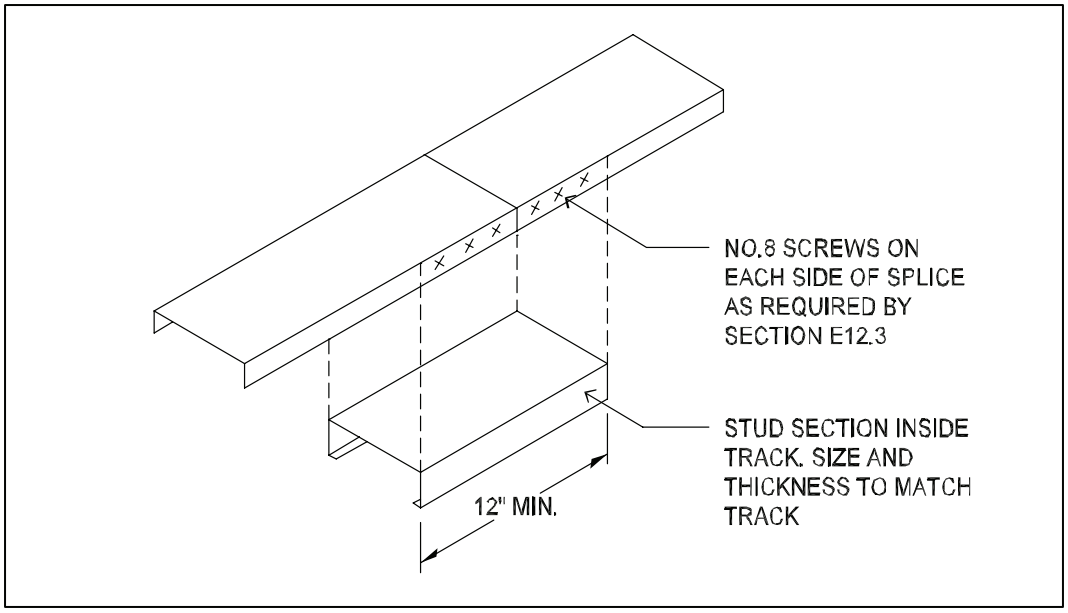


Figure E11-7 Top Track Splice

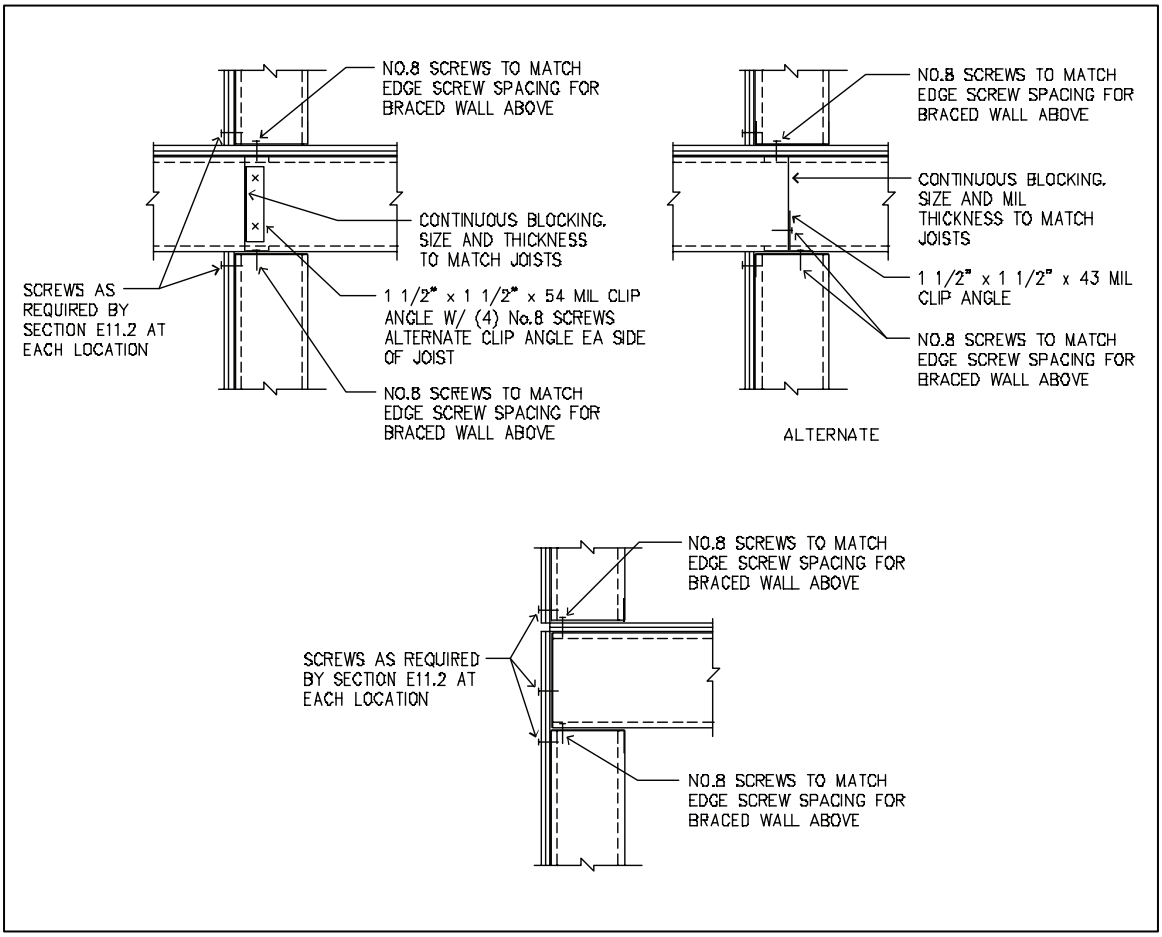


Figure E11-8 Floor Diaphragm Attachment to Braced Walls

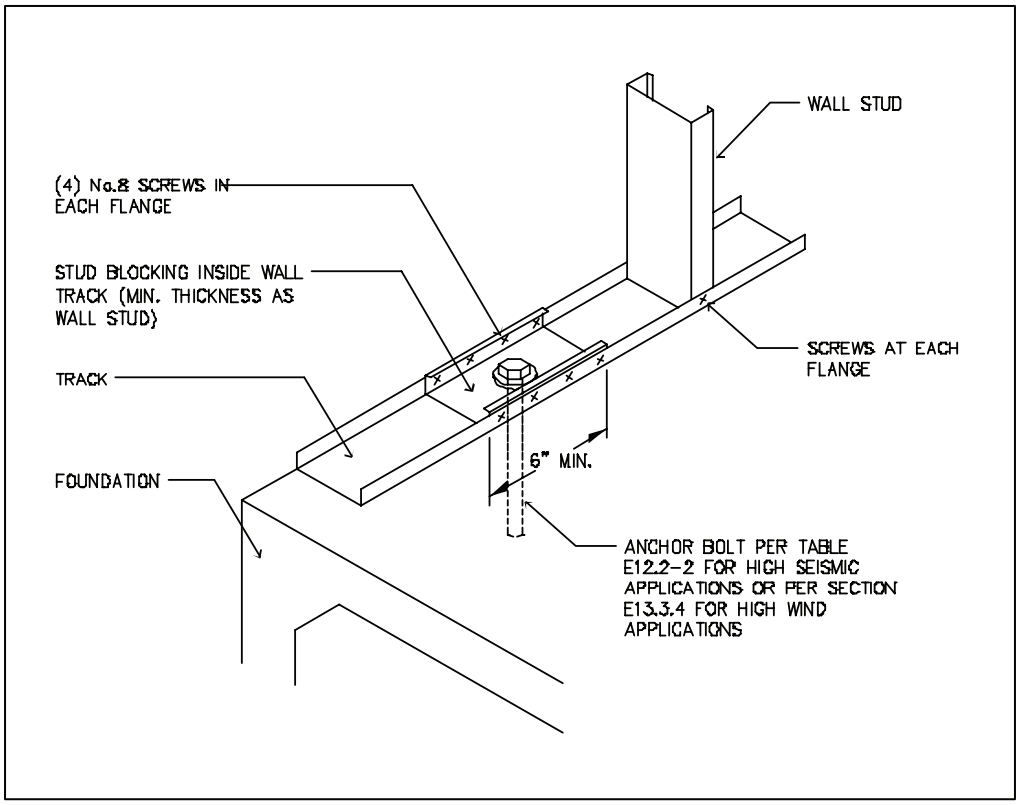


Figure E11-9 Braced Wall to Foundation Connection

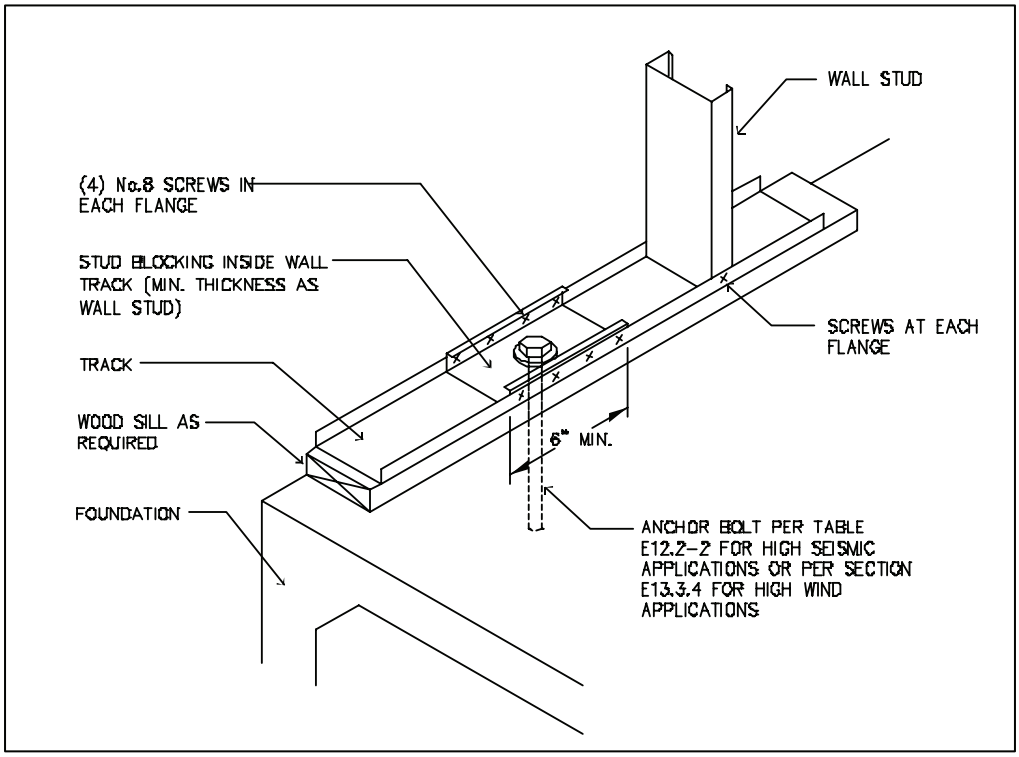


Figure E11-10 Braced Wall to Foundation Connection with Wood Sill

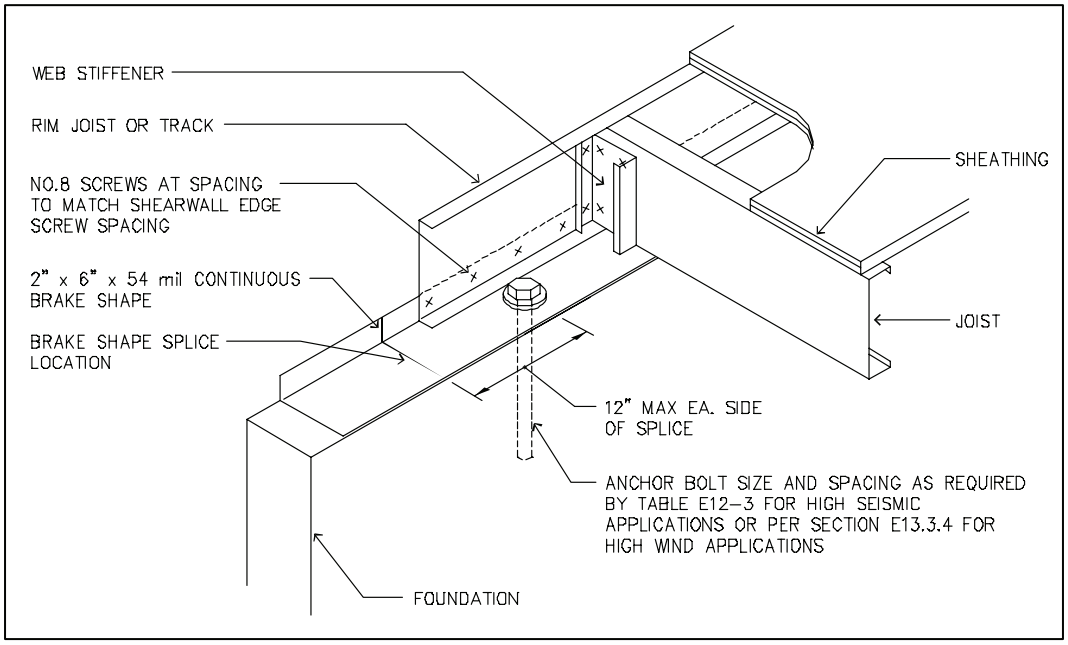


Figure E11-11 Floor to Foundation Connection at Braced Wall

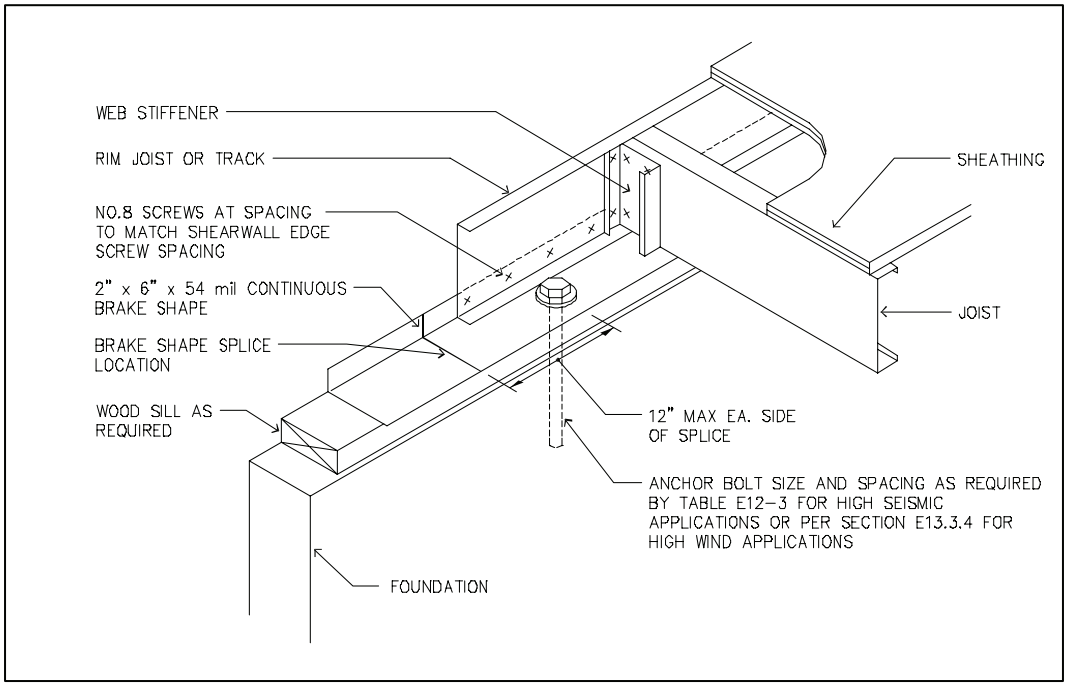


Figure E11-12 Floor to Foundation Connection at Braced Wall with Wood Sill

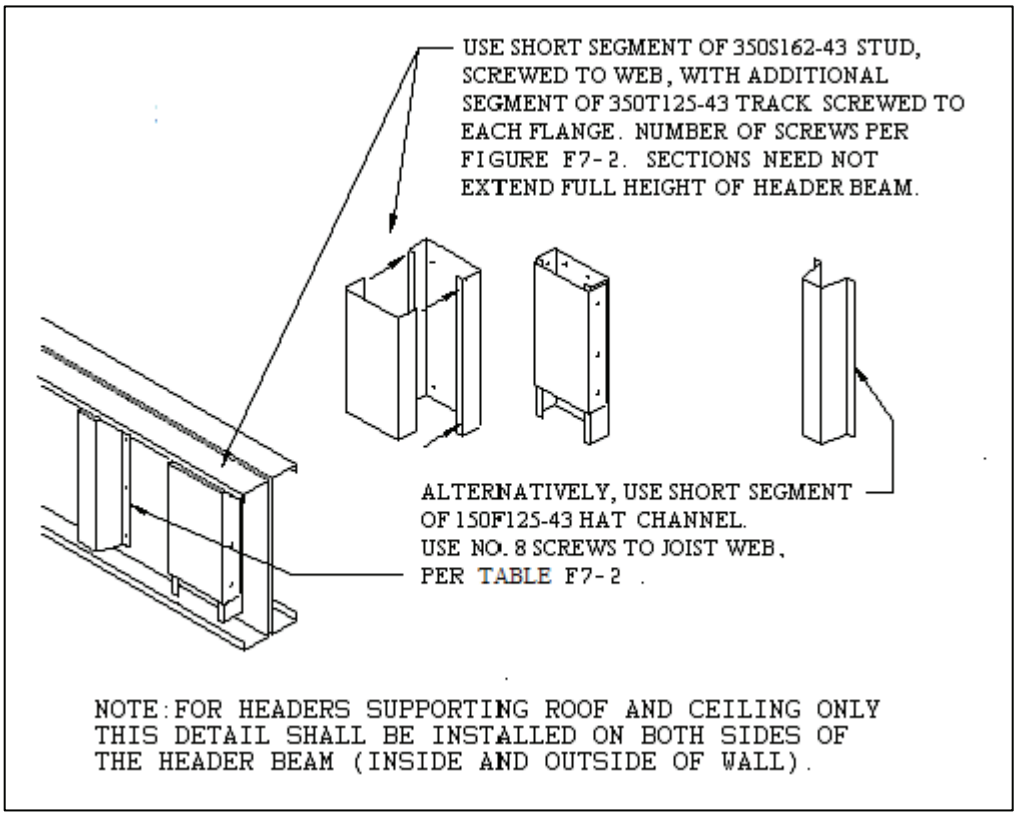


Figure E13-1 Back-to-Back Header Beam Reinforcement for Uplift Strap Connection

Table E2-1
Wall to Foundation or Floor Connection Requirements [1]

Framing Condition	Wind Speed (mph), Exposure, & Seismic Design Category[2]					
	85 B or SDC A,B,C	90 B	100 B 85 C	110 B 90 C	100 C	< 110 C
Wall bottom *track* to *floor* per Figure E2-4	1-No.8 screw at 12" o.c.	1-No.8 screw at 12" o.c.	1-No.8 screw at 12" o.c.	1 – No.8 screw at 12" o.c.	2 – No.8 screw at 12" o.c.	2 – No.8 screw at 12" o.c.
Wall bottom *track* to foundation per Figure E2-1 or E2-2[4]	1/2" minimum diameter anchor bolt at 6' o.c.	1/2" minimum diameter anchor bolt at 6' o.c.	1/2" minimum diameter anchor bolt at 4' o.c.	1/2" minimum diameter anchor bolt at 4' o.c.	1/2" minimum diameter anchor bolt at 4' o.c.	1/2" minimum diameter anchor bolt at 4' o.c.
Wall bottom *track* to wood sill per Figure E2-3	Steel plate spaced at 4' o.c., with 4-No.8 screws and 4-10d or 6-8d common nails	Steel plate spaced at 4' o.c., with 4-No.8 screws and 4-10d or 6-8d common nails	Steel plate spaced at 3' o.c., with 4-No.8 screws and 4-10d or 6-8d common nails	Steel plate spaced at 3' o.c., with 4-No.8 screws and 4-10d or 6-8d common nails	Steel plate spaced at 2' o.c., with 4-No.8 screws and 4-10d or 6-8d common nails	Steel plate spaced at 2' o.c., with 4-No.8 screws and 4-10d or 6-8d common nails
Wind uplift connector strength for 16" *stud* spacing[3]	N/R	N/R	N/R	N/R	N/R	65 lbs per foot of wall length
Wind uplift connector strength for 24" *stud* spacing[3]	N/R	N/R	N/R	N/R	N/R	100 lbs per foot of wall length

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr, 1 foot = 0.305 m, 1 lb = 4.45 N.

[1] Anchor bolts are to be located not more than 12 inches (305 mm) from corners or the termination of bottom *tracks* (e.g. at door openings or corners). Bolts are to extend a minimum of 15 inches (381 mm) into masonry or 7 inches (178 mm) into concrete.

[2] *SDC* indicates *Seismic Design Category*. See Sections E11 through E13 for floor connection requirements in *high seismic areas* and *high wind areas*.

[3] N/R = uplift connector not required

[4] Foundation anchor *straps* are permitted, in lieu of anchor bolts, if spaced as required to provide equivalent anchorage to the required anchor bolts and installed in accordance with manufacturer's requirements.

Table E2-2
Gable Endwall to Floor Connection Requirements [1, 2, 3, 4]

Basic Wind Speed (mph)		Wall Bottom Track to Floor Joist or Track Connection		
Exposure		Stud Height, h (ft)		
B	C	10 < h ≤ 14	14 < h ≤ 18	18 < h ≤ 22
85		1-No.8 screw @ 12" o.c.	1-No.8 screw @ 12" o.c.	1-No.8 screw @ 12" o.c.
90		1-No.8 screw @ 12" o.c.	1-No.8 screw @ 12" o.c.	1-No.8 screw @ 12" o.c.
100	85	1-No.8 screw @ 12" o.c.	1-No.8 screw @ 12" o.c.	1-No.8 screw @ 12" o.c.
110	90	1-No.8 screw @ 12" o.c.	1-No.8 screw @ 12" o.c.	2-No.8 screws @ 12" o.c.
120	100	1-No.8 screw @ 12" o.c.	2-No.8 screws @ 12" o.c.	1-No.8 screw @ 8" o.c.
130	110	2-No.8 screws @ 12" o.c.	1-No.8 screw @ 8" o.c.	2-No.8 screws @ 8" o.c.
140	120	2-No.8 screws @ 12" o.c.	2-No.8 screws @ 8" o.c.	2-No.8 screws @ 8" o.c.
150	130	2-No.8 screws @ 8" o.c.	2-No.8 screws @ 8" o.c.	2-No.8 screws @ 8" o.c.
-	140	2-No.8 screws @ 8" o.c.	2-No.8 screws @ 8" o.c.	2-No.8 screws @ 8" o.c.
	150	2-No.8 screws @ 8" o.c.	2-No.8 screws @ 8" o.c.	-

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr, 1 foot = 0.305 m, 1 lb = 4.45 N.
[1] Refer to Sections E11 - E13 for additional requirements for high wind and seismic areas.
[2] Refer to Table E2-3 for gable endwall bottom track to foundation connections.
[3] Where attachment is not given, special design is required.
[4] Stud height, h, is measured from wall bottom track to wall top track or brace connection height.

Table E2-3
Gable Endwall Bottom Track to Foundation Connection Requirements [1, 2, 3, 4]

Basic Wind Speed (mph)		Minimum Spacing for $^1/_2$" Diameter Anchor Bolts[5]		
Exposure		Stud Height, h (ft)		
B	C	10 < h ≤ 14	14 < h ≤ 18	18 < h ≤ 22
85[6]		6'-0" o.c.	6'-0" o.c.	6'-0" o.c.
90		6'-0" o.c.	5'-7" o.c.	6'-0" o.c.
100	85	5'-10" o.c.	6'-0" o.c.	6'-0" o.c.
110	90	4'-10" o.c.	5'-6" o.c.	6'-0" o.c.
120	100	4'-1" o.c.	6'-0" o.c.	6"-0" o.c.
130	110	5'-1" o.c.	6'-0" o.c.	5'-2" o.c.
140	120	4'-11" o.c.	5'-10" o.c.	-
150	130	5'-5" o.c.	5'-0" o.c.	-
-	140	5'-9" o.c.	4'-4" o.c.	-
	150	5'-0" o.c.	3'-9" o.c.	-

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr, 1 foot = 0.305 m, 1 lb = 4.45 N.
[1] Refer to Table E2-2 for gable endwall bottom track to floor joist or track connection connections.
[2] Where attachment is not given, special design is required.
[3] Stud height, h, is measured from wall bottom track to wall top track or brace connection height.
[4] Anchorage requirements shall also be determined in the foundation design in accordance with Section C1.
[5] Foundation anchor *straps* are permitted, in lieu of anchor bolts, if spaced as required to provide equivalent anchorage to the required anchor bolts and installed in accordance with manufacturer's requirements.
[6] Values for 85 mph Exposure B shall apply to Seismic Design Categories A, B and C.

Table E2-4
Required Uplift Strength
Wall Assembly to Foundation or Floor Assembly

		Basic Wind speed (mph)				
EXPOSURE B		130	140	150		
EXPOSURE C		110	120	130	140	150
Framing Spacing[3] (in.)	Roof Span (ft)	Required Connection Strength [1,2] (lbs)				
12	24	142	212	287	371	460
	28	172	253	341	435	537
	32	202	293	392	499	614
	36	232	336	445	564	691
	40	266	376	496	628	768
16	24	189	282	382	494	612
	28	229	336	454	579	714
	32	269	390	521	664	816
	36	309	447	592	750	919
	40	354	500	660	835	1021
19.2	24	227	339	459	594	736
	28	275	405	546	696	859
	32	323	469	627	799	982
	36	371	538	712	902	1105
	40	426	602	794	1004	1228
24	24	284	424	574	742	920
	28	344	506	682	871	1074
	32	404	586	784	999	1228
	36	464	672	890	1127	1381
	40	532	752	992	1256	1535

For SI: 1 inch = 25.4 mm, 1 foot = .305 m, 1 lb = 4.45 N, 1 mph = 1.61 km/hr

Uplift requirements assume a roof/ceiling dead load of 12 psf (0.51 kN/m^2).

[2] Uplift connection requirements are permitted to be multiplied by 0.70 for framing not located within 8 feet (2.44 m) of building corners.

[3] The 12 inch (305 mm) and 19.2 inch (488 mm) framing spacing provide options for design, but do not negate the *in-line framing* requirement of Section E.

Table E2-5
Uplift Strap Connection Requirements
Wall Assembly to Foundation or Floor Assembly

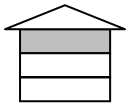
		Basic Wind speed (mph)				
EXPOSURE B		130	140	150		
EXPOSURE C		110	120	130	140	150
Framing Spacing[1] (in.)	Roof Span (ft)	Number of No.8 Screws in a 1-1/4 inch by 33 mil Steel Strap in each Flange of Stud (See Fig. E2-5)				
12	24	1	1	1	2	2
	28	1	1	2	2	2
	32	1	1	2	2	2
	36	1	2	2	2	3
	40	1	2	2	2	3
16	24	1	1	2	2	2
	28	1	2	2	2	3
	32	1	2	2	3	3
	36	1	2	2	3	3
	40	2	2	2	3	4
19.2	24	1	2	2	2	3
	28	1	2	2	3	3
	32	1	2	2	3	3
	36	2	2	3	3	4
	40	2	2	3	4	4
24	24	1	2	2	3	3
	28	2	2	3	3	4
	32	2	2	3	4	4
	36	2	3	3	4	5
	40	2	3	4	4	5

For SI: 1 inch = 25.4 mm, 1 foot = 0.305 m, 1 mph = 1.61 km/hr

[1] The 12 inch (305 mm) and 19.2 inch (488 mm) framing spacing provide options for design, but do not negate the *in-line framing* requirement of Section E.

33
KSI

Table E3-1a
Stud Thickness
24-Foot Wide Building Supporting Roof and Ceiling Only [1,2,3]
F_y = 33 ksi



Wind Speed		Member Size	Stud Spacing (inch)	Minimum Stud Thickness (Mils)											
				8-Foot Studs				9-Foot Studs				10-Foot Studs			
Exp. B	Exp. C			Ground Snow Load (psf)											
				20	30	50	70	20	30	50	70	20	30	50	70
85 mph		350S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	33	33	33	43	33	33	43	43
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	33	33	33	33	33	33	33	33	33
90 mph		350S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	33	33	33	43	33	33	43	43
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	33	33	33	33	33	33	33	33	33
100 mph	85 mph	350S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	33	33	33	43	43	43	43	43
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	33	33	33	33	33	33	33	43
110 mph	90 mph	350S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	43	43	43	43	43	43	43	54
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	33	33	33	33	43	43	43	43
120 mph	100 mph	350S162	16	33	33	33	33	33	33	33	33	43	43	43	43
			24	43	43	43	43	43	43	43	43	54	54	54	54
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	43	43	43	43	43	43	43	43
130 mph	110 mph	350S162	16	33	33	33	33	43	43	43	43	43	43	43	43
			24	43	43	43	43	54	54	54	54	68	68	68	68
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	43	43	43	43	43	43	43	43	43	43	43	43
140 mph	120 mph	350S162	16	33	33	33	33	43	43	43	43	54	54	54	54
			24	54	54	54	54	68	68	68	68	97	97	97	97
		550S162	16	33	33	33	33	43	43	43	43	43	43	43	43
			24	43	43	43	43	43	43	43	43	54	54	54	54
150 mph	130 mph	350S162	16	43	43	43	43	54	54	54	54	68	68	68	68
			24	54	54	54	54	68	68	68	68	97	97	97	97
		550S162	16	43	43	43	43	43	43	43	43	43	43	43	43
			24	43	43	43	43	54	54	54	54	54	54	54	54
	140 mph	350S162	16	43	43	43	43	54	54	54	54	68	68	68	68
			24	68	68	68	68	97	97	97	97	97	97	97	97
		550S162	16	43	43	43	43	43	43	43	43	43	43	43	43
			24	54	54	54	54	54	54	54	54	54	54	54	54
	150 mph	350S162	16	54	54	54	54	68	68	68	68	97	97	97	97
			24	97	97	97	97	97	97	97	97	-	-	-	-
		550S162	16	43	43	43	43	43	43	43	43	54	54	54	54
			24	54	54	54	54	54	54	54	54	68	68	68	68

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m², 1 mph = 1.61 km/hr, 1 foot = 0.305 m

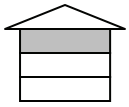
1 Deflection criteria: L/240

2 Design load assumptions:
Second floor dead load is 10 psf (0.48 kN/m²)
Second floor live load is 30 psf (1.44 kN/m²)
Roof/ceiling dead load is 12 psf (0.58 kN/m²)

3 Building width is in the direction of horizontal framing members supported by the wall *studs*.

50 KSI

Table E3-1b
Stud Thickness
24-Foot Wide Building Supporting Roof and Ceiling Only [1,2,3]
F_y = 50 ksi



Wind Speed		Member Size	Stud Spacing (inch)	Minimum Stud Thickness (Mils)											
				8-Foot Studs				9-Foot Studs				10-Foot Studs			
Exp. B	Exp. C			Ground Snow Load (psf)											
				20	30	50	70	20	30	50	70	20	30	50	70
85 mph		350S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	33	33	33	33	33	33	33	43
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	33	33	33	33	33	33	33	33	33
90 mph		350S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	33	33	33	33	33	33	33	43
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	33	33	33	33	33	33	33	33	33
100 mph	85 mph	350S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	33	33	33	33	33	33	33	43
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	33	33	33	33	33	33	33	33	33
110 mph	90 mph	350S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	33	33	33	43	43	43	43	43
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	33	33	33	33	33	33	33	33	33
120 mph	100 mph	350S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	43	43	43	43	43	43	43	43
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	33	33	33	33	33	33	33	33	33
130 mph	110 mph	350S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	43	43	43	43	54	54	54	54
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	33	33	33	33	33	33	33	33	33
140 mph	120 mph	350S162	16	33	33	33	33	33	33	33	33	43	43	43	43
			24	43	43	43	43	54	54	54	54	68	68	68	68
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	33	43	43	43	43	43	43	43	43
150 mph	130 mph	350S162	16	33	33	33	33	43	43	43	43	54	54	54	54
			24	43	43	43	43	54	54	54	54	97	97	97	97
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	43	43	43	43	43	43	43	43	43	43	43	43
	140 mph	350S162	16	43	43	43	43	43	43	43	43	54	54	54	54
			24	54	54	54	54	68	68	68	68	97	97	97	97
		550S162	16	33	33	33	33	33	33	33	33	43	43	43	43
			24	43	43	43	43	43	43	43	43	43	43	43	43
	150 mph	350S162	16	43	43	43	43	54	54	54	54	68	68	68	68
			24	54	54	54	54	68	68	68	68	97	97	97	97
		550S162	16	33	33	33	33	43	43	43	43	43	43	43	43
			24	43	43	43	43	43	43	43	43	54	54	54	54

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m², 1 mph = 1.61 km/hr, 1 foot = 0.305 m

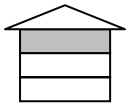
1 Deflection criteria: L/240

2 Design load assumptions:
Second floor dead load is 10 psf (0.48 kN/m²)
Second floor live load is 30 psf (1.44 kN/m²)
Roof/ceiling dead load is 12 psf (0.58 kN/m²)

3 Building width is in the direction of horizontal framing members supported by the wall *studs*.

33
KSI

Table E3-2a
Stud Thickness
28-Foot Wide Building Supporting Roof and Ceiling Only [1,2,3]
F_y = 33 ksi



Wind Speed		Member Size	Stud Spacing (inch)	Minimum Stud Thickness (Mils)											
				8-Foot Studs				9-Foot Studs				10-Foot Studs			
Exp. B	Exp. C			Ground Snow Load (psf)											
				20	30	50	70	20	30	50	70	20	30	50	70
85 mph		350S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	43	43	33	33	43	43	33	33	43	54
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	33	33	33	43	33	33	33	43
90 mph		350S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	43	43	33	33	43	43	33	33	43	54
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	33	33	33	43	33	33	33	43
100 mph	85 mph	350S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	43	43	33	33	43	43	43	43	43	54
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	33	33	33	43	33	33	33	43
110 mph	90 mph	350S162	16	33	33	33	33	33	33	33	33	33	33	33	43
			24	33	33	43	43	43	43	43	43	43	43	43	54
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	33	33	33	43	33	33	33	43
120 mph	100 mph	350S162	16	33	33	33	33	33	33	33	33	43	43	43	43
			24	43	43	43	54	43	43	43	54	54	54	54	54
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	33	33	33	43	33	33	33	43
130 mph	110 mph	350S162	16	33	33	33	33	43	43	43	43	43	43	43	43
			24	43	43	43	54	54	54	54	54	68	68	68	68
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	33	33	33	43	43	43	43	43
140 mph	120 mph	350S162	16	33	33	33	43	43	43	43	43	54	54	54	54
			24	54	54	54	54	68	68	68	68	97	97	97	97
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	43	43	43	43	43	43	43	43
150 mph	130 mph	350S162	16	43	43	43	43	54	54	54	54	68	68	68	68
			24	54	54	54	54	68	68	68	68	97	97	97	97
		550S162	16	33	33	33	33	33	33	33	33	43	43	43	43
			24	33	33	43	43	43	43	43	43	54	54	54	54
	140 mph	350S162	16	43	43	43	43	54	54	54	54	68	68	68	68
			24	68	68	68	68	97	97	97	97	97	97	97	97
		550S162	16	33	33	33	33	33	33	33	33	43	43	43	43
			24	43	43	43	43	43	43	43	43	54	54	54	54
	150 mph	350S162	16	54	54	54	54	68	68	68	68	97	97	97	97
			24	97	97	97	97	97	97	97	97	-	-	-	-
		550S162	16	33	33	33	33	43	43	43	43	43	43	43	43
			24	43	43	43	43	54	54	54	54	68	68	68	68

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m², 1 mph = 1.61 km/hr, 1 foot = 0.305 m

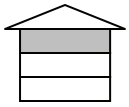
1 Deflection criteria: L/240

2 Design load assumptions:
Second floor dead load is 10 psf (0.48 kN/m²)
Second floor live load is 30 psf (1.44 kN/m²)
Roof/ceiling dead load is 12 psf (0.58 kN/m²)

3 Building width is in the direction of horizontal framing members supported by the wall *studs*.

50 KSI

Table E3-2b
Stud Thickness
28-Foot Wide Building Supporting Roof and Ceiling Only [1,2,3]
F_y = 50 ksi



Wind Speed		Member Size	Stud Spacing (inch)	Minimum Stud Thickness (Mils)											
				8-Foot Studs				9-Foot Studs				10-Foot Studs			
Exp. B	Exp. C			Ground Snow Load (psf)											
				20	30	50	70	20	30	50	70	20	30	50	70
85 mph		350S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	33	33	33	43	33	33	33	43
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	33	33	33	33	33	33	33	33	33
90 mph		350S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	33	33	33	43	33	33	33	43
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	33	33	33	33	33	33	33	33	33
100 mph	85 mph	350S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	33	33	33	43	33	33	43	43
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	33	33	33	33	33	33	33	33	33
110 mph	90 mph	350S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	33	33	33	43	43	43	43	43
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	33	33	33	33	33	33	33	33	33
120 mph	100 mph	350S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	43	43	43	43	43	43	43	43
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	33	33	33	33	33	33	33	33	33
130 mph	110 mph	350S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	43	43	43	43	43	43	54	54	54	54
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	33	33	33	33	33	33	33	33	43
140 mph	120 mph	350S162	16	33	33	33	33	33	33	33	33	43	43	43	43
			24	43	43	43	43	54	54	54	54	68	68	68	68
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	33	33	33	33	43	43	43	43
150 mph	130 mph	350S162	16	33	33	33	33	43	43	43	43	54	54	54	54
			24	43	43	43	43	54	54	54	54	97	97	97	97
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	33	33	33	43	43	43	43	43
	140 mph	350S162	16	43	43	43	43	43	43	43	43	54	54	54	54
			24	54	54	54	54	68	68	68	68	97	97	97	97
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	43	43	43	43	43	43	43	43
	150 mph	350S162	16	43	43	43	43	54	54	54	54	68	68	68	68
			24	54	54	54	54	68	68	68	68	97	97	97	97
		550S162	16	33	33	33	33	33	33	33	33	43	43	43	43
			24	43	43	43	43	43	43	43	43	54	54	54	54

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m², 1 mph = 1.61 km/hr, 1 foot = 0.305 m

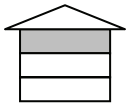
1 Deflection criteria: L/240

2 Design load assumptions:
Second floor dead load is 10 psf (0.48 kN/m²)
Second floor live load is 30 psf (1.44 kN/m²)
Roof/ceiling dead load is 12 psf (0.58 kN/m²)

3 Building width is in the direction of horizontal framing members supported by the wall *studs*.

33
KSI

Table E3-3a
Stud Thickness
32-Foot Wide Building Supporting Roof and Ceiling Only [1,2,3]
F_y = 33 ksi



Wind Speed		Member Size	Stud Spacing (inch)	Minimum Stud Thickness (Mils)											
				8-Foot Studs				9-Foot Studs				10-Foot Studs			
Exp. B	Exp. C			Ground Snow Load (psf)											
				20	30	50	70	20	30	50	70	20	30	50	70
85 mph		350S162	16	33	33	33	33	33	33	33	33	33	33	33	43
			24	33	33	43	54	33	33	43	43	33	33	43	54
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	33	33	33	43	33	33	33	43
90 mph		350S162	16	33	33	33	33	33	33	33	33	33	33	33	43
			24	33	33	43	54	33	33	43	43	33	33	43	54
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	33	33	33	43	33	33	33	43
100 mph	85 mph	350S162	16	33	33	33	33	33	33	33	33	33	33	33	43
			24	33	33	43	54	33	33	43	54	43	43	43	54
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	33	33	33	43	33	33	33	43
110 mph	90 mph	350S162	16	33	33	33	43	33	33	33	33	33	33	33	43
			24	33	33	43	54	43	43	43	54	43	43	43	54
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	33	33	33	43	33	33	43	43
120 mph	100 mph	350S162	16	33	33	33	43	33	33	33	43	43	43	43	43
			24	43	43	43	54	43	43	43	54	54	54	54	54
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	43	43	33	33	33	43	33	33	43	43
130 mph	110 mph	350S162	16	33	33	33	43	43	43	43	43	43	43	43	43
			24	43	43	43	54	54	54	54	54	68	68	68	68
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	43	43	33	33	43	43	43	43	43	43
140 mph	120 mph	350S162	16	33	33	33	43	43	43	43	43	54	54	54	54
			24	54	54	54	54	68	68	68	68	97	97	97	97
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	43	43	43	43	43	43	43	43	43	43
150 mph	130 mph	350S162	16	43	43	43	43	54	54	54	54	68	68	68	68
			24	54	54	54	54	68	68	68	68	97	97	97	97
		550S162	16	33	33	33	33	33	33	33	33	43	43	43	43
			24	33	33	43	43	43	43	43	43	54	54	54	54
	140 mph	350S162	16	43	43	43	43	54	54	54	54	68	68	68	68
			24	68	68	68	68	97	97	97	97	97	97	97	97
		550S162	16	33	33	33	33	33	33	33	33	43	43	43	43
			24	43	43	43	43	43	43	43	43	54	54	54	54
	150 mph	350S162	16	54	54	54	54	68	68	68	68	97	97	97	97
			24	97	97	97	97	97	97	97	97	-	-	-	-
		550S162	16	33	33	33	33	43	43	43	43	43	43	43	43
			24	43	43	43	54	54	54	54	54	68	68	68	68

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m², 1 mph = 1.61 km/hr, 1 foot = 0.305 m

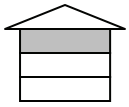
1 Deflection criteria: L/240

2 Design load assumptions:
Second floor dead load is 10 psf (0.48 kN/m²)
Second floor live load is 30 psf (1.44 kN/m²)
Roof/ceiling dead load is 12 psf (0.58 kN/m²)

3 Building width is in the direction of horizontal framing members supported by the wall *studs*.

50 KSI

Table E3-3b
Stud Thickness
32-Foot Wide Building Supporting Roof and Ceiling Only [1,2,3]
F_y = 50 ksi



Wind Speed		Member Size	Stud Spacing (inch)	Minimum Stud Thickness (Mils)											
				8-Foot Studs				9-Foot Studs				10-Foot Studs			
Exp. B	Exp. C			Ground Snow Load (psf)											
				20	30	50	70	20	30	50	70	20	30	50	70
85 mph		350S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	33	33	33	43	33	33	43	43
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	33	33	33	33	33	33	33	43
90 mph		350S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	33	33	33	43	33	33	43	43
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	33	33	33	33	33	33	33	43
100 mph	85 mph	350S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	43	43	33	33	33	43	33	33	43	43
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	33	33	33	33	33	33	33	43
110 mph	90 mph	350S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	43	43	33	33	33	43	43	43	43	54
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	33	33	33	33	33	33	33	43
120 mph	100 mph	350S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	43	43	43	43	43	43	43	43	43	54
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	33	33	33	43	33	33	33	43
130 mph	110 mph	350S162	16	33	33	33	33	33	33	33	33	33	33	33	43
			24	33	33	43	43	43	43	43	43	54	54	54	54
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	33	33	33	43	33	33	33	43
140 mph	120 mph	350S162	16	33	33	33	33	33	33	33	33	43	43	43	43
			24	43	43	43	54	54	54	54	54	68	68	68	68
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	33	33	33	43	43	43	43	43
150 mph	130 mph	350S162	16	33	33	33	43	43	43	43	43	54	54	54	54
			24	43	43	43	54	54	54	54	54	97	97	97	97
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	33	33	33	43	43	43	43	43
	140 mph	350S162	16	43	43	43	43	43	43	43	43	54	54	54	54
			24	54	54	54	54	68	68	68	68	97	97	97	97
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	43	43	43	43	43	43	43	43
	150 mph	350S162	16	43	43	43	43	54	54	54	54	68	68	68	68
			24	54	54	54	54	68	68	68	68	97	97	97	97
		550S162	16	33	33	33	33	33	33	33	33	43	43	43	43
			24	43	43	43	43	43	43	43	43	54	54	54	54

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 mph = 1.61 km/hr, 1 foot = 0.305 m

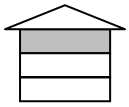
1 Deflection criteria: L/240

2 Design load assumptions:
Second floor dead load is 10 psf (0.48 kN/m^2)
Second floor live load is 30 psf (1.44 kN/m^2)
Roof/ceiling dead load is 12 psf (0.58 kN/m^2)

3 Building width is in the direction of horizontal framing members supported by the wall *studs*.

33
KSI

Table E3-4a
Stud Thickness
36-Foot Wide Building Supporting Roof and Ceiling Only [1,2,3]
F_y = 33 ksi



Wind Speed		Member Size	Stud Spacing (inch)	Minimum Stud Thickness (Mils)											
				8-Foot Studs				9-Foot Studs				10-Foot Studs			
Exp. B	Exp. C			Ground Snow Load (psf)											
				20	30	50	70	20	30	50	70	20	30	50	70
85 mph		350S162	16	33	33	33	43	33	33	33	43	33	33	33	43
			24	33	33	43	54	33	33	43	54	33	43	43	54
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	43	43	33	33	43	43	33	33	43	43
90 mph		350S162	16	33	33	33	43	33	33	33	43	33	33	33	43
			24	33	33	43	54	33	33	43	54	33	43	43	54
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	43	43	33	33	43	43	33	33	43	43
100 mph	85 mph	350S162	16	33	33	33	43	33	33	33	43	33	33	33	43
			24	33	33	43	54	33	33	43	54	43	43	54	54
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	43	43	33	33	43	43	33	33	43	43
110 mph	90 mph	350S162	16	33	33	33	43	33	33	33	33	33	33	33	43
			24	33	33	43	54	43	43	43	43	43	43	54	68
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	43	43	33	33	43	43	33	33	43	43
120 mph	100 mph	350S162	16	33	33	33	43	33	33	33	43	43	43	43	43
			24	43	43	43	54	43	43	43	54	54	54	54	68
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	43	43	33	33	43	43	33	33	43	43
130 mph	110 mph	350S162	16	33	33	33	43	43	43	43	43	43	43	43	43
			24	43	43	54	54	54	54	54	54	68	68	68	68
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	43	54	33	33	43	43	43	43	43	54
140 mph	120 mph	350S162	16	33	33	33	43	43	43	43	43	54	54	54	54
			24	54	54	54	68	68	68	68	68	97	97	97	97
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	43
			24	33	33	43	54	43	43	43	43	43	43	43	54
150 mph	130 mph	350S162	16	43	43	43	43	54	54	54	54	68	68	68	68
			24	54	54	54	68	68	68	68	68	97	97	97	97
		550S162	16	33	33	33	43	33	33	33	33	43	43	43	43
			24	33	33	43	54	43	43	43	54	54	54	54	54
	140 mph	350S162	16	43	43	43	43	54	54	54	54	68	68	68	68
			24	68	68	68	68	97	97	97	97	97	97	97	97
		550S162	16	33	33	33	43	33	33	33	43	43	43	43	43
			24	43	43	43	54	43	43	43	54	54	54	54	54
	150 mph	350S162	16	54	54	54	54	68	68	68	68	97	97	97	97
			24	97	97	97	97	97	97	97	97	-	-	-	-
		550S162	16	33	33	33	43	43	43	43	43	43	43	43	43
			24	43	43	43	54	54	54	54	54	68	68	68	68

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 mph = 1.61 km/hr, 1 foot = 0.305 m

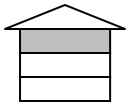
1 Deflection criteria: L/240

2 Design load assumptions:
Second floor dead load is 10 psf (0.48 kN/m^2)
Second floor live load is 30 psf (1.44 kN/m^2)
Roof/ceiling dead load is 12 psf (0.58 kN/m^2)

3 Building width is in the direction of horizontal framing members supported by the wall *studs*.

50 KSI

Table E3-4b
Stud Thickness
36-Foot Wide Building Supporting Roof and Ceiling Only [1,2,3]
F_y = 50 ksi



Wind Speed		Member Size	Stud Spacing (inch)	Minimum Stud Thickness (Mils)											
				8-Foot Studs				9-Foot Studs				10-Foot Studs			
Exp. B	Exp. C			Ground Snow Load (psf)											
				20	30	50	70	20	30	50	70	20	30	50	70
85 mph		350S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	43	43	33	33	43	43	33	33	43	54
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	33	33	33	43	33	33	33	43
90 mph		350S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	43	43	33	33	43	43	33	33	43	54
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	33	33	33	43	33	33	33	43
100 mph	85 mph	350S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	43	43	33	33	43	43	33	33	43	54
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	33	33	33	43	33	33	33	43
110 mph	90 mph	350S162	16	33	33	33	33	33	33	33	33	33	33	33	43
			24	33	33	43	54	33	33	33	43	43	43	43	54
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	33	33	33	43	33	33	33	43
120 mph	100 mph	350S162	16	33	33	33	33	33	33	33	33	33	33	33	43
			24	33	33	43	54	43	43	43	43	43	43	43	54
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	33	33	33	43	33	33	33	43
130 mph	110 mph	350S162	16	33	33	33	43	33	33	33	33	33	33	33	43
			24	33	33	43	54	43	43	43	54	54	54	54	54
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	33	33	33	43	33	33	33	43
140 mph	120 mph	350S162	16	33	33	33	43	33	33	33	43	43	43	43	43
			24	43	43	43	54	54	54	54	54	68	68	68	68
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	33	33	33	43	43	43	43	43
150 mph	130 mph	350S162	16	33	33	33	43	43	43	43	43	54	54	54	54
			24	43	43	43	54	54	54	54	54	97	97	97	97
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	43	43	33	33	33	43	43	43	43	43
	140 mph	350S162	16	43	43	43	43	43	43	43	43	54	54	54	54
			24	54	54	54	54	68	68	68	68	97	97	97	97
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	43	43	43	43	43	43	43	43	43	43
	150 mph	350S162	16	43	43	43	43	54	54	54	54	68	68	68	68
			24	54	54	54	54	68	68	68	68	97	97	97	97
		550S162	16	33	33	33	33	33	33	33	33	43	43	43	43
			24	43	43	43	43	43	43	43	43	54	54	54	54

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m², 1 mph = 1.61 km/hr, 1 foot = 0.305 m

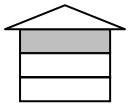
1 Deflection criteria: L/240

2 Design load assumptions:
Second floor dead load is 10 psf (0.48 kN/m²)
Second floor live load is 30 psf (1.44 kN/m²)
Roof/ceiling dead load is 12 psf (0.58 kN/m²)

3 Building width is in the direction of horizontal framing members supported by the wall *studs*.

33
KSI

Table E3-5a
Stud Thickness
40-Foot Wide Building Supporting Roof and Ceiling Only [1,2,3]
F_y = 33 ksi



Wind Speed		Member Size	Stud Spacing (inch)	Minimum Stud Thickness (Mils)											
				8-Foot Studs				9-Foot Studs				10-Foot Studs			
Exp. B	Exp. C			Ground Snow Load (psf)											
				20	30	50	70	20	30	50	70	20	30	50	70
85 mph		350S162	16	33	33	33	43	33	33	33	43	33	33	33	43
			24	33	33	43	54	33	33	43	54	43	43	54	68
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	43	54	33	33	43	43	33	33	43	54
90 mph		350S162	16	33	33	33	43	33	33	33	43	33	33	33	43
			24	33	33	43	54	33	33	43	54	43	43	54	68
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	43	54	33	33	43	43	33	33	43	54
100 mph	85 mph	350S162	16	33	33	33	43	33	33	33	43	33	33	43	43
			24	33	43	43	54	33	43	43	54	43	43	54	68
		550S162	16	33	33	33	43	33	33	33	33	33	33	33	33
			24	33	33	43	54	33	33	43	43	33	33	43	54
110 mph	90 mph	350S162	16	33	33	33	43	33	33	33	43	33	33	43	43
			24	33	43	43	54	43	43	43	54	43	43	54	68
		550S162	16	33	33	33	43	33	33	33	33	33	33	33	43
			24	33	33	43	54	33	33	43	43	33	33	43	54
120 mph	100 mph	350S162	16	33	33	33	43	33	33	33	43	43	43	43	43
			24	43	43	54	68	43	43	54	54	54	54	54	68
		550S162	16	33	33	33	43	33	33	33	33	33	33	33	43
			24	33	33	43	54	33	33	43	54	33	33	43	54
130 mph	110 mph	350S162	16	33	33	43	43	43	43	43	43	43	43	43	54
			24	43	43	54	68	54	54	54	68	68	68	68	68
		550S162	16	33	33	33	43	33	33	33	43	33	33	33	43
			24	33	33	43	54	33	33	43	54	43	43	43	54
140 mph	120 mph	350S162	16	33	33	43	43	43	43	43	43	54	54	54	54
			24	54	54	54	68	68	68	68	68	97	97	97	97
		550S162	16	33	33	33	43	33	33	33	43	33	33	33	43
			24	33	33	43	54	43	43	43	54	43	43	43	54
150 mph	130 mph	350S162	16	43	43	43	43	54	54	54	54	68	68	68	68
			24	54	54	54	68	68	68	68	68	97	97	97	97
		550S162	16	33	33	33	43	33	33	33	43	43	43	43	43
			24	33	33	43	54	43	43	43	54	54	54	54	54
	140 mph	350S162	16	43	43	43	54	54	54	54	54	68	68	68	68
			24	68	68	68	68	97	97	97	97	97	97	97	97
		550S162	16	33	33	33	43	33	33	33	43	43	43	43	43
			24	43	43	43	54	43	43	43	54	54	54	54	54
	150 mph	350S162	16	54	54	54	54	68	68	68	68	97	97	97	97
			24	97	97	97	97	97	97	97	97	-	-	-	-
		550S162	16	33	33	33	43	43	43	43	43	43	43	43	43
			24	43	43	43	54	54	54	54	54	68	68	68	68

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 mph = 1.61 km/hr, 1 foot = 0.305 m

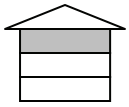
1 Deflection criteria: L/240

2 Design load assumptions:
Second floor dead load is 10 psf (0.48 kN/m^2)
Second floor live load is 30 psf (1.44 kN/m^2)
Roof/ceiling dead load is 12 psf (0.58 kN/m^2)

3 Building width is in the direction of horizontal framing members supported by the wall *studs*.

50 KSI

Table E3-5b
Stud Thickness
40-Foot Wide Building Supporting Roof and Ceiling Only [1,2,3]
F_y = 50 ksi



Wind Speed		Member Size	Stud Spacing (inch)	Minimum Stud Thickness (Mils)											
				8-Foot Studs				9-Foot Studs				10-Foot Studs			
Exp. B	Exp. C			Ground Snow Load (psf)											
				20	30	50	70	20	30	50	70	20	30	50	70
85 mph		350S162	16	33	33	33	33	33	33	33	33	33	33	33	43
			24	33	33	43	54	33	33	43	43	33	33	43	54
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	33	33	33	43	33	33	33	43
90 mph		350S162	16	33	33	33	33	33	33	33	33	33	33	33	43
			24	33	33	43	54	33	33	43	43	33	33	43	54
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	33	33	33	43	33	33	33	43
100 mph	85 mph	350S162	16	33	33	33	43	33	33	33	33	33	33	33	43
			24	33	33	43	54	33	33	43	54	33	33	43	54
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	33	33	33	43	33	33	33	43
110 mph	90 mph	350S162	16	33	33	33	43	33	33	33	33	33	33	33	43
			24	33	33	43	54	33	33	43	54	43	43	43	54
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	33	33	33	43	33	33	33	43
120 mph	100 mph	350S162	16	33	33	33	43	33	33	33	43	33	33	33	43
			24	33	33	43	54	43	43	43	54	43	43	54	54
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	43	43	33	33	33	43	33	33	43	43
130 mph	110 mph	350S162	16	33	33	33	43	33	33	33	43	33	33	33	43
			24	33	33	43	54	43	43	43	54	54	54	54	68
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	43	43	33	33	33	43	33	33	43	43
140 mph	120 mph	350S162	16	33	33	33	43	33	33	33	43	43	43	43	43
			24	43	43	43	54	54	54	54	54	68	68	68	68
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	43	43	33	33	43	43	43	43	43	43
150 mph	130 mph	350S162	16	33	33	33	43	43	43	43	43	54	54	54	54
			24	43	43	54	54	54	54	54	54	97	97	97	97
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	43	43	33	33	43	43	43	43	43	43
	140 mph	350S162	16	43	43	43	43	43	43	43	43	54	54	54	54
			24	54	54	54	68	68	68	68	68	97	97	97	97
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	43	43	43	43	43	43	43	43	43	54
	150 mph	350S162	16	43	43	43	43	54	54	54	54	68	68	68	68
			24	54	54	54	68	68	68	68	68	97	97	97	97
		550S162	16	33	33	33	33	33	33	33	33	43	43	43	43
			24	43	43	43	43	43	43	43	43	54	54	54	54

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m², 1 mph = 1.61 km/hr, 1 foot = 0.305 m

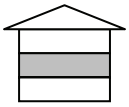
1 Deflection criteria: L/240

2 Design load assumptions:
Second floor dead load is 10 psf (0.48 kN/m²)
Second floor live load is 30 psf (1.44 kN/m²)
Roof/ceiling dead load is 12 psf (0.58 kN/m²)

3 Building width is in the direction of horizontal framing members supported by the wall *studs*.

33
KSI

Table E3-6a
Stud Thickness
24-Foot Wide Building Supporting One Floor, Roof & Ceiling [1,2,3]
F_y = 33 ksi



Wind Speed		Member Size	Stud Spacing (inch)	Minimum Stud Thickness (Mils)											
				8-Foot Studs				9-Foot Studs				10-Foot Studs			
Exp. B	Exp. C			Ground Snow Load (psf)											
				20	30	50	70	20	30	50	70	20	30	50	70
85 mph		350S162	16	33	33	33	33	33	33	33	33	33	33	33	43
			24	33	33	43	43	33	43	43	43	43	43	43	54
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	33	33	33	43	33	33	33	43
90 mph		350S162	16	33	33	33	33	33	33	33	33	33	33	33	43
			24	33	33	43	43	33	43	43	43	43	43	43	54
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	33	33	33	43	33	33	33	43
100 mph	85 mph	350S162	16	33	33	33	33	33	33	33	33	33	33	33	43
			24	33	43	43	43	43	43	43	43	43	43	43	54
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	33	33	33	43	33	33	33	43
110 mph	90 mph	350S162	16	33	33	33	43	33	33	33	33	33	33	43	43
			24	43	43	43	43	43	43	43	43	54	54	54	54
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	33	33	33	43	43	43	43	43
120 mph	100 mph	350S162	16	33	33	33	43	33	33	33	43	43	43	43	43
			24	43	43	43	54	43	43	54	54	54	54	54	54
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	43	43	43	43	43	43	43	43
130 mph	110 mph	350S162	16	33	33	33	43	43	43	43	43	43	43	43	43
			24	43	43	43	54	54	54	54	54	68	68	68	68
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	43	43	43	43	43	43	43	43	43	43	43	43
140 mph	120 mph	350S162	16	43	43	43	43	43	43	43	43	54	54	54	54
			24	54	54	54	54	68	68	68	68	97	97	97	97
		550S162	16	33	33	33	33	43	43	43	43	43	43	43	33
			24	43	43	43	43	43	43	43	43	54	54	54	54
150 mph	130 mph	350S162	16	43	43	43	43	54	54	54	54	68	68	68	68
			24	54	54	54	54	68	68	68	68	97	97	97	97
		550S162	16	43	43	43	43	43	43	43	43	43	43	43	43
			24	43	43	43	43	54	54	54	54	54	54	54	54
	140 mph	350S162	16	43	43	43	43	54	54	54	54	68	68	68	68
			24	68	68	68	68	97	97	97	97	97	97	97	97
		550S162	16	43	43	43	43	43	43	43	43	43	43	43	43
			24	54	54	54	54	54	54	54	54	54	54	54	54
	150 mph	350S162	16	54	54	54	54	68	68	68	68	97	97	97	97
			24	97	97	97	97	97	97	97	97	-	-	-	-
		550S162	16	43	43	43	43	43	43	43	43	54	54	54	54
			24	54	54	54	43	54	54	54	54	68	68	68	68

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 mph = 1.61 km/hr, 1 foot = 0.305 m

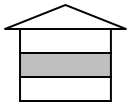
1 Deflection criteria: L/240

2 Design load assumptions:
Second floor dead load is 10 psf (0.48 kN/m^2)
Second floor live load is 30 psf (1.44 kN/m^2)
Roof/ceiling dead load is 12 psf (0.58 kN/m^2)

3 Building width is in the direction of horizontal framing members supported by the wall *studs*.

50 KSI

Table E3-6b
Stud Thickness
24-Foot Wide Building Supporting One Floor, Roof & Ceiling [1,2,3]
F_y = 50 ksi



Wind Speed		Member Size	Stud Spacing (inch)	Minimum Stud Thickness (Mils)											
				8-Foot Studs				9-Foot Studs				10-Foot Studs			
Exp. B	Exp. C			Ground Snow Load (psf)											
				20	30	50	70	20	30	50	70	20	30	50	70
85 mph		350S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	33	33	33	43	33	33	43	43
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	33	33	33	33	33	33	33	33	33
90 mph		350S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	33	33	33	43	33	33	43	43
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	33	33	33	33	33	33	33	33	33
100 mph	85 mph	350S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	33	33	33	43	43	43	43	43
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	33	33	33	33	33	33	33	33	33
110 mph	90 mph	350S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	43	43	33	33	43	43	43	43	43	43
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	33	33	33	33	33	33	33	33	33
120 mph	100 mph	350S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	43	43	43	43	43	43	43	43	43	54
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	33	33	33	33	33	33	33	43
130 mph	110 mph	350S162	16	33	33	33	33	33	33	33	33	33	33	43	43
			24	43	43	43	43	43	43	43	43	54	54	54	54
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	33	33	33	33	33	33	33	43
140 mph	120 mph	350S162	16	33	33	33	33	33	33	33	33	43	43	43	43
			24	43	43	43	43	54	54	54	54	68	68	68	68
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	43	43	43	43	43	43	43	43
150 mph	130 mph	350S162	16	33	33	33	43	43	43	43	43	54	54	54	54
			24	43	43	54	54	54	54	54	54	97	97	97	97
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	43	43	43	43	43	43	43	43	43	43	43	43
	140 mph	350S162	16	43	43	43	43	43	43	43	43	54	54	54	54
			24	54	54	54	54	68	68	68	68	97	97	97	97
		550S162	16	33	33	33	33	33	33	33	33	43	43	43	43
			24	43	43	43	43	43	43	43	43	43	43	43	43
	150 mph	350S162	16	43	43	43	43	54	54	54	54	68	68	68	68
			24	54	54	54	54	68	68	68	68	97	97	97	97
		550S162	16	33	33	33	33	43	43	43	43	43	43	43	43
			24	43	43	43	43	43	43	43	43	54	54	54	54

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 mph = 1.61 km/hr, 1 foot = 0.305 m

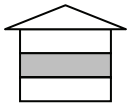
1 Deflection criteria: L/240

2 Design load assumptions:
Second floor dead load is 10 psf (0.48 kN/m^2)
Second floor live load is 30 psf (1.44 kN/m^2)
Roof/ceiling dead load is 12 psf (0.58 kN/m^2)

3 Building width is in the direction of horizontal framing members supported by the wall *studs*.

33
KSI

Table E3-7a
Stud Thickness
28-Foot Wide Building Supporting One Floor, Roof & Ceiling [1,2,3]
F_y = 33 ksi



Wind Speed		Member Size	Stud Spacing (inch)	Minimum Stud Thickness (Mils)											
				8-Foot Studs				9-Foot Studs				10-Foot Studs			
Exp. B	Exp. C			Ground Snow Load (psf)											
				20	30	50	70	20	30	50	70	20	30	50	70
85 mph		350S162	16	33	33	33	43	33	33	33	43	33	33	33	43
			24	43	43	43	54	43	43	43	54	43	43	43	54
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	43	43	33	33	43	43	33	33	43	43
90 mph		350S162	16	33	33	33	43	33	33	33	43	33	33	33	43
			24	43	43	43	54	43	43	43	54	43	43	43	54
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	43	43	33	33	43	43	33	33	43	43
100 mph	85 mph	350S162	16	33	33	33	43	33	33	33	43	33	33	43	43
			24	43	43	43	54	43	43	43	54	43	43	54	54
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	43	43	33	33	43	43	33	33	43	43
110 mph	90 mph	350S162	16	33	33	33	43	33	33	33	43	43	43	43	43
			24	43	43	43	54	43	43	43	54	54	54	54	54
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	43	43	33	33	43	43	43	43	43	43
120 mph	100 mph	350S162	16	33	33	33	43	33	33	43	43	43	43	43	43
			24	43	43	43	54	54	54	54	54	54	54	54	68
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	43	43	43	43	43	43	43	43	43	43
130 mph	110 mph	350S162	16	33	33	43	43	43	43	43	43	43	43	43	54
			24	43	43	54	54	54	54	54	54	68	68	68	68
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	43	43	43	43	43	43	43	43	43	43	43	43
140 mph	120 mph	350S162	16	43	43	43	43	43	43	43	43	54	54	54	54
			24	54	54	54	54	68	68	68	68	97	97	97	97
		550S162	16	33	33	33	33	43	43	43	43	43	43	43	43
			24	43	43	43	43	43	43	43	43	54	54	54	54
150 mph	130 mph	350S162	16	43	43	43	43	54	54	54	54	68	68	68	68
			24	54	54	54	68	68	68	68	68	97	97	97	97
		550S162	16	43	43	43	43	43	43	43	43	43	43	43	43
			24	43	43	43	54	54	54	54	54	54	54	54	54
	140 mph	350S162	16	43	43	43	54	54	54	54	54	68	68	68	68
			24	68	68	68	68	97	97	97	97	97	97	97	97
		550S162	16	43	43	43	43	43	43	43	43	43	43	43	43
			24	54	54	54	54	54	54	54	54	54	54	54	54
	150 mph	350S162	16	54	54	54	54	68	68	68	68	97	97	97	97
			24	97	97	97	97	97	97	97	97	-	-	-	-
		550S162	16	43	43	43	43	43	43	43	43	54	54	54	54
			24	54	54	54	54	54	54	54	54	68	68	68	68

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m², 1 mph = 1.61 km/hr, 1 foot = 0.305 m

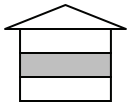
1 Deflection criteria: L/240

2 Design load assumptions:
Second floor dead load is 10 psf (0.48 kN/m²)
Second floor live load is 30 psf (1.44 kN/m²)
Roof/ceiling dead load is 12 psf (0.58 kN/m²)

3 Building width is in the direction of horizontal framing members supported by the wall *studs*.

50 KSI

Table E3-7b
Stud Thickness
28-Foot Wide Building Supporting One Floor, Roof & Ceiling [1,2,3]
F_y = 50 ksi



Wind Speed		Member Size	Stud Spacing (inch)	Minimum Stud Thickness (Mils)											
				8-Foot Studs				9-Foot Studs				10-Foot Studs			
Exp. B	Exp. C			Ground Snow Load (psf)											
				20	30	50	70	20	30	50	70	20	30	50	70
85 mph		350S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	43	43	33	33	43	43	43	43	43	54
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	33	33	33	43	33	33	33	43
90 mph		350S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	43	43	33	33	43	43	43	43	43	54
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	33	33	33	43	33	33	33	43
100 mph	85 mph	350S162	16	33	33	33	33	33	33	33	33	33	33	33	43
			24	33	33	43	43	33	33	43	43	43	43	43	54
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	33	33	33	43	33	33	33	43
110 mph	90 mph	350S162	16	33	33	33	33	33	33	33	33	33	33	33	43
			24	33	33	43	43	43	43	43	43	43	43	43	54
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	33	33	33	43	33	33	33	43
120 mph	100 mph	350S162	16	33	33	33	33	33	33	33	33	33	33	33	43
			24	43	43	43	54	43	43	43	43	43	43	54	54
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	33	33	33	43	33	33	33	43
130 mph	110 mph	350S162	16	33	33	33	43	33	33	33	33	43	43	43	43
			24	43	43	43	54	43	43	43	43	54	54	54	54
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	33	33	33	43	33	33	33	43
140 mph	120 mph	350S162	16	33	33	33	43	33	33	33	43	43	43	43	43
			24	43	43	43	54	54	54	54	54	68	68	68	68
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	33	43	43	43	43	43	43	43	43	43
150 mph	130 mph	350S162	16	33	33	43	43	43	43	43	43	54	54	54	54
			24	54	54	54	54	54	54	54	54	97	97	97	97
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	43	43	43	43	43	43	43	43	43	43	43	43
	140 mph	350S162	16	43	43	43	43	43	43	43	43	54	54	54	54
			24	54	54	54	54	68	68	68	68	97	97	97	97
		550S162	16	33	33	33	33	33	33	33	33	43	43	43	43
			24	43	43	43	43	43	43	43	43	43	43	43	43
	150 mph	350S162	16	43	43	43	43	54	54	54	54	68	68	68	68
			24	54	54	54	54	68	68	68	68	97	97	97	97
		550S162	16	33	33	33	33	43	43	43	43	43	43	43	43
			24	43	43	43	43	43	43	43	43	54	54	54	54

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 mph = 1.61 km/hr, 1 foot = 0.305 m

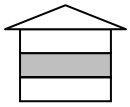
1 Deflection criteria: L/240

2 Design load assumptions:
Second floor dead load is 10 psf (0.48 kN/m^2)
Second floor live load is 30 psf (1.44 kN/m^2)
Roof/ceiling dead load is 12 psf (0.58 kN/m^2)

3 Building width is in the direction of horizontal framing members supported by the wall *studs*.

33
KSI

Table E3-8a
Stud Thickness
32-Foot Wide Building Supporting One Floor, Roof & Ceiling [1,2,3]
F_y = 33 ksi



Wind Speed		Member Size	Stud Spacing (inch)	Minimum Stud Thickness (Mils)											
				8-Foot Studs				9-Foot Studs				10-Foot Studs			
Exp. B	Exp. C			Ground Snow Load (psf)											
				20	30	50	70	20	30	50	70	20	30	50	70
85 mph		350S162	16	33	33	33	43	33	33	33	43	33	33	43	43
			24	43	43	43	54	43	43	43	54	43	43	54	54
		550S162	16	33	33	33	43	33	33	33	33	33	33	33	43
			24	33	43	43	54	33	33	43	43	33	33	43	43
90 mph		350S162	16	33	33	33	43	33	33	33	43	33	33	43	43
			24	43	43	43	54	43	43	43	54	43	43	54	54
		550S162	16	33	33	33	43	33	33	33	33	33	33	33	43
			24	33	43	43	54	33	33	43	43	33	33	43	43
100 mph	85 mph	350S162	16	33	33	33	43	33	33	33	43	33	43	43	43
			24	43	43	43	54	43	43	43	54	54	54	54	68
		550S162	16	33	33	33	43	33	33	33	33	33	33	33	43
			24	33	43	43	54	33	33	43	43	33	33	43	43
110 mph	90 mph	350S162	16	33	33	43	43	33	33	33	43	43	43	43	43
			24	43	43	54	54	43	43	54	54	54	54	54	68
		550S162	16	33	33	33	43	33	33	33	33	33	33	33	43
			24	33	43	43	54	33	33	43	43	43	43	43	54
120 mph	100 mph	350S162	16	33	33	43	43	43	43	43	43	43	43	43	43
			24	43	43	54	54	54	54	54	54	54	54	68	68
		550S162	16	33	33	33	43	33	33	33	33	33	33	33	43
			24	33	43	43	54	43	43	43	43	43	43	43	54
130 mph	110 mph	350S162	16	43	43	43	43	43	43	43	43	43	43	54	54
			24	54	54	54	68	54	54	54	68	68	68	68	68
		550S162	16	33	33	33	43	33	33	33	43	33	33	33	43
			24	43	43	43	54	43	43	43	43	43	43	43	54
140 mph	120 mph	350S162	16	43	43	43	43	43	43	43	43	54	54	54	54
			24	54	54	54	68	68	68	68	68	97	97	97	97
		550S162	16	33	33	33	43	43	43	43	43	43	43	43	43
			24	43	43	43	54	43	43	43	54	54	54	43	54
150 mph	130 mph	350S162	16	43	43	43	43	54	54	54	54	68	68	68	68
			24	54	54	68	68	68	68	68	68	97	97	97	97
		550S162	16	43	43	43	43	43	43	43	43	43	43	43	43
			24	43	43	43	54	54	54	54	54	54	54	54	54
	140 mph	350S162	16	43	43	54	54	54	54	54	54	68	68	68	68
			24	68	68	68	68	97	97	97	97	97	97	97	97
		550S162	16	43	43	43	43	43	43	43	43	43	43	43	43
			24	54	54	54	54	54	54	54	54	54	54	54	54
	150 mph	350S162	16	54	54	54	54	68	68	68	68	97	97	97	97
			24	97	97	97	97	97	97	97	97	-	-	-	-
		550S162	16	43	43	43	43	43	43	43	43	54	54	54	54
			24	54	54	43	54	54	54	54	54	68	68	68	68

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m², 1 mph = 1.61 km/hr, 1 foot = 0.305 m

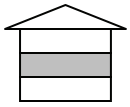
1 Deflection criteria: L/240

2 Design load assumptions:
Second floor dead load is 10 psf (0.48 kN/m²)
Second floor live load is 30 psf (1.44 kN/m²)
Roof/ceiling dead load is 12 psf (0.58 kN/m²)

3 Building width is in the direction of horizontal framing members supported by the wall *studs*.

50 KSI

Table E3-8b
Stud Thickness
32-Foot Wide Building Supporting One Floor, Roof & Ceiling [1,2,3]
F_y = 50 ksi



Wind Speed		Member Size	Stud Spacing (inch)	Minimum Stud Thickness (Mils)											
				8-Foot Studs				9-Foot Studs				10-Foot Studs			
Exp. B	Exp. C			Ground Snow Load (psf)											
				20	30	50	70	20	30	50	70	20	30	50	70
85 mph		350S162	16	33	33	33	43	33	33	33	33	33	33	33	43
			24	33	33	43	54	33	33	43	43	43	43	43	54
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	43	43	33	33	33	43	33	33	33	43
90 mph		350S162	16	33	33	33	43	33	33	33	33	33	33	33	43
			24	33	33	43	54	33	33	43	43	43	43	43	54
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	43	43	33	33	33	43	33	33	33	43
100 mph	85 mph	350S162	16	33	33	33	43	33	33	33	33	33	33	33	43
			24	33	33	43	54	33	33	43	43	43	43	43	54
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	43	43	33	33	33	43	33	33	33	43
110 mph	90 mph	350S162	16	33	33	33	43	33	33	33	33	33	33	33	43
			24	43	43	43	54	43	43	43	54	43	43	54	54
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	43	43	33	33	33	43	33	33	33	43
120 mph	100 mph	350S162	16	33	33	33	43	33	33	33	43	33	33	43	43
			24	43	43	43	54	43	43	43	54	54	54	54	54
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	43	43	33	33	33	43	33	33	43	43
130 mph	110 mph	350S162	16	33	33	33	43	33	33	33	43	43	43	43	43
			24	43	43	43	54	43	43	43	54	54	54	54	54
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	43	43	33	33	33	43	33	33	43	43
140 mph	120 mph	350S162	16	33	33	33	43	33	33	43	43	43	43	43	43
			24	43	43	54	54	54	54	54	54	68	68	68	68
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	43	43	43	43	43	43	43	43	43	43
150 mph	130 mph	350S162	16	33	43	43	43	43	43	43	43	54	54	54	54
			24	54	54	54	54	54	54	54	54	97	97	97	97
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	43	43	43	43	43	43	43	43	43	43	43	43
	140 mph	350S162	16	43	43	43	43	43	43	43	43	54	54	54	54
			24	54	54	54	54	68	68	68	68	97	97	97	97
		550S162	16	33	33	33	33	33	33	33	33	43	43	43	43
			24	43	43	43	43	43	43	43	43	43	43	43	43
	150 mph	350S162	16	43	43	43	43	54	54	54	54	68	68	68	68
			24	54	54	54	68	68	68	68	68	97	97	97	97
		550S162	16	33	33	33	33	43	43	43	43	43	43	43	43
			24	43	43	43	43	43	43	43	43	54	54	54	54

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 mph = 1.61 km/hr, 1 foot = 0.305 m

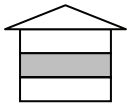
1 Deflection criteria: L/240

2 Design load assumptions:
Second floor dead load is 10 psf (0.48 kN/m^2)
Second floor live load is 30 psf (1.44 kN/m^2)
Roof/ceiling dead load is 12 psf (0.58 kN/m^2)

3 Building width is in the direction of horizontal framing members supported by the wall *studs*.

33
KSI

Table E3-9a
Stud Thickness
36-Foot Wide Building Supporting One Floor, Roof & Ceiling [1,2,3]
F_y = 33 ksi



Wind Speed		Member Size	Stud Spacing (inch)	Minimum Stud Thickness (Mils)											
				8-Foot Studs				9-Foot Studs				10-Foot Studs			
Exp. B	Exp. C			Ground Snow Load (psf)											
				20	30	50	70	20	30	50	70	20	30	50	70
85 mph		350S162	16	33	33	43	43	33	33	43	43	33	33	43	43
			24	43	43	54	54	43	43	54	54	54	54	54	68
		550S162	16	33	33	33	43	33	33	33	43	33	33	33	43
			24	43	43	43	54	43	43	43	54	43	43	43	54
90 mph		350S162	16	33	33	43	43	33	33	43	43	33	33	43	43
			24	43	43	54	54	43	43	54	54	54	54	54	68
		550S162	16	33	33	33	43	33	33	33	43	33	33	33	43
			24	43	43	43	54	43	43	43	54	43	43	43	54
100 mph	85 mph	350S162	16	33	33	43	43	33	33	43	43	43	43	43	43
			24	43	43	54	68	43	43	54	54	54	54	54	68
		550S162	16	33	33	33	43	33	33	33	43	33	33	33	43
			24	43	43	43	54	43	43	43	54	43	43	43	54
110 mph	90 mph	350S162	16	33	33	43	43	33	33	43	43	43	43	43	54
			24	43	43	54	68	54	54	54	54	54	54	54	68
		550S162	16	33	33	33	43	33	33	33	43	33	33	33	43
			24	43	43	43	54	43	43	43	54	43	43	43	54
120 mph	100 mph	350S162	16	33	33	43	43	43	43	43	43	43	43	43	54
			24	54	54	54	68	54	54	54	68	54	68	68	68
		550S162	16	33	33	33	43	33	33	33	43	33	33	33	43
			24	43	43	43	54	43	43	43	54	43	43	43	54
130 mph	110 mph	350S162	16	43	43	43	43	43	43	43	43	43	54	54	54
			24	54	54	54	68	54	54	54	68	68	68	68	68
		550S162	16	33	33	33	43	33	33	33	43	33	33	33	43
			24	43	43	43	54	43	43	43	54	43	43	43	54
140 mph	120 mph	350S162	16	43	43	43	54	43	43	43	54	54	54	54	54
			24	54	54	68	68	68	68	68	68	97	97	97	97
		550S162	16	33	33	33	43	43	43	43	43	43	43	43	43
			24	43	43	43	54	43	43	43	54	54	54	54	54
150 mph	130 mph	350S162	16	43	43	43	54	54	54	54	54	68	68	68	68
			24	68	68	68	68	68	68	68	68	97	97	97	97
		550S162	16	43	43	43	43	43	43	43	43	43	43	43	43
			24	43	43	43	54	54	54	54	54	54	54	54	54
	140 mph	350S162	16	43	43	54	54	54	54	54	54	68	68	68	68
			24	68	68	68	68	97	97	97	97	97	97	97	97
		550S162	16	43	43	43	43	43	43	43	43	43	43	43	43
			24	54	54	54	54	54	54	54	54	54	54	54	54
	150 mph	350S162	16	54	54	54	54	68	68	68	68	97	97	97	97
			24	97	97	97	97	97	97	97	97	-	-	-	-
		550S162	16	43	43	43	43	43	43	43	43	54	54	54	54
			24	54	54	54	54	54	54	54	54	68	68	68	68

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m², 1 mph = 1.61 km/hr, 1 foot = 0.305 m

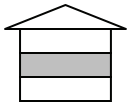
1 Deflection criteria: L/240

2 Design load assumptions:
Second floor dead load is 10 psf (0.48 kN/m²)
Second floor live load is 30 psf (1.44 kN/m²)
Roof/ceiling dead load is 12 psf (0.58 kN/m²)

3 Building width is in the direction of horizontal framing members supported by the wall *studs*.

50 KSI

Table E3-9b
Stud Thickness
36-Foot Wide Building Supporting One Floor, Roof & Ceiling [1,2,3]
F_y = 50 ksi



Wind Speed		Member Size	Stud Spacing (inch)	Minimum Stud Thickness (Mils)											
				8-Foot Studs				9-Foot Studs				10-Foot Studs			
Exp. B	Exp. C			Ground Snow Load (psf)											
				20	30	50	70	20	30	50	70	20	30	50	70
85 mph		350S162	16	33	33	33	43	33	33	33	43	33	33	33	43
			24	43	43	43	54	33	33	43	54	43	43	43	54
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	43	43	33	33	43	43	33	33	43	43
90 mph		350S162	16	33	33	33	43	33	33	33	43	33	33	33	43
			24	43	43	43	54	33	33	43	54	43	43	43	54
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	43	43	33	33	43	43	33	33	43	43
100 mph	85 mph	350S162	16	33	33	33	43	33	33	33	43	33	33	33	43
			24	43	43	43	54	43	43	43	54	43	43	54	54
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	43	43	33	33	43	43	33	33	43	43
110 mph	90 mph	350S162	16	33	33	33	43	33	33	33	43	33	33	43	43
			24	43	43	43	54	43	43	43	54	43	43	54	54
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	43	43	33	33	43	43	33	33	43	43
120 mph	100 mph	350S162	16	33	33	33	43	33	33	33	43	43	43	43	43
			24	43	43	43	54	43	43	43	54	54	54	54	68
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	43	43	33	33	43	43	33	33	43	43
130 mph	110 mph	350S162	16	33	33	43	43	33	33	33	43	43	43	43	43
			24	43	43	54	54	43	43	54	54	54	54	54	68
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	43	43	33	33	43	43	43	43	43	43
140 mph	120 mph	350S162	16	33	33	43	43	43	43	43	43	43	43	43	54
			24	54	54	54	54	54	54	54	54	68	68	68	68
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	33	33	43	43	43	43	43	43	43	43	43	43
150 mph	130 mph	350S162	16	43	43	43	43	43	43	43	43	54	54	54	54
			24	54	54	54	68	54	54	54	54	97	97	97	97
		550S162	16	33	33	33	43	33	33	33	33	33	33	33	43
			24	43	43	43	43	43	43	43	43	43	43	43	54
	140 mph	350S162	16	43	43	43	43	43	43	43	43	54	54	54	54
			24	54	54	54	68	68	68	68	68	97	97	97	97
		550S162	16	33	33	33	43	33	33	33	33	43	43	43	43
			24	43	43	43	54	43	43	43	43	43	43	43	54
	150 mph	350S162	16	43	43	43	43	54	54	54	54	68	68	68	68
			24	54	54	68	68	68	68	68	68	97	97	97	97
		550S162	16	33	33	33	43	43	43	43	43	43	43	43	43
			24	43	43	43	54	43	43	43	43	54	54	54	54

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 mph = 1.61 km/hr, 1 foot = 0.305 m

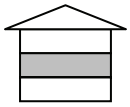
1 Deflection criteria: L/240

2 Design load assumptions:
Second floor dead load is 10 psf (0.48 kN/m^2)
Second floor live load is 30 psf (1.44 kN/m^2)
Roof/ceiling dead load is 12 psf (0.58 kN/m^2)

3 Building width is in the direction of horizontal framing members supported by the wall *studs*.

33
KSI

Table E3-10a
Stud Thickness
40-Foot Wide Building Supporting One Floor, Roof & Ceiling [1,2,3]
F_y = 33 ksi



Wind Speed		Member Size	Stud Spacing (inch)	Minimum Stud Thickness (Mils)											
				8-Foot Studs				9-Foot Studs				10-Foot Studs			
Exp. B	Exp. C			Ground Snow Load (psf)											
				20	30	50	70	20	30	50	70	20	30	50	70
85 mph		350S162	16	33	33	43	43	33	33	43	43	43	43	43	54
			24	43	43	54	68	43	43	54	68	54	54	54	68
		550S162	16	33	33	33	43	33	33	33	43	33	33	33	43
			24	43	43	54	54	43	43	43	54	43	43	43	54
90 mph		350S162	16	33	33	43	43	33	33	43	43	43	43	43	54
			24	43	43	54	68	43	43	54	68	54	54	54	68
		550S162	16	33	33	33	43	33	33	33	43	33	33	33	43
			24	43	43	54	54	43	43	43	54	43	43	43	54
100 mph	85 mph	350S162	16	33	33	43	43	33	33	43	43	43	43	43	54
			24	43	43	54	68	43	43	54	68	54	54	54	68
		550S162	16	33	33	33	43	33	33	33	43	33	33	33	43
			24	43	43	54	54	43	43	43	54	43	43	43	54
110 mph	90 mph	350S162	16	33	33	43	43	43	43	43	43	43	43	43	54
			24	43	43	54	68	54	54	54	68	54	54	68	68
		550S162	16	33	33	43	43	33	33	33	43	33	33	33	43
			24	43	43	54	54	43	43	43	54	43	43	43	54
120 mph	100 mph	350S162	16	43	43	43	54	43	43	43	54	43	43	54	54
			24	54	54	54	68	54	54	54	68	68	68	68	97
		550S162	16	33	33	43	43	33	33	33	43	33	33	43	43
			24	43	43	54	54	43	43	43	54	43	43	54	54
130 mph	110 mph	350S162	16	43	43	43	54	43	43	43	54	54	54	54	54
			24	54	54	54	68	54	54	68	68	68	68	68	97
		550S162	16	33	33	43	43	33	33	33	43	33	33	43	43
			24	43	43	54	54	43	43	43	54	43	43	54	54
140 mph	120 mph	350S162	16	43	43	43	54	43	43	54	54	54	54	54	54
			24	54	54	68	68	68	68	68	68	97	97	97	97
		550S162	16	33	33	43	43	43	43	43	43	43	43	43	43
			24	43	43	54	54	43	43	43	54	54	54	54	54
150 mph	130 mph	350S162	16	43	43	54	54	54	54	54	54	68	68	68	68
			24	68	68	68	97	68	68	68	97	97	97	97	97
		550S162	16	43	43	43	43	43	43	43	43	43	43	43	43
			24	43	43	54	54	54	54	54	54	54	54	54	54
	140 mph	350S162	16	54	54	54	54	54	54	54	54	68	68	68	68
			24	68	68	68	97	97	97	97	97	97	97	97	97
		550S162	16	43	43	43	43	43	43	43	43	43	43	43	43
			24	54	54	54	54	54	54	54	54	54	54	54	68
	150 mph	350S162	16	54	54	54	54	68	68	68	68	97	97	97	97
			24	97	97	97	97	97	97	97	97	-	-	-	-
		550S162	16	43	43	43	43	43	43	43	43	54	54	54	43
			24	54	54	54	54	54	54	54	54	68	68	68	68

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m², 1 mph = 1.61 km/hr, 1 foot = 0.305 m

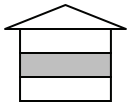
1 Deflection criteria: L/240

2 Design load assumptions:
Second floor dead load is 10 psf (0.48 kN/m²)
Second floor live load is 30 psf (1.44 kN/m²)
Roof/ceiling dead load is 12 psf (0.58 kN/m²)

3 Building width is in the direction of horizontal framing members supported by the wall *studs*.

50 KSI

Table E3-10b
Stud Thickness
40-Foot Wide Building Supporting One Floor, Roof & Ceiling [1,2,3]
F_y = 50 ksi



Wind Speed		Member Size	Stud Spacing (inch)	Minimum Stud Thickness (Mils)											
				8-Foot Studs				9-Foot Studs				10-Foot Studs			
Exp. B	Exp. C			Ground Snow Load (psf)											
				20	30	50	70	20	30	50	70	20	30	50	70
85 mph		350S162	16	33	33	33	43	33	33	33	43	33	33	43	43
			24	43	43	43	54	43	43	43	54	43	43	54	54
		550S162	16	33	33	33	43	33	33	33	33	33	33	33	33
			24	33	43	43	54	33	33	43	43	33	33	43	43
90 mph		350S162	16	33	33	33	43	33	33	33	43	33	33	43	43
			24	43	43	43	54	43	43	43	54	43	43	54	54
		550S162	16	33	33	33	43	33	33	33	33	33	33	33	33
			24	33	43	43	54	33	33	43	43	33	33	43	43
100 mph	85 mph	350S162	16	33	33	33	43	33	33	33	43	33	33	43	43
			24	43	43	54	54	43	43	43	54	43	43	54	68
		550S162	16	33	33	33	43	33	33	33	33	33	33	33	33
			24	33	43	43	54	33	33	43	43	33	33	43	43
110 mph	90 mph	350S162	16	33	33	43	43	33	33	33	43	33	33	43	43
			24	43	43	54	54	43	43	43	54	54	54	54	68
		550S162	16	33	33	33	43	33	33	33	33	33	33	33	43
			24	33	43	43	54	33	33	43	43	33	33	43	43
120 mph	100 mph	350S162	16	33	33	43	43	33	33	33	43	43	43	43	43
			24	43	43	54	54	43	43	54	54	54	54	54	68
		550S162	16	33	33	33	43	33	33	33	33	33	33	33	43
			24	33	43	43	54	33	33	43	43	33	43	43	43
130 mph	110 mph	350S162	16	33	33	43	43	33	33	43	43	43	43	43	54
			24	43	43	54	68	54	54	54	54	54	54	54	68
		550S162	16	33	33	33	43	33	33	33	33	33	33	33	43
			24	33	43	43	54	33	33	43	43	43	43	43	54
140 mph	120 mph	350S162	16	43	43	43	43	43	43	43	43	43	43	43	54
			24	54	54	54	68	54	54	54	68	68	68	68	68
		550S162	16	33	33	33	43	33	33	33	33	33	33	33	43
			24	33	43	43	54	43	43	43	43	43	43	43	54
150 mph	130 mph	350S162	16	43	43	43	43	43	43	43	43	54	54	54	54
			24	54	54	54	68	54	54	54	68	97	97	97	97
		550S162	16	33	33	33	43	33	33	33	43	33	33	33	43
			24	43	43	43	54	43	43	43	43	43	43	43	54
	140 mph	350S162	16	43	43	43	54	43	43	43	54	54	54	54	54
			24	54	54	54	68	68	68	68	68	97	97	97	97
		550S162	16	33	33	33	43	33	33	33	43	43	43	43	43
			24	43	43	43	54	43	43	43	54	43	43	54	54
	150 mph	350S162	16	43	43	43	54	54	54	54	54	68	68	68	68
			24	68	68	68	68	68	68	68	68	97	97	97	97
		550S162	16	33	33	33	43	43	43	43	43	43	43	43	43
			24	43	43	43	54	43	43	43	54	54	54	54	54

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 mph = 1.61 km/hr, 1 foot = 0.305 m

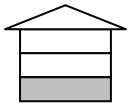
1 Deflection criteria: L/240

2 Design load assumptions:
Second floor dead load is 10 psf (0.48 kN/m^2)
Second floor live load is 30 psf (1.44 kN/m^2)
Roof/ceiling dead load is 12 psf (0.58 kN/m^2)

3 Building width is in the direction of horizontal framing members supported by the wall *studs*.

33
KSI

Table E3-11a
Stud Thickness
24-Foot Wide Building Supporting Two Floors, Roof & Ceiling [1,2,3]
F_y = 33 ksi



Wind Speed		Member Size	Stud Spacing (inch)	Minimum Stud Thickness (Mils)											
				8-Foot Studs				9-Foot Studs				10-Foot Studs			
Exp. B	Exp. C			Ground Snow Load (psf)											
				20	30	50	70	20	30	50	70	20	30	50	70
85 mph		350S162	16	43	43	43	43	33	33	33	43	43	43	43	43
			24	54	54	54	54	43	43	54	54	54	54	54	54
		550S162	16	33	33	43	43	33	33	33	33	33	33	33	43
			24	43	43	54	54	43	43	43	43	43	43	43	54
90 mph		350S162	16	43	43	43	43	33	33	33	43	43	43	43	43
			24	54	54	54	54	43	43	54	54	54	54	54	54
		550S162	16	33	33	43	43	33	33	33	33	33	33	33	43
			24	43	43	54	54	43	43	43	43	43	43	43	54
100 mph	85 mph	350S162	16	43	43	43	43	33	33	33	43	43	43	43	43
			24	54	54	54	54	54	54	54	54	54	54	54	68
		550S162	16	33	33	43	43	33	33	33	33	33	33	33	43
			24	43	43	54	54	43	43	43	43	43	43	43	54
110 mph	90 mph	350S162	16	43	43	43	43	43	43	43	43	43	43	43	43
			24	54	54	54	54	54	54	54	54	54	54	68	68
		550S162	16	33	33	43	43	33	33	33	33	33	33	33	43
			24	43	43	54	54	43	43	43	43	43	43	43	54
120 mph	100 mph	350S162	16	43	43	43	43	43	43	43	43	43	43	43	54
			24	54	54	54	54	54	54	54	54	68	68	68	68
		550S162	16	33	33	43	43	33	33	33	33	33	33	33	43
			24	43	43	54	54	43	43	43	43	43	43	43	54
130 mph	110 mph	350S162	16	43	43	43	43	43	43	43	43	54	54	54	54
			24	54	54	54	68	54	54	68	68	68	68	68	97
		550S162	16	33	33	43	43	33	33	33	33	33	33	33	43
			24	43	43	54	54	43	43	43	43	43	43	43	54
140 mph	120 mph	350S162	16	43	43	43	43	43	43	43	54	54	54	54	54
			24	68	68	68	68	68	68	68	68	97	97	97	97
		550S162	16	33	33	43	43	43	43	43	43	43	43	43	43
			24	43	43	54	54	43	43	43	43	54	54	54	54
150 mph	130 mph	350S162	16	43	43	43	54	54	54	54	54	68	68	68	68
			24	68	68	68	68	68	68	68	97	97	97	97	97
		550S162	16	43	43	43	43	43	43	33	43	43	43	43	43
			24	43	43	54	54	54	54	54	54	54	54	54	54
	140 mph	350S162	16	54	54	54	54	54	54	54	54	68	68	68	68
			24	68	68	68	97	97	97	97	97	97	97	97	97
		550S162	16	43	43	43	43	43	43	43	43	43	43	43	43
			24	54	54	54	54	54	54	54	54	54	54	54	54
	150 mph	350S162	16	54	54	54	54	68	68	68	68	97	97	97	97
			24	97	97	97	97	97	97	97	97	-	-	-	-
		550S162	16	43	43	43	43	43	43	43	43	54	54	54	54
			24	54	54	54	54	54	54	54	54	68	68	68	68

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 mph = 1.61 km/hr, 1 foot = 0.305 m

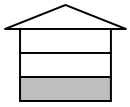
1 Deflection criteria: L/240

2 Design load assumptions:
Top and middle floor dead load is 10 psf (0.48 kN/m^2)
Top floor live load is 30 psf (1.44 kN/m^2)
Middle floor live load is 40 psf (1.92 kN/m^2)
Roof/ceiling dead load is 12 psf (0.58 kN/m^2)

3 Building width is in the direction of horizontal framing members supported by the wall *studs*.

50 KSI

Table E3-11b
Stud Thickness
24-Foot Wide Building Supporting Two Floors, Roof & Ceiling [1,2,3]
F_y = 50 ksi



Wind Speed		Member Size	Stud Spacing (inch)	Minimum Stud Thickness (Mils)											
				8-Foot Studs				9-Foot Studs				10-Foot Studs			
Exp. B	Exp. C			Ground Snow Load (psf)											
				20	30	50	70	20	30	50	70	20	30	50	70
85 mph		350S162	16	33	33	33	43	33	33	33	33	33	33	33	33
			24	43	43	54	54	43	43	43	43	43	43	43	54
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	43	43	43	43	43	43	43	43	43	43	43	43
90 mph		350S162	16	33	33	33	43	33	33	33	33	33	33	33	33
			24	43	43	54	54	43	43	43	43	43	43	43	54
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	43	43	43	43	43	43	43	43	43	43	43	43
100 mph	85 mph	350S162	16	33	33	33	43	33	33	33	33	33	33	33	33
			24	43	43	54	54	43	43	43	43	43	43	54	54
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	43	43	43	43	43	43	43	43	43	43	43	43
110 mph	90 mph	350S162	16	33	33	33	43	33	33	33	33	33	33	43	43
			24	43	43	54	54	43	43	43	43	54	54	54	54
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	43	43	43	43	43	43	43	43	43	43	43	43
120 mph	100 mph	350S162	16	33	33	33	43	33	33	33	33	43	43	43	43
			24	43	43	54	54	43	43	54	54	54	54	54	54
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	43	43	43	43	43	43	43	43	43	43	43	43
130 mph	110 mph	350S162	16	33	33	33	43	33	33	33	43	43	43	43	43
			24	54	54	54	54	54	54	54	54	54	54	54	68
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	43	43	43	43	43	43	43	43	43	43	43	43
140 mph	120 mph	350S162	16	33	33	43	43	43	43	43	43	43	43	43	43
			24	54	54	54	54	54	54	54	54	68	68	68	68
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	43	43	43	43	43	43	43	43	43	43	43	43
150 mph	130 mph	350S162	16	43	43	43	43	43	43	43	43	54	54	54	54
			24	54	54	54	54	54	54	54	68	97	97	97	97
		550S162	16	33	33	33	33	33	33	33	33	33	33	33	33
			24	43	43	43	43	43	43	43	43	43	43	43	43
	140 mph	350S162	16	43	43	43	43	43	43	43	43	54	54	54	54
			24	54	54	68	68	68	68	68	68	97	97	97	97
		550S162	16	33	33	33	33	33	33	33	33	43	43	43	43
			24	43	43	43	43	43	43	43	43	43	43	54	54
	150 mph	350S162	16	43	43	43	43	54	54	54	54	68	68	68	68
			24	68	68	68	68	68	68	68	68	97	97	97	97
		550S162	16	33	33	33	33	43	43	43	43	43	43	43	43
			24	43	43	43	43	43	43	43	43	54	54	54	54

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 mph = 1.61 km/hr, 1 foot = 0.305 m

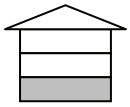
1 Deflection criteria: L/240

2 Design load assumptions:
Top and middle floor dead load is 10 psf (0.48 kN/m^2)
Top floor live load is 30 psf (1.44 kN/m^2)
Middle floor live load is 40 psf (1.92 kN/m^2)
Roof/ceiling dead load is 12 psf (0.58 kN/m^2)

3 Building width is in the direction of horizontal framing members supported by the wall *studs*.

33
KSI

Table E3-12a
Stud Thickness
28-Foot Wide Building Supporting Two Floors, Roof & Ceiling [1,2,3]
F_y = 33 ksi



Wind Speed		Member Size	Stud Spacing (inch)	Minimum Stud Thickness (Mils)											
				8-Foot Studs				9-Foot Studs				10-Foot Studs			
Exp. B	Exp. C			Ground Snow Load (psf)											
				20	30	50	70	20	30	50	70	20	30	50	70
85 mph		350S162	16	43	43	43	43	43	43	43	43	43	43	43	43
			24	54	54	54	68	54	54	54	54	54	54	54	68
		550S162	16	43	43	43	43	43	43	43	43	43	43	43	43
			24	54	54	54	54	54	54	54	54	54	54	54	54
90 mph		350S162	16	43	43	43	43	43	43	43	43	43	43	43	43
			24	54	54	54	68	54	54	54	54	54	54	54	68
		550S162	16	43	43	43	43	43	43	43	43	43	43	43	43
			24	54	54	54	54	54	54	54	54	54	54	54	54
100 mph	85 mph	350S162	16	43	43	43	43	43	43	43	43	43	43	43	43
			24	54	54	54	68	54	54	54	54	54	54	68	68
		550S162	16	43	43	43	43	43	43	43	43	43	43	43	43
			24	54	54	54	54	54	54	54	54	54	54	54	54
110 mph	90 mph	350S162	16	43	43	43	43	43	43	43	43	43	43	43	43
			24	54	54	54	68	54	54	54	54	68	68	68	68
		550S162	16	43	43	43	43	43	43	43	43	43	43	43	43
			24	54	54	54	54	54	54	54	54	54	54	54	54
120 mph	100 mph	350S162	16	43	43	43	43	43	43	43	43	43	43	54	54
			24	54	54	54	68	54	54	68	68	68	68	68	97
		550S162	16	43	43	43	43	43	43	43	43	43	43	43	43
			24	54	54	54	54	54	54	54	54	54	54	54	54
130 mph	110 mph	350S162	16	43	43	43	43	43	43	43	43	54	54	54	54
			24	54	68	68	68	68	68	68	68	68	68	97	97
		550S162	16	43	43	43	43	43	43	43	43	43	43	43	43
			24	54	54	54	54	54	54	54	54	54	54	54	54
140 mph	120 mph	350S162	16	43	43	43	54	54	54	54	54	54	54	54	54
			24	68	68	68	68	68	68	68	68	97	97	97	97
		550S162	16	43	43	43	43	43	43	43	43	43	43	43	43
			24	54	54	54	54	54	54	54	54	54	54	54	54
150 mph	130 mph	350S162	16	43	43	54	54	54	54	54	54	68	68	68	68
			24	68	68	68	97	68	68	97	97	97	97	97	97
		550S162	16	43	43	43	43	43	43	43	43	43	43	43	43
			24	54	54	54	54	54	54	54	54	54	54	54	54
	140 mph	350S162	16	54	54	54	54	54	54	54	54	68	68	68	68
			24	97	97	97	97	97	97	97	97	97	97	97	97
		550S162	16	43	43	43	43	43	43	43	43	43	43	43	43
			24	54	54	54	54	54	54	54	54	54	54	68	68
	150 mph	350S162	16	54	54	54	54	68	68	68	68	97	97	97	97
			24	97	97	97	97	97	97	97	97	-	-	-	-
		550S162	16	43	43	43	43	43	43	43	43	54	54	43	43
			24	54	54	54	54	54	54	54	54	68	68	68	68

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 mph = 1.61 km/hr, 1 foot = 0.305 m

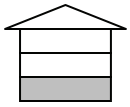
1 Deflection criteria: L/240

2 Design load assumptions:
Top and middle floor dead load is 10 psf (0.48 kN/m^2)
Top floor live load is 30 psf (1.44 kN/m^2)
Middle floor live load is 40 psf (1.92 kN/m^2)
Roof/ceiling dead load is 12 psf (0.58 kN/m^2)

3 Building width is in the direction of horizontal framing members supported by the wall *studs*.

50 KSI

Table E3-12b
Stud Thickness
28-Foot Wide Building Supporting Two Floors, Roof & Ceiling [1,2,3]
F_y = 50 ksi



Wind Speed		Member Size	Stud Spacing (inch)	Minimum Stud Thickness (Mils)											
				8-Foot Studs				9-Foot Studs				10-Foot Studs			
Exp. B	Exp. C			Ground Snow Load (psf)											
				20	30	50	70	20	30	50	70	20	30	50	70
85 mph		350S162	16	43	43	43	43	33	33	33	43	43	43	43	43
			24	54	54	54	54	43	43	54	54	54	54	54	54
		550S162	16	33	33	33	43	33	33	33	33	33	33	33	33
			24	43	43	43	54	43	43	43	43	43	43	43	43
90 mph		350S162	16	43	43	43	43	33	33	33	43	43	43	43	43
			24	54	54	54	54	43	43	54	54	54	54	54	54
		550S162	16	33	33	33	43	33	33	33	33	33	33	33	33
			24	43	43	43	54	43	43	43	43	43	43	43	43
100 mph	85 mph	350S162	16	43	43	43	43	33	33	33	43	43	43	43	43
			24	54	54	54	54	43	43	54	54	54	54	54	54
		550S162	16	33	33	33	43	33	33	33	33	33	33	33	33
			24	43	43	43	54	43	43	43	43	43	43	43	43
110 mph	90 mph	350S162	16	43	43	43	43	33	33	33	43	43	43	43	43
			24	54	54	54	54	43	43	54	54	54	54	54	54
		550S162	16	33	33	33	43	33	33	33	33	33	33	33	33
			24	43	43	43	54	43	43	43	43	43	43	43	43
120 mph	100 mph	350S162	16	43	43	43	43	33	33	33	43	43	43	43	43
			24	54	54	54	54	54	54	54	54	54	54	54	68
		550S162	16	33	33	33	43	33	33	33	33	33	33	33	33
			24	43	43	43	54	43	43	43	43	43	43	43	43
130 mph	110 mph	350S162	16	43	43	43	43	43	43	43	43	43	43	43	43
			24	54	54	54	54	54	54	54	54	68	68	68	68
		550S162	16	33	33	33	43	33	33	33	33	33	33	33	33
			24	43	43	43	54	43	43	43	43	43	43	43	43
140 mph	120 mph	350S162	16	43	43	43	43	43	43	43	43	43	43	54	54
			24	54	54	54	54	54	54	54	68	68	68	68	68
		550S162	16	33	33	33	43	33	33	33	33	33	33	33	33
			24	43	43	43	54	43	43	43	43	43	43	43	43
150 mph	130 mph	350S162	16	43	43	43	43	43	43	43	43	54	54	54	54
			24	54	54	68	68	68	68	68	68	97	97	97	97
		550S162	16	33	33	33	43	33	33	33	33	33	33	33	43
			24	43	43	43	54	43	43	43	43	43	43	54	54
	140 mph	350S162	16	43	43	43	43	43	43	43	54	54	54	54	54
			24	68	68	68	68	68	68	68	68	97	97	97	97
		550S162	16	33	33	33	43	33	33	33	33	43	43	43	43
			24	43	43	43	54	43	43	43	43	54	54	54	54
	150 mph	350S162	16	43	43	54	54	54	54	54	54	68	68	68	68
			24	68	68	68	68	68	68	68	68	97	97	97	97
		550S162	16	33	33	33	43	43	43	43	43	43	43	43	43
			24	43	43	43	54	43	43	43	54	54	54	54	54

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 mph = 1.61 km/hr, 1 foot = 0.305 m

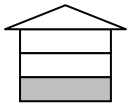
1 Deflection criteria: L/240

2 Design load assumptions:
Top and middle floor dead load is 10 psf (0.48 kN/m^2)
Top floor live load is 30 psf (1.44 kN/m^2)
Middle floor live load is 40 psf (1.92 kN/m^2)
Roof/ceiling dead load is 12 psf (0.58 kN/m^2)

3 Building width is in the direction of horizontal framing members supported by the wall *studs*.

33
KSI

Table E3-13a
Stud Thickness
32-Foot Wide Building Supporting Two Floors, Roof & Ceiling [1,2,3]
F_y = 33 ksi



Wind Speed		Member Size	Stud Spacing (inch)	Minimum Stud Thickness (Mils)											
				8-Foot Studs				9-Foot Studs				10-Foot Studs			
Exp. B	Exp. C			Ground Snow Load (psf)											
				20	30	50	70	20	30	50	70	20	30	50	70
85 mph		350S162	16	43	43	43	54	43	43	43	43	43	43	43	54
			24	68	68	68	68	54	54	68	68	68	68	68	68
		550S162	16	43	43	43	43	43	43	43	43	43	43	43	43
			24	54	54	54	68	54	54	54	54	54	54	54	54
90 mph		350S162	16	43	43	43	54	43	43	43	43	43	43	43	54
			24	68	68	68	68	54	54	68	68	68	68	68	68
		550S162	16	43	43	43	43	43	43	43	43	43	43	43	43
			24	54	54	54	68	54	54	54	54	54	54	54	54
100 mph	85 mph	350S162	16	43	43	43	54	43	43	43	43	43	43	43	54
			24	68	68	68	68	54	54	68	68	68	68	68	68
		550S162	16	43	43	43	43	43	43	43	43	43	43	43	43
			24	54	54	54	68	54	54	54	54	54	54	54	54
110 mph	90 mph	350S162	16	43	43	43	54	43	43	43	43	43	43	54	54
			24	68	68	68	68	54	54	68	68	68	68	68	68
		550S162	16	43	43	43	43	43	43	43	43	43	43	43	43
			24	54	54	54	68	54	54	54	54	54	54	54	54
120 mph	100 mph	350S162	16	43	43	43	54	43	43	43	43	54	54	54	54
			24	68	68	68	68	68	68	68	68	68	68	97	97
		550S162	16	43	43	43	43	43	43	43	43	43	43	43	43
			24	54	54	54	68	54	54	54	54	54	54	54	54
130 mph	110 mph	350S162	16	43	43	43	54	43	43	54	54	54	54	54	54
			24	68	68	68	68	68	68	68	68	97	97	97	97
		550S162	16	43	43	43	43	43	43	43	43	43	43	43	43
			24	54	54	54	68	54	54	54	54	54	54	54	54
140 mph	120 mph	350S162	16	43	43	54	54	54	54	54	54	54	54	54	68
			24	68	68	68	97	68	68	68	97	97	97	97	97
		550S162	16	43	43	43	43	43	43	43	43	43	43	43	43
			24	54	54	54	68	54	54	54	54	54	54	54	54
150 mph	130 mph	350S162	16	54	54	54	54	54	54	54	54	68	68	68	68
			24	68	68	97	97	97	97	97	97	97	97	97	97
		550S162	16	43	43	43	43	43	43	43	43	43	43	43	43
			24	54	54	54	68	54	54	54	54	54	54	54	68
	140 mph	350S162	16	54	54	54	54	54	54	54	68	68	68	68	68
			24	97	97	97	97	97	97	97	97	97	97	-	-
		550S162	16	43	43	43	43	43	43	43	43	43	43	43	43
			24	54	54	54	68	54	54	54	54	68	68	68	68
	150 mph	350S162	16	54	54	54	68	68	68	68	68	97	97	97	97
			24	97	97	97	97	97	97	97	97	-	-	-	-
		550S162	16	43	43	43	43	43	43	43	43	43	43	43	54
			24	54	54	54	68	54	54	54	68	68	68	68	68

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 mph = 1.61 km/hr, 1 foot = 0.305 m

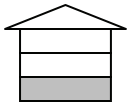
1 Deflection criteria: L/240

2 Design load assumptions:
Top and middle floor dead load is 10 psf (0.48 kN/m^2)
Top floor live load is 30 psf (1.44 kN/m^2)
Middle floor live load is 40 psf (1.92 kN/m^2)
Roof/ceiling dead load is 12 psf (0.58 kN/m^2)

3 Building width is in the direction of horizontal framing members supported by the wall *studs*.

50 KSI

Table E3-13b
Stud Thickness
32-Foot Wide Building Supporting Two Floors, Roof & Ceiling [1,2,3]
F_y = 50 ksi



Wind Speed		Member Size	Stud Spacing (inch)	Minimum Stud Thickness (Mils)											
				8-Foot Studs				9-Foot Studs				10-Foot Studs			
Exp. B	Exp. C			Ground Snow Load (psf)											
				20	30	50	70	20	30	50	70	20	30	50	70
85 mph		350S162	16	43	43	43	43	43	43	43	43	43	43	43	43
			24	54	54	54	68	54	54	54	54	54	54	54	68
		550S162	16	43	43	43	43	33	33	33	43	33	33	43	43
			24	54	54	54	54	43	43	43	54	43	43	54	54
90 mph		350S162	16	43	43	43	43	43	43	43	43	43	43	43	43
			24	54	54	54	68	54	54	54	54	54	54	54	68
		550S162	16	43	43	43	43	33	33	33	43	33	33	43	43
			24	54	54	54	54	43	43	43	54	43	43	54	54
100 mph	85 mph	350S162	16	43	43	43	43	43	43	43	43	43	43	43	43
			24	54	54	54	68	54	54	54	54	54	54	54	68
		550S162	16	43	43	43	43	33	33	33	43	33	33	43	43
			24	54	54	54	54	43	43	43	54	43	43	54	54
110 mph	90 mph	350S162	16	43	43	43	43	43	43	43	43	43	43	43	43
			24	54	54	54	68	54	54	54	54	54	54	54	68
		550S162	16	43	43	43	43	33	33	33	43	33	33	43	43
			24	54	54	54	54	43	43	43	54	43	43	54	54
120 mph	100 mph	350S162	16	43	43	43	43	43	43	43	43	43	43	43	43
			24	54	54	54	68	54	54	54	54	68	68	68	68
		550S162	16	43	43	43	43	33	33	33	43	33	33	43	43
			24	54	54	54	54	43	43	43	54	43	43	54	54
130 mph	110 mph	350S162	16	43	43	43	43	43	43	43	43	43	43	43	54
			24	54	54	54	68	54	54	54	54	68	68	68	68
		550S162	16	43	43	43	43	33	33	33	43	33	33	43	43
			24	54	54	54	54	43	43	43	54	43	43	54	54
140 mph	120 mph	350S162	16	43	43	43	43	43	43	43	43	54	54	54	54
			24	54	54	54	68	54	54	68	68	68	68	68	68
		550S162	16	43	43	43	43	33	33	33	43	33	33	43	43
			24	54	54	54	54	43	43	43	54	43	43	54	54
150 mph	130 mph	350S162	16	43	43	43	43	43	43	43	54	54	54	54	54
			24	68	68	68	68	68	68	68	68	97	97	97	97
		550S162	16	43	43	43	43	33	33	33	43	33	33	43	43
			24	54	54	54	54	43	43	43	54	54	54	54	54
	140 mph	350S162	16	43	43	43	54	54	54	54	54	54	54	54	54
			24	68	68	68	68	68	68	68	68	97	97	97	97
		550S162	16	43	43	43	43	33	33	33	43	43	43	43	43
			24	54	54	54	54	43	43	43	54	54	54	54	54
	150 mph	350S162	16	54	54	54	54	54	54	54	54	68	68	68	68
			24	68	68	68	68	68	68	68	97	97	97	97	97
		550S162	16	43	43	43	43	43	43	43	43	43	43	43	43
			24	54	54	54	54	54	54	54	54	54	54	54	54

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 mph = 1.61 km/hr, 1 foot = 0.305 m

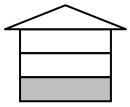
1 Deflection criteria: L/240

2 Design load assumptions:
Top and middle floor dead load is 10 psf (0.48 kN/m^2)
Top floor live load is 30 psf (1.44 kN/m^2)
Middle floor live load is 40 psf (1.92 kN/m^2)
Roof/ceiling dead load is 12 psf (0.58 kN/m^2)

3 Building width is in the direction of horizontal framing members supported by the wall *studs*.

33
KSI

Table E3-14a
Stud Thickness
36-Foot Wide Building Supporting Two Floors, Roof & Ceiling [1,2,3]
F_y = 33 ksi



Wind Speed		Member Size	Stud Spacing (inch)	Minimum Stud Thickness (Mils)											
				8-Foot Studs				9-Foot Studs				10-Foot Studs			
Exp. B	Exp. C			Ground Snow Load (psf)											
				20	30	50	70	20	30	50	70	20	30	50	70
85 mph		350S162	16	54	54	54	54	43	43	43	54	54	54	54	54
			24	68	68	68	97	68	68	68	68	68	68	68	97
		550S162	16	43	43	43	54	43	43	43	43	43	43	43	43
			24	68	68	68	68	54	54	54	68	54	54	68	68
90 mph		350S162	16	54	54	54	54	43	43	43	54	54	54	54	54
			24	68	68	68	97	68	68	68	68	68	68	68	97
		550S162	16	43	43	43	54	43	43	43	43	43	43	43	43
			24	68	68	68	68	54	54	54	68	54	54	68	68
100 mph	85 mph	350S162	16	54	54	54	54	43	43	43	54	54	54	54	54
			24	68	68	68	97	68	68	68	68	68	68	68	97
		550S162	16	43	43	43	54	43	43	43	43	43	43	43	43
			24	68	68	68	68	54	54	54	68	54	54	68	68
110 mph	90 mph	350S162	16	54	54	54	54	43	43	43	54	54	54	54	54
			24	68	68	68	97	68	68	68	68	68	68	97	97
		550S162	16	43	43	43	54	43	43	43	43	43	43	43	43
			24	68	68	68	68	54	54	54	68	54	54	68	68
120 mph	100 mph	350S162	16	54	54	54	54	43	43	54	54	54	54	54	54
			24	68	68	68	97	68	68	68	68	97	97	97	97
		550S162	16	43	43	43	54	43	43	43	43	43	43	43	43
			24	68	68	68	68	54	54	54	68	54	54	68	68
130 mph	110 mph	350S162	16	54	54	54	54	54	54	54	54	54	54	54	68
			24	68	68	68	97	68	68	68	97	97	97	97	97
		550S162	16	43	43	43	54	43	43	43	43	43	43	43	43
			24	68	68	68	68	54	54	54	68	54	54	68	68
140 mph	120 mph	350S162	16	54	54	54	54	54	54	54	54	68	68	68	68
			24	68	68	97	97	97	97	97	97	97	97	97	97
		550S162	16	43	43	43	54	43	43	43	43	43	43	43	43
			24	68	68	68	68	54	54	54	68	54	54	68	68
150 mph	130 mph	350S162	16	54	54	54	54	54	54	54	54	68	68	68	68
			24	97	97	97	97	97	97	97	97	97	97	97	97
		550S162	16	43	43	43	54	43	43	43	43	43	43	43	43
			24	68	68	68	68	54	54	54	68	54	54	68	68
	140 mph	350S162	16	54	54	54	68	54	54	68	68	68	68	68	97
			24	97	97	97	97	97	97	97	97	-	-	-	-
		550S162	16	43	43	43	54	43	43	43	43	43	43	43	54
			24	68	68	68	68	54	54	54	68	68	68	68	68
	150 mph	350S162	16	54	68	68	68	68	68	68	68	97	97	97	97
			24	97	97	97	97	97	97	97	97	-	-	-	-
		550S162	16	43	43	43	54	43	43	43	43	43	54	54	54
			24	68	68	68	68	54	54	68	68	68	68	68	68

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 mph = 1.61 km/hr, 1 foot = 0.305 m

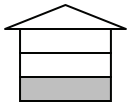
1 Deflection criteria: L/240

2 Design load assumptions:
Top and middle floor dead load is 10 psf (0.48 kN/m^2)
Top floor live load is 30 psf (1.44 kN/m^2)
Middle floor live load is 40 psf (1.92 kN/m^2)
Roof/ceiling dead load is 12 psf (0.58 kN/m^2)

3 Building width is in the direction of horizontal framing members supported by the wall *studs*.

50 KSI

Table E3-14b
Stud Thickness
36-Foot Wide Building Supporting Two Floors, Roof & Ceiling [1,2,3]
F_y = 50 ksi



Wind Speed		Member Size	Stud Spacing (inch)	Minimum Stud Thickness (Mils)											
				8-Foot Studs				9-Foot Studs				10-Foot Studs			
Exp. B	Exp. C			Ground Snow Load (psf)											
				20	30	50	70	20	30	50	70	20	30	50	70
85 mph		350S162	16	43	43	43	54	43	43	43	43	43	43	43	43
			24	68	68	68	68	54	54	54	68	68	68	68	68
		550S162	16	43	43	43	43	43	43	43	43	43	43	43	43
			24	54	54	54	54	54	54	54	54	54	54	54	54
90 mph		350S162	16	43	43	43	54	43	43	43	43	43	43	43	43
			24	68	68	68	68	54	54	54	68	68	68	68	68
		550S162	16	43	43	43	43	43	43	43	43	43	43	43	43
			24	54	54	54	54	54	54	54	54	54	54	54	54
100 mph	85 mph	350S162	16	43	43	43	54	43	43	43	43	43	43	43	43
			24	68	68	68	68	54	54	54	68	68	68	68	68
		550S162	16	43	43	43	43	43	43	43	43	43	43	43	43
			24	54	54	54	54	54	54	54	54	54	54	54	54
110 mph	90 mph	350S162	16	43	43	43	54	43	43	43	43	43	43	43	43
			24	68	68	68	68	54	54	54	68	68	68	68	68
		550S162	16	43	43	43	43	43	43	43	43	43	43	43	43
			24	54	54	54	54	54	54	54	54	54	54	54	54
120 mph	100 mph	350S162	16	43	43	43	54	43	43	43	43	43	43	43	54
			24	68	68	68	68	54	54	54	68	68	68	68	68
		550S162	16	43	43	43	43	43	43	43	43	43	43	43	43
			24	54	54	54	54	54	54	54	54	54	54	54	54
130 mph	110 mph	350S162	16	43	43	43	54	43	43	43	43	43	54	54	54
			24	68	68	68	68	54	54	68	68	68	68	68	68
		550S162	16	43	43	43	43	43	43	43	43	43	43	43	43
			24	54	54	54	54	54	54	54	54	54	54	54	54
140 mph	120 mph	350S162	16	43	43	43	54	43	43	43	43	54	54	54	54
			24	68	68	68	68	68	68	68	68	68	68	97	97
		550S162	16	43	43	43	43	43	43	43	43	43	43	43	43
			24	54	54	54	54	54	54	54	54	54	54	54	54
150 mph	130 mph	350S162	16	43	43	43	54	43	43	54	54	54	54	54	54
			24	68	68	68	68	68	68	68	68	97	97	97	97
		550S162	16	43	43	43	43	43	43	43	43	43	43	43	43
			24	54	54	54	54	54	54	54	54	54	54	54	54
	140 mph	350S162	16	54	54	54	54	54	54	54	54	54	54	54	68
			24	68	68	68	68	68	68	68	68	97	97	97	97
		550S162	16	43	43	43	43	43	43	43	43	43	43	43	43
			24	54	54	54	54	54	54	54	54	54	54	54	54
	150 mph	350S162	16	54	54	54	54	54	54	54	54	68	68	68	68
			24	68	68	97	97	68	68	97	97	97	97	97	97
		550S162	16	43	43	43	43	43	43	43	43	43	43	43	43
			24	54	54	54	54	54	54	54	54	54	54	54	54

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 mph = 1.61 km/hr, 1 foot = 0.305 m

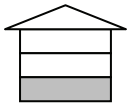
1 Deflection criteria: L/240

2 Design load assumptions:
Top and middle floor dead load is 10 psf (0.48 kN/m^2)
Top floor live load is 30 psf (1.44 kN/m^2)
Middle floor live load is 40 psf (1.92 kN/m^2)
Roof/ceiling dead load is 12 psf (0.58 kN/m^2)

3 Building width is in the direction of horizontal framing members supported by the wall *studs*.

33
KSI

Table E3-15a
Stud Thickness
40-Foot Wide Building Supporting Two Floors, Roof & Ceiling [1,2,3]
F_y = 33 ksi



Wind Speed		Member Size	Stud Spacing (inch)	Minimum Stud Thickness (Mils)											
				8-Foot Studs				9-Foot Studs				10-Foot Studs			
Exp. B	Exp. C			Ground Snow Load (psf)											
				20	30	50	70	20	30	50	70	20	30	50	70
85 mph		350S162	16	54	54	54	54	54	54	54	54	54	54	54	54
			24	97	97	97	97	68	68	68	97	97	97	97	97
		550S162	16	54	54	54	54	43	43	54	54	43	43	54	54
			24	68	68	68	68	68	68	68	68	68	68	68	68
90 mph		350S162	16	54	54	54	54	54	54	54	54	54	54	54	54
			24	97	97	97	97	68	68	68	97	97	97	97	97
		550S162	16	54	54	54	54	43	43	54	54	43	43	54	54
			24	68	68	68	68	68	68	68	68	68	68	68	68
100 mph	85 mph	350S162	16	54	54	54	54	54	54	54	54	54	54	54	54
			24	97	97	97	97	68	68	68	97	97	97	97	97
		550S162	16	54	54	54	54	43	43	54	54	43	43	54	54
			24	68	68	68	68	68	68	68	68	68	68	68	68
110 mph	90 mph	350S162	16	54	54	54	54	54	54	54	54	54	54	54	54
			24	97	97	97	97	68	68	68	97	97	97	97	97
		550S162	16	54	54	54	54	43	43	54	54	43	43	54	54
			24	68	68	68	68	68	68	68	68	68	68	68	68
120 mph	100 mph	350S162	16	54	54	54	54	54	54	54	54	54	54	54	54
			24	97	97	97	97	68	68	68	97	97	97	97	97
		550S162	16	54	54	54	54	43	43	54	54	43	43	54	54
			24	68	68	68	68	68	68	68	68	68	68	68	68
130 mph	110 mph	350S162	16	54	54	54	54	54	54	54	54	54	54	68	68
			24	97	97	97	97	68	68	97	97	97	97	97	97
		550S162	16	54	54	54	54	43	43	54	54	43	43	54	54
			24	68	68	68	68	68	68	68	68	68	68	68	68
140 mph	120 mph	350S162	16	54	54	54	54	54	54	54	54	68	68	68	68
			24	97	97	97	97	97	97	97	97	97	97	97	97
		550S162	16	54	54	54	54	43	43	54	54	43	43	54	54
			24	68	68	68	68	68	68	68	68	68	68	68	68
150 mph	130 mph	350S162	16	54	54	54	68	54	54	54	68	68	68	68	68
			24	97	97	97	97	97	97	97	97	97	97	-	-
		550S162	16	54	54	54	54	43	43	54	54	43	43	54	54
			24	68	68	68	68	68	68	68	68	68	68	68	68
	140 mph	350S162	16	54	54	68	68	68	68	68	68	68	68	97	97
			24	97	97	97	97	97	97	97	97	-	-	-	-
		550S162	16	54	54	54	54	43	43	54	54	43	43	54	54
			24	68	68	68	68	68	68	68	68	68	68	68	68
	150 mph	350S162	16	68	68	68	68	68	68	68	68	97	97	97	97
			24	97	97	97	97	97	97	97	-	-	-	-	-
		550S162	16	54	54	54	54	43	43	54	54	54	54	54	54
			24	68	68	68	68	68	68	68	68	68	68	68	68

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 mph = 1.61 km/hr, 1 foot = 0.305 m

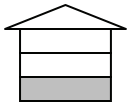
1 Deflection criteria: L/240

2 Design load assumptions:
Top and middle floor dead load is 10 psf (0.48 kN/m^2)
Top floor live load is 30 psf (1.44 kN/m^2)
Middle floor live load is 40 psf (1.92 kN/m^2)
Roof/ceiling dead load is 12 psf (0.58 kN/m^2)

3 Building width is in the direction of horizontal framing members supported by the wall *studs*.

50 KSI

Table E3-15b
Stud Thickness
40-Foot Wide Building Supporting Two Floors, Roof & Ceiling [1,2,3]
F_y = 50 ksi



Wind Speed		Member Size	Stud Spacing (inch)	Minimum Stud Thickness (Mils)											
				8-Foot Studs				9-Foot Studs				10-Foot Studs			
Exp. B	Exp. C			Ground Snow Load (psf)											
				20	30	50	70	20	30	50	70	20	30	50	70
85 mph		350S162	16	54	54	54	54	43	43	43	43	43	54	54	54
			24	68	68	68	68	68	68	68	68	68	68	68	68
		550S162	16	43	43	43	43	43	43	43	43	43	43	43	43
			24	54	54	54	68	54	54	54	54	54	54	54	54
90 mph		350S162	16	54	54	54	54	43	43	43	43	43	54	54	54
			24	68	68	68	68	68	68	68	68	68	68	68	68
		550S162	16	43	43	43	43	43	43	43	43	43	43	43	43
			24	54	54	54	68	54	54	54	54	54	54	54	54
100 mph	85 mph	350S162	16	54	54	54	54	43	43	43	43	43	54	54	54
			24	68	68	68	68	68	68	68	68	68	68	68	68
		550S162	16	43	43	43	43	43	43	43	43	43	43	43	43
			24	54	54	54	68	54	54	54	54	54	54	54	54
110 mph	90 mph	350S162	16	54	54	54	54	43	43	43	43	43	54	54	54
			24	68	68	68	68	68	68	68	68	68	68	68	68
		550S162	16	43	43	43	43	43	43	43	43	43	43	43	43
			24	54	54	54	68	54	54	54	54	54	54	54	54
120 mph	100 mph	350S162	16	54	54	54	54	43	43	43	43	43	54	54	54
			24	68	68	68	68	68	68	68	68	68	68	68	68
		550S162	16	43	43	43	43	43	43	43	43	43	43	43	43
			24	54	54	54	68	54	54	54	54	54	54	54	54
130 mph	110 mph	350S162	16	54	54	54	54	43	43	43	43	54	54	54	54
			24	68	68	68	68	68	68	68	68	68	68	68	97
		550S162	16	43	43	43	43	43	43	43	43	43	43	43	43
			24	54	54	54	68	54	54	54	54	54	54	54	54
140 mph	120 mph	350S162	16	54	54	54	54	43	43	43	54	54	54	54	54
			24	68	68	68	68	68	68	68	68	97	97	97	97
		550S162	16	43	43	43	43	43	43	43	43	43	43	43	43
			24	54	54	54	68	54	54	54	54	54	54	54	54
150 mph	130 mph	350S162	16	54	54	54	54	54	54	54	54	54	54	54	68
			24	68	68	68	68	68	68	68	68	97	97	97	97
		550S162	16	43	43	43	43	43	43	43	43	43	43	43	43
			24	54	54	54	68	54	54	54	54	54	54	54	54
	140 mph	350S162	16	54	54	54	54	54	54	54	54	54	68	68	68
			24	68	68	68	97	68	68	97	97	97	97	97	97
		550S162	16	43	43	43	43	43	43	43	43	43	43	43	43
			24	54	54	54	68	54	54	54	54	54	54	54	54
	150 mph	350S162	16	54	54	54	54	54	54	54	54	68	68	68	68
			24	68	97	97	97	97	97	97	97	97	97	97	97
		550S162	16	43	43	43	43	43	43	43	43	43	43	43	43
			24	54	54	54	68	54	54	54	54	54	54	54	68

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 mph = 1.61 km/hr, 1 foot = 0.305 m

1 Deflection criteria: L/240

2 Design load assumptions:
Top and middle floor dead load is 10 psf (0.48 kN/m^2)
Top floor live load is 30 psf (1.44 kN/m^2)
Middle floor live load is 40 psf (1.92 kN/m^2)
Roof/ceiling dead load is 12 psf (0.58 kN/m^2)

3 Building width is in the direction of horizontal framing members supported by the wall *studs*.

33
KSI

Table E3-16a
Stud Thickness
All Building Widths
Gable Endwalls 8, 9 or 10 Feet in Height [1,2,3]
F_y = 33 ksi

Wind Speed		Member Size	Stud Spacing (inch)	Minimum Stud Thickness (Mils)		
Exp. B	Exp. C			8-Foot Studs	9-Foot Studs	10-Foot Studs
85 mph		350S162	16	33	33	33
			24	33	33	33
		550S162	16	33	33	33
			24	33	33	33
90 mph		350S162	16	33	33	33
			24	33	33	33
		550S162	16	33	33	33
			24	33	33	33
100 mph	85 mph	350S162	16	33	33	33
			24	33	33	43
		550S162	16	33	33	33
			24	33	33	33
110 mph	90 mph	350S162	16	33	33	33
			24	33	33	43
		550S162	16	33	33	33
			24	33	33	33
120 mph	100 mph	350S162	16	33	33	43
			24	43	43	54
		550S162	16	33	33	33
			24	33	33	33
130 mph	110 mph	350S162	16	33	43	43
			24	43	54	54
		550S162	16	33	33	33
			24	33	33	43
140 mph	120 mph	350S162	16	43	43	54
			24	54	54	68
		550S162	16	33	33	33
			24	33	43	43
150 mph	130 mph	350S162	16	43	54	54
			24	54	68	97
		550S162	16	33	33	43
			24	43	43	54
	140 mph	350S162	16	43	54	68
			24	68	97	97
		550S162	16	33	43	43
			24	43	54	68
	150 mph	350S162	16	54	68	97
			24	97	97	-
		550S162	16	33	43	54
			24	43	54	68

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m², 1 mph = 1.61 km/hr, 1 foot = 0.305 m

1 Deflection criteria: L/240

2 Design load assumptions:
Roof and ceiling dead load is 12 psf (0.58 kN/m²)
Floor dead load is 10 psf (0.48 kN/m²)
Ground snow load is 70 psf (3.35 kN/m²)
Floor live load is 40 psf (1.92 kN/m²)

3 Building width is in the direction of horizontal framing members supported by the wall *studs*.

50
KSI

Table E3-16b
Stud Thickness
All Building Widths
Gable Endwalls 8, 9 or 10 Feet in Height [1,2,3]
F_y = 50 ksi

Wind Speed		Member Size	Stud Spacing (inch)	Minimum Stud Thickness (Mils)		
Exp. B	Exp. C			8-Foot Studs	9-Foot Studs	10-Foot Studs
85 mph		350S162	16	33	33	33
			24	33	33	33
		550S162	16	33	33	33
			24	33	33	33
90 mph		350S162	16	33	33	33
			24	33	33	33
		550S162	16	33	33	33
			24	33	33	33
100 mph	85 mph	350S162	16	33	33	33
			24	33	33	33
		550S162	16	33	33	33
			24	33	33	33
110 mph	90 mph	350S162	16	33	33	33
			24	33	33	43
		550S162	16	33	33	33
			24	33	33	33
120 mph	100 mph	350S162	16	33	33	33
			24	33	33	43
		550S162	16	33	33	33
			24	33	33	33
130 mph	110 mph	350S162	16	33	33	33
			24	33	43	54
		550S162	16	33	33	33
			24	33	33	33
140 mph	120 mph	350S162	16	33	33	43
			24	43	43	68
		550S162	16	33	33	33
			24	33	33	43
150 mph	130 mph	350S162	16	33	43	54
			24	43	54	68
		550S162	16	33	33	33
			24	33	33	43
	140 mph	350S162	16	43	43	54
			24	54	68	97
		550S162	16	33	33	33
			24	33	43	54
	150 mph	350S162	16	43	54	68
			24	54	68	97
		550S162	16	33	33	43
			24	43	43	54

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m², 1 mph = 1.61 km/hr, 1 foot = 0.305 m

1 Deflection criteria: L/240

2 Design load assumptions:
Roof and ceiling dead load is 12 psf (0.58 kN/m²)
Floor dead load is 10 psf (0.48 kN/m²)
Ground snow load is 70 psf (3.35 kN/m²)
Floor live load is 40 psf (1.92 kN/m²)

3 Building width is in the direction of horizontal framing members supported by the wall *studs*.

33
KSI

Table E3-17a
Stud Thickness
All Building Widths
Gable Endwalls Over 10 Feet in Height [1,2,3]
F_y = 33 ksi

Wind Speed		Member Size	Stud Spacing (inch)	Minimum Stud Thickness (Mils)					
				Stud Height, h (feet)					
Exp. B	Exp. C			10 < h ≤ 12	12 < h ≤ 14	14 < h ≤ 16	16 < h ≤ 18	18 < h ≤ 20	20 < h ≤ 22
85 mph		350S162	16	33	43	54	97	-	-
			24	43	54	97	-	-	-
		550S162	16	33	33	33	43	43	54
			24	33	33	43	54	68	97
90 mph		350S162	16	33	43	68	97	-	-
			24	43	68	97	-	-	-
		550S162	16	33	33	33	43	54	54
			24	33	33	43	54	68	97
100 mph	85 mph	350S162	16	43	54	97	-	-	-
			24	54	97	-	-	-	-
		550S162	16	33	33	43	54	54	68
			24	33	43	54	68	97	97
110 mph	90 mph	350S162	16	43	68	-	-	-	-
			24	68	-	-	-	-	-
		550S162	16	33	43	43	54	68	97
			24	43	54	68	97	97	-
120 mph	100 mph	350S162	16	54	97	-	-	-	-
			24	97	-	-	-	-	-
		550S162	16	33	43	54	68	97	-
			24	43	68	97	97	-	-
130 mph	110 mph	350S162	16	68	97	-	-	-	-
			24	97	-	-	-	-	-
		550S162	16	43	54	68	97	97	-
			24	54	68	97	-	-	-
140 mph	120 mph	350S162	16	68	-	-	-	-	-
			24	-	-	-	-	-	-
		550S162	16	43	54	97	97	-	-
			24	68	97	97	-	-	-
150 mph	130 mph	350S162	16	97	-	-	-	-	-
			24	-	-	-	-	-	-
		550S162	16	54	68	97	97	-	-
			24	97	97	-	-	-	-
	140 mph	350S162	16	97	-	-	-	-	-
			24	-	-	-	-	-	-
		550S162	16	68	97	97	-	-	-
			24	97	97	-	-	-	-
	150 mph	350S162	16	-	-	-	-	-	-
			24	-	-	-	-	-	-
		550S162	16	68	97	-	-	-	-
			24	97	-	-	-	-	-

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m², 1 mph = 1.61 km/hr, 1 foot = 0.305 m

1 Deflection criteria: L/240

2 Design load assumptions:
Roof/ceiling dead load is 12 psf (0.58 kN/m²)
Ground snow load is 70 psf (3.35 kN/m²)

3 Building width is in the direction of horizontal framing members supported by the wall *studs*.

50 KSI

Table E3-17b
Stud Thickness
All Building Widths
Gable Endwalls Over 10 Feet in Height [1,2,3]
F_y = 50 ksi

Wind Speed		Member Size	Stud Spacing (inch)	Minimum Stud Thickness (Mils)					
				Stud Height, h (feet)					
Exp. B	Exp. C			10 < h ≤ 12	12 < h ≤ 14	14 < h ≤ 16	16 < h ≤ 18	18 < h ≤ 20	20 < h ≤ 22
85 mph		350S162	16	33	43	54	97	-	-
			24	33	54	97	-	-	-
		550S162	16	33	33	33	33	43	54
			24	33	33	33	43	54	97
90 mph		350S162	16	33	43	68	97	-	-
			24	43	68	97	-	-	-
		550S162	16	33	33	33	33	43	54
			24	33	33	43	43	68	97
100 mph	85 mph	350S162	16	33	54	97	-	-	-
			24	54	97	-	-	-	-
		550S162	16	33	33	33	43	54	68
			24	33	33	43	54	97	97
110 mph	90 mph	350S162	16	43	68	-	-	-	-
			24	68	-	-	-	-	-
		550S162	16	33	33	43	43	68	97
			24	33	43	54	68	97	-
120 mph	100 mph	350S162	16	54	97	-	-	-	-
			24	97	-	-	-	-	-
		550S162	16	33	33	43	54	97	-
			24	43	54	54	97	-	-
130 mph	110 mph	350S162	16	54	97	-	-	-	-
			24	97	-	-	-	-	-
		550S162	16	33	43	54	68	97	-
			24	43	54	68	97	-	-
140 mph	120 mph	350S162	16	68	-	-	-	-	-
			24	-	-	-	-	-	-
		550S162	16	43	43	54	97	-	-
			24	54	54	97	-	-	-
150 mph	130 mph	350S162	16	97	-	-	-	-	-
			24	-	-	-	-	-	-
		550S162	16	43	54	68	97	-	-
			24	54	68	97	-	-	-
	140 mph	350S162	16	97	-	-	-	-	-
			24	-	-	-	-	-	-
		550S162	16	43	54	97		-	-
			24	68	68		-	-	-
	150 mph	350S162	16	-	-	-	-	-	-
			24	-	-	-	-	-	-
		550S162	16	54	68	97	-	-	-
			24	68	97	-	-	-	-

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 mph = 1.61 km/hr, 1 foot = 0.305 m

1 Deflection criteria: L/240

2 Design load assumptions:
Roof/ceiling dead load is 12 psf (0.58 kN/m^2)
Ground snow load is 70 psf (3.35 kN/m^2)

3 Building width is in the direction of horizontal framing members supported by the wall *studs*.

Table E3-18
Wall Fastening Schedule

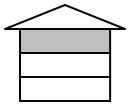
Connection	Number & Type of Fasteners	Spacing of Fasteners
Stud to top or bottom *track*	2 No.8 screws	Each end of *stud*, one per *flange*
Structural sheathing (oriented strand board or plywood) to framing	No.8 screws[1]	6" on edges 12" on intermediate supports
1/2" Gypsum board to framing	No.6 screws	12" o.c.

For SI: 1 inch = 25.4 mm

[1] Screws for attachment of *structural sheathing* panels are to be bugle-head, flat-head, or similar head styles with a minimum head diameter of 0.29 inches (8 mm).

33 KSI

Table E7-1a
Box-Beam Header Spans
Headers Supporting Roof and Ceiling Only [1,2]
F_y = 33 ksi



Member Designation	20 psf Ground Snow Load					30 psf Ground Snow Load				
	Building Width[3]					Building Width[3]				
	24'	28'	32'	36'	40'	24'	28'	32'	36'	40'
2-350S162-33	3'-3"	2'-8"	2'-2"	-	-	2'-8"	2'-2"	-	-	-
2-350S162-43	4'-2"	3'-9"	3'-4"	2'-11"	2'-7"	3'-9"	3'-4"	2'-11"	2'-7"	2'-2"
2-350S162-54	5'-0"	4'-6"	4'-1"	3'-8"	3'-4"	4'-6"	4'-1"	3'-8"	3'-3"	3'-0"
2-350S162-68	5'-7"	5'-1"	4'-7"	4'-3"	3'-10"	5'-1"	4'-7"	4'-2"	3'-10"	3'-5"
2-350S162-97	7'-1"	6'-6"	6'-1"	5'-8"	5'-3"	6'-7"	6'-1"	5'-7"	5'-3"	4'-11"
2-550S162-33	4'-8"	4'-0"	3'-6"	3'-0"	2'-6"	4'-1"	3'-6"	3'-0"	2'-6"	-
2-550S162-43	6'-0"	5'-4"	4'-10"	4'-4"	3'-11"	5'-5"	4'-10"	4'-4"	3'-10"	3'-5"
2-550S162-54	7'-0"	6'-4"	5'-9"	5'-4"	4'-10"	6'-5"	5'-9"	5'-3"	4'-10"	4'-5"
2-550S162-68	8'-0"	7'-4"	6'-9"	6'-3"	5'-10"	7'-5"	6'-9"	6'-3"	5'-9"	5'-4"
2-550S162-97	9'-11"	9'-2"	8'-6"	8'-0"	7'-6"	9'-3"	8'-6"	8'-0"	7'-5"	7'-0"
2-800S162-33	4'-5"	3'-11"	3'-5"	3'-1"	2'-10"	3'-11"	3'-6"	3'-1"	2'-9"	2'-3"
2-800S162-43	7'-3"	6'-7"	5'-11"	5'-4"	4'-10"	6'-7"	5'-11"	5'-4"	4'-9"	4'-3"
2-800S162-54	8'-10"	8'-0"	7'-4"	6'-9"	6'-2"	8'-1"	7'-4"	6'-8"	6'-1"	5'-7"
2-800S162-68	10'-5"	9'-7"	8'-10"	8'-2"	7'-7"	9'-8"	8'-10"	8'-1"	7'-6"	7'-0"
2-800S162-97	13'-1"	12'-1"	11'-3"	10'-7"	10'-0"	12'-2"	11'-4"	10'-6"	10'-0"	9'-4"
2-1000S162-43	7'-10"	6'-10"	6'-1"	5'-6"	5'-0"	6'-11"	6'-1"	5'-5"	4'-11"	4'-6"
2-1000S162-54	10'-0"	9'-1"	8'-3"	7'-7"	7'-0"	9'-2"	8'-4"	7'-7"	6'-11"	6'-4"
2-1000S162-68	11'-11"	10'-11"	10'-1"	9'-4"	8'-8"	11'-0"	10'-1"	9'-3"	8'-7"	8'-0"
2-1000S162-97	15'-3"	14'-3"	13'-5"	12'-6"	11'-10"	14'-4"	13'-5"	12'-6"	11'-9"	11'-0"
2-1200S162-54	11'-1"	10'-0"	9'-2"	8'-5"	7'-9"	10'-1"	9'-2"	8'-4"	7'-7"	7'-0"
2-1200S162-68	13'-3"	12'-1"	11'-2"	10'-4"	9'-7"	12'-3"	11'-2"	10'-3"	9'-6"	8'-10"
2-1200S162-97	16'-8"	15'-7"	14'-8"	13'-11"	13'-3"	15'-8"	14'-8"	13'-11"	13'-2"	12'-6"

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 foot = 0.305 m

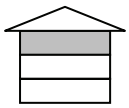
[1] Deflection criteria: L/360 for live loads, L/240 for total loads

[2] Design load assumptions: Roof/ceiling dead load is 12 psf (0.58 kN/m^2)

[3] Building width is in the direction of horizontal framing members supported by the *header*.

50
KSI

Table E7-1b
Box-Beam Header Spans
Headers Supporting Roof and Ceiling Only [1,2]
F_y = 50 ksi



Member Designation	20 psf Ground Snow Load					30 psf Ground Snow Load				
	Building Width[3]					Building Width[3]				
	24'	28'	32'	36'	40'	24'	28'	32'	36'	40'
2-350S162-33	4'-4"	3'-11"	3'-6"	3'-2"	2'-10"	3'-11"	3'-6"	3'-1"	2'-9"	2'-5"
2-350S162-43	5'-6"	5'-0"	4'-7"	4'-2"	3'-10"	5'-0"	4'-7"	4'-2"	3'-10"	3'-6"
2-350S162-54	6'-2"	5'-10"	5'-8"	5'-3"	4'-10"	5'-11"	5'-8"	5'-2"	4'-10"	4'-6"
2-350S162-68	6'-7"	6'-3"	6'-0"	5'-10"	5'-8"	6'-4"	6'-1"	5'-10"	5'-8"	5'-6"
2-350S162-97	7'-3"	6'-11"	6'-8"	6'-5"	6'-3"	7'-0"	6'-8"	6'-5"	6'-3"	6'-0"
2-550S162-33	6'-2"	5'-6"	5'-0"	4'-7"	4'-2"	5'-7"	5'-0"	4'-6"	4'-1"	3'-8"
2-550S162-43	7'-9"	7'-2"	6'-7"	6'-1"	5'-8"	7'-3"	6'-7"	6'-1"	5'-7"	5'-2"
2-550S162-54	8'-9"	8'-5"	8'-1"	7'-9"	7'-3"	8'-6"	8'-1"	7'-8"	7'-2"	6'-8"
2-550S162-68	9'-5"	9'-0"	8'-8"	8'-4"	8'-1"	9'-1"	8'-8"	8'-4"	8'-1"	7'-10"
2-550S162-97	10'-5"	10'-0"	9'-7"	9'-3"	9'-0"	10'-0"	9'-7"	9'-3"	8'-11"	8'-8"
2-800S162-33	4'-5"	3'-11"	3'-5"	3'-1"	2'-10"	3'-11"	3'-6"	3'-1"	2'-9"	2'-6"
2-800S162-43	9'-1"	8'-5"	7'-8"	6'-11"	6'-3"	8'-6"	7'-8"	6'-10"	6'-2"	5'-8"
2-800S162-54	10'-10"	10'-2"	9'-7"	9'-0"	8'-5"	10'-2"	9'-7"	8'-11"	8'-4"	7'-9"
2-800S162-68	12'-8"	11'-10"	11'-2"	10'-7"	10'-1"	11'-11"	11'-2"	10'-7"	10'-0"	9'-6"
2-800S162-97	14'-2"	13'-6"	13'-0"	12'-7"	12'-2"	13'-8"	13'-1"	12'-7"	12'-2"	11'-9"
2-1000S162-43	7'-10"	6'-10"	6'-1"	5'-6"	5'-0"	6'-11"	6'-1"	5'-5"	4'-11"	4'-6"
2-1000S162-54	12'-3"	11'-5"	10'-9"	10'-2"	9'-6"	11'-6"	10'-9"	10'-1"	9'-5"	8'-9"
2-1000S162-68	14'-5"	13'-5"	12'-8"	12'-0"	11'-6"	13'-6"	12'-8"	12'-0"	11'-5"	10'-10"
2-1000S162-97	17'-1"	16'-4"	15'-8"	14'-11"	14'-3"	16'-5"	15'-9"	14'-10"	14'-1"	13'-6"
2-1200S162-54	12'-11"	11'-3"	10'-0"	9'-0"	8'-2"	11'-5"	10'-0"	9'-0"	8'-1"	7'-4"
2-1200S162-68	15'-11"	14'-10"	14'-0"	13'-4"	12'-8"	15'-0"	14'-0"	13'-3"	12'-7"	11'-11"
2-1200S162-97	19'-11"	18'-7"	17'-6"	16'-8"	15'-10"	18'-9"	17'-7"	16'-7"	15'-9"	15'-0"

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 foot = 0.305 m

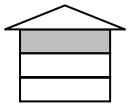
[1] Deflection criteria: L/360 for live loads, L/240 for total loads

[2] Design load assumptions: Roof/ceiling dead load is 12 psf (0.58 kN/m^2)

[3] Building width is in the direction of horizontal framing members supported by the *header*.

33
KSI

Table E7-2a
Box-Beam Header Spans
Headers Supporting Roof and Ceiling Only [1,2]
F_y = 33 ksi



Member Designation	50 psf Ground Snow Load					70 psf Ground Snow Load				
	Building Width[3]					Building Width[3]				
	24'	28'	32'	36'	40'	24'	28'	32'	36'	40'
2-350S162-33	-	-	-	-	-	-	-	-	-	-
2-350S162-43	2'-4"	-	-	-	-	-	-	-	-	-
2-350S162-54	3'-1"	2'-8"	2'-3"	-	-	2'-1"	-	-	-	-
2-350S162-68	3'-7"	3'-2"	2'-8"	2'-3"	-	2'-6"	-	-	-	-
2-350S162-97	5'-1"	4'-7"	4'-3"	3'-11"	3'-7"	4'-1"	3'-8"	3'-4"	3'-0"	2'-8"
2-550S162-33	2'-2"	-	-	-	-	-	-	-	-	-
2-550S162-43	3'-8"	3'-1"	2'-6"	-	-	2'-3"	-	-	-	-
2-550S162-54	4'-7"	4'-0"	3'-6"	3'-0"	2'-6"	3'-3"	2'-8"	2'-1"	-	-
2-550S162-68	5'-6"	4'-11"	4'-5"	3'-11"	3'-6"	4'-3"	3'-8"	3'-1"	2'-7"	2'-1"
2-550S162-97	7'-3"	6'-7"	6'-1"	5'-8"	5'-3"	5'-11"	5'-4"	4'-11"	4'-6"	4'-1"
2-800S162-33	2'-7"	-	-	-	-	-	-	-	-	-
2-800S162-43	4'-6"	3'-9"	3'-1"	2'-5"	-	2'-10"	-	-	-	-
2-800S162-54	5'-10"	5'-1"	4'-6"	3'-11"	3'-4"	4'-3"	3'-6"	2'-9"	-	-
2-800S162-68	7'-2"	6'-6"	5'-10"	5'-3"	4'-8"	5'-7"	4'-10"	4'-2"	3'-7"	2'-11"
2-800S162-97	9'-7"	8'-9"	8'-2"	7'-7"	7'-0"	7'-11"	7'-2"	6'-7"	6'-0"	5'-7"
2-1000S162-43	4'-8"	4'-1"	3'-6"	2'-9"	-	3'-3"	2'-2"	-	-	-
2-1000S162-54	6'-7"	5'-10"	5'-1"	4'-5"	3'-9"	4'-10"	4'-0"	3'-2"	2'-3"	-
2-1000S162-68	8'-3"	7'-5"	6'-8"	6'-0"	5'-5"	6'-5"	5'-7"	4'-9"	4'-1"	3'-5"
2-1000S162-97	11'-4"	10'-5"	9'-8"	9'-0"	8'-5"	9'-5"	8'-6"	7'-10"	7'-2"	6'-7"
2-1200S162-54	7'-3"	6'-5"	5'-7"	4'-10"	4'-2"	5'-4"	4'-4"	3'-5"	2'-5"	-
2-1200S162-68	9'-2"	8'-2"	7'-5"	6'-8"	6'-0"	7'-1"	6'-2"	5'-4"	4'-6"	3'-9"
2-1200S162-97	12'-10"	11'-9"	10'-11"	10'-2"	9'-6"	10'-7"	9'-8"	8'-10"	8'-2"	7'-6"

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 foot = 0.305 m

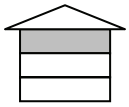
[1] Deflection criteria: L/360 for live loads, L/240 for total loads

[2] Design load assumptions: Roof/ceiling dead load is 12 psf (0.58 kN/m^2)

[3] Building width is in the direction of horizontal framing members supported by the *header*.

50
KSI

Table E7-2b
Box-Beam Header Spans
Headers Supporting Roof and Ceiling Only [1,2]
F_y = 50 ksi



Member Designation	50 psf Ground Snow Load					70 psf Ground Snow Load				
	Building Width[3]					Building Width[3]				
	24'	28'	32'	36'	40'	24'	28'	32'	36'	40'
2-350S162-33	2'-7"	2'-2"	-	-	-	-	-	-	-	-
2-350S162-43	3'-8"	3'-3"	2'-10"	2'-6"	2'-1"	2'-8"	2'-3"	-	-	-
2-350S162-54	4'-8"	4'-2"	3'-9"	3'-5"	3'-1"	3'-7"	3'-2"	2'-9"	2'-5"	2'-0"
2-350S162-68	5'-7"	5'-2"	4'-9"	4'-4"	3'-11"	4'-7"	4'-1"	3'-7"	3'-2"	2'-10"
2-350S162-97	6'-2"	5'-11"	5'-8"	5'-6"	5'-4"	5'-8"	5'-5"	5'-3"	4'-11"	4'-7"
2-550S162-33	3'-11"	3'-4"	2'-10"	2'-4"	-	2'-7"	-	-	-	-
2-550S162-43	5'-4"	4'-10"	4'-4"	3'-10"	3'-5"	4'-2"	3'-7"	3'-1"	2'-7"	2'-1"
2-550S162-54	6'-11"	6'-3"	5'-9"	5'-3"	4'-9"	5'-6"	4'-11"	4'-5"	3'-11"	3'-5"
2-550S162-68	8'-0"	7'-6"	6'-11"	6'-5"	5'-11"	6'-9"	6'-1"	5'-6"	5'-0"	4'-7"
2-550S162-97	8'-11"	8'-6"	8'-2"	7'-11"	7'-8"	8'-1"	7'-9"	7'-6"	7'-1"	6'-7"
2-800S162-33	2'-8"	2'-4"	2'-1"	1'-11"	1'-9"	2'-0"	1'-9"	-	-	-
2-800S162-43	5'-10"	5'-2"	4'-7"	4'-2"	3'-10"	4'-5"	3'-11"	3'-6"	3'-0"	2'-6"
2-800S162-54	8'-0"	7'-3"	6'-8"	6'-1"	5'-7"	6'-5"	5'-9"	5'-1"	4'-7"	4'-0"
2-800S162-68	9'-9"	9'-0"	8'-3"	7'-8"	7'-1"	8'-0"	7'-3"	6'-7"	6'-0"	5'-6"
2-800S162-97	12'-1"	11'-7"	11'-2"	10'-8"	10'-2"	11'-0"	10'-4"	9'-9"	9'-2"	8'-7"
2-1000S162-43	4'-8"	4'-1"	3'-8"	3'-4"	3'-0"	3'-6"	3'-1"	2'-9"	2'-6"	2'-3"
2-1000S162-54	9'-1"	8'-2"	7'-3"	6'-7"	6'-0"	7'-0"	6'-2"	5'-6"	5'-0"	4'-6"
2-1000S162-68	11'-1"	10'-2"	9'-5"	8'-8"	8'-1"	9'-1"	8'-3"	7'-6"	6'-10"	6'-3"
2-1000S162-97	13'-9"	12'-11"	12'-2"	11'-7"	11'-1"	11'-11"	11'-3"	10'-7"	9'-11"	9'-4"
2-1200S162-54	7'-8"	6'-9"	6'-1"	5'-6"	5'-0"	5'-10"	5'-1"	4'-7"	4'-1"	3'-9"
2-1200S162-68	12'-3"	11'-3"	10'-4"	9'-7"	8'-11"	10'-1"	9'-1"	8'-3"	7'-6"	6'-10"
2-1200S162-97	15'-4"	14'-5"	13'-7"	12'-11"	12'-4"	13'-4"	12'-6"	11'-10"	11'-1"	10'-5"

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 foot = 0.305 m

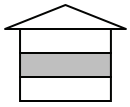
[1] Deflection criteria: L/360 for live loads, L/240 for total loads

[2] Design load assumptions: Roof/ceiling dead load is 12 psf (0.58 kN/m^2)

[3] Building width is in the direction of horizontal framing members supported by the *header*.

33 KSI

Table E7-3a
Box-Beam Header Spans
Headers Supporting One Floor, Roof and Ceiling [1,2]
F_y = 33 ksi



Member Designation	20 psf Ground Snow Load					30 psf Ground Snow Load				
	Building Width[3]					Building Width[3]				
	24'	28'	32'	36'	40'	24'	28'	32'	36'	40'
2-350S162-33	-	-	-	-	-	-	-	-	-	-
2-350S162-43	2'-2"	-	-	-	-	2'-1"	-	-	-	-
2-350S162-54	2'-11"	2'-5"	-	-	-	2'-10"	2'-4"	-	-	-
2-350S162-68	3'-8"	3'-2"	2'-9"	2'-4"	-	3'-7"	3'-1"	2'-8"	2'-3"	-
2-350S162-97	4'-11"	4'-5"	4'-2"	3'-8"	3'-5"	4'-10"	4'-5"	4'-0"	3'-8"	3'-4"
2-550S162-33	-	-	-	-	-	-	-	-	-	-
2-550S162-43	3'-5"	2'-9"	2'-1"	-	-	3'-3"	2'-7"	-	-	-
2-550S162-54	4'-4"	3'-9"	3'-2"	2'-7"	2'-1"	4'-3"	3'-7"	3'-1"	2'-6"	-
2-550S162-68	5'-3"	4'-8"	4'-1"	3'-7"	3'-2"	5'-2"	4'-7"	4'-0"	3'-6"	3'-1"
2-550S162-97	7'-0"	6'-5"	5'-10"	5'-5"	5'-0"	6'-11"	6'-4"	5'-9"	5'-4"	4'-11"
2-800S162-33	2'-1"	-	-	-	-	-	-	-	-	-
2-800S162-43	4'-2"	3'-4"	2'-7"	-	-	4'-0"	3'-3"	2'-5"	-	-
2-800S162-54	5'-6"	4'-9"	4'-1"	3'-5"	2'-9"	5'-5"	4'-8"	3'-11"	3'-3"	2'-8"
2-800S162-68	6'-11"	6'-2"	5'-5"	4'-10"	4'-3"	6'-9"	6'-0"	5'-4"	4'-8"	4'-1"
2-800S162-97	9'-4"	8'-6"	7'-10"	7'-3"	6'-8"	9'-2"	8'-4"	7'-8"	7'-1"	6'-7"
2-1000S162-43	4'-4"	3'-9"	2'-11"	-	-	4'-3"	3'-8"	2'-9"	-	-
2-1000S162-54	6'-3"	5'-5"	4'-7"	3'-11"	3'-2"	6'-1"	5'-3"	4'-6"	3'-9"	3'-0"
2-1000S162-68	7'-11"	7'-0"	6'-3"	5'-6"	4'-10"	7'-9"	6'-10"	6'-1"	5'-4"	4'-9"
2-1000S162-97	11'-0"	10'-1"	9'-3"	8'-7"	8'-0"	10'-11"	9'-11"	9'-2"	8'-5"	7'-10"
2-1200S162-54	6'-11"	5'-11"	5'-1"	4'-3"	3'-5"	6'-9"	5'-9"	4'-11"	4'-1"	3'-3"
2-1200S162-68	8'-9"	7'-9"	6'-11"	6'-1"	5'-4"	8'-7"	7'-7"	6'-9"	5'-11"	5'-3"
2-1200S162-97	12'-4"	11'-5"	10'-6"	9'-8"	9'-0"	12'-3"	11'-3"	10'-4"	9'-6"	8'-10"

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 foot = 0.305 m

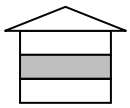
[1] Deflection criteria: L/360 for live loads, L/240 for total loads

[2] Design load assumptions:
Second floor dead load is 10 psf (0.48 kN/m^2)
Roof/ceiling dead load is 12 psf (0.58 kN/m^2)
Second floor live load is 30 psf (1.44 kN/m^2)

[3] Building width is in the direction of horizontal framing members supported by the *header*.

50
KSI

Table E7-3b
Box-Beam Header Spans
Headers Supporting One Floor, Roof and Ceiling [1,2]
F_y = 50 ksi



Member Designation	20 psf Ground Snow Load					30 psf Ground Snow Load				
	Building Width[3]					Building Width[3]				
	24'	28'	32'	36'	40'	24'	28'	32'	36'	40'
2-350S162-33	2'-4"	-	-	-	-	2'-3"	-	-	-	-
2-350S162-43	3'-4"	2'-11"	2'-6"	2'-1"	-	3'-3"	2'-10"	2'-5"	2'-0"	-
2-350S162-54	4'-4"	3'-10"	3'-5"	3'-1"	2'-9"	4'-3"	2'-9"	3'-4"	3'-0"	2'-8"
2-350S162-68	5'-0"	4'-9"	4'-7"	4'-2"	3'-9"	4'-11"	4'-8"	4'-6"	4'-1"	3'-9"
2-350S162-97	5'-6"	5'-3"	5'-1"	4'-11"	2'-9"	5'-5"	5'-2"	5'-0"	4'-10"	4'-8"
2-550S162-33	3'-6"	2'-11"	2'-4"	-	-	3'-5"	2'-10"	2'-3"	-	-
2-550S162-43	5'-0"	4'-5"	3'-11"	3'-5"	3'-0"	4'-11"	4'-4"	3'-10"	3'-4"	2'-11"
2-550S162-54	6'-6"	5'-10"	5'-3"	4'-9"	4'-4"	6'-4"	5'-9"	5'-2"	4'-8"	4'-3"
2-550S162-68	7'-2"	6'-10"	6'-5"	5'-11"	5'-6"	7'-0"	6'-9"	6'-4"	5'-10"	5'-4"
2-550S162-97	7'-11"	7'-7"	7'-3"	7'-0"	6'-10"	7'-9"	7'-5"	7'-2"	6'-11"	6'-9"
2-800S162-33	2'-5"	2'-2"	1'-11"	1'-9"	-	2'-5"	2'-1"	1'-10"	1'-8"	-
2-800S162-43	5'-5"	4'-9"	4'-3"	3'-9"	3'-5"	5'-3"	4'-8"	4'-1"	3'-9"	3'-5"
2-800S162-54	7'-6"	6'-9"	6'-2"	5'-7"	5'-0"	7'-5"	6'-8"	6'-0"	5'-5"	4'-11"
2-800S162-68	9'-3"	8'-5"	7'-8"	7'-1"	6'-6"	9'-1"	8'-3"	7'-7"	7'-0"	6'-5"
2-800S162-97	10'-9"	10'-3"	9'-11"	9'-7"	9'-3"	10'-7"	10'-1"	9'-9"	9'-5"	9'-1"
2-1000S162-43	4'-4"	3'-9"	3'-4"	3'-0"	2'-9"	4'-3"	3'-8"	3'-3"	2'-11"	2'-8"
2-1000S162-54	8'-6"	7'-6"	6'-8"	6'-0"	5'-5"	8'-4"	7'-4"	6'-6"	5'-10"	5'-4"
2-1000S162-68	10'-6"	9'-7"	8'-9"	8'-0"	7'-5"	10'-4"	9'-5"	8'-7"	7'-11"	7'-3"
2-1000S162-97	12'-11"	12'-4"	11'-8"	11'-1"	10'-6"	12'-9"	12'-2"	11'-6"	10'-11"	10'-5"
2-1200S162-54	7'-1"	6'-2"	5'-6"	5'-0"	4'-6"	6'-11"	6'-1"	5'-5"	4'-10"	4'-5"
2-1200S162-68	11'-7"	10'-7"	9'-8"	8'-11"	8'-2"	11'-5"	10'-5"	9'-6"	8'-9"	8'-0"
2-1200S162-97	14'-9"	13'-9"	13'-0"	12'-4"	11'-9"	14'-7"	13'-8"	12'-10"	12'-3"	11'-8"

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 foot = 0.305 m

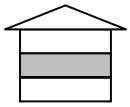
[1] Deflection criteria: L/360 for live loads, L/240 for total loads

[2] Design load assumptions:
Second floor dead load is 10 psf (0.48 kN/m^2)
Roof/ceiling dead load is 12 psf (0.58 kN/m^2)
Second floor live load is 30 psf (1.44 kN/m^2)

[3] Building width is in the direction of horizontal framing members supported by the *header*.

33 KSI

Table E7-4a
Box-Beam Header Spans
Headers Supporting One Floor, Roof and Ceiling [1,2]
F_y = 33 ksi



Member Designation	50 psf Ground Snow Load					70 psf Ground Snow Load				
	Building Width[3]					Building Width[3]				
	24'	28'	32'	36'	40'	24'	28'	32'	36'	40'
2-350S162-33	-	-	-	-	-	-	-	-	-	-
2-350S162-43	-	-	-	-	-	-	-	-	-	-
2-350S162-54	-	-	-	-	-	-	-	-	-	-
2-350S162-68	2'-8"	2'-3"	-	-	-	-	-	-	-	-
2-350S162-97	4'-0"	3'-7"	3'-3"	2'-11"	2'-7"	3'-4"	2'-11"	2'-6"	2'-2"	-
2-550S162-33	-	-	-	-	-	-	-	-	-	-
2-550S162-43	2'-0"	-	-	-	-	-	-	-	-	-
2-550S162-54	3'-1"	2'-6"	-	-	-	-	-	-	-	-
2-550S162-68	4'-1"	3'-6"	2'-11"	2'-5"	-	3'-1"	2'-5"	-	-	-
2-550S162-97	5'-10"	5'-3"	4'-10"	4'-5"	4'-0"	4'-11"	4'-5"	3'-11"	3'-6"	3'-2"
2-800S162-33	-	-	-	-	-	-	-	-	-	-
2-800S162-43	2'-6"	-	-	-	-	-	-	-	-	-
2-800S162-54	4'-0"	3'-3"	2'-6"	-	-	2'-8"	-	-	-	-
2-800S162-68	5'-5"	4'-8"	4'-0"	3'-4"	2'-8"	4'-2"	3'-4"	2'-6"	-	-
2-800S162-97	7'-9"	7'-1"	6'-6"	5'-11"	5'-5"	6'-7"	5'-11"	5'-4"	4'-10"	4'-4"
2-1000S162-43	2'-10"	-	-	-	-	-	-	-	-	-
2-1000S162-54	4'-7"	3'-8"	2'-9"	-	-	3'-0"	-	-	-	-
2-1000S162-68	6'-2"	5'-4"	4'-7"	3'-10"	3'-1"	4'-9"	3'-10"	2'-11"	-	-
2-1000S162-97	9'-3"	8'-5"	7'-8"	7'-1"	6'-6"	7'-10"	7'-1"	6'-5"	5'-9"	5'-2"
2-1200S162-54	5'-0"	4'-0"	3'-1"	-	-	3'-4"	-	-	-	-
2-1200S162-68	6'-10"	5'-11"	5'-0"	4'-3"	3'-5"	5'-3"	4'-3"	3'-2"	-	-
2-1200S162-97	10'-5"	9'-6"	8'-8"	8'-0"	7'-4"	8'-10"	8'-0"	7'-3"	6'-6"	5'-10"

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 foot = 0.305 m

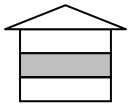
[1] Deflection criteria: L/360 for live loads, L/240 for total loads

[2] Design load assumptions:
Second floor dead load is 10 psf (0.48 kN/m^2)
Roof/ceiling dead load is 12 psf (0.58 kN/m^2)
Second floor live load is 30 psf (1.44 kN/m^2)

[3] Building width is in the direction of horizontal framing members supported by the *header*.

50
KSI

Table E7-4b
Box-Beam Header Spans
Headers Supporting One Floor, Roof and Ceiling [1,2]
F_y = 50 ksi



Member Designation	50 psf Ground Snow Load					70 psf Ground Snow Load				
	Building Width[3]					Building Width[3]				
	24'	28'	32'	36'	40'	24'	28'	32'	36'	40'
2-350S162-33	-	-	-	-	-	-	-	-	-	-
2-350S162-43	2'-6"	-	-	-	-	-	-	-	-	-
2-350S162-54	3'-5"	3'-0"	2'-7"	2'-2"	-	2'-8"	2'-2"	-	-	-
2-350S162-68	4'-6"	4'-1"	3'-8"	3'-3"	2'-11"	3'-9"	3'-3"	2'-10"	2'-5"	2'-1"
2-350S162-97	5'-1"	4'-10"	4'-8"	4'-6"	4'-5"	4'-10"	4'-7"	4'-4"	4'-0"	3'-8"
2-550S162-33	2'-4"	-	-	-	-	-	-	-	-	-
2-550S162-43	3'-10"	3'-4"	2'-9"	2'-3"	-	2'-11"	2'-3"	-	-	-
2-550S162-54	5'-3"	3'-8"	4'-1"	3'-8"	3'-2"	4'-3"	3'-8"	3'-1"	2'-7"	2'-0"
2-550S162-68	6'-5"	5'-10"	5'-3"	4'-9"	4'-4"	5'-5"	4'-9"	4'-3"	3'-9"	3'-4"
2-550S162-97	7'-4"	7'-0"	6'-9"	6'-6"	6'-4"	6'-11"	6'-8"	6'-3"	5'-10"	5'-5"
2-800S162-33	1'-11"	1'-8"	-	-	-	-	-	-	-	-
2-800S162-43	4'-2"	3'-8"	3'-4"	2'-9"	2'-2"	3'-5"	2'-9"	-	-	-
2-800S162-54	6'-1"	5'-5"	4'-10"	4'-3"	3'-9"	4'-11"	4'-3"	3'-8"	3'-0"	2'-5"
2-800S162-68	7'-8"	6'-11"	6'-3"	5'-9"	5'-2"	6'-5"	5'-9"	5'-1"	4'-6"	4'-0"
2-800S162-97	9'-11"	9'-6"	9'-2"	8'-10"	8'-3"	9'-5"	8'-10"	8'-2"	7'-7"	7'-0"
2-1000S162-43	3'-4"	2'-11"	2'-7"	2'-5"	2'-2"	2'-8"	2'-5"	2'-2"	-	-
2-1000S162-54	6'-7"	5'-10"	5'-3"	4'-9"	4'-3"	5'-4"	4'-9"	4'-1"	3'-5"	2'-9"
2-1000S162-68	8'-8"	7'-10"	7'-2"	6'-6"	5'-11"	7'-4"	6'-6"	5'-9"	5'-1"	4'-6"
2-1000S162-97	11'-7"	10'-11"	10'-3"	9'-7"	9'-0"	10'-5"	9'-7"	8'-10"	8'-2"	7'-8"
2-1200S162-54	5'-6"	4'-10"	4'-4"	3'-11"	3'-7"	4'-5"	3'-11"	3'-6"	3'-2"	2'-11"
2-1200S162-68	9'-7"	8'-8"	7'-11"	7'-2"	6'-6"	8'-1"	7'-2"	6'-4"	5'-8"	5'-0"
2-1200S162-97	12'-11"	12'-2"	11'-6"	10'-8"	10'-0"	11'-8"	10'-9"	9'-11"	9'-2"	8'-6"

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 foot = 0.305 m

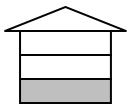
[1] Deflection criteria: L/360 for live loads, L/240 for total loads

[2] Design load assumptions:
Second floor dead load is 10 psf (0.48 kN/m^2)
Roof/ceiling dead load is 12 psf (0.58 kN/m^2)
Second floor live load is 30 psf (1.44 kN/m^2)

[3] Building width is in the direction of horizontal framing members supported by the *header*.

33 KSI

Table E7-5a
Box-Beam Header Spans
Headers Supporting Two Floors, Roof and Ceiling [1,2]
F_y = 33 ksi



Member Designation	20 psf Ground Snow Load					30 psf Ground Snow Load				
	Building Width[3]					Building Width[3]				
	24'	28'	32'	36'	40'	24'	28'	32'	36'	40'
2-350S162-33	-	-	-	-	-	-	-	-	-	-
2-350S162-43	-	-	-	-	-	-	-	-	-	-
2-350S162-54	-	-	-	-	-	-	-	-	-	-
2-350S162-68	-	-	-	-	-	-	-	-	-	-
2-350S162-97	3'-1"	2'-8"	2'-3"	-	-	3'-1"	2'-7"	2'-2"	-	-
2-550S162-33	-	-	-	-	-	-	-	-	-	-
2-550S162-43	-	-	-	-	-	-	-	-	-	-
2-550S162-54	-	-	-	-	-	-	-	-	-	-
2-550S162-68	2'-9"	-	-	-	-	2'-8"	-	-	-	-
2-550S162-97	4'-8"	4'-1"	3'-7"	3'-2"	2'-9"	4'-7"	4'-0"	3'-6"	3'-1"	2'-8"
2-800S162-33	-	-	-	-	-	-	-	-	-	-
2-800S162-43	-	-	-	-	-	-	-	-	-	-
2-800S162-54	2'-1"	-	-	-	-	-	-	-	-	-
2-800S162-68	3'-8"	2'-9"	-	-	-	3'-7"	2'-8"	-	-	-
2-800S162-97	6'-3"	5'-6"	4'-11"	4'-4"	3'-9"	6'-2"	5'-5"	4'-10"	4'-3"	3'-9"
2-1000S162-43	-	-	-	-	-	-	-	-	-	-
2-1000S162-54	2'-5"	-	-	-	-	2'-3"	-	-	-	-
2-1000S162-68	4'-3"	3'-2"	2'-0"	-	-	4'-2"	3'-1"	-	-	-
2-1000S162-97	7'-5"	6'-7"	5'-10"	5'-2"	4'-7"	7'-4"	6'-6"	5'-9"	5'-1"	4'-6"
2-1200S162-54	2'-7"	-	-	-	-	2'-6"	-	-	-	-
2-1200S162-68	4'-8"	3'-6"	2'-2"	-	-	4'-7"	3'-5"	2'-0"	-	-
2-1200S162-97	8'-5"	7'-5"	6'-7"	5'-10"	5'-2"	8'-3"	7'-4"	6'-6"	5'-9"	5'-1"

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 foot = 0.305 m

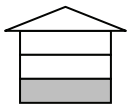
[1] Deflection criteria: L/360 for live loads, L/240 for total loads

[2] Design load assumptions:
Second and third floor dead load is 10 psf (0.48 kN/m^2)
Roof/ceiling dead load is 12 psf (0.58 kN/m^2)
Second floor live load is 40 psf (1.92 kN/m^2)
Third floor live load is 30 psf (1.44 kN/m^2)

[3] Building width is in the direction of horizontal framing members supported by the *header*.

50
KSI

Table E7-5b
Box-Beam Header Spans
Headers Supporting Two Floors, Roof and Ceiling [1,2]
F_y = 50 ksi



Member Designation	20 psf Ground Snow Load					30 psf Ground Snow Load				
	Building Width[3]					Building Width[3]				
	24'	28'	32'	36'	40'	24'	28'	32'	36'	40'
2-350S162-33	-	-	-	-	-	-	-	-	-	-
2-350S162-43	-	-	-	-	-	-	-	-	-	-
2-350S162-54	2'-5"	-	-	-	-	2'-4"	-	-	-	-
2-350S162-68	3'-6"	3'-0"	2'-6"	2'-1"	-	3'-5"	2'-11"	2'-6"	2'-0"	-
2-350S162-97	4'-9"	4'-6"	4'-1"	3'-8"	3'-4"	4'-8"	4'-5"	4'-0"	3'-8"	3'-4"
2-550S162-33	-	-	-	-	-	-	-	-	-	-
2-550S162-43	2'-7"	-	-	-	-	2'-6"	-	-	-	-
2-550S162-54	3'-11"	3'-3"	2'-8"	2'-0"	-	3'-10"	3'-3"	2'-7"	-	-
2-550S162-68	5'-1"	4'-5"	3'-10"	3'-3"	2'-9"	5'-0"	4'-4"	3'-9"	3'-3"	2'-9"
2-550S162-97	6'-10"	6'-5"	5'-10"	5'-5"	4'-11"	6'-9"	6'-4"	5'-10"	5'-4"	4'-11"
2-800S162-33	-	-	-	-	-	-	-	-	-	-
2-800S162-43	3'-1"	2'-3"	-	-	-	3'-0"	2'-2"	-	-	-
2-800S162-54	4'-7"	3'-10"	3'-1"	2'-5"	-	4'-6"	3'-9"	3'-0"	2'-4"	-
2-800S162-68	6'-0"	5'-3"	4'-7"	3'-11"	3'-4"	6'-0"	5'-2"	4'-6"	3'-11"	3'-3"
2-800S162-97	9'-2"	8'-4"	7'-8"	7'-0"	6'-6"	9'-1"	8'-3"	7'-7"	7'-0"	6'-5"
2-1000S162-43	2'-6"	2'-2"	-	-	-	2'-6"	2'-2"	-	-	-
2-1000S162-54	5'-0"	4'-4"	3'-6"	2'-9"	-	4'-11"	4'-3"	3'-5"	2'-7"	-
2-1000S162-68	6'-10"	6'-0"	5'-3"	4'-6"	3'-10"	6'-9"	5'-11"	5'-2"	4'-5"	3'-9"
2-1000S162-97	10'-0"	9'-1"	8'-3"	7'-8"	7'-0"	9'-10"	9'-0"	8'-3"	7'-7"	7'-0"
2-1200S162-54	4'-2"	3'-7"	3'-3"	2'-11"	-	4'-1"	3'-7"	3'-2"	2'-10"	-
2-1200S162-68	7'-7"	6'-7"	5'-9"	5'-0"	4'-2"	7'-6"	6'-6"	5'-8"	4'-10"	4'-1"
2-1200S162-97	11'-2"	10'-1"	9'-3"	8'-6"	7'-10"	11'-0"	10'-0"	9'-2"	8'-5"	7'-9"

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 foot = 0.305 m

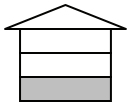
[1] Deflection criteria: L/360 for live loads, L/240 for total loads

[2] Design load assumptions:
Second and third floor dead load is 10 psf (0.48 kN/m^2)
Roof/ceiling dead load is 12 psf (0.58 kN/m^2)
Second floor live load is 40 psf (1.92 kN/m^2)
Third floor live load is 30 psf (1.44 kN/m^2)

[3] Building width is in the direction of horizontal framing members supported by the *header*.

33 KSI

Table E7-6a
Box-Beam Header Spans
Headers Supporting Two Floors, Roof and Ceiling [1,2]
F_y = 33 ksi



Member Designation	50 psf Ground Snow Load					70 psf Ground Snow Load				
	Building Width[3]					Building Width[3]				
	24'	28'	32'	36'	40'	24'	28'	32'	36'	40'
2-350S162-33	-	-	-	-	-	-	-	-	-	-
2-350S162-43	-	-	-	-	-	-	-	-	-	-
2-350S162-54	-	-	-	-	-	-	-	-	-	-
2-350S162-68	-	-	-	-	-	-	-	-	-	-
2-350S162-97	2'-11"	2'-5"	2'-0"	-	-	2'-7"	2'-2"	-	-	-
2-550S162-33	-	-	-	-	-	-	-	-	-	-
2-550S162-43	-	-	-	-	-	-	-	-	-	-
2-550S162-54	-	-	-	-	-	-	-	-	-	-
2-550S162-68	2'-5"	-	-	-	-	-	-	-	-	-
2-550S162-97	4'-4"	3'-10"	3'-4"	2'-10"	2'-5"	4'-0"	3'-6"	3'-1"	2'-7"	2'-2"
2-800S162-33	-	-	-	-	-	-	-	-	-	-
2-800S162-43	-	-	-	-	-	-	-	-	-	-
2-800S162-54	-	-	-	-	-	-	-	-	-	-
2-800S162-68	3'-3"	2'-3"	-	-	-	2'-8"	-	-	-	-
2-800S162-97	5'-11"	5'-2"	4'-6"	4'-0"	3'-5"	5'-6"	4'-10"	4'-3"	3'-8"	3'-2"
2-1000S162-43	-	-	-	-	-	-	-	-	-	-
2-1000S162-54	-	-	-	-	-	-	-	-	-	-
2-1000S162-68	3'-9"	2'-7"	-	-	-	3'-1"	-	-	-	-
2-1000S162-97	7'-0"	6'-2"	5'-5"	4'-9"	4'-2"	6'-6"	5'-9"	5'-1"	4'-5"	3'-10"
2-1200S162-54	-	-	-	-	-	-	-	-	-	-
2-1200S162-68	4'-2"	2'-10"	-	-	-	3'-5"	2'-0"	-	-	-
2-1200S162-97	7'-11"	7'-0"	6'-2"	5'-5"	4'-8"	7'-4"	6'-6"	5'-9"	5'-0"	4'-4"

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 foot = 0.305 m

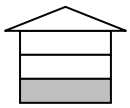
[1] Deflection criteria: L/360 for live loads, L/240 for total loads

[2] Design load assumptions:
Second and third floor dead load is 10 psf (0.48 kN/m^2)
Roof/ceiling dead load is 12 psf (0.58 kN/m^2)
Second floor live load is 40 psf (1.92 kN/m^2)
Third floor live load is 30 psf (1.44 kN/m^2)

[3] Building width is in the direction of horizontal framing members supported by the *header*.

50
KSI

Table E7-6b
Box-Beam Header Spans
Headers Supporting Two Floors, Roof and Ceiling [1,2]
F_y = 50 ksi



Member Designation	50 psf Ground Snow Load					70 psf Ground Snow Load				
	Building Width[3]					Building Width[3]				
	24'	28'	32'	36'	40'	24'	28'	32'	36'	40'
2-350S162-33	-	-	-	-	-	-	-	-	-	-
2-350S162-43	-	-	-	-	-	-	-	-	-	-
2-350S162-54	2'-2"	-	-	-	-	-	-	-	-	-
2-350S162-68	3'-3"	2'-9"	2'-3"	-	-	2'-11"	2'-5"	-	-	-
2-350S162-97	4'-6"	4'-3"	3'-10"	3'-6"	3'-2"	4'-3"	4'-0"	3'-7"	3'-3"	3'-0"
2-550S162-33	-	-	-	-	-	-	-	-	-	-
2-550S162-43	2'-3"	-	-	-	-	-	-	-	-	-
2-550S162-54	3'-7"	2'-11"	2'-3"	-	-	3'-3"	2'-7"	-	-	-
2-550S162-68	4'-9"	2'-1"	3'-6"	3'-0"	2'-5"	4'-4"	3'-9"	3'-2"	2'-8"	2'-1"
2-550S162-97	6'-5"	6'-1"	5'-7"	5'-1"	4'-8"	6'-3"	5'-10"	5'-4"	4'-10"	4'-5"
2-800S162-33	-	-	-	-	-	-	-	-	-	-
2-800S162-43	2'-8"	-	-	-	-	2'-2"	-	-	-	-
2-800S162-54	4'-3"	3'-5"	2'-8"	-	-	3'-9"	3'-0"	2'-3"	-	-
2-800S162-68	5'-8"	4'-11"	4'-2"	3'-7"	2'-11"	5'-3"	4'-6"	3'-10"	3'-3"	2'-7"
2-800S162-97	8'-9"	8'-0"	7'-3"	6'-8"	6'-2"	8'-4"	7'-7"	6'-11"	6'-4"	5'-10"
2-1000S162-43	2'-4"	2'-0"	-	-	-	2'-2"	-	-	-	-
2-1000S162-54	4'-8"	3'-11"	3'-1"	2'-2"	-	4'-3"	3'-5"	2'-7"	-	-
2-1000S162-68	6'-5"	5'-7"	4'-9"	4'-1"	3'-4"	5'-11"	5'-1"	4'-5"	3'-8"	2'-11"
2-1000S162-97	9'-6"	8'-8"	7'-11"	7'-3"	6'-8"	9'-0"	8'-3"	7'-6"	6'-11"	6'-4"
2-1200S162-54	3'-11"	3'-5"	3'-0"	2'-4"	-	3'-7"	3'-2"	2'-10"	-	-
2-1200S162-68	7'-1"	6'-2"	5'-3"	4'-6"	3'-8"	6'-6"	5'-8"	4'-10"	4'-0"	3'-3"
2-1200S162-97	10'-8"	9'-8"	8'-10"	8'-1"	7'-5"	10'-1"	9'-2"	8'-5"	7'-9"	7'-1"

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 foot = 0.305 m

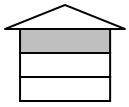
[1] Deflection criteria: L/360 for live loads, L/240 for total loads

[2] Design load assumptions:
Second and third floor dead load is 10 psf (0.48 kN/m^2)
Roof/ceiling dead load is 12 psf (0.58 kN/m^2)
Second floor live load is 40 psf (1.92 kN/m^2)
Third floor live load is 30 psf (1.44 kN/m^2)

[3] Building width is in the direction of horizontal framing members supported by the *header*.

33 KSI

Table E7-7a
Back-to-Back Header Spans
Headers Supporting Roof and Ceiling Only [1,2]
F_y = 33 ksi



Member Designation	20 psf Ground Snow Load					30 psf Ground Snow Load				
	Building Width[3]					Building Width[3]				
	24'	28'	32'	36'	40'	24'	28'	32'	36'	40'
2-350S162-33	2'-11"	2'-4"	-	-	-	2'-5"	-	-	-	-
2-350S162-43	4'-8"	3'-10"	3'-5"	3'-1"	2'-9"	3'-11"	3'-5"	3'-0"	2'-8"	2'-4"
2-350S162-54	5'-3"	4'-9"	4'-4"	4'-1"	3'-8"	4'-10"	4'-4"	4'-0"	3'-8"	3'-4"
2-350S162-68	6'-1"	5'-7"	5'-2"	4'-10"	4'-6"	5'-8"	5'-3"	4'-10"	4'-6"	4'-2"
2-350S162-97	7'-3"	6'-10"	6'-5"	6'-0"	5'-8"	6'-11"	6'-5"	6'-0"	5'-8"	5'-4"
2-550S162-33	4'-5"	3'-9"	3'-1"	2'-6"	-	3'-9"	3'-2"	2'-6"	-	-
2-550S162-43	6'-2"	5'-7"	5'-0"	4'-7"	4'-2"	5'-7"	5'-0"	4'-6"	4'-1"	3'-8"
2-550S162-54	7'-5"	6'-9"	6'-3"	5'-9"	5'-4"	6'-10"	6'-3"	5'-9"	5'-4"	4'-11"
2-550S162-68	6'-7"	7'-11"	7'-4"	6'-10"	6'-5"	8'-0"	7'-4"	6'-10"	6'-5"	6'-0"
2-550S162-97	10'-5"	9'-8"	9'-0"	8'-6"	8'-0"	9'-9"	9'-0"	8'-6"	8'-0"	7'-7"
2-800S162-33	4'-5"	3'-11"	3'-5"	3'-1"	2'-4"	3'-11"	3'-6"	3'-0"	2'-3"	-
2-800S162-43	7'-7"	6'-10"	6'-2"	5'-8"	5'-2"	6'-11"	6'-2"	5'-7"	5'-1"	4'-7"
2-800S162-54	9'-3"	8'-7"	7'-11"	7'-4"	6'-10"	8'-8"	7'-11"	7'-4"	6'-9"	6'-3"
2-800S162-68	10'-7"	9'-10"	9'-4"	8'-10"	8'-5"	9'-11"	9'-4"	8'-10"	8'-4"	7'-11"
2-800S162-97	13'-9"	12'-9"	12'-0"	11'-3"	10'-8"	12'-10"	12'-0"	11'-3"	10'-7"	10'-0"
2-1000S162-43	7'-10"	6'-10"	6'-1"	5'-6"	5'-0"	6'-11"	6'-1"	5'-5"	4'-11"	4'-6"
2-1000S162-54	10'-5"	9'-9"	9'-0"	8'-4"	7'-9"	9'-10"	9'-0"	8'-4"	7'-9"	7'-2"
2-1000S162-68	12'-1"	11'-3"	10'-8"	10'-1"	9'-7"	11'-4"	10'-8"	10'-1"	9'-7"	9'-1"
2-1000S162-97	15'-3"	14'-3"	13'-5"	12'-9"	12'-2"	14'-4"	13'-5"	12'-8"	12'-1"	11'-6"
2-1200S162-54	11'-6"	10'-9"	10'-0"	9'-0"	8'-2"	10'-10"	10'-0"	9'-0"	8'-1"	7'-4"
2-1200S162-68	13'-4"	12'-6"	11'-9"	11'-2"	10'-8"	12'-7"	11'-10"	11'-2"	10'-7"	10'-1"
2-1200S162-97	16'-8"	15'-7"	14'-8"	13'-11"	13'-3"	15'-8"	14'-8"	13'-11"	13'-2"	12'-7"

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 foot = 0.305 m

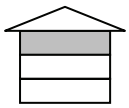
[1] Deflection criteria: L/360 for live loads, L/240 for total loads

[2] Design load assumptions: Roof/ceiling dead load is 12 psf (0.58 kN/m^2)

[3] Building width is in the direction of horizontal framing members supported by the *header*.

50
KSI

Table E7-7b
Back-to-Back Header Spans
Headers Supporting Roof and Ceiling Only [1,2]
F_y = 50 ksi



Member Designation	20 psf Ground Snow Load					30 psf Ground Snow Load				
	Building Width[3]					Building Width[3]				
	24'	28'	32'	36'	40'	24'	28'	32'	36'	40'
2-350S162-33	4'-2"	3'-8"	3'-3"	2'-10"	2'-6"	3'-8"	3'-3"	2'-10"	2'-5"	2'-1"
2-350S162-43	5'-5"	5'-0"	4'-6"	4'-2"	3'-10"	5'-0"	4'-7"	4'-2"	3'-10"	3'-6"
2-350S162-54	6'-2"	5'-10"	5'-8"	5'-4"	5'-0"	5'-11"	5'-8"	5'-4"	5'-0"	4'-8"
2-350S162-68	6'-7"	6'-3"	6'-0"	5'-10"	5'-8"	6'-4"	6'-1"	5'-10"	5'-8"	5'-6"
2-350S162-97	7'-3"	6'-11"	6'-8"	6'-5"	6'-3"	7'-0"	6'-8"	6'-5"	6'-3"	6'-0"
2-550S162-33	5'-10"	5'-3"	4'-8"	4'-3"	3'-9"	5'-3"	4'-9"	4'-2"	3'-9"	3'-3"
2-550S162-43	7'-9"	7'-2"	6'-7"	6'-1"	5'-8"	7'-3"	6'-7"	6'-1"	5'-8"	5'-3"
2-550S162-54	8'-9"	8'-5"	8'-1"	7'-9"	7'-5"	8'-6"	8'-1"	7'-9"	7'-5"	6'-11"
2-550S162-68	9'-5"	9'-0"	8'-8"	8'-4"	8'-1"	9'-1"	8'-8"	8'-4"	8'-1"	7'-10"
2-550S162-97	10'-5"	10'-0"	9'-7"	9'-3"	9'-0"	10'-0"	9'-7"	9'-3"	8'-11"	8'-8"
2-800S162-33	4'-5"	3'-11"	3'-5"	3'-1"	2'-10"	3'-11"	3'-6"	3'-1"	2'-9"	2'-6"
2-800S162-43	9'-1"	8'-5"	7'-8"	6'-11"	6'-3"	8'-6"	7'-8"	6'-10"	6'-2"	5'-8"
2-800S162-54	10'-10"	10'-2"	9'-7"	9'-1"	8'-8"	10'-2"	9'-7"	9'-0"	8'-7"	8'-1"
2-800S162-68	12'-8"	11'-10"	11'-2"	10'-7"	10'-1"	11'-11"	11'-2"	10'-7"	10'-0"	9'-7"
2-800S162-97	14'-2"	13'-6"	13'-0"	12'-7"	12'-2"	13'-8"	13'-1"	12'-7"	12'-2"	11'-9"
2-1000S162-43	7'-10"	6'-10"	6'-1"	5'-6"	5'-0"	6'-11"	6'-1"	5'-5"	4'-11"	4'-6"
2-1000S162-54	12'-3"	11'-5"	10'-9"	10'-3"	9'-9"	11'-6"	10'-9"	10'-2"	9'-8"	8'-11"
2-1000S162-68	14'-5"	13'-5"	12'-8"	12'-0"	11'-6"	13'-6"	12'-8"	12'-0"	11'-5"	10'-11"
2-1000S162-97	17'-1"	16'-4"	15'-8"	14'-11"	14'-3"	16'-5"	15'-9"	14'-10"	14'-1"	13'-6"
2-1200S162-54	12'-11"	11'-3"	10'-0"	9'-0"	8'-2"	11'-5"	10'-0"	9'-0"	8'-1"	7'-4"
2-1200S162-68	15'-11"	14'-10"	14'-0"	13'-4"	12'-8"	15'-0"	14'-0"	13'-3"	12'-7"	12'-0"
2-1200S162-97	19'-11"	18'-7"	17'-6"	16'-8"	15'-10"	18'-9"	17'-7"	16'-7"	15'-9"	15'-0"

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 foot = 0.305 m

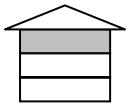
[1] Deflection criteria: L/360 for live loads, L/240 for total loads

[2] Design load assumptions: Roof/ceiling dead load is 12 psf (0.58 kN/m^2)

[3] Building width is in the direction of horizontal framing members supported by the *header*.

33 KSI

Table E7-8a
Back-to-Back Header Spans
Headers Supporting Roof and Ceiling Only [1,2]
F_y = 33 ksi



Member Designation	50 psf Ground Snow Load					70 psf Ground Snow Load				
	Building Width[3]					Building Width[3]				
	24'	28'	32'	36'	40'	24'	28'	32'	36'	40'
2-350S162-33	-	-	-	-	-	-	-	-	-	-
2-350S162-43	2'-6"	-	-	-	-	-	-	-	-	-
2-350S162-54	3'-6"	3'-1"	2'-8"	2'-4"	2'-0"	2'-7"	2'-1"	-	-	-
2-350S162-68	4'-4"	3'-11"	3'-7"	3'-3"	2'-11"	3'-5"	3'-0"	2'-8"	2'-4"	2'-1"
2-350S162-97	5'-5"	5'-0"	4'-8"	4'-6"	4'-1"	4'-6"	4'-2"	3'-10"	3'-6"	3'-3"
2-550S162-33	-	-	-	-	-	-	-	-	-	-
2-550S162-43	3'-10"	3'-3"	2'-9"	2'-2"	-	2'-6"	-	-	-	-
2-550S162-54	5'-1"	4'-7"	4'-1"	3'-8"	3'-4"	3'-11"	3'-5"	2'-11"	2'-6"	2'-0"
2-550S162-68	6'-2"	5'-8"	5'-2"	4'-9"	4'-5"	5'-0"	4'-6"	4'-1"	3'-9"	3'-4"
2-550S162-97	7'-9"	7'-2"	6'-8"	6'-3"	5'-11"	6'-6"	6'-0"	5'-7"	5'-2"	4'-10"
2-800S162-33	-	-	-	-	-	-	-	-	-	-
2-800S162-43	4'-10"	4'-1"	3'-6"	2'-11"	2'-3"	3'-3"	2'-5"	-	-	-
2-800S162-54	6'-6"	5'-10"	5'-3"	4'-9"	4'-4"	5'-1"	4'-6"	3'-11"	3'-4"	2'-10"
2-800S162-68	8'-1"	7'-5"	6'-10"	6'-4"	5'-11"	6'-8"	6'-1"	5'-6"	5'-0"	4'-7"
2-800S162-97	10'-3"	9'-7"	8'-11"	8'-5"	7'-11"	8'-8"	8'-0"	7'-6"	7'-0"	6'-7"
2-1000S162-43	4'-8"	4'-1"	3'-8"	3'-4"	2'-8"	3'-6"	2'-10"	-	-	-
2-1000S162-54	7'-5"	6'-8"	6'-1"	5'-6"	5'-0"	5'-10"	5'-1"	4'-6"	3'-11"	3'-4"
2-1000S162-68	9'-4"	8'-7"	7'-11"	7'-4"	6'-10"	7'-8"	7'-0"	6'-4"	5'-10"	5'-4"
2-1000S162-97	11'-9"	11'-0"	10'-5"	9'-11"	9'-5"	10'-3"	9'-7"	8'-11"	8'-4"	7'-10"
2-1200S162-54	7'-8"	6'-9"	6'-1"	5'-6"	5'-0"	5'-10"	5'-1"	4'-7"	4'-1"	3'-9"
2-1200S162-68	10'-4"	9'-6"	8'-10"	8'-2"	7'-7"	8'-7"	7'-9"	7'-1"	6'-6"	6'-0"
2-1200S162-97	12'-10"	12'-1"	11'-5"	10'-10"	10'-4"	11'-2"	10'-6"	9'-11"	9'-5"	9'-0"

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 foot = 0.305 m

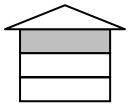
[1] Deflection criteria: L/360 for live loads, L/240 for total loads

[2] Design load assumptions: Roof/ceiling dead load is 12 psf (0.58 kN/m^2)

[3] Building width is in the direction of horizontal framing members supported by the *header*.

50
KSI

Table E7-8b
Back-to-Back Header Spans
Headers Supporting Roof and Ceiling Only [1,2]
F_y = 50 ksi



Member Designation	50 psf Ground Snow Load					70 psf Ground Snow Load				
	Building Width[3]					Building Width[3]				
	24'	28'	32'	36'	40'	24'	28'	32'	36'	40'
2-350S162-33	2'-3"	-	-	-	-	-	-	-	-	-
2-350S162-43	3'-8"	3'-3"	2'-10"	2'-6"	2'-2"	2'-8"	2'-3"	-	-	-
2-350S162-54	4'-9"	4'-4"	4'-0"	3'-8"	3'-8"	3'-10"	3'-5"	3'-1"	2'-9"	2'-5"
2-350S162-68	5'-7"	5'-4"	5'-2"	4'-11"	4'-7"	5'-1"	4'-8"	4'-3"	3'-11"	3'-8"
2-350S162-97	6'-2"	5'-11"	5'-8"	5'-6"	5'-4"	5'-8"	5'-5"	5'-3"	5'-0"	4'-11"
2-550S162-33	3'-6"	2'-10"	2'-3"	-	-	2'-0"	-	-	-	-
2-550S162-43	5'-5"	4'-10"	4'-4"	3'-11"	3'-6"	4'-2"	3'-8"	3'-2"	2'-8"	2'-3"
2-550S162-54	7'-2"	6'-6"	6'-0"	5'-7"	5'-2"	5'-10"	5'-3"	4'-10"	4'-5"	4'-0"
2-550S162-68	8'-0"	7'-8"	7'-3"	6'-11"	6'-6"	7'-2"	6'-7"	6'-1"	5'-8"	5'-4"
2-550S162-97	8'-11"	8'-6"	8'-2"	7'-11"	7'-8"	8'-1"	7'-9"	7'-6"	7'-2"	6'-11"
2-800S162-33	2'-8"	2'-4"	2'-1"	1'-11"	-	2'-0"	-	-	-	-
2-800S162-43	5'-10"	5'-2"	4'-7"	4'-2"	3'-10"	4'-5"	3'-11"	3'-6"	3'-2"	2'-9"
2-800S162-54	8'-4"	7'-8"	7'-1"	6'-7"	6'-1"	6'-10"	6'-3"	5'-8"	5'-2"	4'-9"
2-800S162-68	9'-9"	9'-2"	8'-8"	8'-3"	7'-10"	8'-6"	7'-11"	7'-4"	6'-10"	6'-5"
2-800S162-97	12'-1"	11'-7"	11'-2"	10'-8"	10'-2"	11'-0"	10'-4"	9'-9"	9'-3"	8'-10"
2-1000S162-43	4'-8"	4'-1"	2'-8"	3'-4"	3'-0"	3'-6"	10'-1"	2'-9"	2'-6"	2'-3"
2-1000S162-54	9'-3"	8'-2"	7'-3"	6'-7"	6'-0"	7'-0"	6'-2"	5'-6"	5'-0"	4'-6"
2-1000S162-68	11'-1"	10'-5"	9'-10"	9'-4"	8'-11"	9'-8"	9'-1"	8'-5"	7'-10"	7'-4"
2-1000S162-97	13'-9"	12'-11"	12'-2"	11'-7"	11'-1"	11'-11"	11'-3"	10'-7"	10'-1"	9'-7"
2-1200S162-54	7'-8"	6'-9"	6'-1"	5'-6"	5'-0"	5'-10"	5'-1"	4'-7"	4'-1"	3'-9"
2-1200S162-68	12'-3"	11'-6"	10'-11"	10'-4"	9'-11"	10'-8"	10'-0"	9'-2"	8'-4"	7'-7"
2-1200S162-97	15'-4"	14'-5"	13'-7"	12'-11"	12'-4"	13'-4"	12'-6"	11'-10"	11'-3"	10'-9"

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 foot = 0.305 m

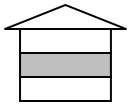
[1] Deflection criteria: L/360 for live loads, L/240 for total loads

[2] Design load assumptions: Roof/ceiling dead load is 12 psf (0.58 kN/m^2)

[3] Building width is in the direction of horizontal framing members supported by the *header*.

33
KSI

Table E7-9a
Back-to-Back Header Spans
Headers Supporting One Floor, Roof and Ceiling [1,2]
F_y = 33 ksi



Member Designation	20 psf Ground Snow Load					30 psf Ground Snow Load				
	Building Width[3]					Building Width[3]				
	24'	28'	32'	36'	40'	24'	28'	32'	36'	40'
2-350S162-33	-	-	-	-	-	-	-	-	-	-
2-350S162-43	2'-2"	-	-	-	-	2'-1"	-	-	-	-
2-350S162-54	3'-3"	2'-9"	2'-5"	2'-0"	-	3'-2"	2'-9"	2'-4"	-	-
2-350S162-68	4'-4"	3'-8"	3'-3"	2'-11"	2'-8"	4'-0"	3'-7"	3'-2"	2'-11"	2'-7"
2-350S162-97	5'-2"	4'-9"	4'-4"	4'-1"	3'-9"	5'-1"	4'-8"	4'-4"	4'-0"	3'-9"
2-550S162-33	-	-	-	-	-	-	-	-	-	-
2-550S162-43	3'-6"	2'-10"	2'-3"	-	-	3'-5"	2'-9"	2'-2"	-	-
2-550S162-54	4'-9"	4'-2"	3'-9"	3'-3"	2'-10"	4'-8"	4'-1"	3'-8"	3'-2"	2'-9"
2-550S162-68	5'-10"	5'-3"	4'-10"	4'-5"	4'-1"	5'-9"	5'-3"	4'-9"	4'-4"	4'-0"
2-550S162-97	7'-4"	6'-9"	6'-4"	5'-11"	5'-6"	7'-3"	6'-9"	6'-3"	5'-10"	5'-5"
2-800S162-33	-	-	-	-	-	-	-	-	-	-
2-800S162-43	4'-4"	3'-8"	2'-11"	2'-3"	-	4'-3"	3'-6"	2'-10"	2'-1"	-
2-800S162-54	6'-1"	5'-5"	4'-10"	4'-4"	3'-10"	6'-0"	5'-4"	4'-9"	4'-3"	3'-9"
2-800S162-68	7'-8"	7'-0"	6'-5"	5'-11"	5'-5"	7'-7"	6'-11"	6'-4"	5'-10"	5'-4"
2-800S162-97	9'-10"	9'-1"	8'-5"	7'-11"	7'-5"	9'-8"	8'-11"	8'-4"	7'-10"	7'-4"
2-1000S162-43	4'-4"	3'-9"	3'-4"	2'-8"	-	4'-3"	3'-8"	3'-3"	2'-6"	-
2-1000S162-54	6'-11"	6'-2"	5'-6"	5'-0"	4'-5"	6'-10"	6'-1"	5'-5"	4'-10"	4'-4"
2-1000S162-68	8'-10"	8'-1"	7'-5"	6'-10"	6'-4"	8'-8"	7'-11"	7'-3"	6'-8"	6'-2"
2-1000S162-97	11'-3"	10'-7"	9'-11"	9'-5"	8'-10"	11'-2"	10'-5"	9'-10"	9'-3"	8'-9"
2-1200S162-54	7'-1"	6'-2"	5'-6"	5'-0"	4'-6"	6'-11"	6'-1"	5'-5"	4'-10"	4'-5"
2-1200S162-68	9'-10"	9'-0"	8'-3"	7'-7"	7'-0"	9'-8"	8'-10"	8'-1"	7'-6"	6'-11"
2-1200S162-97	12'-4"	11'-7"	10'-11"	10'-4"	9'-10"	12'-3"	11'-5"	10'-9"	10'-3"	9'-9"

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 foot = 0.305 m

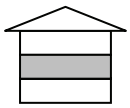
[1] Deflection criteria: L/360 for live loads, L/240 for total loads

[2] Design load assumptions:
Second floor dead load is 10 psf (0.48 kN/m^2)
Roof/ceiling dead load is 12 psf (0.58 kN/m^2)
Second floor live load is 30 psf (1.44 kN/m^2)

[3] Building width is in the direction of horizontal framing members supported by the *header*.

50
KSI

Table E7-9b
Back-to-Back Header Spans
Headers Supporting One Floor, Roof and Ceiling [1,2]
F_y = 50 ksi



Member Designation	20 psf Ground Snow Load					30 psf Ground Snow Load				
	Building Width[3]					Building Width[3]				
	24'	28'	32'	36'	40'	24'	28'	32'	36'	40'
2-350S162-33	-	-	-	-	-	-	-	-	-	-
2-350S162-43	3'-4"	2'-11"	2'-6"	2'-2"	-	3'-3"	2'-10"	2'-5"	2'-1"	-
2-350S162-54	4'-6"	4'-1"	3'-8"	3'-4"	3'-0"	4'-5"	4'-0"	3'-7"	3'-3"	2'-11"
2-350S162-68	5'-0"	4'-9"	4'-7"	4'-5"	4'-3"	4'-11"	4'-8"	4'-6"	4'-4"	4'-2"
2-350S162-97	5'-6"	5'-3"	5'-1"	4'-11"	4'-9"	5'-5"	5'-2"	5'-0"	4'-10"	4'-8"
2-550S162-33	3'-1"	2'-5"	-	-	-	3'-0"	2'-3"	-	-	-
2-550S162-43	5'-1"	4'-6"	4'-0"	3'-6"	3'-1"	4'-11"	4'-5"	3'-11"	3'-5"	3'-0"
2-550S162-54	6'-8"	6'-2"	5'-7"	5'-2"	4'-9"	6'-6"	6'-0"	5'-6"	5'-1"	4'-8"
2-550S162-68	7'-2"	6'-10"	6'-7"	6'-4"	6'-1"	7'-0"	6'-9"	6'-6"	6'-3"	6'-0"
2-550S162-97	7'-11"	7'-7"	7'-3"	7'-0"	6'-10"	7'-9"	7'-5"	7'-2"	6'-11"	6'-9"
2-800S162-33	2'-5"	2'-2"	1'-11"	-	-	2'-5"	2'-1"	1'-10"	-	-
2-800S162-43	5'-5"	4'-9"	4'-3"	3'-9"	3'-5"	5'-3"	4'-8"	4'-1"	3'-9"	3'-5"
2-800S162-54	7'-11"	7'-2"	6'-7"	6'-1"	5'-7"	7'-9"	7'-1"	6'-6"	6'-0"	5'-6"
2-800S162-68	9'-5"	8'-9"	8'-3"	7'-9"	7'-4"	9'-3"	8'-8"	8'-2"	7'-8"	7'-3"
2-800S162-97	10'-9"	10'-3"	9'-11"	9'-7"	9'-3"	10'-7"	10'-1"	9'-9"	9'-5"	9'-1"
2-1000S162-43	4'-4"	3'-9"	3'-4"	3'-0"	2'-9"	4'-3"	3'-8"	3'-3"	2'-11"	2'-8"
2-1000S162-54	8'-6"	7'-5"	6'-8"	6'-0"	5'-5"	8'-4"	7'-4"	6'-6"	5'-10"	5'-4"
2-1000S162-68	10'-8"	10'-0"	9'-5"	8'-11"	8'-4"	10'-7"	9'-10"	9'-4"	8'-9"	8'-3"
2-1000S162-97	12'-11"	12'-4"	11'-8"	11'-1"	10'-6"	12'-9"	12'-2"	11'-6"	10'-11"	10'-5"
2-1200S162-54	7'-1"	6'-2"	5'-6"	5'-0"	4'-6"	6'-11"	6'-1"	5'-5"	4'-10"	4'-5"
2-1200S162-68	11'-9"	11'-0"	10'-5"	9'-10"	9'-1"	11'-8"	10'-11"	10'-3"	9'-9"	8'-11"
2-1200S162-97	14'-9"	13'-9"	13'-0"	12'-4"	11'-9"	14'-7"	13'-8"	12'-10"	12'-3"	11'-8"

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 foot = 0.305 m

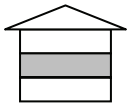
[1] Deflection criteria: L/360 for live loads, L/240 for total loads

[2] Design load assumptions:
Second floor dead load is 10 psf (0.48 kN/m^2)
Roof/ceiling dead load is 12 psf (0.58 kN/m^2)
Second floor live load is 30 psf (1.44 kN/m^2)

[3] Building width is in the direction of horizontal framing members supported by the *header*.

33 KSI

Table E7-10a
Back-to-Back Header Spans
Headers Supporting One Floor, Roof and Ceiling [1,2]
F_y = 33 ksi



Member Designation	50 psf Ground Snow Load					70 psf Ground Snow Load				
	Building Width[3]					Building Width[3]				
	24'	28'	32'	36'	40'	24'	28'	32'	36'	40'
2-350S162-33	-	-	-	-	-	-	-	-	-	-
2-350S162-43	-	-	-	-	-	-	-	-	-	-
2-350S162-54	2'-4"	-	-	-	-	-	-	-	-	-
2-350S162-68	3'-3"	2'-10"	2'-6"	2'-2"	-	2'-7"	2'-2"	-	-	-
2-350S162-97	4'-4"	4'-0"	3'-8"	3'-4"	3'-1"	3'-9"	3'-4"	3'-1"	2'-9"	2'-6"
2-550S162-33	-	-	-	-	-	-	-	-	-	-
2-550S162-43	2'-2"	-	-	-	-	-	-	-	-	-
2-550S162-54	3'-8"	3'-2"	2'-8"	2'-3"	-	2'-10"	2'-3"	-	-	-
2-550S162-68	4'-9"	4'-4"	3'-11"	3'-6"	3'-2"	4'-0"	3'-6"	3'-1"	2'-9"	2'-4"
2-550S162-97	6'-3"	5'-9"	5'-4"	5'-0"	4'-8"	5'-6"	5'-0"	4'-7"	4'-3"	3'-11"
2-800S162-33	-	-	-	-	-	-	-	-	-	-
2-800S162-43	2'-11"	2'-0"	-	-	-	-	-	-	-	-
2-800S162-54	4'-9"	4'-2"	3'-7"	3'-1"	2'-7"	3'-9"	3'-1"	2'-5"	-	-
2-800S162-68	6'-4"	5'-9"	5'-3"	4'-9"	4'-4"	5'-4"	4'-9"	4'-3"	3'-10"	3'-4"
2-800S162-97	8'-5"	7'-9"	7'-3"	6'-9"	6'-4"	7'-4"	6'-9"	6'-3"	5'-10"	5'-5"
2-1000S162-43	3'-4"	2'-5"	-	-	-	-	-	-	-	-
2-1000S162-54	5'-6"	4'-10"	4'-2"	3'-7"	3'-0"	4'-4"	3'-7"	2'-11"	2'-2"	-
2-1000S162-68	7'-4"	6'-8"	6'-1"	5'-7"	5'-1"	6'-3"	5'-7"	5'-0"	4'-5"	4'-0"
2-1000S162-97	9'-11"	8'-3"	8'-7"	8'-1"	7'-7"	8'-9"	8'-1"	7'-6"	7'-0"	6'-6"
2-1200S162-54	5'-6"	4'-10"	4'-4"	3'-11"	3'-5"	4'-5"	3'-11"	3'-3"	2'-6"	-
2-1200S162-68	8'-2"	7'-5"	6'-9"	6'-3"	5'-8"	6'-11"	6'-3"	5'-7"	5'-0"	4'-6"
2-1200S162-97	10'-10"	10'-2"	9'-8"	9'-2"	8'-7"	9'-9"	9'-2"	8'-6"	7'-11"	7'-5"

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 foot = 0.305 m

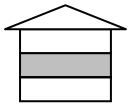
[1] Deflection criteria: L/360 for live loads, L/240 for total loads

[2] Design load assumptions:
Second floor dead load is 10 psf (0.48 kN/m^2)
Roof/ceiling dead load is 12 psf (0.58 kN/m^2)
Second floor live load is 30 psf (1.44 kN/m^2)

[3] Building width is in the direction of horizontal framing members supported by the *header*.

50
KSI

Table E7-10b
Back-to-Back Header Spans
Headers Supporting One Floor, Roof and Ceiling [1,2]
F_y = 50 ksi



Member Designation	50 psf Ground Snow Load					70 psf Ground Snow Load				
	Building Width[3]					Building Width[3]				
	24'	28'	32'	36'	40'	24'	28'	32'	36'	40'
2-350S162-33	-	-	-	-	-	-	-	-	-	-
2-350S162-43	2'-6"	2'-0"	-	-	-	-	-	-	-	-
2-350S162-54	3'-8"	3'-3"	2'-11"	2'-7"	2'-3"	3'-0"	2'-7"	2'-2"	-	-
2-350S162-68	4'-7"	4'-5"	4'-1"	3'-9"	3'-6"	4'-2"	3'-9"	3'-5"	3'-1"	2'-10"
2-350S162-97	5'-1"	4'-10"	4'-8"	4'-6"	4'-5"	4'-10"	4'-7"	4'-5"	4'-3"	4'-1"
2-550S162-33	-	-	-	-	-	-	-	-	-	-
2-550S162-43	3'-11"	3'-5"	2'-11"	2'-5"	-	3'-0"	2'-5"	-	-	-
2-550S162-54	5'-7"	5'-0"	4'-7"	4'-2"	3'-9"	4'-8"	4'-2"	3'-8"	3'-3"	2'-11"
2-550S162-68	6'-7"	6'-4"	5'-11"	5'-6"	5'-1"	6'-0"	5'-6"	5'-0"	4'-7"	4'-3"
2-550S162-97	7'-4"	7'-0"	6'-9"	6'-6"	6'-4"	6'-11"	6'-8"	6'-5"	6'-2"	6'-0"
2-800S162-33	1'-11"	-	-	-	-	-	-	-	-	-
2-800S162-43	4'-2"	3'-8"	3'-4"	3'-0"	2'-6"	3'-5"	3'-0"	2'-4"	-	-
2-800S162-54	6'-7"	5'-11"	5'-5"	4'-11"	4'-6"	5'-6"	4'-11"	4'-5"	3'-11"	3'-6"
2-800S162-68	8'-3"	7'-8"	7'-1"	6'-8"	6'-2"	7'-3"	6'-7"	6'-1"	5'-7"	5'-2"
2-800S162-97	9'-11"	9'-6"	9'-2"	8'-10"	8'-7"	9'-5"	9'-0"	8'-7"	8'-2"	7'-9"
2-1000S162-43	3'-4"	2'-11"	2'-7"	2'-5"	2'-2"	2'-8"	2'-5"	2'-2"	1'-11"	-
2-1000S162-54	6'-7"	5'-10"	5'-3"	4'-9"	4'-4"	5'-4"	4'-9"	4'-3"	3'-10"	3'-6"
2-1000S162-68	9'-4"	8'-9"	8'-1"	7'-7"	7'-1"	8'-3"	7'-7"	6'-11"	6'-5"	5'-11"
2-1000S162-97	11'-7"	10'-11"	10'-4"	9'-10"	9'-5"	10'-5"	9'-10"	9'-3"	8'-10"	8'-5"
2-1200S162-54	5'-6"	4'-10"	4'-4"	3'-11"	3'-7"	4'-5"	3'-11"	3'-6"	3'-2"	2'-11"
2-1200S162-68	10'-4"	9'-8"	8'-8"	7'-11"	7'-2"	8'-11"	7'-11"	7'-1"	6'-5"	5'-10"
2-1200S162-97	12'-11"	12'-2"	11'-6"	11'-0"	10'-6"	11'-8"	11'-0"	10'-5"	9'-10"	9'-5"

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 foot = 0.305 m

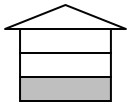
[1] Deflection criteria: L/360 for live loads, L/240 for total loads

[2] Design load assumptions:
Second floor dead load is 10 psf (0.48 kN/m^2)
Roof/ceiling dead load is 12 psf (0.58 kN/m^2)
Second floor live load is 30 psf (1.44 kN/m^2)

[3] Building width is in the direction of horizontal framing members supported by the *header*.

33 KSI

Table E7-11a
Back-to-Back Header Spans
Headers Supporting Two Floors, Roof and Ceiling [1,2]
F_y = 33 ksi



Member Designation	20 psf Ground Snow Load					30 psf Ground Snow Load				
	Building Width[3]					Building Width[3]				
	24'	28'	32'	36'	40'	24'	28'	32'	36'	40'
2-350S162-33	-	-	-	-	-	-	-	-	-	-
2-350S162-43	-	-	-	-	-	-	-	-	-	-
2-350S162-54	-	-	-	-	-	-	-	-	-	-
2-350S162-68	2'-5"	-	-	-	-	2'-4"	-	-	-	-
2-350S162-97	3'-6"	3'-2"	2'-10"	2'-6"	2'-3"	3'-6"	3'-1"	2'-9"	2'-6"	2'-3"
2-550S162-33	-	-	-	-	-	-	-	-	-	-
2-550S162-43	-	-	-	-	-	-	-	-	-	-
2-550S162-54	2'-6"	-	-	-	-	2'-5"	-	-	-	-
2-550S162-68	3'-9"	3'-3"	2'-9"	2'-4"	-	3'-8"	3'-2"	2'-9"	2'-4"	-
2-550S162-97	5'-3"	4'-9"	4'-4"	3'-11"	3'-8"	5'-2"	4'-8"	4'-3"	3'-11"	3'-7"
2-800S162-33	-	-	-	-	-	-	-	-	-	-
2-800S162-43	-	-	-	-	-	-	-	-	-	-
2-800S162-54	3'-5"	2'-8"	-	-	-	3'-4"	2'-7"	-	-	-
2-800S162-68	5'-1"	4'-5"	3'-11"	3'-4"	2'-11"	5'-0"	4'-4"	3'-10"	3'-4"	2'-10"
2-800S162-97	7'-0"	6'-5"	5'-11"	5'-5"	5'-0"	7'-0"	6'-4"	5'-10"	5'-5"	5'-0"
2-1000S162-43	-	-	-	-	-	-	-	-	-	-
2-1000S162-54	3'-11"	3'-1"	2'-3"	-	-	3'-10"	3'-0"	2'-2"	-	-
2-1000S162-68	5'-10"	5'-2"	4'-6"	4'-0"	3'-5"	5'-9"	5'-1"	4'-6"	3'-11"	3'-4"
2-1000S162-97	8'-5"	7'-8"	7'-1"	6'-6"	6'-1"	8'-4"	7'-7"	7'-0"	6'-6"	6'-0"
2-1200S162-54	4'-2"	3'-6"	2'-7"	-	-	4'-1"	3'-5"	2'-6"	-	-
2-1200S162-68	6'-6"	5'-9"	5'-1"	4'-6"	3'-11"	6'-6"	5'-8"	5'-0"	4'-5"	3'-10"
2-1200S162-97	9'-5"	8'-8"	8'-0"	7'-5"	6'-11"	9'-5"	8'-7"	7'-11"	7'-4"	6'-10"

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 foot = 0.305 m

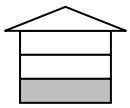
[1] Deflection criteria: L/360 for live loads, L/240 for total loads

[2] Design load assumptions:
Second and third floor dead load is 10 psf (0.48 kN/m^2)
Roof/ceiling dead load is 12 psf (0.58 kN/m^2)
Second floor live load is 40 psf (1.92 kN/m^2)
Third floor live load is 30 psf (1.44 kN/m^2)

[3] Building width is in the direction of horizontal framing members supported by the *header*.

50
KSI

Table E7-11b
Back-to-Back Header Spans
Headers Supporting Two Floors, Roof and Ceiling [1,2]
F_y = 50 ksi



Member Designation	20 psf Ground Snow Load					30 psf Ground Snow Load				
	Building Width[3]					Building Width[3]				
	24'	28'	32'	36'	40'	24'	28'	32'	36'	40'
2-350S162-33	-	-	-	-	-	-	-	-	-	-
2-350S162-43	-	-	-	-	-	-	-	-	-	-
2-350S162-54	2'-9"	2'-3"	-	-	-	2'-8"	2'-3"	-	-	-
2-350S162-68	3'-11"	3'-6"	3'-2"	2'-10"	2'-6"	3'-11"	3'-6"	3'-1"	2'-9"	2'-6"
2-350S162-97	4'-9"	4'-6"	4'-4"	4'-1"	3'-10"	4'-8"	4'-6"	4'-4"	4'-1"	3'-9"
2-550S162-33	-	-	-	-	-	-	-	-	-	-
2-550S162-43	2'-9"	2'-0"	-	-	-	2'-8"	-	-	-	-
2-550S162-54	4'-5"	3'-10"	3'-4"	2'-11"	2'-5"	4'-4"	3'-9"	3'-3"	2'-10"	2'-5"
2-550S162-68	5'-8"	5'-2"	4'-8"	4'-3"	3'-11"	5'-8"	5'-1"	4'-8"	4'-3"	3'-10"
2-550S162-97	6'-10"	6'-6"	6'-3"	6'-0"	5'-7"	6'-9"	6'-5"	6'-3"	5'-11"	5'-6"
2-800S162-33	-	-	-	-	-	-	-	-	-	-
2-800S162-43	3'-2"	2'-7"	-	-	-	3'-1"	2'-6"	-	-	-
2-800S162-54	5'-2"	4'-7"	4'-0"	3'-6"	3'-0"	5'-2"	4'-6"	3'-11"	3'-5"	2'-11"
2-800S162-68	6'-11"	6'-3"	5'-8"	5'-2"	4'-9"	6'-10"	6'-2"	5'-7"	5'-2"	4'-8"
2-800S162-97	9'-3"	8'-8"	8'-3"	7'-9"	7'-4"	9'-2"	8'-8"	8'-2"	7'-9"	7'-4"
2-1000S162-43	2'-6"	2'-2"	2'-0"	-	-	2'-6"	2'-2"	1'-11"	-	-
2-1000S162-54	5'-0"	4'-4"	3'-11"	3'-6"	3'-2"	4'-11"	4'-4"	3'-10"	3'-6"	3'-2"
2-1000S162-68	7'-10"	7'-2"	6'-6"	5'-11"	5'-6"	7'-9"	7'-1"	6'-5"	5'-11"	5'-5"
2-1000S162-97	10'-1"	9'-5"	8'-11"	8'-6"	8'-0"	10'-0"	9'-5"	8'-10"	8'-5"	7'-11"
2-1200S162-54	-	-	-	-	-	-	-	-	-	-
2-1200S162-68	7'-4"	6'-8"	6'-1"	5'-6"	5'-1"	7'-3"	6'-7"	6'-0"	5'-6"	5'-0"
2-1200S162-97	9'-5"	8'-8"	8'-1"	7'-6"	7'-1"	9'-4"	8'-8"	8'-0"	7'-6"	7'-0"

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 foot = 0.305 m

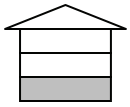
[1] Deflection criteria: L/360 for live loads, L/240 for total loads

[2] Design load assumptions:
Second and third floor dead load is 10 psf (0.48 kN/m^2)
Roof/ceiling dead load is 12 psf (0.58 kN/m^2)
Second floor live load is 40 psf (1.92 kN/m^2)
Third floor live load is 30 psf (1.44 kN/m^2)

[3] Building width is in the direction of horizontal framing members supported by the *header*.

33 KSI

Table E7-12a
Back-to-Back Header Spans
Headers Supporting Two Floors, Roof and Ceiling [1,2]
F_y = 33 ksi



Member Designation	50 psf Ground Snow Load					70 psf Ground Snow Load				
	Building Width[3]					Building Width[3]				
	24'	28'	32'	36'	40'	24'	28'	32'	36'	40'
2-350S162-33	-	-	-	-	-	-	-	-	-	-
2-350S162-43	-	-	-	-	-	-	-	-	-	-
2-350S162-54	-	-	-	-	-	-	-	-	-	-
2-350S162-68	2'-2"	-	-	-	-	-	-	-	-	-
2-350S162-97	3'-3"	3'-0"	2'-8"	2'-4"	2'-1"	3'-1"	2'-9"	2'-6"	2'-2"	-
2-550S162-33	-	-	-	-	-	-	-	-	-	-
2-550S162-43	-	-	-	-	-	-	-	-	-	-
2-550S162-54	2'-2"	-	-	-	-	-	-	-	-	-
2-550S162-68	3'-6"	3'-0"	2'-6"	2'-1"	-	3'-2"	2'-9"	2'-3"	-	-
2-550S162-97	5'-0"	4'-6"	4'-1"	3'-9"	3'-5"	4'-8"	4'-3"	3'-11"	3'-7"	3'-3"
2-800S162-33	-	-	-	-	-	-	-	-	-	-
2-800S162-43	-	-	-	-	-	-	-	-	-	-
2-800S162-54	3'-0"	2'-3"	-	-	-	2'-7"	-	-	-	-
2-800S162-68	4'-9"	4'-2"	3'-7"	3'-1"	2'-7"	4'-5"	3'-10"	3'-3"	2'-9"	2'-3"
2-800S162-97	6'-9"	6'-1"	5'-7"	5'-2"	4'-9"	6'-4"	5'-10"	5'-4"	4'-11"	4'-7"
2-1000S162-43	-	-	-	-	-	-	-	-	-	-
2-1000S162-54	3'-6"	2'-8"	-	-	-	3'-1"	2'-2"	-	-	-
2-1000S162-68	5'-6"	4'-10"	4'-2"	3'-7"	3'-1"	5'-1"	4'-6"	3'-10"	3'-4"	2'-9"
2-1000S162-97	8'-0"	7'-4"	6'-9"	6'-3"	5'-9"	7'-7"	7'-0"	6'-5"	5'-11"	5'-6"
2-1200S162-54	3'-11"	3'-0"	2'-0"	-	-	3'-5"	2'-6"	-	-	-
2-1200S162-68	6'-2"	5'-5"	4'-9"	4'-1"	3'-6"	5'-9"	5'-0"	4'-4"	3'-9"	3'-2"
2-1200S162-97	9'-1"	8'-4"	7'-8"	7'-1"	6'-7"	8'-8"	7'-11"	7'-4"	6'-9"	6'-3"

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 foot = 0.305 m

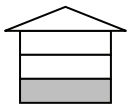
[1] Deflection criteria: L/360 for live loads, L/240 for total loads

[2] Design load assumptions:
Second and third floor dead load is 10 psf (0.48 kN/m^2)
Roof/ceiling dead load is 12 psf (0.58 kN/m^2)
Second floor live load is 40 psf (1.92 kN/m^2)
Third floor live load is 30 psf (1.44 kN/m^2)

[3] Building width is in the direction of horizontal framing members supported by the *header*.

50
KSI

Table E7-12b
Back-to-Back Header Spans
Headers Supporting Two Floors, Roof and Ceiling [1,2]
F_y = 50 ksi



Member Designation	50 psf Ground Snow Load					70 psf Ground Snow Load				
	Building Width[3]					Building Width[3]				
	24'	28'	32'	36'	40'	24'	28'	32'	36'	40'
2-350S162-33	-	-	-	-	-	-	-	-	-	-
2-350S162-43	-	-	-	-	-	-	-	-	-	-
2-350S162-54	2'-6"	2'-1"	-	-	-	2'-3"	-	-	-	-
2-350S162-68	3'-9"	3'-4"	2'-11"	2'-7"	2'-4"	3'-6"	3'-1"	2'-9"	2'-5"	2'-2"
2-350S162-97	4'-6"	4'-4"	4'-2"	3'-11"	3'-8"	4'-4"	4'-2"	4'-0"	3'-9"	3'-6"
2-550S162-33	-	-	-	-	-	-	-	-	-	-
2-550S162-43	2'-5"	-	-	-	-	-	-	-	-	-
2-550S162-54	4'-1"	3'-7"	3'-1"	2'-7"	2'-2"	3'-10"	3'-3"	2'-10"	2'-4"	-
2-550S162-68	5'-5"	4'-11"	4'-5"	4'-0"	3'-8"	5'-1"	4'-7"	4'-2"	3'-10"	3'-5"
2-550S162-97	6'-5"	6'-2"	5'-11"	5'-9"	5'-4"	6'-3"	6'-0"	5'-9"	5'-6"	5'-2"
2-800S162-33	-	-	-	-	-	-	-	-	-	-
2-800S162-43	2'-11"	2'-2"	-	-	-	2'-6"	-	-	-	-
2-800S162-54	4'-11"	4'-3"	3'-8"	3'-2"	2'-8"	4'-6"	3'-11"	3'-5"	2'-11"	2'-4"
2-800S162-68	6'-7"	5'-11"	5'-4"	4'-11"	4'-6"	6'-2"	5'-7"	5'-1"	4'-8"	4'-3"
2-800S162-97	8'-9"	8'-5"	7'-11"	7'-6"	7'-0"	8'-5"	8'-1"	7'-9"	7'-3"	6'-10"
2-1000S162-43	2'-4"	2'-1"	-	-	-	2'-2"	1'-11"	-	-	-
2-1000S162-54	4'-8"	4'-1"	3'-8"	3'-3"	3'-0"	4'-4"	3'-10"	3'-5"	3'-1"	2'-9"
2-1000S162-68	7'-6"	6'-9"	6'-2"	5'-8"	5'-2"	7'-1"	6'-5"	5'-10"	5'-4"	4'-11"
2-1000S162-97	9'-9"	9'-2"	8'-7"	8'-2"	7'-8"	9'-5"	8'-10"	8'-5"	7'-11"	7'-5"
2-1200S162-54	-	-	-	-	-	-	-	-	-	-
2-1200S162-68	7'-0"	6'-4"	5'-9"	5'-3"	4'-9"	6'-7"	6'-0"	5'-5"	5'-0"	4'-6"
2-1200S162-97	9'-1"	8'-4"	7'-9"	7'-3"	6'-9"	8'-8"	8'-0"	7'-6"	7'-0"	6'-7"

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 foot = 0.305 m

[1] Deflection criteria: L/360 for live loads, L/240 for total loads

[2] Design load assumptions:
Second and third floor dead load is 10 psf (0.48 kN/m^2)
Roof/ceiling dead load is 12 psf (0.58 kN/m^2)
Second floor live load is 40 psf (1.92 kN/m^2)
Third floor live load is 30 psf (1.44 kN/m^2)

[3] Building width is in the direction of horizontal framing members supported by the *header*.

Table E7-13
Number of Screws Required for Header to King Stud Connection

Header Span	Basic Wind Speed (mph), Exposure & Seismic Design Categories [1,2,3]					
	85 B Seismic Design Category A,B,C	90 B	100 B	110 B	100 C	< 110 C
			85 C	90 C		
< 4'	4-No.8 screws	4-No.8 screws	4-No.8 screws	4-No.8 screws	6-No.8 screws	6-No.8 screws
> 4' to 8'	4-No.8 screws	4-No.8 screws	4-No.8 screws	4-No.8 screws	6-No.8 screws	8-No.8 screws
> 8' to 12'	4-No.8 screws	4-No.8 screws	6-No.8 screws	6-No.8 screws	8-No.8 screws	10-No.8 screws
> 12' to 16'	4-No.8 screws	4-No.8 screws	6-No.8 screws	8-No.8 screws	10-No.8 screws	12-No.8 screws

For SI: 1 foot = 0.305 m, 1 mph = 1.61 km/hr

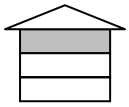
[1] For *headers* located on the first floor of a two-story building or the first or second floor of a three story building, the total number of screws is permitted to be reduced by 2 screws, but the total number of screws shall be no less than 4.

[2] For roof slopes of 6:12 or greater, the required number of screws is permitted to be reduced by 1/2, but the total number of screws shall be no less than 4.

[3] Screws can be replaced by an uplift connector, which has the strength of the number of screws multiplied by 164 lbs (729 N) (e.g. 12-No.8 screws can be replaced by an up-lift connector whose strength exceeds 12 x 164 lbs = 1,968 lbs)

33 KSI

Table E7-14a
Double L-Header Spans – Gravity Loading
Headers Supporting Roof and Ceiling Only [1,2]
F_y = 33 ksi



Double L-Header Designation	20 psf Ground Snow Load					30 psf Ground Snow Load				
	Building Width					Building Width				
	24'	28'	32'	36'	40'	24'	28'	32'	36'	40'
2-600L150-43	5'-0"	4'-9"	4'-5"	4'-2"	4'-0"	4'-9"	4'-5"	4'-2"	4'-0"	3'-9"
2-600L150-54	5'-10"	5'-5"	5'-2"	4'-10"	4'-8"	5'-6"	5'-2"	4'-10"	4'-7'	4'-5"
2-600L150-68	6'-9"	6'-4"	6'-0"	5'-8"	5'-5"	6'-5"	6'-0"	5'-8"	5'-4"	5'-1"
2-800L150-43	6'-4'	6'-0"	5'-7"	5'-4"	5'-1"	6'-0"	5'-8"	5'-4"	5'-1"	4'-10"
2-800L150-54	7'-4"	6'-11"	6'-6"	6'-2"	5'-10"	6'-11"	6'-6"	6'-2"	5'-10"	5'-7"
2-800L150-68	8'-6"	8'-0"	7'-6"	7'-1"	6'-9"	8'-0"	7'-6"	7'-1"	6'-8"	6'-5"
2-1000L150-43	6'-6"	6'-2"	5'-9"	5'-5"	5'-2"	6'-2"	5'-9"	5'-5"	5'-2"	4'-11"
2-1000L150-54	7'-6"	7'-0"	6'-7"	6'-3"	6'-0"	7'-0"	6'-7"	6'-3"	5'-11"	5'-8"
2-1000L150-68	8'-7"	8'-1"	7'-7"	7'-2"	6'-10"	8'-1"	7'-7"	7'-2"	6'-10"	6'-6"

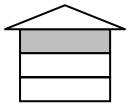
For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 foot = 0.305 m

[1] Building width is measured in the direction of horizontal framing members supported by the *header*.

[2] Design assumptions:
Roof and ceiling dead load = 12 psf (0.58 kN/m^2)
2 foot (0.61 m) roof overhang

50 KSI

Table E7-14b
Double L-Header Spans – Gravity Loading
Headers Supporting Roof and Ceiling Only [1,2]
F_y = 50 ksi



Double L-Header Designation	20 psf Ground Snow Load					30 psf Ground Snow Load				
	Building Width					Building Width				
	24'	28'	32'	36'	40'	24'	28'	32'	36'	40'
2-600L150-43	6'-4"	5'-10"	5'-6"	5'-3"	5'-0"	5'-10"	5'-6"	5'-2"	4'-11"	4'-9"
2-600L150-54	7'-4"	6'-9"	6'-4"	6'-1"	5'-9"	6'-10"	6'-4"	6'-0"	5'-9"	5'-6"
2-600L150-68	8'-5"	7'-10"	7'-5"	7'-0"	6'-8"	7'-11"	7'-5"	7'-0"	6'-8"	6'-4"
2-800L150-43	7'-11"	7'-5"	7'-0"	6'-7"	6'-4"	7'-5"	7'-0"	6'-7"	6'-3"	6'-0"
2-800L150-54	9'-1"	8'-6"	8'-0"	7'-7"	7'-3"	8'-7"	8'-1"	7'-7"	7'-3"	6'-11"
2-800L150-68	10'-6"	9'-10"	9'-3"	8'-10"	8'-5"	9'-11"	9'-4"	8'-9"	8'-4"	8'-0"
2-1000L150-43	8'-1"	7'-7"	7'-1"	6'-9"	6'-5"	7'-7"	7'-1"	6'-9"	6'-4"	6'-1"
2-1000L150-54	9'-3"	8'-8"	8'-2"	7'-9"	7'-5"	8'-9"	8'-2"	7'-9"	7'-4"	7'-0"
2-1000L150-68	10'-8"	10'-0"	9'-5"	8'-11"	8'-6"	10'-0"	9'-5"	8'-11"	8'-5"	8'-1"

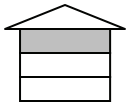
For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 foot = 0.305 m

[1] Building width is measured in the direction of horizontal framing members supported by the *header*.

[2] Design assumptions:
Roof and ceiling dead load = 12 psf (0.58 kN/m^2)
2 foot (0.61 m) roof overhang

33 KSI

Table E7-15a
Double L-Header Spans – Gravity Loading
Headers Supporting Roof and Ceiling Only [1,2]
F_y = 33 ksi



Double L-Header Designation	50 psf Ground Snow Load					70 psf Ground Snow Load				
	Building Width					Building Width				
	24'	28'	32'	36'	40'	24'	28'	32'	36'	40'
2-600L150-43	3'-10"	3'-7'	3'-5"	3'-3"	3'-1"	3'-4"	3'-2"	3'-0"	2'-10"	2'-8"
2-600L150-54	4'-6"	4'-3"	4'-0"	3'-9"	3'-7"	3'-11"	3'-8"	3'-5"	3'-3"	3'-2"
2-600L150-68	3'-8"	3'-6"	3'-3"	3'-1"	3'-0"	4'-6"	4'-3"	4'-0"	3'-10"	3'-8"
2-800L150-43	4'-11"	4'-7"	4'-4"	4'-2"	3'-11"	4'-3"	4'-0"	3'-9"	3'-7"	3'-5"
2-800L150-54	5'-8"	5'-4"	5'-0"	4'-9"	4'-7"	4'-11"	4'-7"	4'-4"	4'-2'	3'-11"
2-800L150-68	6'-7"	6'-2"	5'-10"	5'-6"	5'-3"	5'-8"	5'-4"	5'-1"	4'-10"	4'-7"
2-1000L150-43	6'-0"	5'-7"	5'-3"	5'-0"	4'-10"	5'-2"	4'-10"	4'-7"	4'-4"	4'-2"
2-1000L150-54	6'-10"	6'-5"	6'-1"	5'-9"	5'-6"	5'-11"	5'-7"	5'-3"	5'-0"	4'-9"
2-1000L150-68	7'-11"	7'-5"	7'-0"	6'-8"	6'-4"	6'-10"	6'-5"	6'-1"	5'-9"	5'-6"

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 foot = 0.305 m

[1] Building width is measured in the direction of horizontal framing members supported by the *header*.

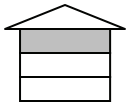
[2] Design assumptions:

Roof and ceiling dead load = 12 psf (0.58 kN/m^2)

2 foot (0.61 m) roof overhang

50 KSI

Table E7-15b
Double L-Header Spans – Gravity Loading
Headers Supporting Roof and Ceiling Only [1,2]
F_y = 50 ksi



Double L-Header Designation	50 psf Ground Snow Load					70 psf Ground Snow Load				
	Building Width					Building Width				
	24'	28'	32'	36'	40'	24'	28'	32'	36'	40'
2-600L150-43	4'-10"	5'-6"	4'-3"	4'-1"	3'-10"	4'-2"	3'-11"	3'-8"	3'-6"	3'-4"
2-600L150-54	5'-7"	5'-3"	4'-11"	4'-8"	4'-6"	4'-10"	4'-7"	4'-4"	4'-1"	3'-11"
2-600L150-68	6'-6"	6'-1"	5'-9"	5'-6"	5'-3"	5'-8"	5'-4"	5'-0"	4'-9"	4'-6"
2-800L150-43	6'-1"	5'-9"	5'-5"	5'-2"	4'-11"	5'-4"	5'-0"	4'-9"	4'-6"	4'-3"
2-800L150-54	7'-0"	6'-7"	6'-3"	5'-11"	5'-8"	6'-1"	5'-9"	5'-5"	5'-2"	4'-11"
2-800L150-68	8'-2"	7'-8"	7'-3"	6'-10"	6'-7"	7'-1"	6'-8"	6'-3"	5'-11"	5'-8"
2-1000L150-43	6'-3"	5'-10"	5'-6"	5'-3"	5'-0"	5'-5"	5'-1"	4'-10"	4'-7"	4'-4"
2-1000L150-54	7'-2"	6'-9"	6'-4"	6'-0"	5'-9"	6'-3"	5'-10"	5'-6"	5'-3"	5'-0"
2-1000L150-68	8'-3"	7'-9"	7'-4"	6'-11"	6'-8"	7'-2"	6'-9"	6'-4"	6'-0"	5'-9"

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 foot = 0.305 m

[1] Building width is measured in the direction of horizontal framing members supported by the *header*.

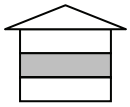
[2] Design assumptions:

Roof and ceiling dead load = 12 psf (0.58 kN/m^2)

2 foot (0.61 m) roof overhang

33 KSI

Table E7-16a
Double L-Header Spans – Gravity Loading
Headers Supporting One Floor, Roof and Ceiling [1,2]
F_y = 33 ksi



Double L-Header Designation	20 psf Ground Snow Load					30 psf Ground Snow Load				
	Building Width					Building Width				
	24'	28'	32'	36'	40'	24'	28'	32'	36'	40'
2-600L150-43	3'-9"	3'-6"	3'-3"	3'-1"	2'-11"	3'-8"	3'-5"	3'-3"	3'-1"	2'-11"
2-600L150-54	4'-4"	4'-0"	3'-10"	3'-7"	3'-5"	4'-3"	4'-0"	3'-9"	3'-7"	3'-5"
2-600L150-68	5'-0"	4'-8"	4'-5"	4'-2"	4'-0"	5'-0"	4'-8"	4'-5"	4'-2"	4'-0"
2-800L150-43	4'-9"	4'-5"	4'-2"	3'-11"	3'-9"	4'-8"	4'-4"	4'-1"	3'-11"	3'-9"
2-800L150-54	5'-5"	5'-1"	4'-10"	4'-7"	4'-4"	5'-5"	5'-0"	4'-9"	4'-6"	4'-4"
2-800L150-68	6'-4"	5'-11"	5'-7"	5'-3"	5'-0"	6'-3"	5'-10"	5'-6"	5'-3"	5'-0"
2-1000L150-43	4'-10"	4'-6"	4'-3"	4'-0"	3'-10"	4'-9"	4'-5"	4'-2"	4'-0"	3'-10"
2-1000L150-54	5'-6"	5'-2"	4'-11"	4'-8"	4'-5"	5'-6"	5'-1"	4'-10"	4'-7"	4'-4"
2-1000L150-68	6'-5"	6'-0"	5'-7"	5'-4"	5'-1"	6'-4"	5'-11"	5'-7"	5'-3"	5'-0"

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 foot = 0.305 m

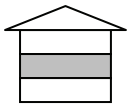
[1] Building width is measured in the direction of horizontal framing members supported by the *header*.

[2] Design assumptions:

Roof and ceiling dead load = 12 psf (0.58 kN/m^2)
2 foot (0.61 m) roof overhang
Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2)

50 KSI

Table E7-16b
Double L-Header Spans – Gravity Loading
Headers Supporting One Floor, Roof and Ceiling [1,2]
F_y = 50 ksi



Double L-Header Designation	20 psf Ground Snow Load					30 psf Ground Snow Load				
	Building Width					Building Width				
	24'	28'	32'	36'	40'	24'	28'	32'	36'	40'
2-600L150-43	4'-7"	4'-4"	4'-1"	3'-10"	3'-8"	4'-7"	4'-3"	4'-0"	3'-10"	3'-8"
2-600L150-54	5'-4"	5'-0"	4'-9"	4'-6"	4'-3"	5'-4"	5'-0"	4'-8"	4'-5"	4'-3"
2-600L150-68	6'-3"	5'-10"	5'-6"	5'-3"	5'-0"	6'-2"	5'-9"	5'-5"	5'-2"	4'-11"
2-800L150-43	5'-10"	5'-6"	5'-2"	4'-11"	4'-8"	5'-9"	5'-5"	5'-1"	4'-10"	4'-8"
2-800L150-54	6'-9"	6'-4"	6'-0"	5'-8"	5'-5"	6'-8"	6'-3"	5'-11"	5'-7"	5'-4"
2-800L150-68	7'-10"	7'-4"	6'-11"	6'-5"	6'-3"	7'-9"	7'-3"	6'-10"	6-'6"	6'-2"
2-1000L150-43	6'-0"	5'-7"	5'-3"	5'-0"	4'-9"	5'-11"	5'-6"	5'-3"	4'-11"	4'-9"
2-1000L150-54	6'-10"	6'-5"	6'-1"	5'-9"	5'-6"	6'-9"	6'-4"	6'-0"	5'-8"	5'-5"
2-1000L150-68	7'-11"	7'-5"	7'-0"	6'-7"	6'-4"	7'-10"	7'-4"	6'-11"	6'-7"	6'-3"

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 foot = 0.305 m

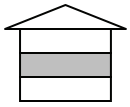
[1] Building width is measured in the direction of horizontal framing members supported by the *header*.

[2] Design assumptions:

Roof and ceiling dead load = 12 psf (0.58 kN/m^2)
2 foot (0.61 m) roof overhang
Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2)

33 KSI

Table E7-17a
Double L-Header Spans – Gravity Loading
Headers Supporting One Floor, Roof and Ceiling [1,2]
F_y = 33 ksi



Double L-Header Designation	50 psf Ground Snow Load					70 psf Ground Snow Load				
	Building Width					Building Width				
	24'	28'	32'	36'	40'	24'	28'	32'	36'	40'
2-600L150-43	3'-3"	3'-0"	2'-10"	2'-8"	2'-7"	2'-11"	2'-9"	2'-7"	2'-6"	2'-4"
2-600L150-54	3'-9"	3'-6"	3'-4"	3'-2"	3'-0"	3'-5"	3'-2"	3'-0"	2'-10"	2'-9"
2-600L150-68	4'-5"	4'-1"	3'-10"	3'-8"	3'-6"	4'-0"	3'-9"	3'-6"	3'-4"	3'-2"
2-800L150-43	4'-2"	3'-10"	3'-8"	3'-5"	3'-3"	3'-9"	3'-6"	3'-4"	3'-2"	3'-0"
2-800L150-54	4'-9"	4'-6"	4'-2"	4'-0"	3'-10"	4'-4"	4'-1"	3'-10"	3'-8"	3'-6"
2-800L150-68	5'-6"	5'-1"	4'-10"	4'-7"	4'-5"	5'-0"	4'-8"	4'-5"	4'-2"	4'-0"
2-1000L150-43	4'-3"	3'-11"	3'-9"	3'-6"	3'-4"	3'-10"	3'-7"	3'-5"	3'-3"	3'-1"
2-1000L150-54	4'-10"	4'-6"	4'-3"	4'-1"	3'-10"	4'-4"	4'-1"	3'-11"	3'-8"	3'-6"
2-1000L150-68	5'-7"	5'-3"	4'-11"	4'-8"	4'-5"	5'-0"	4'-9"	4'-6"	4'-3"	4'-1"

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 foot = 0.305 m

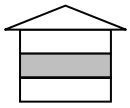
[1] Building width is measured in the direction of horizontal framing members supported by the *header*.

[2] Design assumptions:

Roof and ceiling dead load = 12 psf (0.58 kN/ m^2)
2 foot (0.61 m) roof overhang
Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2)

50 KSI

Table E7-17b
Double L-Header Spans – Gravity Loading
Headers Supporting One Floor, Roof and Ceiling [1,2]
F_y = 50 ksi



Double L-Header Designation	50 psf Ground Snow Load					70 psf Ground Snow Load				
	Building Width					Building Width				
	24'	28'	32'	36'	40'	24'	28'	32'	36'	40'
2-600L150-43	4'-1"	3'-9"	3'-7"	3'-5"	3'-3"	3'-8"	3'-5"	3'-3"	3'-1"	2'-11"
2-600L150-54	4'-8"	4'-5"	4'-2"	3'-11"	3'-9"	4'-3"	4'-0"	3'-9"	3'-7"	3'-5"
2-600L150-68	5'-6"	5'-1"	4'-10"	4'-7"	4'-4"	4'-11"	4'-8"	4'-4"	4'-2"	4'-0"
2-800L150-43	5'-2"	4'-1"	4'-6"	4'-4"	4'-1"	4'-8"	4'-4"	4'-1"	3'-11"	3'-9"
2-800L150-54	5'-11"	5'-7"	5'-3"	4'-11"	4'-9"	5'-4"	5'-0"	4'-9"	4'-6"	4'-4"
2-800L150-68	6'-10"	6'-5"	6'-0"	5'-9"	5'-5"	6'-2"	5'-1"	5'-6"	5'-3"	5'-0"
2-1000L150-43	5'-3"	4'-11"	4'-7"	4'-5"	4'-2"	4'-9"	4'-5"	4'-3"	4'-0"	3'-10"
2-1000L150-54	6'-0"	5'-8"	5'-4"	5'-0"	4'-10"	5'-5"	5'-1"	4'-10"	4'-7"	4'-5"
2-1000L150-68	6'-11"	6'-6"	6'-1"	5'-9"	5'-6"	6'-3"	5'-10"	5'-7"	5'-3"	5'-1"

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 foot = 0.305 m

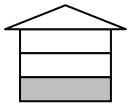
[1] Building width is measured in the direction of horizontal framing members supported by the *header*.

[2] Design assumptions:

Roof and ceiling dead load = 12 psf (0.58 kN/ m^2)
2 foot (0.61 m) roof overhang
Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2)

33 KSI

Table E7-18a
Double L-Header Spans – Gravity Loading
Headers Supporting Two Floors, Roof and Ceiling [1,2]
F_y = 33 ksi



Double L-Header Designation	20 psf Ground Snow Load					30 psf Ground Snow Load				
	Building Width					Building Width				
	24'	28'	32'	36'	40'	24'	28'	32'	36'	40'
2-600L150-43	2'-8"	2'-6"	2'-4"	2'-3"	2'-2"	2'-8"	2'-6"	2'-4"	2'-3"	2'-2"
2-600L150-54	3'-2"	2'-11"	2'-9"	2'-7"	2'-6"	3'-1"	2'-11"	2'-9"	2'-7"	2'-6"
2-600L150-68	3'-8"	3'-5"	3'-3"	3'-1"	2'-11"	3'-8"	3'-5"	3'-2"	3'-0"	2'-11"
2-800L150-43	3'-5"	3'-3"	3'-0"	2'-10"	2'-9"	3'-5"	3'-2"	3'-0"	2'-10"	2'-9"
2-800L150-54	4'-0"	3'-8"	3'-6"	3'-4"	3'-2"	3'-11"	3'-8"	3'-6"	3'-3"	3'-2"
2-800L150-68	4'-7"	4'-4"	4'-0"	3'-10"	3'-8"	4'-7"	4'-3"	4'-0"	3'-10"	3'-8"
2-1000L150-43	3'-6"	3'-3"	3'-1"	2'-11"	2'-9"	3'-6"	3'-3"	3'-1"	2'-11"	2'-9"
2-1000L150-54	4'-0"	3'-9"	3'-7"	3'-4"	3'-2"	4'-0"	3'-9"	3'-6"	3'-4"	3'-2"
2-1000L150-68	4'-8"	4'-4"	4'-1"	3'-10"	3'-8"	4'-7"	4'-4"	4'-1"	3'-10"	3'-8"

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 foot = 0.305 m

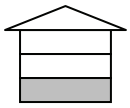
[1] Building width is measured in the direction of horizontal framing members supported by the *header*.

[2] Design assumptions:

Roof and ceiling dead load = 12 psf (0.58 kN/m^2)
2 foot (0.61 m) roof overhang
Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2)

50 KSI

Table E7-18b
Double L-Header Spans – Gravity Loading
Headers Supporting Two Floors, Roof and Ceiling [1,2]
F_y = 50 ksi



Double L-Header Designation	20 psf Ground Snow Load					30 psf Ground Snow Load				
	Building Width					Building Width				
	24'	28'	32'	36'	40'	24'	28'	32'	36'	40'
2-600L150-43	3'-4"	3'-2"	3'-0"	2'-10"	2'-8"	3'-4"	3'-2"	2'-11"	2'-10"	2'-8"
2-600L150-54	3'-11"	3'-8"	3'-5"	3'-3"	3'-1"	3'-11"	3'-8"	3'-5"	3'-3"	3'-1"
2-600L150-68	4'-7"	4'-3"	4'-0"	3'-10"	3'-7"	4'-6"	4'-3"	4'-0"	3'-9"	3'-7"
2-800L150-43	4'-3"	4'-0"	3'-9"	3'-7"	3'-5"	4'-3"	4'-0"	3'-9"	3'-7"	3'-5"
2-800L150-54	4'-11"	4'-7"	4'-3"	4'-1"	3'-11"	4'-10"	4'-7"	4'-4"	4'-1"	3'-11"
2-800L150-68	5'-8"	5'-4"	5'-0"	4'-9"	4'-6"	5'-8"	5'-4"	5'-0"	4'-9"	4'-6"
2-1000L150-43	4'-4"	4'-1"	3'-11"	3'-8"	3'-6"	4'-4"	4'-1"	3'-10"	3'-8"	3'-6"
2-1000L150-54	5'-0"	4'-8"	4'-5"	4'-2"	4'-0"	5'-0"	4'-8"	4'-5"	4'-2"	4'-0"
2-1000L150-68	5'-9"	5'-5"	5'-1"	4'-10"	4'-7"	5'-9"	5'-4"	5'-1"	4'-9"	4'-7"

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 foot = 0.305 m

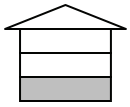
[1] Building width is measured in the direction of horizontal framing members supported by the *header*.

[2] Design assumptions:

Roof and ceiling dead load = 12 psf (0.58 kN/m^2)
2 foot (0.61 m) roof overhang
Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2)

33 KSI

Table E7-19a
Double L-Header Spans – Gravity Loading
Headers Supporting Two Floors, Roof and Ceiling [1,2]
F_y = 33 ksi



Double L-Header Designation	50 psf Ground Snow Load					70 psf Ground Snow Load				
	Building Width					Building Width				
	24'	28'	32'	36'	40'	24'	28'	32'	36'	40'
2-600L150-43	2'-7"	2'-5"	2'-4"	2'-2"	2'-1"	2'-7"	2'-5"	2'-3"	2'-2"	2'-0"
2-600L150-54	3'-1"	2'-10"	2'-8"	2'-6"	2'-5"	3'-0"	2'-9"	2'-7"	2'-6"	2'-4"
2-600L150-68	3'-7"	3'-4"	3'-1"	2'-11"	2'-10"	3'-6"	3'-3"	3'-1"	2'-11"	2'-9"
2-800L150-43	3'-4"	3'-1"	2'-11"	2'-9"	2'-8"	3'-3"	3'-1"	2'-10"	2'-9"	2'-7"
2-800L150-54	3'-10"	3'-7"	3'-5"	3'-2"	3'-1"	3'-9"	3'-6"	3'-4"	3'-2"	3'-0"
2-800L150-68	4'-5"	4'-2"	3'-11"	3'-8"	3'-6"	4'-4"	4'-1"	3'-10"	3'-8"	3'-6"
2-1000L150-43	3'-5"	3'-2"	3'-0"	2'-10"	2'-8"	3'-3"	3'-1"	2'-11"	2'-9"	2'-8"
2-1000L150-54	3'-11"	3'-8"	3'-5"	3'-3"	3'-1"	3'-10"	3'-7"	3'-4"	3'-2"	3'-0"
2-1000L150-68	4'-6"	4'-3"	4'-0"	3'-9"	3'-7"	4'-5"	4'-1"	3'-11"	3'-8"	3'-6"

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 foot = 0.305 m

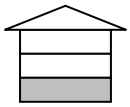
[1] Building width is measured in the direction of horizontal framing members supported by the *header*.

[2] Design assumptions:

Roof and ceiling dead load = 12 psf (0.58 kN/ m^2)
2 foot (0.61 m) roof overhang
Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2)

50 KSI

Table E7-19b
Double L-Header Spans – Gravity Loading
Headers Supporting Two Floors, Roof and Ceiling [1,2]
F_y = 50 ksi



Double L-Header Designation	50 psf Ground Snow Load					70 psf Ground Snow Load				
	Building Width					Building Width				
	24'	28'	32'	36'	40'	24'	28'	32'	36'	40'
2-600L150-43	3'-3"	3'-1"	2'-11"	2'-9"	2'-7"	3'-2"	3'-0"	2'-10"	2'-8"	2'-7"
2-600L150-54	3'-10"	3'-7"	3'-4"	3'-2"	3'-0"	3'-9"	3'-6"	3'-3"	3'-1"	3'-0"
2-600L150-68	4'-5"	4'-2"	3'-11"	3'-8"	3'-6"	4'-4"	4'-0"	3'-10"	3'-7"	3'-5"
2-800L150-43	4'-2"	3'-10"	3'-8"	3'-5"	3'-4"	4'-1"	3'-9"	3'-7"	3'-4"	3'-3"
2-800L150-54	4'-9"	4'-6"	4'-3"	4'-0"	3'-10"	4'-8"	4'-5"	4'-2"	3'-11"	3'-9"
2-800L150-68	5'-6"	5'-2"	4'-10"	4'-7"	4'-5"	5'-5"	5'-1"	4'-9"	4'-6"	4'-4"
2-1000L150-43	4'-3"	4'-0"	3'-9"	3'-6"	3'-4"	4'-2"	3'-10"	3'-8"	3'-5"	3'-4"
2-1000L150-54	4'-10"	4'-7"	4'-3"	4'-1"	3'-10"	4'-9"	4'-5"	4'-2"	4'-0"	3'-9"
2-1000L150-68	5'-7"	5'-3"	4'-11"	4'-8"	4'-5"	5'-6"	5'-1"	4'-10"	4'-7"	4'-4"

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 foot = 0.305 m

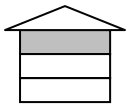
[1] Building width is measured in the direction of horizontal framing members supported by the *header*.

[2] Design assumptions:

Roof and ceiling dead load = 12 psf (0.58 kN/ m^2)
2 foot (0.61 m) roof overhang
Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2)

33 KSI

Table E7-20a
Double L-Header Spans – Uplift Loading
Headers Supporting Roof and Ceiling Only
24-Foot Wide Building [1,2]
F_y = 33 ksi

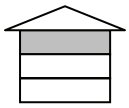


	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Double L-Header Designation										
2-600L150-43	7'-2"	6'-3"	4'-10"	4'-1"	3'-7"	3'-2"	2'-10"	2'-6"	2'-4"	2'-2"
2-600L150-54	8'-4"	7'-3"	5'-7"	4'-9"	4'-2"	3'-8"	3'-3"	2'-11"	2'-8"	2'-6"
2-600L150-68	9'-9"	8'-5"	6'-6"	5'-6"	4'-10"	4'-3"	3'-9"	3'-5"	3'-1"	2'-10"
2-800L150-43	8'-2"	7'-1"	5'-5"	4'-8"	4'-0"	3'-7"	3'-2"	2'-10"	2'-7"	2'-5"
2-800L150-54	10'-6"	9'-1"	7'-0"	6'-0"	5'-2"	4'-8"	4'-1"	3'-8"	3'-5"	3'-1"
2-800L150-68	12'-2"	10'-7"	8'-1"	6'-11"	6'-0"	5'-4"	4'-9"	4'-3"	3'-11"	3'-7"
2-1000L150-43	9'-5"	8'-2"	6'-3"	5'-4"	4'-8"	4'-1"	3'-8"	3'-4"	3'-0"	2'-9"
2-1000L150-54	10'-9"	9'-4"	7'-2"	6'-2"	5'-4"	4'-9"	4'-2"	3'-9"	3'-6"	3'-2"
2-1000L150-68	13'-10"	12'-0"	9'-3"	7'-11"	6'-10"	6'-1"	5'-5"	4'-11"	4'-5"	4'-1"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m
[1] Building width is measured in the direction of horizontal framing members supported by the *header*.
[2] Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2), 2 foot roof overhang (0.61 m)
[3] N/U indicates no net uplift loads acting on *header*.

50 KSI

Table E7-20b
Double L-Header Spans – Uplift Loading
Headers Supporting Roof and Ceiling Only
24-Foot Wide Building [1,2]
F_y = 50 ksi

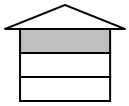


	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Double L-Header Designation										
2-600L150-43	8'-10"	7'-8"	5'-10"	5'-0"	4'-4"	3'-10"	3'-5"	3'-1"	2'-10"	2'-7"
2-600L150-54	10'-3"	8'-10"	6'-10"	5'-10"	5'-1"	4'-6"	4'-0"	3'-7"	3'-3"	3'-0"
2-600L150-68	11'-11"	10'-4"	7'-11"	6'-9"	5'-10"	5'-3"	4'-7"	4'-2"	3'-10"	3'-6"
2-800L150-43	10'-0"	8'-8"	6'-8"	5'-8"	4'-11"	4'-5"	3'-11"	3'-6"	3'-2"	2'-11"
2-800L150-54	12'-11"	11'-2"	8'-7"	7'-4"	6'-4"	5'-8"	5'-0"	4'-6"	4'-1"	3'-10"
2-800L150-68	14'-11"	12'-11"	9'-11"	8'-6"	7'-4"	6'-7"	5'-10"	5'-3"	4'-9"	4'-5"
2-1000L150-43	11'-6"	10'-0"	7'-8"	5'-6"	5'-8"	5'-0"	4'-6"	4'-0"	3'-8"	3'-5"
2-1000L150-54	13'-3"	11'-5"	8'-10"	7'-6"	6'-6"	5'-10"	5'-2"	4'-8"	4'-3"	3'-11"
2-1000L150-68	16'-0"	14'-9"	11'-4"	9'-8"	8'-5"	7'-6"	6'-7"	6'-0"	5'-5"	5'-0"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m
[1] Building width is measured in the direction of horizontal framing members supported by the *header*.
[2] Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2), 2 foot roof overhang (0.61 m)
[3] N/U indicates no net uplift loads acting on *header*.

33 KSI

Table E7-21a
Double L-Header Spans – Uplift Loading
Headers Supporting Roof and Ceiling Only
28-Foot Wide Building [1,2]
F_y = 33 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Double L-Header Designation										
2-600L150-43	6'-10"	5'-11"	4'-6"	3'-10"	3'-4"	3'-0"	2'-8"	2'-5"	2'-2"	2'-0"
2-600L150-54	8'-0"	6'-11"	5'-3"	4'-6"	3'-11"	3'-6"	3'-1"	2'-9"	2'-6"	2'-4"
2-600L150-68	9'-3"	8'-0"	6'-2"	5'-3"	4'-6"	4'-0"	3'-7"	3'-3"	2'-11"	2'-8"
2-800L150-43	7'-9"	6'-9"	5'-2"	4'-5"	3'-10"	3'-5"	3'-0"	2'-9"	2'-6"	2'-3"
2-800L150-54	10'-0"	8'-8"	6'-8"	5'-8"	4'-11"	4'-4"	3'-10"	3'-6"	3'-2"	2'-11"
2-800L150-68	11'-7"	10'-0"	7'-8"	6'-7"	5'-8"	5'-1"	4'-6"	4'-0"	3'-8"	3'-5"
2-1000L150-43	8'-11"	7'-9"	5'-11"	5'-1"	4'-5"	3'-11"	3'-5"	3'-1"	2'-10"	2'-7"
2-1000L150-54	10'-3"	8'-10"	6'-10"	5'-9"	5'-0"	4'-6"	4'-0"	3'-7"	3'-3"	3'-0"
2-1000L150-68	13'-3"	11'-5"	8'-9"	7'-5"	6'-6"	5'-9"	5'-1"	4'-7"	4'-2"	3'-10"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

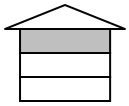
[1] Building width is measured in the direction of horizontal framing members supported by the *header*.

[2] Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2), 2 foot (0.61 m) roof overhang

[3] N/U indicates no net uplift loads acting on *header*.

50 KSI

Table E7-21b
Double L-Header Spans – Uplift Loading
Headers Supporting Roof and Ceiling Only
28-Foot Wide Building [1,2]
F_y = 50 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Double L-Header Designation										
2-600L150-43	8'-5"	7'-3"	5'-7"	4'-9"	4'-1"	3'-8"	3'-3"	2'-11"	2'-8"	2'-5"
2-600L150-54	9'-9"	8'-5"	6'-5"	5'-6"	4'-9"	4'-3"	3'-9"	3'-4"	3'-1"	2'-10"
2-600L150-68	11'-4"	9'-10"	7'-6"	6'-5"	5'-7"	4'-11"	4'-4"	3'-11"	3'-7"	3'-3"
2-800L150-43	9'-6"	8'-3"	6'-4"	5'-4"	4'-8"	4'-2"	3'-8"	3'-4"	3'-0"	2'-9"
2-800L150-54	12'-4"	10'-8"	8'-2"	6'-11"	6'-0"	5'-4"	4'-9"	4'-3"	3'-11"	3'-7"
2-800L150-68	14'-3"	12'-4"	9'-5"	8'-0"	6'-11"	6'-2"	5'-6"	4'-11"	4'-6"	4'-2"
2-1000L150-43	11'-0"	9'-6"	7'-3"	6'-2"	5'-4"	4'-9"	4'-3"	3'-10"	3'-5"	3'-2"
2-1000L150-54	12'-7"	10'-11"	8'-4"	7'-1"	6'-2"	5'-6"	4'-10"	4'-4"	4'-0"	3'-8"
2-1000L150-68	16'-0"	14'-0"	10'-9"	9'-2"	7'-11"	7'-0"	6'-9"	5'-7"	5'-1"	4'-9"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

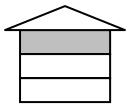
[1] Building width is measured in the direction of horizontal framing members supported by the *header*.

[2] Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2), 2 foot (0.61 m) roof overhang

[3] N/U indicates no net uplift loads acting on *header*.

33 KSI

Table E7-22a
Double L-Header Spans – Uplift Loading
Headers Supporting Roof and Ceiling Only
32-Foot Wide Building [1,2,3]
F_y = 33 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Double L-Header Designation										
2-600L150-43	6'-7"	5'-8"	4'-4"	3'-8"	3'-2"	2'-10"	2'-6"	2'-3"	2'-1"	1'-11"
2-600L150-54	7'-7"	6'-7"	5'-0"	4'-3"	3'-8"	3'-3"	2'-11"	2'-7"	2'-5"	2'-2"
2-600L150-68	8'-10"	7'-8"	5'-10"	5'-0"	4'-4"	3'-10"	3'-5"	3'-1"	2'-9"	2'-7"
2-800L150-43	7'-5"	6'-5"	4'-11"	4'-2"	3'-7"	3'-3"	2'-10"	2'-7"	2'-4"	2'-2"
2-800L150-54	9'-7"	8'-3"	6'-4"	5'-5"	4'-8"	4'-2"	3'-8"	3'-4"	3'-0"	2'-9"
2-800L150-68	11'-1"	9'-7"	7'-4"	6'-3"	5'-5"	4'-10"	4'-3"	3'-10"	3'-6"	3'-3"
2-1000L150-43	8'-7"	7'-5"	5'-8"	4'-10"	4'-2"	3'-8"	3'-3"	2'-11"	2'-8"	2'-6"
2-1000L150-54	9'-10"	8'-6"	6'-6"	5'-6"	4'-9"	4'-3"	3'-9"	3'-5"	3'-1"	2'-10"
2-1000L150-68	12'-8"	10'-11"	8'-4"	7'-1"	6'-2"	5'-6"	4'-10"	4'-4"	4'-0"	3'-8"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

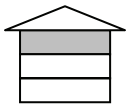
1 Building width is measured in the direction of horizontal framing members supported by the *header*.

2 Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2), 2 foot (0.61 m) roof overhang

3 N/U indicates no net uplift loads acting on *header*.

50 KSI

Table E7-22b
Double L-Header Spans – Uplift Loading
Headers Supporting Roof and Ceiling Only
32-Foot Wide Building [1,2,3]
F_y = 50 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Double L-Header Designation										
2-600L150-43	8'-0"	6'-11"	5'-3"	4'-6"	3'-11"	3'-5"	3'-1"	2'-9"	2'-6"	2'-4"
2-600L150-54	9'-4"	8'-1"	6'-2"	5'-3"	4'-6"	4'-0"	3'-7"	3'-2"	2'-11"	2'-8"
2-600L150-68	10'-10"	9'-4"	7'-2"	6'-1"	5'-3"	4'-8"	4'-2"	3'-9"	3'-5"	3'-1"
2-800L150-43	9'-2"	7'-10"	6'-0"	5'-1"	4'-5"	3'-11"	3'-6"	3'-1"	2'-10"	2'-7"
2-800L150-54	11'-9"	10'-2"	7'-9"	6'-7"	5'-8"	5'-1"	4'-6"	4'-0"	3'-8"	3'-5"
2-800L150-68	13'-8"	11'-9"	9'-0"	7'-7"	6'-7"	5'-10"	5'-2"	4'-8"	4'-3"	3'-11"
2-1000L150-43	10'-6"	9'-1"	6'-11"	5'-10"	5'-1"	4'-6"	4'-0"	3'-7"	3'-3"	3'-0"
2-1000L150-54	12'-1"	10'-5"	7'-11"	6'-9"	5'-10"	5'-2"	4'-7"	4'-2"	3'-9"	3'-6"
2-1000L150-68	15'-6"	13'-5"	10'-3"	8'-8"	7'-6"	6'-8"	5'-11"	5'-4"	4'-10"	4'-6"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

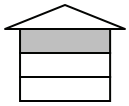
1 Building width is measured in the direction of horizontal framing members supported by the *header*.

2 Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2), 2 foot (0.61 m) roof overhang

3 N/U indicates no net uplift loads acting on *header*.

33 KSI

Table E7-23a
Double L-Header Spans – Uplift Loading
Headers Supporting Roof and Ceiling Only
36-Foot Wide Building [1,2,3]
F_y = 33 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Double L-Header Designation										
2-600L150-43	6'-4"	5'-5"	4'-2"	3'-6"	3'-0"	2'-8"	2'-5"	2'-2"	2'-0"	1'-10"
2-600L150-54	7'-4"	6'-4"	4'-10"	4'-1"	3'-6"	3'-2"	2'-9"	2'-6"	2'-3"	2'-1"
2-600L150-68	8'-6"	7'-4"	5'-7"	4'-9"	4'-1"	3'-8"	3'-3"	2'-11"	2'-8"	2'-5"
2-800L150-43	7'-2"	6'-2"	4'-8"	4'-0"	3'-5"	3'-1"	2'-9"	2'-5"	2'-3"	2'-1"
2-800L150-54	9'-3"	7'-11"	6'-0"	5'-2"	4'-5"	3'-11"	3'-6"	3'-2"	2'-11"	2'-8"
2-800L150-68	10'-8"	9'-2"	7'-0"	5'-11"	5'-2"	4'-7"	4'-1"	3'-8"	3'-4"	3'-1"
2-1000L150-43	8'-3"	7'-1"	5'-5"	4'-7"	4'-0"	3'-6"	3'-1"	2'-10"	2'-7"	2'-4"
2-1000L150-54	9'-5"	8'-1"	6'-2"	5'-3"	4'-7"	4'-0"	3'-7"	3'-3"	2'-11"	2'-9"
2-1000L150-68	12'-2"	10'-5"	8'-0"	6'-9"	5'-10"	5'-2"	4'-7"	4'-2"	3'-9"	3'-6"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

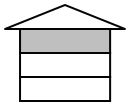
1 Building width is measured in the direction of horizontal framing members supported by the *header*.

2 Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2), 2 foot (0.61 m) roof overhang

3 N/U indicates no net uplift loads acting on *header*.

50 KSI

Table E7-23b
Double L-Header Spans – Uplift Loading
Headers Supporting Roof and Ceiling Only
36-Foot Wide Building [1,2,3]
F_y = 50 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Double L-Header Designation										
2-600L150-43	7'-9"	6'-8"	5'-1"	4'-3"	3'-8"	3'-3"	2'-11"	2'-7"	2'-5"	2'-2"
2-600L150-54	9'-0"	7'-9"	5'-10"	5'-0"	4'-4"	3'-10"	3'-5"	3'-1"	2'-9"	2'-7"
2-600L150-68	10'-5"	9'-0"	6'-10"	5'-10"	5'-0"	4'-5"	3'-11"	3'-7"	3'-3"	3'-0"
2-800L150-43	8'-9"	7'-7"	5'-9"	4'-10"	4'-3"	3'-9"	3'-4"	3'-0"	2'-9"	2'-6"
2-800L150-54	11'-4"	9'-9"	7'-5"	6'-3"	5'-5"	4'-10"	4'-3"	3'-10"	3'-6"	3'-3"
2-800L150-68	13'-1"	11'-3"	8'-7"	7'-3"	6'-4"	5'-7"	4'-11"	4'-5"	4'-1"	3'-9"
2-1000L150-43	10'-1"	8'-8"	6'-7"	5'-7"	4'-10"	4'-4"	3'-10"	3'-5"	3'-1"	2'-10"
2-1000L150-54	11'-7"	10'-0"	7'-7"	6'-5"	5'-7"	4'-11"	4'-4"	3'-11"	3'-7"	3'-4"
2-1000L150-68	14'-11"	12'-10"	9'-9"	8'-3"	7'-2"	6'-4"	5'-8"	5'-1"	4'-8"	4'-3"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

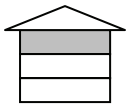
1 Building width is measured in the direction of horizontal framing members supported by the *header*.

2 Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2), 2 foot (0.61 m) roof overhang

3 N/U indicates no net uplift loads acting on *header*.

33 KSI

Table E7-24a
Double L-Header Spans – Uplift Loading
Headers Supporting Roof and Ceiling Only
40-Foot Wide Building [1,2,3]
F_y = 33 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Double L-Header Designation										
2-600L150-43	6'-1"	5'-3"	4'-0"	3'-4"	2'-11"	2'-7"	2'-3"	2'-1"	1'-11"	1'-9"
2-600L150-54	7'-1"	6'-1"	4'-7"	3'-11"	3'-5"	3'-0"	2'-8"	2'-5"	2'-2"	2'-0"
2-600L150-68	8'-2"	7'-0"	5'-4"	4'-6"	3'-11"	3'-6"	3'-1"	2'-9"	2'-6"	2'-4"
2-800L150-43	6'-11"	5'-11"	4'-6"	3'-10"	3'-4"	2'-11"	2'-7"	2'-4"	2'-2"	2'-0"
2-800L150-54	8'-11"	7'-8"	5'-10"	4'-11"	4'-3"	3'-9"	3'-4"	3'-0"	2'-9"	2'-6"
2-800L150-68	10'-3"	8'-10"	6'-8"	5'-8"	4'-11"	4'-5"	3'-11"	3'-6"	3'-2"	2'-11"
2-1000L150-43	7'-11"	6'-10"	5'-2"	4'-5"	3'-10"	3'-4"	3'-0"	2'-8"	2'-5"	2'-3"
2-1000L150-54	9'-1"	7'-10"	5'-11"	5'-0"	4'-4"	3'-11"	3'-5"	3'-1"	2'-10"	2'-7"
2-1000L150-68	11'-8"	10'-1"	7'-8"	6'-6"	5'-7"	5'-0"	4'-5"	4'-0"	3'-7"	3'-4"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

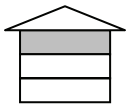
1 Building width is measured in the direction of horizontal framing members supported by the *header*.

2 Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2), 2 foot (0.61 m) roof overhang

3 N/U indicates no net uplift loads acting on *header*.

50 KSI

Table E7-24b
Double L-Header Spans – Uplift Loading
Headers Supporting Roof and Ceiling Only
40-Foot Wide Building [1,2,3]
F_y = 50 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Double L-Header Designation										
2-600L150-43	7'-5"	6'-5"	4'-10"	4'-1"	3'-7"	3'-2"	2'-9"	2'-6"	2'-3"	2'-1"
2-600L150-54	8'-8"	7'-5"	5'-7"	4'-9"	4'-2"	3'-8"	3'-3"	2'-11"	2'-8"	2'-5"
2-600L150-68	10'-1"	8'-8"	6'-7"	5'-7"	4'-10"	4'-3"	3'-9"	3'-5"	3'-1"	2'-10"
2-800L150-43	8'-5"	7'-3"	5'-6"	4'-8"	4'-0"	3'-7"	3'-2"	2'-10"	2'-7"	2'-5"
2-800L150-54	10'-11"	9'-4"	7'-1"	6'-0"	5'-3"	4'-7"	4'-1"	3'-8"	3'-4"	3'-1"
2-800L150-68	12'-7"	10'-10"	8'-3"	7'-0"	6'-0"	5'-4"	4'-9"	4'-3"	3'-11"	3'-7"
2-1000L150-43	9'-9"	8'-4"	6'-4"	5'-4"	4'-8"	4'-1"	3'-8"	3'-3"	3'-0"	2'-9"
2-1000L150-54	11'-2"	9'-7"	7'-3"	6'-2"	5'-4"	4'-9"	4'-2"	3'-9"	3'-5"	3'-2"
2-1000L150-68	14'-4"	12'-4"	9'-4"	7'-11"	6'-11"	6'-1"	5'-5"	4'-10"	4'-5"	4'-1"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

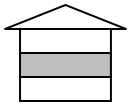
1 Building width is measured in the direction of horizontal framing members supported by the *header*.

2 Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2), 2 foot (0.61 m) roof overhang

3 N/U indicates no net uplift loads acting on *header*.

33 KSI

Table E7-25a
Double L-Header Spans – Uplift Loading
Headers Supporting One Floor, Roof and Ceiling
24-Foot Wide Building [1,2,3]
F_y = 33 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Double L-Header Designation										
2-600L150-43	N/U	N/U	N/U	9'-7"	5'-9"	4'-5"	3'-7"	3'-1"	2'-8"	2'-5"
2-600L150-54	N/U	N/U	N/U	11'-1"	6'-8"	5'-2"	4'-2"	3'-7"	3'-1"	2'-10"
2-600L150-68	N/U	N/U	N/U	12'-11"	7'-9"	6'-0"	4'-10"	4'-1"	3'-7"	3'-3"
2-800L150-43	N/U	N/U	N/U	10'-10"	6'-6"	5'-0"	4'-1"	3'-6"	3'-1"	2'-9"
2-800L150-54	N/U	N/U	N/U	14'-0"	8'-5"	6'-6"	5'-3"	4'-6"	3'-11"	3'-6"
2-800L150-68	N/U	N/U	N/U	16'-0"	9'-9"	7'-6"	6'-1"	5'-2"	4'-7"	4'-1"
2-1000L150-43	N/U	N/U	N/U	12'-6"	7'-6"	5'-9"	4'-8"	4'-0"	3'-6"	3'-2"
2-1000L150-54	N/U	N/U	N/U	14'-4"	8'-7"	6'-7"	5'-4"	4'-7"	4'-0"	3'-7"
2-1000L150-68	N/U	N/U	N/U	16'-0"	11'-1"	8'-6"	6'-11"	5'-11"	5'-2"	4'-8"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

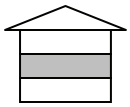
[1] Building width is measured in the direction of horizontal framing members supported by the *header*.

[2] Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2) Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2) 2 foot (0.61 m) roof overhang

[3] N/U indicates no net uplift loads acting on *header*.

50 KSI

Table E7-25b
Double L-Header Spans – Uplift Loading
Headers Supporting One Floor, Roof and Ceiling
24-Foot Wide Building [1,2,3]
F_y = 50 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Double L-Header Designation										
2-600L150-43	N/U	N/U	N/U	11'-9"	7'-0"	5'-5"	4'-4"	3'-9"	3'-3"	2'-11"
2-600L150-54	N/U	N/U	N/U	13'-7"	8'-2"	6'-3"	5'-1"	4'-4"	3'-10"	3'-5"
2-600L150-68	N/U	N/U	N/U	15'-10"	9'-6"	7'-4"	5'-11"	5'-0"	4'-5"	4'-0"
2-800L150-43	N/U	N/U	N/U	13'-4"	8'-0"	6'-2"	4'-11"	4'-3"	3'-9"	3'-4"
2-800L150-54	N/U	N/U	N/U	16'-0"	10'-4"	7'-11"	6'-5"	5'-6"	4'-10"	4'-4"
2-800L150-68	N/U	N/U	N/U	16'-0"	11'-11"	9'-2"	7'-5"	6'-4"	5'-7"	5'-0"
2-1000L150-43	N/U	N/U	N/U	15'-4"	9'-2"	7'-1"	5'-8"	4'-10"	4'-3"	3'-10"
2-1000L150-54	N/U	N/U	N/U	16'-0"	10'-7"	8'-1"	6'-7"	5'-7"	4'-11"	4'-5"
2-1000L150-68	N/U	N/U	N/U	16'-0"	13'-7"	10'-5"	8'-5"	7'-2"	6'-4"	5'-8"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

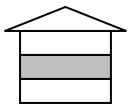
[1] Building width is measured in the direction of horizontal framing members supported by the *header*.

[2] Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2) Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2) 2 foot (0.61 m) roof overhang

[3] N/U indicates no net uplift loads acting on *header*.

33 KSI

Table E7-26a
Double L-Header Spans – Uplift Loading
Headers Supporting One Floor, Roof and Ceiling
28-Foot Wide Building [1,2,3]
F_y = 33 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Double L-Header Designation										
2-600L150-43	N/U	N/U	N/U	8'-8"	5'-4"	4'-2"	3'-4"	2'-10"	2'-6"	2'-3"
2-600L150-54	N/U	N/U	N/U	10'-1"	6'-2"	4'-10"	3'-11"	3'-4"	2'-11"	2'-8"
2-600L150-68	N/U	N/U	N/U	11'-9"	7'-3"	5'-7"	4'-6"	3'-10"	3'-5"	3'-1"
2-800L150-43	N/U	N/U	N/U	9'-11"	6'-1"	4'-8"	3'-10"	3'-3"	2'-10"	2'-7"
2-800L150-54	N/U	N/U	N/U	12'-9"	7'-10"	6'-1"	4'-11"	4'-2"	3'-8"	3'-4"
2-800L150-68	N/U	N/U	N/U	14'-9"	9'-0"	7'-0"	5'-8"	4'-10"	4'-3"	3'-10"
2-1000L150-43	N/U	N/U	N/U	11'-4"	7'-0"	5'-5"	4'-4"	3'-9"	3'-3"	2'-11"
2-1000L150-54	N/U	N/U	N/U	13'-0"	8'-0"	6'-2"	5'-0"	4'-3"	3'-9"	3'-5"
2-1000L150-68	N/U	N/U	N/U	16'-0"	10'-4"	8'-0"	6'-5"	5'-6"	4'-10"	4'-4"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

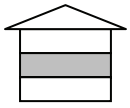
1 Building width is measured in the direction of horizontal framing members supported by the *header*.

2 Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2) Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2) 2 foot (0.61 m) roof overhang

3 N/U indicates no net uplift loads acting on *header*.

50 KSI

Table E7-26b
Double L-Header Spans – Uplift Loading
Headers Supporting One Floor, Roof and Ceiling
28-Foot Wide Building [1,2,3]
F_y = 50 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Double L-Header Designation										
2-600L150-43	N/U	N/U	N/U	10'-8"	6'-6"	5'-1"	4'-1"	3'-6"	3'-1"	2'-9"
2-600L150-54	N/U	N/U	N/U	12'-5"	7'-7"	5'-10"	4'-9"	4'-1"	3'-7"	3'-2"
2-600L150-68	N/U	N/U	N/U	14'-5"	8'-10"	6'-10"	5'-6"	4'-9"	4'-2"	3'-9"
2-800L150-43	N/U	N/U	N/U	12'-1"	7'-5"	5'-9"	4'-8"	4'-0"	3'-6"	3'-1"
2-800L150-54	N/U	N/U	N/U	15'-8"	9'-7"	7'-5"	6'-0"	5'-1"	4'-6"	4'-0"
2-800L150-68	N/U	N/U	N/U	16'-0"	11'-1"	8'-7"	6'-11"	5'-11"	5'-2"	4'-8"
2-1000L150-43	N/U	N/U	N/U	13'-11"	8'-7"	6'-7"	5'-4"	4'-7"	4'-0"	3'-7"
2-1000L150-54	N/U	N/U	N/U	16'-0"	9'-10"	7'-7"	6'-2"	5'-3"	4'-7"	4'-2"
2-1000L150-68	N/U	N/U	N/U	16'-0"	12'-8"	9'-9"	7'-11"	6'-9"	5'-11"	5'-4"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

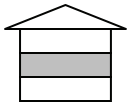
1 Building width is measured in the direction of horizontal framing members supported by the *header*.

2 Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2) Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2) 2 foot (0.61 m) roof overhang

3 N/U indicates no net uplift loads acting on *header*.

33 KSI

Table E7-27a
Double L-Header Spans – Uplift Loading
Headers Supporting One Floor, Roof and Ceiling
32-Foot Wide Building [1,2,3]
F_y = 33 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Double L-Header Designation										
2-600L150-43	N/U	N/U	N/U	8'-1"	5'-0"	3'-11"	3'-2"	2'-8"	2'-5"	2'-2"
2-600L150-54	N/U	N/U	N/U	9'-4"	5'-10"	4'-6"	3'-8"	3'-2"	2'-9"	2'-6"
2-600L150-68	N/U	N/U	N/U	10'-10"	6'-9"	5'-3"	4'-3"	3'-8"	3'-3"	2'-11"
2-800L150-43	N/U	N/U	N/U	9'-2"	5'-8"	4'-5"	3'-7"	3'-1"	2'-8"	2'-5"
2-800L150-54	N/U	N/U	N/U	11'-9"	7'-4"	5'-8"	4'-8"	4'-0"	3'-6"	3'-2"
2-800L150-68	N/U	N/U	N/U	13'-7"	8'-6"	6'-7"	5'-4"	4'-7"	4'-0"	3'-7"
2-1000L150-43	N/U	N/U	N/U	10'-6"	6'-6"	5'-1"	4'-1"	3'-6"	3'-1"	2'-9"
2-1000L150-54	N/U	N/U	N/U	12'-0"	7'-6"	5'-10"	4'-9"	4'-1"	3'-7"	3'-2"
2-1000L150-68	N/U	N/U	N/U	15'-6"	9'-8"	7'-6"	6'-1"	5'-3"	4'-7"	4'-1"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

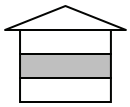
[1] Building width is measured in the direction of horizontal framing members supported by the *header*.

[2] Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2) Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2) 2 foot (0.61 m) roof overhang

[3] N/U indicates no net uplift loads acting on *header*.

50 KSI

Table E7-27b
Double L-Header Spans – Uplift Loading
Headers Supporting One Floor, Roof and Ceiling
32-Foot Wide Building [1,2,3]
F_y = 50 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Double L-Header Designation										
2-600L150-43	N/U	N/U	N/U	9'-10"	6'-2"	4'-9"	3'-10"	3'-3"	2'-11"	2'-7"
2-600L150-54	N/U	N/U	N/U	11'-5"	7'-2"	5'-6"	4'-6"	3'-10"	3'-3"	3'-0"
2-600L150-68	N/U	N/U	N/U	13'-4"	8'-3"	6'-5"	5'-3"	4'-5"	3'-11"	3'-6"
2-800L150-43	N/U	N/U	N/U	11'-2"	7'-0"	5'-5"	4'-5"	3'-9"	3'-3"	2'-11"
2-800L150-54	N/U	N/U	N/U	14'-5"	9'-0"	7'-0"	5'-8"	4'-10"	4'-3"	3'-10"
2-800L150-68	N/U	N/U	N/U	16'-0"	10'-5"	8'-1"	6'-6"	5'-7"	4'-11"	4'-5"
2-1000L150-43	N/U	N/U	N/U	12'-10"	8'-0"	6'-2"	5'-0"	4'-4"	3'-10"	3'-5"
2-1000L150-54	N/U	N/U	N/U	14'-10"	9'-2"	7'-2"	5'-9"	4'-11"	4'-4"	3'-11"
2-1000L150-68	N/U	N/U	N/U	16'-0"	11'-10"	9'-2"	7'-5"	6'-5"	5'-7"	5'-0"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

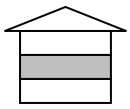
[1] Building width is measured in the direction of horizontal framing members supported by the *header*.

[2] Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2) Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2) 2 foot (0.61 m) roof overhang

[3] N/U indicates no net uplift loads acting on *header*.

33 KSI

Table E7-28a
Double L-Header Spans – Uplift Loading
Headers Supporting One Floor, Roof and Ceiling
36-Foot Wide Building [1,2,3]
F_y = 33 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Double L-Header Designation										
2-600L150-43	N/U	N/U	N/U	9'-0"	5'-1"	3'-10"	3'-1"	2'-7"	2'-4"	2'-1"
2-600L150-54	N/U	N/U	N/U	10'-5"	5'-10"	4'-5"	3'-7"	3'-1"	2'-8"	2'-5"
2-600L150-68	N/U	N/U	N/U	12'-2"	6'-10"	5'-2"	4'-2"	3'-6"	3'-1"	2'-9"
2-800L150-43	N/U	N/U	N/U	10'-2"	5'-9"	4'-4"	3'-6"	3'-0"	2'-7"	2'-4"
2-800L150-54	N/U	N/U	N/U	13'-2"	7'-5"	5'-7"	4'-6"	3'-10"	3'-4"	3'-0"
2-800L150-68	N/U	N/U	N/U	15'-2"	8'-7"	6'-6"	5'-2"	4'-5"	3'-11"	3'-6"
2-1000L150-43	N/U	N/U	N/U	11'-9"	6'-7"	5'-0"	4'-0"	3'-5"	3'-0"	2'-8"
2-1000L150-54	N/U	N/U	N/U	13'-5"	7'-7"	5'-9"	4'-7"	3'-11"	3'-5"	3'-1"
2-1000L150-68	N/U	N/U	N/U	16'-0"	9'-9"	7'-5"	5'-11"	5'-1"	4'-5"	4'-0"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

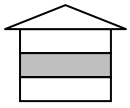
1 Building width is measured in the direction of horizontal framing members supported by the *header*.

2 Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2) Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2) 2 foot (0.61 m) roof overhang

3 N/U indicates no net uplift loads acting on *header*.

50 KSI

Table E7-28b
Double L-Header Spans – Uplift Loading
Headers Supporting One Floor, Roof and Ceiling
36-Foot Wide Building [1,2,3]
F_y = 50 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Double L-Header Designation										
2-600L150-43	N/U	N/U	N/U	11'-0"	6'-2"	4'-8"	3'-9"	3'-2"	2'-9"	2'-6"
2-600L150-54	N/U	N/U	N/U	12'-10"	7'-2"	5'-5"	4'-4"	3'-8"	3'-3"	2'-11"
2-600L150-68	N/U	N/U	N/U	14'-11"	8'-4"	6'-4"	5'-1"	4'-4"	3'-9"	3'-5"
2-800L150-43	N/U	N/U	N/U	12'-6"	7'-0"	5'-4"	4'-3"	3'-7"	3'-2"	2'-10"
2-800L150-54	N/U	N/U	N/U	16'-0"	9'-1"	6'-10"	5'-6"	4'-8"	4'-1"	3'-8"
2-800L150-68	N/U	N/U	N/U	16'-0"	10'-6"	7'-11"	6'-4"	5'-5"	4'-9"	4'-3"
2-1000L150-43	N/U	N/U	N/U	14'-5"	8'-1"	6'-1"	4'-11"	4'-2"	3'-8"	3'-3"
2-1000L150-54	N/U	N/U	N/U	16'-0"	9'-3"	7'-0"	5'-8"	4'-9"	4'-2"	3'-9"
2-1000L150-68	N/U	N/U	N/U	16'-0"	11'-11"	9'-1"	7'-3"	6'-2"	5'-5"	4'-10"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

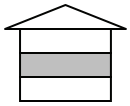
1 Building width is measured in the direction of horizontal framing members supported by the *header*.

2 Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2) Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2) 2 foot (0.61 m) roof overhang

3 N/U indicates no net uplift loads acting on *header*.

33 KSI

Table E7-29a
Double L-Header Spans – Uplift Loading
Headers Supporting One Floor, Roof and Ceiling
40-Foot Wide Building [1,2,3]
F_y = 33 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Double L-Header Designation										
2-600L150-43	N/U	N/U	N/U	7'-1"	4'-6"	3'-6"	2'-10"	2'-5"	2'-2"	1'-11"
2-600L150-54	N/U	N/U	N/U	8'-2"	5'-3"	4'-1"	3'-4"	2'-10"	2'-6"	2'-3"
2-600L150-68	N/U	N/U	N/U	9'-6"	6'-1"	4'-9"	3'-10"	3'-4"	2'-11"	2'-7"
2-800L150-43	N/U	N/U	N/U	8'-0"	5'-1"	4'-0"	3'-3"	2'-9"	2'-5"	2'-2"
2-800L150-54	N/U	N/U	N/U	10'-4"	6'-7"	5'-2"	4'-2"	3'-7"	3'-2"	2'-10"
2-800L150-68	N/U	N/U	N/U	11'-11"	7'-7"	5'-11"	4'-10"	4'-2"	3'-8"	3'-3"
2-1000L150-43	N/U	N/U	N/U	9'-3"	5'-10"	4'-7"	3'-9"	3'-2"	2'-10"	2'-6"
2-1000L150-54	N/U	N/U	N/U	10'-7"	6'-9"	5'-3"	4'-3"	3'-8"	3'-3"	2'-11"
2-1000L150-68	N/U	N/U	N/U	13'-7"	8'-8"	6'-9"	5'-6"	4'-9"	4'-2"	3'-9"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

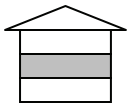
[1] Building width is measured in the direction of horizontal framing members supported by the *header*.

[2] Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2) Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2) 2 foot (0.61 m) roof overhang

[3] N/U indicates no net uplift loads acting on *header*.

50 KSI

Table E7-29b
Double L-Header Spans – Uplift Loading
Headers Supporting One Floor, Roof and Ceiling
40-Foot Wide Building [1,2,3]
F_y = 50 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Double L-Header Designation										
2-600L150-43	N/U	N/U	N/U	8'-8"	5'-6"	4'-3"	3'-6"	3'-0"	2'-7"	2'-4"
2-600L150-54	N/U	N/U	N/U	10'-1"	6'-5"	5'-0"	4'-1"	3'-6"	3'-1"	2'-9"
`2-600L150-68	N/U	N/U	N/U	11'-8"	7'-5"	5'-10"	4'-9"	4'-0"	3'-7"	3'-1"
2-800L150-43	N/U	N/U	N/U	9'-10"	6'-3"	4'-10"	3'-11"	3'-5"	3'-0"	2'-8"
2-800L150-54	N/U	N/U	N/U	12'-8"	8'-1"	6'-3"	5'-1"	4'-5"	3'-10"	3'-6"
2-800L150-68	N/U	N/U	N/U	14'-8"	9'-4"	7'-3"	5'-11"	5'-1"	4'-6"	4'-0"
2-1000L150-43	N/U	N/U	N/U	11'-4"	7'-2"	5'-7"	4'-7"	3'-11"	3'-5"	3'-1"
2-1000L150-54	N/U	N/U	N/U	13'-0"	8'-3"	6'-5"	5'-3"	4'-6"	3'-11"	3'-7"
2-1000L150-68	N/U	N/U	N/U	16'-0"	10'-8"	8'-4"	6'-9"	5'-9"	5'-1"	4'-7"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

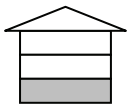
[1] Building width is measured in the direction of horizontal framing members supported by the *header*.

[2] Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2) Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2) 2 foot (0.61 m) roof overhang

[3] N/U indicates no net uplift loads acting on *header*.

33 KSI

Table E7-30a
Double L-Header Spans – Uplift Loading
Headers Supporting Two Floors, Roof and Ceiling
24-Foot Wide Building [1,2,3]
F_y = 33 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Double L-Header Designation										
2-600L150-43	N/U	N/U	N/U	N/U	N/U	16'-0"	5'-10"	4'-2"	3'-4"	2'-10"
2-600L150-54	N/U	N/U	N/U	N/U	N/U	16'-0"	6'-9"	4'-10"	3'-10"	3'-4"
2-600L150-68	N/U	N/U	N/U	N/U	N/U	16'-0"	7'-10"	5'-7"	4'-6"	3'-10"
2-800L150-43	N/U	N/U	N/U	N/U	N/U	16'-0"	6'-7"	4'-8"	3'-9"	3'-3"
2-800L150-54	N/U	N/U	N/U	N/U	N/U	16'-0"	8'-6"	6'-1"	4'-11"	4'-2"
2-800L150-68	N/U	N/U	N/U	N/U	N/U	16'-0"	9'-10"	7'-0"	5'-8"	4'-10"
2-1000L150-43	N/U	N/U	N/U	N/U	N/U	16'-0"	7'-7"	5'-5"	4'-4"	3'-9"
2-1000L150-54	N/U	N/U	N/U	N/U	N/U	16'-0"	8'-9"	6'-2"	5'-0"	4'-3"
2-1000L150-68	N/U	N/U	N/U	N/U	N/U	16'-0"	11'-3"	8'-0"	6'-5"	5'-6"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

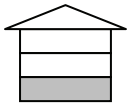
1 Building width is measured in the direction of horizontal framing members supported by the *header*.

2 Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2) Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2) 2 foot (0.61 m) roof overhang

3 N/U indicates no net uplift loads acting on *header*.

50 KSI

Table E7-30b
Double L-Header Spans – Uplift Loading
Headers Supporting Two Floors, Roof and Ceiling
24-Foot Wide Building [1,2,3]
F_y = 50 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Double L-Header Designation										
2-600L150-43	N/U	N/U	N/U	N/U	N/U	16'-0"	7'-2"	5'-1"	4'-1"	3'-6"
2-600L150-54	N/U	N/U	N/U	N/U	N/U	16'-0"	8'-3"	5'-10"	4'-9"	4'-0"
2-600L150-68	N/U	N/U	N/U	N/U	N/U	16'-0"	9'-8"	6'-10"	5'-6"	4'-8"
2-800L150-43	N/U	N/U	N/U	N/U	N/U	16'-0"	8'-1"	5'-9"	4'-8"	3'-11"
2-800L150-54	N/U	N/U	N/U	N/U	N/U	16'-0"	10'-5"	7'-5"	6'-0"	5'-1"
2-800L150-68	N/U	N/U	N/U	N/U	N/U	16'-0"	12'-1"	8'-7"	6'-11"	5'-11"
2-1000L150-43	N/U	N/U	N/U	N/U	N/U	16'-0"	9'-4"	6'-7"	5'-4"	4'-6"
2-1000L150-54	N/U	N/U	N/U	N/U	N/U	16'-0"	10'-8"	7'-7"	6'-1"	5'-2"
2-1000L150-68	N/U	N/U	N/U	N/U	N/U	16'-0"	13'-9"	9'-9"	7'-10"	6'-8"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

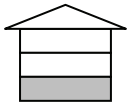
1 Building width is measured in the direction of horizontal framing members supported by the *header*.

2 Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2) Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2) 2 foot (0.61 m) roof overhang

3 N/U indicates no net uplift loads acting on *header*.

33 KSI

Table E7-31a
Double L-Header Spans – Uplift Loading
Headers Supporting Two Floors, Roof and Ceiling
28-Foot Wide Building [1,2,3]
F_y = 33 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Double L-Header Designation										
2-600L150-43	N/U	N/U	N/U	N/U	N/U	14'-1"	5'-4"	3'-10"	3'-1"	2'-8"
2-600L150-54	N/U	N/U	N/U	N/U	N/U	16'-0"	6'-2"	4'-5"	3'-7"	3'-1"
2-600L150-68	N/U	N/U	N/U	N/U	N/U	16'-0"	7'-2"	5'-2"	4'-2"	3'-7"
2-800L150-43	N/U	N/U	N/U	N/U	N/U	16'-0"	6'-0"	4'-4"	3'-6"	3'-0"
2-800L150-54	N/U	N/U	N/U	N/U	N/U	16'-0"	7'-9"	5'-7"	4'-6"	3'-11"
2-800L150-68	N/U	N/U	N/U	N/U	N/U	16'-0"	9'-0"	6'-6"	5'-3"	4'-6"
2-1000L150-43	N/U	N/U	N/U	N/U	N/U	16'-0"	6'-11"	5'-0"	4'-1"	3'-6"
2-1000L150-54	N/U	N/U	N/U	N/U	N/U	16'-0"	7'-11"	5'-9"	4'-8"	4'-0"
2-1000L150-68	N/U	N/U	N/U	N/U	N/U	16'-0"	10'-3"	7'-4"	6'-0"	5'-1"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

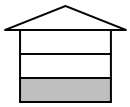
[1] Building width is measured in the direction of horizontal framing members supported by the *header*.

[2] Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2) Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2) 2 foot (0.61 m) roof overhang

[3] N/U indicates no net uplift loads acting on *header*.

50 KSI

Table E7-31b
Double L-Header Spans – Uplift Loading
Headers Supporting Two Floors, Roof and Ceiling
28-Foot Wide Building [1,2,3]
F_y = 50 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Double L-Header Designation										
2-600L150-43	N/U	N/U	N/U	N/U	N/U	16'-0"	6'-6"	4'-8"	3'-9"	3'-3"
2-600L150-54	N/U	N/U	N/U	N/U	N/U	16'-0"	7'-6"	5'-5"	4'-5"	3'-9"
2-600L150-68	N/U	N/U	N/U	N/U	N/U	16'-0"	8'-9"	6'-4"	5'-1"	4'-4"
2-800L150-43	N/U	N/U	N/U	N/U	N/U	16'-0"	7'-4"	5'-4"	4'-4"	3'-8"
2-800L150-54	N/U	N/U	N/U	N/U	N/U	16'-0"	9'-6"	6'-10"	5'-7"	4'-9"
2-800L150-68	N/U	N/U	N/U	N/U	N/U	16'-0"	11'-0"	7'-11"	6'-5"	5'-6"
2-1000L150-43	N/U	N/U	N/U	N/U	N/U	16'-0"	8'-6"	6'-1"	4'-11"	4'-3"
2-1000L150-54	N/U	N/U	N/U	N/U	N/U	16'-0"	9'-9"	7'-0"	5'-8"	4'-10"
2-1000L150-68	N/U	N/U	N/U	N/U	N/U	16'-0"	12'-6"	9'-0"	7'-4"	6'-3"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

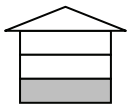
[1] Building width is measured in the direction of horizontal framing members supported by the *header*.

[2] Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2) Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2) 2 foot (0.61 m) roof overhang

[3] N/U indicates no net uplift loads acting on *header*.

33 KSI

Table E7-32a
Double L-Header Spans – Uplift Loading
Headers Supporting Two Floors, Roof and Ceiling
32-Foot Wide Building [1,2,3]
F_y = 33 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Double L-Header Designation										
2-600L150-43	N/U	N/U	N/U	N/U	N/U	11'-5"	4'-11"	3'-7"	2'-11"	2'-6"
2-600L150-54	N/U	N/U	N/U	N/U	N/U	13'-5"	5'-8"	4'-2"	3'-5"	2'-11"
2-600L150-68	N/U	N/U	N/U	N/U	N/U	15'-6"	6'-7"	4'-10"	3'-11"	3'-5"
2-800L150-43	N/U	N/U	N/U	N/U	N/U	13'-0"	5'-7"	4'-1"	3'-4"	2'-10"
2-800L150-54	N/U	N/U	N/U	N/U	N/U	16'-0"	7'-2"	5'-3"	4'-3"	3'-8"
2-800L150-68	N/U	N/U	N/U	N/U	N/U	16'-0"	8'-3"	6'-1"	4'-11"	4'-3"
2-1000L150-43	N/U	N/U	N/U	N/U	N/U	14'-11"	6'-5"	4'-8"	3'-10"	3'-3"
2-1000L150-54	N/U	N/U	N/U	N/U	N/U	16'-0"	7'-4"	5'-4"	4'-4"	3'-9"
2-1000L150-68	N/U	N/U	N/U	N/U	N/U	16'-0"	9'-5"	6'-11"	5'-7"	4'-10"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

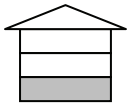
1 Building width is measured in the direction of horizontal framing members supported by the *header*.

2 Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2) Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2) 2 foot (0.61 m) roof overhang

3 N/U indicates no net uplift loads acting on *header*.

50 KSI

Table E7-32b
Double L-Header Spans – Uplift Loading
Headers Supporting Two Floors, Roof and Ceiling
32-Foot Wide Building [1,2,3]
F_y = 50 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Double L-Header Designation										
2-600L150-43	N/U	N/U	N/U	N/U	N/U	14'-1"	6'-0"	4'-4"	3'-7"	3'-0"
2-600L150-54	N/U	N/U	N/U	N/U	N/U	16'-0"	7'-0"	5'-1"	4'-1"	3'-6"
2-600L150-68	N/U	N/U	N/U	N/U	N/U	16'-0"	8'-1"	5'-11"	4'-10"	4'-1"
2-800L150-43	N/U	N/U	N/U	N/U	N/U	16'-0"	6'-10"	4'-11"	4'-0"	3'-5"
2-800L150-54	N/U	N/U	N/U	N/U	N/U	16'-0"	8'-9"	6'-5"	5'-3"	4'-6"
2-800L150-68	N/U	N/U	N/U	N/U	N/U	16'-0"	10'-2"	7'-5"	6'-0"	5'-2"
2-1000L150-43	N/U	N/U	N/U	N/U	N/U	16'-0"	7'-10"	5'-8"	4'-8"	4'-0"
2-1000L150-54	N/U	N/U	N/U	N/U	N/U	16'-0"	9'-0"	6'-7"	5'-4"	4'-7"
2-1000L150-68	N/U	N/U	N/U	N/U	N/U	16'-0"	11'-7"	8'-5"	6'-10"	5'-11"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

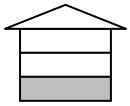
1 Building width is measured in the direction of horizontal framing members supported by the *header*.

2 Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2) Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2) 2 foot (0.61 m) roof overhang

3 N/U indicates no net uplift loads acting on *header*.

33 KSI

Table E7-33a
Double L-Header Spans – Uplift Loading
Headers Supporting Two Floors, Roof and Ceiling
36-Foot Wide Building [1,2,3]
F_y = 33 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Double L-Header Designation										
2-600L150-43	N/U	N/U	N/U	N/U	N/U	9'-11"	4'-7"	3'-4"	2'-9"	2'-4"
2-600L150-54	N/U	N/U	N/U	N/U	N/U	11'-6"	5'-4"	3'-11"	3'-2"	2'-9"
2-600L150-68	N/U	N/U	N/U	N/U	N/U	13'-4"	6'-2"	4'-7"	3'-9"	3'-2"
2-800L150-43	N/U	N/U	N/U	N/U	N/U	11'-3"	5'-2"	3'-10"	3'-2"	2'-8"
2-800L150-54	N/U	N/U	N/U	N/U	N/U	14'-6"	6'-8"	4'-11"	4'-0"	3'-6"
2-800L150-68	N/U	N/U	N/U	N/U	N/U	16'-0"	7'-9"	5'-8"	4'-8"	4'-0"
2-1000L150-43	N/U	N/U	N/U	N/U	N/U	12'-11"	6'-0"	4'-5"	3'-7"	3'-1"
2-1000L150-54	N/U	N/U	N/U	N/U	N/U	14'-10"	6'-10"	5'-1"	4'-2"	3'-7"
2-1000L150-68	N/U	N/U	N/U	N/U	N/U	16'-0"	8'-10"	6'-6"	5'-4"	4'-7"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

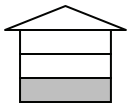
[1] Building width is measured in the direction of horizontal framing members supported by the *header*.

[2] Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2) Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2) 2 foot (0.61 m) roof overhang

[3] N/U indicates no net uplift loads acting on *header*.

50 KSI

Table E7-33b
Double L-Header Spans – Uplift Loading
Headers Supporting One Floor, Roof and Ceiling
36-Foot Wide Building [1,2,3]
F_y = 50 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Double L-Header Designation										
2-600L150-43	N/U	N/U	N/U	N/U	N/U	12'-2"	5'-7"	4'-1"	3'-4"	2'-11"
2-600L150-54	N/U	N/U	N/U	N/U	N/U	14'-1"	6'-6"	4'-9"	3'-11"	3'-4"
2-600L150-68	N/U	N/U	N/U	N/U	N/U	16'-0"	7'-7"	5'-7"	4'-6"	3'-11"
2-800L150-43	N/U	N/U	N/U	N/U	N/U	13'-9"	6'-4"	4'-8"	3'-10"	3'-3"
2-800L150-54	N/U	N/U	N/U	N/U	N/U	16'-0"	8'-2"	6'-0"	4'-11"	4'-3"
2-800L150-68	N/U	N/U	N/U	N/U	N/U	16'-0"	9'-6"	7'-0"	5'-8"	4'-11"
2-1000L150-43	N/U	N/U	N/U	N/U	N/U	15'-10"	7'-4"	5'-4"	4'-5"	3'-9"
2-1000L150-54	N/U	N/U	N/U	N/U	N/U	16'-0"	8'-5"	6'-2"	5'-0"	4'-4"
2-1000L150-68	N/U	N/U	N/U	N/U	N/U	16'-0"	10'-10"	7'-11"	6'-6"	5'-7"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

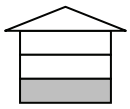
[1] Building width is measured in the direction of horizontal framing members supported by the *header*.

[2] Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2) Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2) 2 foot (0.61 m) roof overhang

[3] N/U indicates no net uplift loads acting on *header*.

33 KSI

Table E7-34a
Double L-Header Spans – Uplift Loading
Headers Supporting Two Floors, Roof and Ceiling
40-Foot Wide Building [1,2,3]
F_y = 33 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Double L-Header Designation										
2-600L150-43	N/U	N/U	N/U	N/U	N/U	8'-10"	4'-4"	3'-2"	2'-7"	2'-3"
2-600L150-54	N/U	N/U	N/U	N/U	N/U	10'-3"	5'-0"	3'-9"	3'-1"	2'-7"
2-600L150-68	N/U	N/U	N/U	N/U	N/U	11'-11"	5'-10"	4'-4"	3'-6"	3'-1"
2-800L150-43	N/U	N/U	N/U	N/U	N/U	10'-0"	4'-11"	3'-8"	3'-0"	2'-7"
2-800L150-54	N/U	N/U	N/U	N/U	N/U	12'-11"	6'-4"	4'-8"	3'-10"	3'-4"
2-800L150-68	N/U	N/U	N/U	N/U	N/U	14'-11"	7'-3"	5'-5"	4'-5"	3'-10"
2-1000L150-43	N/U	N/U	N/U	N/U	N/U	11'-6"	5'-7"	4'-2"	3'-5"	2'-11"
2-1000L150-54	N/U	N/U	N/U	N/U	N/U	13'-3"	6'-5"	4'-9"	3'-11"	3'-5"
2-1000L150-68	N/U	N/U	N/U	N/U	N/U	16'-0"	8'-4"	6'-2"	5'-1"	4'-4"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

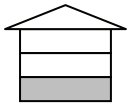
[1] Building width is measured in the direction of horizontal framing members supported by the *header*.

[2] Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2) Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2) 2 foot (0.61 m) roof overhang

[3] N/U indicates no net uplift loads acting on *header*.

50 KSI

Table E7-34b
Double L-Header Spans – Uplift Loading
Headers Supporting Two Floors, Roof and Ceiling
40-Foot Wide Building [1,2,3]
F_y = 50 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Double L-Header Designation										
2-600L150-43	N/U	N/U	N/U	N/U	N/U	10'-10"	5'-3"	3'-11"	3'-2"	2'-9"
2-600L150-54	N/U	N/U	N/U	N/U	N/U	12'-7"	6'-1"	4'-6"	3'-8"	3'-2"
2-600L150-68	N/U	N/U	N/U	N/U	N/U	14'-7"	7'-1"	5'-3"	4'-4"	3'-8"
2-800L150-43	N/U	N/U	N/U	N/U	N/U	12'-3"	6'-0"	4'-5"	3'-7"	3'-1"
2-800L150-54	N/U	N/U	N/U	N/U	N/U	15'-10"	7'-9"	5'-9"	4'-8"	4'-0"
2-800L150-68	N/U	N/U	N/U	N/U	N/U	16'-0"	8'-11"	6'-7"	5'-5"	4'-8"
2-1000L150-43	N/U	N/U	N/U	N/U	N/U	14'-2"	6'-11"	5'-1"	4'-2"	3'-7"
2-1000L150-54	N/U	N/U	N/U	N/U	N/U	16'-0"	7'-11"	5'-10"	4'-9"	4'-1"
2-1000L150-68	N/U	N/U	N/U	N/U	N/U	16'-0"	10'-2"	7'-7"	6'-2"	5'-4"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

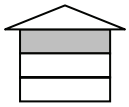
[1] Building width is measured in the direction of horizontal framing members supported by the *header*.

[2] Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2) Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2) 2 foot (0.61 m) roof overhang

[3] N/U indicates no net uplift loads acting on *header*.

33 KSI

Table E7-35a
Single L-Header Spans – Gravity Loading
Headers Supporting Roof and Ceiling Only [1,2]
F_y = 33 ksi



Single L-Header Designation	20 psf Ground Snow Load					30 psf Ground Snow Load				
	Building Width					Building Width				
	24'	28'	32'	36'	40'	24'	28'	32'	36'	40'
600L150-43	3'-7"	3'-4"	3'-2"	3'-0"	2'-10"	3'-4"	3'-2"	3'-0"	2'-10"	2'-8"
600L150-54	4'-0"	3'-10"	3'-8"	3'-6"	3'-4"	3'-11"	3'-8"	3'-6"	3'-3"	3'-2"
600L150-68	4'-0"	4'-0"	4'-0"	4'-0"	3'-10"	4'-0"	4'-0"	4'-0"	3'-10"	3'-8"
800L150-43	4'-0"	4'-0"	3'-10"	3'-7"	3'-5"	4'-0"	3'-10"	3'-7"	3'-5"	3'-3"
800L150-54	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	3'-11"	3'-9"
800L150-68	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"

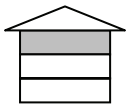
For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 foot = 0.305 m

[1] Building width is measured in the direction of horizontal framing members supported by the *header*.

[2] Design assumptions:
Roof and ceiling dead load = 12 psf (0.58 kN/m^2)
2 foot (0.61 m) roof overhang

50 KSI

Table E7-35b
Single L-Header Spans – Gravity Loading
Headers Supporting Roof and Ceiling Only [1,2]
F_y = 50 ksi



Single L-Header Designation	20 psf Ground Snow Load					30 psf Ground Snow Load				
	Building Width					Building Width				
	24'	28'	32'	36'	40'	24'	28'	32'	36'	40'
600L150-43	4'-0"	4'-0"	3'-11"	3'-8"	3'-6"	4'-0"	3'-11"	3'-8"	3'-6"	3'-4"
600L150-54	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	3'-10"
600L150-68	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-43	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-54	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-68	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"

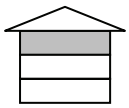
For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 foot = 0.305 m

[1] Building width is measured in the direction of horizontal framing members supported by the *header*.

[2] Design assumptions:
Roof and ceiling dead load = 12 psf (0.58 kN/m^2)
2 foot (0.61 m) roof overhang

33 KSI

Table E7-36a
Single L-Header Spans – Gravity Loading
Headers Supporting Roof and Ceiling Only [1,2]
F_y = 33 ksi



Single L-Header Designation	50 psf Ground Snow Load					70 psf Ground Snow Load				
	Building Width					Building Width				
	24'	28'	32'	36'	40'	24'	28'	32'	36'	40'
600L150-43	2'-9"	2'-7"	2'-5"	2'-4"	2'-3"	2'-5"	2'-3"	2'-2"	2'-0"	1'-11"
600L150-54	3'-3"	3'-0"	2'-10"	2'-8"	2'-7"	2'-9"	2'-7"	2'-6"	2'-4"	2'-3"
600L150-68	3'-9"	3'-6"	3'-4"	3'-2"	3'-0"	3'-3"	3'-0"	2'-10"	2'-9"	2'-7"
800L150-43	3'-4"	3'-1"	2'-11"	2'-10"	2'-8"	2'-11"	2'-9"	2'-7"	2'-5"	2'-4"
800L150-54	3'-10"	3'-7"	3'-5"	3'-3"	3'-1"	3'-4"	3'-2"	2'-11"	2'-10"	2'-8"
800L150-68	4'-0"	4'-0"	3'-11"	3'-9"	3'-7"	3'-10"	3'-7"	3'-5"	3'-3"	3'-1"

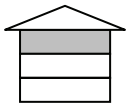
For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 foot = 0.305 m

[1] Building width is measured in the direction of horizontal framing members supported by the *header*.

[2] Design assumptions:
Roof and ceiling dead load = 12 psf (0.58 kN/m^2)
2 foot (0.61 m) roof overhang

50 KSI

Table E7-36b
Single L-Header Spans – Gravity Loading
Headers Supporting Roof and Ceiling Only [1,2]
F_y = 50 ksi



Single L-Header Designation	50 psf Ground Snow Load					70 psf Ground Snow Load				
	Building Width					Building Width				
	24'	28'	32'	36'	40'	24'	28'	32'	36'	40'
600L150-43	3'-5"	3'-2"	3'-0"	2'-10"	2'-9"	2'-11"	2'-9"	2'-7"	2'-6"	2'-5"
600L150-54	3'-11"	3'-8"	3'-6"	3'-4"	3'-2"	3'-5"	3'-3"	3'-1"	2'-11"	2'-9"
600L150-68	4'-0"	4'-0"	4'-0"	3'-10"	3'-8"	4'-0"	3'-9"	3'-6"	3'-4"	3'-3"
800L150-43	4'-0"	3'-10"	3'-8"	3'-5"	3'-4"	3'-7"	3'-4"	3'-2"	3'-0"	2'-10"
800L150-54	4'-0"	4'-0"	4'-0"	4'-0"	3'-10"	4'-0"	3'-10"	3'-8"	3'-5"	3'-4"
800L150-68	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	3'-10"

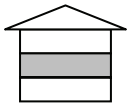
For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 foot = 0.305 m

[1] Building width is measured in the direction of horizontal framing members supported by the *header*.

[2] Design assumptions:
Roof and ceiling dead load = 12 psf (0.58 kN/m^2)
2 foot (0.61 m) roof overhang

33 KSI

Table E7-37a
Single L-Header Spans – Gravity Loading
Headers Supporting One Floor, Roof and Ceiling [1,2]
F_y = 33 ksi



Single L-Header Designation	20 psf Ground Snow Load					30 psf Ground Snow Load				
	Building Width					Building Width				
	24'	28'	32'	36'	40'	24'	28'	32'	36'	40'
600L150-43	2'-8"	2'-6"	2'-4"	2'-3"	2'-1"	2'-7"	2'-5"	2'-4"	2'-2"	2'-1"
600L150-54	3'-1"	2'-11"	2'-9"	2'-7"	2'-5"	3'-1"	2'-10"	2'-8"	2'-7"	2'-5"
600L150-68	3'-7"	3'-4"	3'-2"	3'-0"	2'-10"	3'-6"	3'-4"	3'-2"	3'-0"	2'-10"
800L150-43	3'-2"	3'-0"	2'-10"	2'-8"	2'-7"	3'-2"	2'-11"	2'-9"	2'-8"	2'-6"
800L150-54	3'-8"	3'-5"	3'-3"	3'-1"	2'-11"	3'-8"	3'-5"	3'-3"	3'-1"	2'-11"
800L150-68	4'-0"	4'-0"	3'-9"	3'-7"	3'-5"	4'-0"	3'-11"	3'-9"	3'-6"	3'-4"

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 foot = 0.305 m

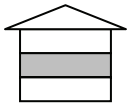
[1] Building width is measured in the direction of horizontal framing members supported by the *header*.

[2] Design assumptions:

Roof and ceiling dead load = 12 psf (0.58 kN/m^2)
2 foot (0.61 m) roof overhang
Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2)

50 KSI

Table E7-37b
Single L-Header Spans – Gravity Loading
Headers Supporting One Floor, Roof and Ceiling [1,2]
F_y = 50 ksi



Single L-Header Designation	20 psf Ground Snow Load					30 psf Ground Snow Load				
	Building Width					Building Width				
	24'	28'	32'	36'	40'	24'	28'	32'	36'	40'
600L150-43	3'-3"	3'-1"	2'-11"	2'-9"	2'-7"	3'-3"	3'-0"	2'-10"	2'-8"	2'-7"
600L150-54	3'-9"	3'-7"	3'-4"	3'-2"	3'-0"	3'-9"	3'-6"	3'-4"	3'-2"	3'-0"
600L150-68	4'-0"	4'-0"	3'-11"	3'-8"	3'-6"	4'-0"	4'-0"	3'-10"	3'-8"	3'-6"
800L150-43	3'-11"	3'-8"	3'-6"	3'-3"	3'-2"	3'-11"	3'-8"	3'-5"	3'-3"	3'-1"
800L150-54	4'-0"	4'-0"	4'-0"	3'-10"	3'-7"	4'-0"	4'-0"	3'-11"	3'-9"	3'-7"
800L150-68	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 foot = 0.305 m

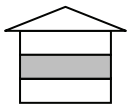
[1] Building width is measured in the direction of horizontal framing members supported by the *header*.

[2] Design assumptions:

Roof and ceiling dead load = 12 psf (0.58 kN/m^2)
2 foot (0.61 m) roof overhang
Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2)

33 KSI

Table E7-38a
Single L-Header Spans – Gravity Loading
Headers Supporting One Floor, Roof and Ceiling [1,2]
F_y = 33 ksi



Single L-Header Designation	50 psf Ground Snow Load					70 psf Ground Snow Load				
	Building Width					Building Width				
	24'	28'	32'	36'	40'	24'	28'	32'	36'	40'
600L150-43	2'-4"	2'-2"	2'-1"	1'-11"	1'-10"	2'-1"	2'-0"	1'-10"	1'-9"	1'-8"
600L150-54	2'-8"	2'-6"	2'-5"	2'-3"	2'-2"	2'-5"	2'-3"	2'-2"	2'-1"	2'-0"
600L150-68	3'-2"	2'-11"	2'-9"	2'-7"	2'-6"	2'-10"	2'-8"	2'-6"	2'-5"	2'-3"
800L150-43	2'-10"	2'-7"	2'-6"	2'-4"	2'-3"	2'-6"	2'-5"	2'-3"	2'-2"	2'-1"
800L150-54	3'-3"	3'-0"	2'-10"	2'-8"	2'-7"	2'-11"	2'-9"	2'-7"	2'-6"	2'-4"
800L150-68	3'-9"	3'-6"	3'-3"	3'-1"	3'-0"	3'-4"	3'-2"	3'-0"	2'-10"	2'-9"

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 foot = 0.305 m

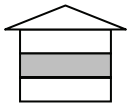
[1] Building width is measured in the direction of horizontal framing members supported by the *header*.

[2] Design assumptions:

Roof and ceiling dead load = 12 psf (0.58 kN/ m^2)
2 foot (0.61 m) roof overhang
Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2)

50 KSI

Table E7-38b
Single L-Header Spans – Gravity Loading
Headers Supporting One Floor, Roof and Ceiling [1,2]
F_y = 50 ksi



Single L-Header Designation	50 psf Ground Snow Load					70 psf Ground Snow Load				
	Building Width					Building Width				
	24'	28'	32'	36'	40'	24'	28'	32'	36'	40'
600L150-43	2'-10"	2'-8"	2'-6"	2'-5"	2'-3"	2'-7"	2'-5"	2'-4"	2'-2"	2'-1"
600L150-54	3'-4"	3'-1"	2'-11"	2'-9"	2'-8"	3'-0"	2'-10"	2'-8"	2'-6"	2'-5"
600L150-68	3'-10"	3'-7"	3'-5"	3'-3"	3'-1"	3'-6"	3'-3"	3'-1"	2'-11"	2'-10"
800L150-43	3'-5"	3'-3"	3'-0"	2'-11"	2'-9"	3'-1"	2'-11"	2'-9"	2'-8"	2'-6"
800L150-54	4'-0"	3'-9"	3'-6"	3'-4"	3'-2"	3'-7"	3'-4"	3'-2"	3'-0"	2'-11"
800L150-68	4'-0"	4'-0"	4'-0"	3'-10"	3'-8"	4'-2"	3'-11"	3'-8"	3'-6"	3'-4"

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 foot = 0.305 m

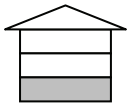
[1] Building width is measured in the direction of horizontal framing members supported by the *header*.

[2] Design assumptions:

Roof and ceiling dead load = 12 psf (0.58 kN/ m^2)
2 foot (0.61 m) roof overhang
Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2)

33 KSI

Table E7-39a
Single L-Header Spans – Gravity Loading
Headers Supporting Two Floors, Roof and Ceiling [1,2]
F_y = 33 ksi



Single L-Header Designation	20 psf Ground Snow Load					30 psf Ground Snow Load				
	Building Width					Building Width				
	24'	28'	32'	36'	40'	24'	28'	32'	36'	40'
600L150-43	1'-11"	1'-10"	1'-8"	1'-7"	1'-7"	1'-11"	1'-10"	1'-8"	1'-7"	1'-6"
600L150-54	2'-3"	2'-1"	2'-0"	1'-11"	1'-9"	2'-3"	2'-1"	2'-0"	1'-10"	1'-9"
600L150-68	2'-7"	2'-5"	2'-4"	2'-2"	2'-1"	2'-7"	2'-5"	2'-3"	2'-2"	2'-1"
800L150-43	2'-4"	2'-2"	2'-1"	1'-11"	1'-10"	2'-4"	2'-2"	2'-1"	1'-11"	1'-10"
800L150-54	2'-8"	2'-6"	2'-4"	2'-3"	2'-2"	2'-8"	2'-6"	2'-4"	2'-3"	2'-2"
800L150-68	3'-1"	2'-11"	2'-9"	2'-7"	2'-6"	3'-1"	2'-11"	2'-9"	2'-7"	2'-6"

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 foot = 0.305 m

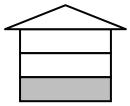
[1] Building width is measured in the direction of horizontal framing members supported by the *header*.

[2] Design assumptions:

Roof and ceiling dead load = 12 psf (0.58 kN/m^2)
2 foot (0.61 m) roof overhang
Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2)

50 KSI

Table E7-39b
Single L-Header Spans – Gravity Loading
Headers Supporting Two Floors, Roof and Ceiling [1,2]
F_y = 50 ksi



Single L-Header Designation	20 psf Ground Snow Load					30 psf Ground Snow Load				
	Building Width					Building Width				
	24'	28'	32'	36'	40'	24'	28'	32'	36'	40'
600L150-43	2'-5"	2'-3"	2'-1"	2'-0"	1'-11"	2'-4"	2'-3"	2'-1"	2'-0"	1'-11"
600L150-54	2'-9"	2'-7"	2'-5"	2'-4"	2'-2"	2'-9"	2'-7"	2'-5"	2'-4"	2'-2"
600L150-68	3'-3"	3'-0"	2'-10"	2'-8"	2'-7"	3'-2"	2'-11"	2'-10"	2'-8"	2'-7"
800L150-43	2'-10"	2'-8"	2'-6"	2'-5"	2'-3"	2'-10"	2'-8"	2'-6"	2'-5"	2'-3"
800L150-54	3'-4"	3'-1"	2'-11"	2'-9"	2'-8"	3'-4"	3'-1"	2'-11"	2'-9"	2'-7"
800L150-68	3'-10"	3'-7"	3'-4"	3'-2"	3'-1"	3'-10"	3'-7"	3'-4"	3'-2"	3'-0"

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 foot = 0.305 m

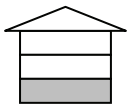
[1] Building width is measured in the direction of horizontal framing members supported by the *header*.

[2] Design assumptions:

Roof and ceiling dead load = 12 psf (0.58 kN/m^2)
2 foot (0.61 m) roof overhang
Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2)

33 KSI

Table E7-40a
Single L-Header Spans – Gravity Loading
Headers Supporting Two Floors, Roof and Ceiling [1,2]
F_y = 33 ksi



Single L-Header Designation	50 psf Ground Snow Load					70 psf Ground Snow Load				
	Building Width					Building Width				
	24'	28'	32'	36'	40'	24'	28'	32'	36'	40'
600L150-43	1'-11"	1'-9"	1'-8"	1'-7"	1'-6"	1'-10"	1'-9"	1'-7"	1'-6"	1'-6"
600L150-54	2'-2"	2'-0"	1'-11"	1'-10"	1'-9"	2'-2"	2'-0"	1'-11"	1'-9"	1'-8"
600L150-68	2'-6"	2'-4"	2'-3"	2'-1"	2'-0"	2'-6"	2'-4"	2'-2"	2'-1"	2'-0"
800L150-43	2'-3"	2'-1"	2'-0"	1'-11"	1'-10"	2'-3"	2'-1"	1'-11"	1'-10"	1'-9"
800L150-54	2'-7"	2'-5"	2'-4"	2'-2"	2'-1"	2'-7"	2'-5"	2'-3"	2'-2"	2'-0"
800L150-68	3'-0"	2'-10"	2'-8"	2'-6"	2'-5"	2'-11"	2'-9"	2'-7"	2'-6"	2'-4"

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 foot = 0.305 m

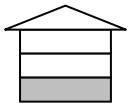
[1] Building width is measured in the direction of horizontal framing members supported by the *header*.

[2] Design assumptions:

Roof and ceiling dead load = 12 psf (0.58 kN/ m^2)
2 foot (0.61 m) roof overhang
Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2)

50 KSI

Table E7-40b
Single L-Header Spans – Gravity Loading
Headers Supporting Two Floors, Roof and Ceiling [1,2]
F_y = 50 ksi



Single L-Header Designation	50 psf Ground Snow Load					70 psf Ground Snow Load				
	Building Width					Building Width				
	24'	28'	32'	36'	40'	24'	28'	32'	36'	40'
600L150-43	2'-3"	2'-2"	2'-0"	1'-11"	1'-10"	2'-3"	2'-1"	2'-0"	1'-11"	1'-10"
600L150-54	2'-8"	2'-6"	2'-4"	2'-3"	2'-2"	2'-8"	2'-5"	2'-4"	2'-2"	2'-1"
600L150-68	3'-2"	2'-11"	2'-9"	2'-7"	2'-6"	3'-1"	2'-10"	2'-8"	2'-7"	2'-5"
800L150-43	2'-9"	2'-7"	2'-5"	2'-4"	2'-3"	2'-9"	2'-7"	2'-5"	2'-3"	2'-2"
800L150-54	3'-3"	3'-0"	2'-10"	2'-8"	2'-7"	3'-2"	2'-11"	2'-9"	2'-8"	2'-6"
800L150-68	3'-9"	3'-6"	3'-3"	3'-1"	2'-11"	3'-8"	3'-5"	3'-2"	3'-0"	2'-11"

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m^2, 1 foot = 0.305 m

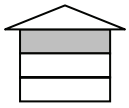
[1] Building width is measured in the direction of horizontal framing members supported by the *header*.

[2] Design assumptions:

Roof and ceiling dead load = 12 psf (0.58 kN/ m^2)
2 foot (0.61 m) roof overhang
Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2)

33 KSI

Table E7-41a
Inverted Double L-Header Assembly Spans – Uplift Loading
Headers Supporting Roof and Ceiling Only
24-Foot Wide Building [1,2]
F_y = 33 ksi

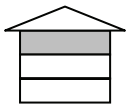


	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Double L-Header Designation										
2-600L150-43	16-0"	14'-7"	11'-3"	9'-7"	8'-4"	7'-5"	6'-7"	5'-11"	5'-5"	5'-0"
2-600L150-54	16-0"	16-0"	13'-1"	11'-2"	9'-8"	8'-7"	7'-8"	6'-11"	6'-3"	5'-9"
2-600L150-68	16-0"	16-0"	15'-2"	13'-0"	11'-3"	10'-0"	8'-11"	8'-0"	7'-4"	6'-9"
2-800L150-43	16-0"	16-0"	14'-0"	12'-0"	10'-5"	9'-3"	8'-2"	7'-5"	6'-9"	6'-3"
2-800L150-54	16-0"	16-0"	16-0"	14'-1"	12'-3"	10'-10"	9'-8"	8'-8"	7'-11"	7'-4"
2-800L150-68	16-0"	16-0"	16-0"	16-0"	14'-1"	12'-7"	11'-2"	10'-0"	9'-2"	8'-5"
2-1000L150-43	16-0"	16-0"	14'-8"	12'-6"	10'-10"	9'-8"	8'-7"	7'-9"	7'-1"	6'-6"
2-1000L150-54	16-0"	16-0"	16-0"	14'-4"	12'-6"	11'-1"	9'-10"	8'-11"	8'-1"	7'-6"
2-1000L150-68	16-0"	16-0"	16-0"	16-0"	14'-9"	13'-1"	11'-7"	10'-6"	9'-7"	8'-10"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m
[1] Building width is measured in the direction of horizontal framing members supported by the *header*.
[2] Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2), 2 foot roof overhang (0.61 m)
[3] N/U indicates no net uplift loads acting on *header*.

50 KSI

Table E7-41b
Inverted Double L-Header Assembly Spans – Uplift Loading
Headers Supporting Roof and Ceiling Only
24-Foot Wide Building [1,2]
F_y = 50 ksi

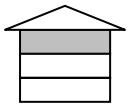


	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Double L-Header Designation										
2-600L150-43	16'-0"	16'-0"	13'-10"	11'-10"	10'-3"	9'-1"	8'-1"	7'-3"	6'-8"	6'-1"
2-600L150-54	16'-0"	16'-0"	16'-0"	13'-9"	11'-11"	10'-7"	9'-4"	8'-5"	7'-8"	7'-1"
2-600L150-68	16'-0"	16'-0"	16'-0"	15'-11"	13'-10"	12'-3"	10'-11"	9'-10"	9'-0"	8'-3"
2-800L150-43	16'-0"	16'-0"	16'-0"	14'-9"	12'-10"	11'-4"	10'-1"	9'-1"	8'-3"	7'-7"
2-800L150-54	16'-0"	16'-0"	16'-0"	16'-0"	15'-0"	13'-4"	11'-10"	10'-8"	9'-9"	8'-11"
2-800L150-68	16'-0"	16'-0"	16'-0"	16'-0"	16'-0"	15'-5"	13'-8"	12'-4"	11'-3"	10'-4"
2-1000L150-43	16'-0"	16'-0"	16'-0"	15'-5"	13'-5"	11'-10"	10'-6"	9'-6"	8'-8"	8'-0"
2-1000L150-54	16'-0"	16'-0"	16'-0"	16'-0"	15'-4"	13'-7"	12'-1"	10'-11"	9'-11"	9'-2"
2-1000L150-68	16'-0"	16'-0"	16'-0"	16'-0"	16'-0"	16'-0"	14'-3"	12'-10"	11'-9"	10'-10"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m
[1] Building width is measured in the direction of horizontal framing members supported by the *header*.
[2] Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2), 2 foot roof overhang (0.61 m)
[3] N/U indicates no net uplift loads acting on *header*.

33 KSI

Table E7-42a
Inverted Double L-Header Assembly Spans – Uplift Loading
Headers Supporting Roof and Ceiling Only
28-Foot Wide Building [1,2]
F_y = 33 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Double L-Header Designation										
2-600L150-43	16'-0"	13'-11"	10'-8"	9'-1"	7'-11"	7'-0"	6'-2"	5'-7"	5'-1"	4'-8"
2-600L150-54	16'-0"	16'-0"	12'-4"	10'-6"	9'-2"	8'-1"	7'-2"	6'-6"	5'-11"	5'-5"
2-600L150-68	16'-0"	16'-0"	14'-4"	12'-3"	10'-8"	9'-5"	8'-4"	7'-7"	6'-11"	6'-4"
2-800L150-43	16'-0"	16'-0"	13'-3"	11'-4"	9'-10"	8'-9"	7'-9"	7'-0"	6'-4"	5'-10"
2-800L150-54	16'-0"	16'-0"	15'-7"	13'-3"	11'-6"	10'-3"	9'-1"	8'-2"	7'-6"	6'-11"
2-800L150-68	16'-0"	16'-0"	16'-0"	15'-4"	13'-4"	11'-10"	10'-6"	9'-6"	8'-8"	7'-11"
2-1000L150-43	16'-0"	16'-0"	13'-11"	11'-10"	10'-3"	9'-1"	8'-1"	7'-3"	6'-8"	6'-1"
2-1000L150-54	16'-0"	16'-0"	15'-11"	13'-7"	11'-9"	10'-6"	9'-3"	8'-4"	7'-8"	7'-0"
2-1000L150-68	16'-0"	16'-0"	16'-0"	16'-0"	13'-11"	12'-4"	10'-11"	9'-10"	9'-0"	8'-3"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

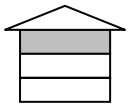
1 Building width is measured in the direction of horizontal framing members supported by the *header*.

2 Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2), 2 foot (0.61 m) roof overhang

3 N/U indicates no net uplift loads acting on *header*.

50 KSI

Table E7-42b
Inverted Double L-Header Assembly Spans – Uplift Loading
Headers Supporting Roof and Ceiling Only
28-Foot Wide Building [1,2]
F_y = 50 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Double L-Header Designation										
2-600L150-43	16'-0"	16'-0"	13'-1"	11'-2"	9'-8"	8'-7"	7'-7"	6'-10"	6'-3"	5'-9"
2-600L150-54	16'-0"	16'-0"	15'-2"	12'-11"	11'-3"	10'-0"	8'-10"	8'-0"	7'-3"	6'-8"
2-600L150-68	16'-0"	16'-0"	16'-0"	15'-0"	13'-1"	11'-7"	10'-3"	9'-3"	8'-5"	7'-9"
2-800L150-43	16'-0"	16'-0"	16'-0"	13'-10"	12'-0"	10'-8"	9'-6"	8'-7"	7'-9"	7'-2"
2-800L150-54	16'-0"	16'-0"	16'-0"	16'-0"	14'-2"	12'-7"	11'-2"	10'-1"	9'-2"	8'-5"
2-800L150-68	16'-0"	16'-0"	16'-0"	16'-0"	16'-0"	14'-6"	12'-11"	11'-7"	10'-7"	9'-9"
2-1000L150-43	16'-0"	16'-0"	16'-0"	14'-6"	12'-7"	11'-2"	9'-11"	8'-11"	8'-2"	7'-6"
2-1000L150-54	16'-0"	16'-0"	16'-0"	16'-0"	14'-6"	12'-10"	11'-5"	10'-3"	9'-4"	8'-7"
2-1000L150-68	16'-0"	16'-0"	16'-0"	16'-0"	16'-0"	15'-2"	13'-5"	12'-1"	11'-1"	10'-2"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

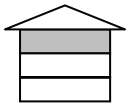
1 Building width is measured in the direction of horizontal framing members supported by the *header*.

2 Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2), 2 foot (0.61 m) roof overhang

3 N/U indicates no net uplift loads acting on *header*.

33 KSI

Table E7-43a
Inverted Double L-Header Assembly Spans – Uplift Loading
Headers Supporting Roof and Ceiling Only
32-Foot Wide Building [1,2,3]
F_y = 33 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Double L-Header Designation										
2-600L150-43	15'-5"	13'-3"	10'-2"	8'-8"	7'-6"	6'-8"	5'-11"	5'-4"	4'-10"	4'-5"
2-600L150-54	16-0"	15'-5"	11'-9"	10'-0"	8'-8"	7'-9"	6'-10"	6'-2"	5'-7"	5'-2"
2-600L150-68	16-0"	16-0"	13'-8"	11'-8"	10'-1"	9'-0"	7'-11"	7'-2"	6'-6"	6'-0"
2-800L150-43	16-0"	16-0"	12'-8"	10'-9"	9'-4"	8'-3"	7'-4"	6'-7"	6'-0"	5'-7"
2-800L150-54	16-0"	16-0"	14'-10"	12'-7"	10'-11"	9'-9"	8'-7"	7'-9"	7'-1"	6'-6"
2-800L150-68	16-0"	16-0"	16-0"	14'-7"	12'-8"	11'-3"	10'-0"	9'-0"	8'-2"	7'-6"
2-1000L150-43	16-0"	16-0"	13'-2"	11'-3"	9'-9"	8'-8"	7'-8"	6'-11"	6'-4"	5'-10"
2-1000L150-54	16-0"	16-0"	15'-2"	12'-11"	11'-2"	9'-11"	8'-10"	7'-11"	7'-3"	6'-8"
2-1000L150-68	16-0"	16-0"	16-0"	15'-3"	13'-2"	11'-9"	10'-5"	9'-4"	8'-6"	7'-10"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

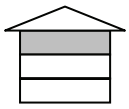
[1] Building width is measured in the direction of horizontal framing members supported by the *header*.

[2] Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2), 2 foot (0.61 m) roof overhang

[3] N/U indicates no net uplift loads acting on *header*.

50 KSI

Table E7-43b
Inverted Double L-Header Assembly Spans – Uplift Loading
Headers Supporting Roof and Ceiling Only
32-Foot Wide Building [1,2,3]
F_y = 50 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Double L-Header Designation										
2-600L150-43	16'-0"	16'-0"	12'-5"	10'-7"	9'-2"	8'-2"	7'-3"	6'-6"	5'-11"	5'-5"
2-600L150-54	16'-0"	16'-0"	14'-5"	12'-3"	10'-8"	9'-5"	8'-5"	7'-7"	6'-11"	6'-4"
2-600L150-68	16'-0"	16'-0"	16'-0"	14'-4"	12'-5"	11'-0"	9'-9"	8'-9"	8'-0"	7'-4"
2-800L150-43	16'-0"	16'-0"	15'-6"	13'-2"	11'-5"	10'-2"	9'-0"	8'-1"	7'-5"	6'-10"
2-800L150-54	16'-0"	16'-0"	16'-0"	15'-6"	13'-5"	11'-11"	10'-7"	9'-6"	8'-8"	8'-0"
2-800L150-68	16'-0"	16'-0"	16'-0"	16'-0"	15'-6"	13'-10"	12'-3"	11'-0"	10'-0"	9'-3"
2-1000L150-43	16'-0"	16'-0"	16'-0"	13'-10"	12'-0"	10'-7"	9'-5"	8'-6"	7'-9"	7'-1"
2-1000L150-54	16'-0"	16'-0"	16'-0"	15'-10"	13'-9"	12'-2"	10'-10"	9'-9"	8'-10"	8'-2"
2-1000L150-68	16'-0"	16'-0"	16'-0"	16'-0"	16'-0"	14'-5"	12'-9"	11'-6"	10'-6"	9'-8"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

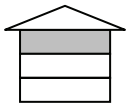
[1] Building width is measured in the direction of horizontal framing members supported by the *header*.

[2] Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2), 2 foot (0.61 m) roof overhang

[3] N/U indicates no net uplift loads acting on *header*.

33 KSI

Table E7-44a
Inverted Double L-Header Assembly Spans – Uplift Loading
Headers Supporting Roof and Ceiling Only
36-Foot Wide Building [1,2,3]
F_y = 33 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Double L-Header Designation										
2-600L150-43	14'-9"	12'-9"	9'-8"	8'-3"	7'-2"	6'-4"	5'-7"	5'-1"	4'-7"	4'-3"
2-600L150-54	16'-0"	14'-9"	11'-3"	9'-7"	8'-3"	7'-4"	6'-6"	5'-11"	5'-4"	4'-11"
2-600L150-68	16'-0"	16'-0"	13'-1"	11'-1"	9'-8"	8'-7"	7'-7"	6'-10"	6'-3"	5'-9"
2-800L150-43	16'-0"	15'-10"	12'-1"	10'-3"	8'-11"	7'-11"	7'-0"	6'-4"	5'-9"	5'-3"
2-800L150-54	16'-0"	16'-0"	14'-2"	12'-1"	10'-5"	9'-3"	8'-3"	7'-5"	6'-9"	6'-3"
2-800L150-68	16'-0"	16'-0"	16'-0"	13'-11"	12'-1"	10'-9"	9'-6"	8'-7"	7'-10"	7'-2"
2-1000L150-43	16'-0"	16'-0"	12'-7"	10'-9"	9'-4"	8'-3"	7'-4"	6'-7"	6'-0"	5'-6"
2-1000L150-54	16'-0"	16'-0"	14'-6"	12'-4"	10'-8"	9'-6"	8'-5"	7'-7"	6'-11"	6'-4"
2-1000L150-68	16'-0"	16'-0"	16'-0"	14'-6"	12'-7"	11'-2"	9'-11"	8'-11"	8'-2"	7'-6"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

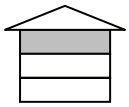
1 Building width is measured in the direction of horizontal framing members supported by the *header*.

2 Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2), 2 foot (0.61 m) roof overhang

3 N/U indicates no net uplift loads acting on *header*.

50 KSI

Table E7-44b
Inverted Double L-Header Assembly Spans – Uplift Loading
Headers Supporting Roof and Ceiling Only
36-Foot Wide Building [1,2,3]
F_y = 50 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Double L-Header Designation										
2-600L150-43	16'-0"	15'-8"	11'-11"	10'-1"	8'-9"	7'-9"	6'-10"	6'-2"	5'-8"	5'-2"
2-600L150-54	16'-0"	16'-0"	13'-10"	11'-9"	10'-2"	9'-0"	8'-0"	7'-2"	6'-7"	6'-0"
2-600L150-68	16'-0"	16'-0"	16'-0"	13'-8"	11'-10"	10'-6"	9'-3"	8'-4"	7'-8"	7'-0"
2-800L150-43	16'-0"	16'-0"	14'-10"	12'-7"	10'-11"	9'-8"	8'-7"	7'-9"	7'-0"	6'-6"
2-800L150-54	16'-0"	16'-0"	16'-0"	14'-10"	12'-10"	11'-5"	10'-1"	9'-1"	8'-3"	7'-7"
2-800L150-68	16'-0"	16'-0"	16'-0"	16'-0"	14'-10"	13'-2"	11'-8"	10'-6"	9'-7"	8'-10"
2-1000L150-43	16'-0"	16'-0"	15'-6"	13'-2"	11'-5"	10'-2"	9'-0"	8'-1"	7'-4"	6'-9"
2-1000L150-54	16'-0"	16'-0"	16'-0"	15'-1"	13'-1"	11'-8"	10'-4"	9'-3"	8'-5"	7'-9"
2-1000L150-68	16'-0"	16'-0"	16'-0"	16'-0"	15'-6"	13'-9"	12'-2"	10'-11"	10'-0"	9'-2"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

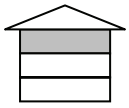
1 Building width is measured in the direction of horizontal framing members supported by the *header*.

2 Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2), 2 foot (0.61 m) roof overhang

3 N/U indicates no net uplift loads acting on *header*.

33 KSI

Table E7-45a
Inverted Double L-Header Assembly Spans – Uplift Loading
Headers Supporting Roof and Ceiling Only
40-Foot Wide Building [1,2,3]
F_y = 33 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Double L-Header Designation										
2-600L150-43	14'-3"	12'-3"	9'-3"	7'-11"	6'-10"	6'-1"	5'-5"	4'-10"	4'-5"	4'-1"
2-600L150-54	16-0"	14'-3"	10'-9"	9'-2"	7'-11"	7'-1"	6'-3"	5'-7"	5'-2"	4'-9"
2-600L150-68	16-0"	16-0"	12'-7"	10'-8"	9'-3"	8'-2"	7'-3"	6'-6"	6'-0"	5'-6"
2-800L150-43	16-0"	15'-3"	11'-7"	9'-10"	8'-6"	7'-7"	6'-8"	6'-0"	5'-6"	5'-1"
2-800L150-54	16-0"	16-0"	13'-7"	11'-7"	10'-0"	8'-11"	7'-10"	7'-1"	6'-6"	5'-11"
2-800L150-68	16-0"	16-0"	15'-9"	13'-4"	11'-7"	10'-3"	9'-1"	8'-2"	7'-6"	6'-11"
2-1000L150-43	16-0"	15'-11"	12'-1"	10'-3"	8'-11"	7'-11"	7'-0"	6'-4"	5'-9"	5'-4"
2-1000L150-54	16-0"	16-0"	13'-11"	11'-10"	10'-3"	9'-1"	8'-0"	7'-3"	6'-7"	6'-1"
2-1000L150-68	16-0"	16-0"	16-0"	13'-11"	12'-1"	10'-9"	9'-6"	8'-7"	7'-9"	7'-2"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

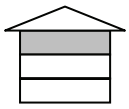
[1] Building width is measured in the direction of horizontal framing members supported by the *header*.

[2] Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2), 2 foot (0.61 m) roof overhang

[3] N/U indicates no net uplift loads acting on *header*.

50 KSI

Table E7-45b
Inverted Double L-Header Assembly Spans – Uplift Loading
Headers Supporting Roof and Ceiling Only
40-Foot Wide Building [1,2,3]
F_y = 50 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Double L-Header Designation										
2-600L150-43	16'-0"	15'-0"	11'-5"	9'-8"	8'-5"	7'-5"	6'-7"	5'-11"	5'-5"	5'-0"
2-600L150-54	16'-0"	16'-0"	13'-3"	11'-3"	9'-9"	8'-8"	7'-8"	6'-11"	6'-3"	5'-9"
2-600L150-68	16'-0"	16'-0"	15'-5"	13'-1"	11'-4"	10'-1"	8'-11"	8'-0"	7'-4"	6'-9"
2-800L150-43	16'-0"	16'-0"	14'-3"	12'-1"	10'-5"	9'-3"	8'-2"	7'-5"	6'-9"	6'-2"
2-800L150-54	16'-0"	16'-0"	16'-0"	14'-2"	12'-3"	10'-11"	9'-8"	8'-8"	7'-11"	7'-3"
2-800L150-68	16'-0"	16'-0"	16'-0"	16'-0"	14'-2"	12'-7"	11'-2"	10'-1"	9'-2"	8'-5"
2-1000L150-43	16'-0"	16'-0"	14'-10"	12'-7"	10'-11"	9'-8"	8'-7"	7'-9"	7'-1"	6'-6"
2-1000L150-54	16'-0"	16'-0"	16'-0"	14'-6"	12'-7"	11'-2"	9'-10"	8'-11"	8'-1"	7'-5"
2-1000L150-68	16'-0"	16'-0"	16'-0"	16'-0"	14'-10"	13'-2'	11'-8"	10'-6"	9'-7"	8'-9"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

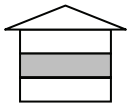
[1] Building width is measured in the direction of horizontal framing members supported by the *header*.

[2] Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2), 2 foot (0.61 m) roof overhang

[3] N/U indicates no net uplift loads acting on *header*.

33 KSI

Table E7-46a
Inverted Double L-Header Assembly Spans – Uplift Loading
Headers Supporting One Floor, Roof and Ceiling
24-Foot Wide Building [1,2,3]
F_y = 33 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Double L-Header Designation										
2-600L150-43	N/U	N/U	N/U	16'-0"	13'-6"	10'-4"	8'-5"	7'-2"	6'-4"	5'-8"
2-600L150-54	N/U	N/U	N/U	16'-0"	15'-8"	12'-0"	9'-9"	8'-4"	7'-4"	6'-7"
2-600L150-68	N/U	N/U	N/U	16'-0"	16'-0"	14'-0"	11'-4"	9'-8"	8'-6"	7'-7"
2-800L150-43	N/U	N/U	N/U	16'-0"	16'-0"	12'-11"	10'-5"	8'-11"	7'-10"	7'-1"
2-800L150-54	N/U	N/U	N/U	16'-0"	16'-0"	15'-2"	12'-3"	10'-6"	9'-3"	8'-3"
2-800L150-68	N/U	N/U	N/U	16'-0"	16'-0"	16'-0"	14'-2"	12'-1"	10'-8"	9'-7"
2-1000L150-43	N/U	N/U	N/U	16'-0"	16'-0"	13'-6"	10'-11"	9'-4"	8'-2"	7'-4"
2-1000L150-54	N/U	N/U	N/U	16'-0"	16'-0"	15'-6"	12'-6"	10'-9"	9'-5"	8'-5"
2-1000L150-68	N/U	N/U	N/U	16'-0"	16'-0"	16'-0"	14'-9"	12'-8"	11'-1"	10'-0"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

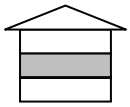
[1] Building width is measured in the direction of horizontal framing members supported by the *header*.

[2] Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2) Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2) 2 foot (0.61 m) roof overhang

[3] N/U indicates no net uplift loads acting on *header*.

50 KSI

Table E7-46b
Inverted Double L-Header Assembly Spans – Uplift Loading
Headers Supporting One Floor, Roof and Ceiling
24-Foot Wide Building [1,2,3]
F_y = 50 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Double L-Header Designation										
2-600L150-43	N/U	N/U	N/U	16'-0"	16'-0"	12'-9"	10'-3"	8'-9"	7'-9"	6'-11"
2-600L150-54	N/U	N/U	N/U	16'-0"	16'-0"	14'-9"	11'-11"	10'-2"	9'-0"	8'-0"
2-600L150-68	N/U	N/U	N/U	16'-0"	16'-0"	16'-0"	13'-11"	11'-10"	10'-5"	9'-4"
2-800L150-43	N/U	N/U	N/U	16'-0"	16'-0"	15'-10"	12'-10"	10'-11"	9'-7"	8'-7"
2-800L150-54	N/U	N/U	N/U	16'-0"	16'-0"	16'-0"	15'-1"	12'-10"	11'-4"	10'-2"
2-800L150-68	N/U	N/U	N/U	16'-0"	16'-0"	16'-0"	16'-0"	14'-10"	13'-1"	11'-9"
2-1000L150-43	N/U	N/U	N/U	16'-0"	16'-0"	16'-0"	13'-5"	11'-5"	10'-1"	9'-0"
2-1000L150-54	N/U	N/U	N/U	16'-0"	16'-0"	16'-0"	15'-5"	13'-2"	11'-7"	10'-4"
2-1000L150-68	N/U	N/U	N/U	16'-0"	16'-0"	16'-0"	16'-0"	15'-6"	13'-8"	12'-3"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

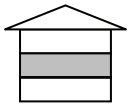
[1] Building width is measured in the direction of horizontal framing members supported by the *header*.

[2] Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2) Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2) 2 foot (0.61 m) roof overhang

[3] N/U indicates no net uplift loads acting on *header*.

33 KSI

Table E7-47a
Inverted Double L-Header Assembly Spans – Uplift Loading
Headers Supporting One Floor, Roof and Ceiling
28-Foot Wide Building [1,2,3]
F_y = 33 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Double L-Header Designation										
2-600L150-43	N/U	N/U	N/U	16'-0"	12'-6"	9'-8"	7'-10"	6'-9"	5'-11"	5'-4"
2-600L150-54	N/U	N/U	N/U	16'-0"	14'-7"	11'-3"	9'-1"	7'-10"	6'-10"	6'-2"
2-600L150-68	N/U	N/U	N/U	16'-0"	16'-0"	13'-1"	10'-7"	9'-1"	8'-0"	7'-2"
2-800L150-43	N/U	N/U	N/U	16'-0"	15'-7"	12'-1"	9'-9"	8'-4"	7'-4"	6'-7"
2-800L150-54	N/U	N/U	N/U	16'-0"	16'-0"	14'-2"	11'-6"	9'-10"	8'-8"	7'-9"
2-800L150-68	N/U	N/U	N/U	16'-0"	16'-0"	16'-0"	13'-3"	11'-4"	10'-0"	9'-0"
2-1000L150-43	N/U	N/U	N/U	16'-0"	16'-0"	12'-7"	10'-3"	8'-9"	7'-8"	6'-11"
2-1000L150-54	N/U	N/U	N/U	16'-0"	16'-0"	14'-6"	11'-9"	10'-1"	8'-10"	7'-11"
2-1000L150-68	N/U	N/U	N/U	16'-0"	16'-0"	16'-0"	13'-10"	11'-10"	10'-5"	9'-4"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

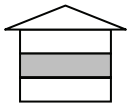
[1] Building width is measured in the direction of horizontal framing members supported by the *header*.

[2] Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2) Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2) 2 foot (0.61 m) roof overhang

[3] N/U indicates no net uplift loads acting on *header*.

50 KSI

Table E7-47b
Inverted Double L-Header Assembly Spans – Uplift Loading
Headers Supporting One Floor, Roof and Ceiling
28-Foot Wide Building [1,2,3]
F_y = 50 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Double L-Header Designation										
2-600L150-43	N/U	N/U	N/U	16'-0"	15'-5"	11'-11"	9'-8"	8'-3"	7'-3"	6'-6"
2-600L150-54	N/U	N/U	N/U	16'-0"	16'-0"	13'-10"	11'-2"	9'-7"	8'-5"	7'-7"
2-600L150-68	N/U	N/U	N/U	16'-0"	16'-0"	16'-0"	13'-0"	11'-1"	9'-9"	8'-9"
2-800L150-43	N/U	N/U	N/U	16'-0"	16'-0"	14'-10"	12'-0"	10'-3"	9'-0"	8'-1"
2-800L150-54	N/U	N/U	N/U	16'-0"	16'-0"	16'-0"	14'-1"	12'-1"	10'-7"	9'-6"
2-800L150-68	N/U	N/U	N/U	16'-0"	16'-0"	16'-0"	16'-0"	13'-11"	12'-3"	11'-0"
2-1000L150-43	N/U	N/U	N/U	16'-0"	16'-0"	15'-6"	12'-7"	10'-8"	9'-5"	8'-6"
2-1000L150-54	N/U	N/U	N/U	16'-0"	16'-0"	16'-0"	14'-5"	12'-4"	10'-10"	9'-9"
2-1000L150-68	N/U	N/U	N/U	16'-0"	16'-0"	16'-0"	16'-0"	14'-7"	12'-10"	11'-6"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

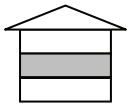
[1] Building width is measured in the direction of horizontal framing members supported by the *header*.

[2] Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2) Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2) 2 foot (0.61 m) roof overhang

[3] N/U indicates no net uplift loads acting on *header*.

33 KSI

Table E7-48a
Inverted Double L-Header Assembly Spans – Uplift Loading
Headers Supporting One Floor, Roof and Ceiling
32-Foot Wide Building [1,2,3]
F_y = 33 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Double L-Header Designation										
2-600L150-43	N/U	N/U	N/U	16'-0"	11'-9"	9'-1"	7'-5"	6'-4"	5'-7"	5'-0"
2-600L150-54	N/U	N/U	N/U	16'-0"	13'-8"	10'-7"	8'-7"	7'-4"	6'-6"	5'-10"
2-600L150-68	N/U	N/U	N/U	16'-0"	15'-10"	12'-4"	10'-0"	8'-7"	7'-6"	6'-9"
2-800L150-43	N/U	N/U	N/U	16'-0"	14'-8"	11'-4"	9'-3"	7'-11"	6'-11"	6'-3"
2-800L150-54	N/U	N/U	N/U	16'-0"	16'-0"	13'-4"	10'-10"	9'-3"	8'-2"	7'-6"
2-800L150-68	N/U	N/U	N/U	16'-0"	16'-0"	15'-5"	12'-6"	10'-9"	9'-5"	8'-6"
2-1000L150-43	N/U	N/U	N/U	16'-0"	15'-4"	11'-11"	9'-8"	8'-3"	7'-3"	6'-6"
2-1000L150-54	N/U	N/U	N/U	16'-0"	16'-0"	13'-8"	11'-1"	9'-6"	8'-4"	7'-6"
2-1000L150-68	N/U	N/U	N/U	16'-0"	16'-0"	16'-0"	13'-1"	11'-2"	9'-10"	8'-10"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

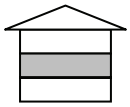
[1] Building width is measured in the direction of horizontal framing members supported by the *header*.

[2] Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2) Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2) 2 foot (0.61 m) roof overhang

[3] N/U indicates no net uplift loads acting on *header*.

50 KSI

Table E7-48b
Inverted Double L-Header Assembly Spans – Uplift Loading
Headers Supporting One Floor, Roof and Ceiling
32-Foot Wide Building [1,2,3]
F_y = 50 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Double L-Header Designation										
2-600L150-43	N/U	N/U	N/U	16'-0"	14'-5"	11'-2"	9'-1"	7'-9"	6'-10"	6'-2"
2-600L150-54	N/U	N/U	N/U	16'-0"	16'-0"	13'-0"	10'-7"	9'-0"	7'-11"	7'-2"
2-600L150-68	N/U	N/U	N/U	16'-0"	16'-0"	15'-1"	12'-3"	10'-6"	9'-3"	8'-4"
2-800L150-43	N/U	N/U	N/U	16'-0"	16'-0"	13'-11"	11'-4"	9'-8"	8'-6"	7'-8"
2-800L150-54	N/U	N/U	N/U	16'-0"	16'-0"	16'-0"	13'-4"	11'-5"	10'-0"	9'-0"
2-800L150-68	N/U	N/U	N/U	16'-0"	16'-0"	16'-0"	15'-5"	13'-2"	11'-7"	10'-5"
2-1000L150-43	N/U	N/U	N/U	16'-0"	16'-0"	14'-7"	11'-10"	10'-2"	8'-11"	8'-0"
2-1000L150-54	N/U	N/U	N/U	16'-0"	16'-0"	16'-0"	13'-7"	11'-8"	10'-3"	9'-2"
2-1000L150-68	N/U	N/U	N/U	16'-0"	16'-0"	16'-0"	16'-0"	13'-9"	12'-1"	10'-10"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

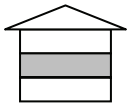
[1] Building width is measured in the direction of horizontal framing members supported by the *header*.

[2] Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2) Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2) 2 foot (0.61 m) roof overhang

[3] N/U indicates no net uplift loads acting on *header*.

33 KSI

Table E7-49a
Inverted Double L-Header Assembly Spans – Uplift Loading
Headers Supporting One Floor, Roof and Ceiling
36-Foot Wide Building [1,2,3]
F_y = 33 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Double L-Header Designation										
2-600L150-43	N/U	N/U	N/U	16'-0"	11'-10"	9'-0"	7'-3"	6'-2"	5'-5"	4'-10"
2-600L150-54	N/U	N/U	N/U	16'-0"	13'-9"	10'-5"	8'-4"	7'-1"	6'-3"	5'-7"
2-600L150-68	N/U	N/U	N/U	16'-0"	16'-0"	12'-1"	9'-9"	8'-3"	7'-3"	6'-6"
2-800L150-43	N/U	N/U	N/U	16'-0"	14'-9"	11'-2"	9'-0"	7'-8"	6'-8"	6'-0"
2-800L150-54	N/U	N/U	N/U	16'-0"	16'-0"	13'-2"	10'-7"	9'-0"	7'-11"	7'-1"
2-800L150-68	N/U	N/U	N/U	16'-0"	16'-0"	15'-2"	12'-2"	10'-5"	9'-1"	8'-2"
2-1000L150-43	N/U	N/U	N/U	16'-0"	15'-5"	11'-8"	9'-5"	8'-0"	7'-0"	6'-3"
2-1000L150-54	N/U	N/U	N/U	16'-0"	16'-0"	13'-5"	10'-9"	9'-2"	8'-1"	7'-3"
2-1000L150-68	N/U	N/U	N/U	16'-0"	16'-0"	15'-10"	12'-9"	10'-10"	9'-6"	8'-6"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

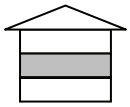
[1] Building width is measured in the direction of horizontal framing members supported by the *header*.

[2] Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2) Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2) 2 foot (0.61 m) roof overhang

[3] N/U indicates no net uplift loads acting on *header*.

50 KSI

Table E7-49b
Inverted Double L-Header Assembly Spans – Uplift Loading
Headers Supporting One Floor, Roof and Ceiling
36-Foot Wide Building [1,2,3]
F_y = 50 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Double L-Header Designation										
2-600L150-43	N/U	N/U	N/U	16'-0"	14'-7"	11'-0"	8'-10"	7'-6"	6'-7"	5'-11"
2-600L150-54	N/U	N/U	N/U	16'-0"	16'-0"	12'-10"	10'-3"	8'-9"	7'-8"	6'-10"
2-600L150-68	N/U	N/U	N/U	16'-0"	16'-0"	14'-11"	11'-11"	10'-2"	8'-11"	8'-0"
2-800L150-43	N/U	N/U	N/U	16'-0"	16'-0"	13'-9"	11'-0"	9'-4"	8'-3"	7'-4"
2-800L150-54	N/U	N/U	N/U	16'-0"	16'-0"	16'-0"	12'-11"	11'-0"	9'-8"	8'-8"
2-800L150-68	N/U	N/U	N/U	16'-0"	16'-0"	16'-0"	15'-0"	12'-9"	11'-2"	10'-0"
2-1000L150-43	N/U	N/U	N/U	16'-0"	16'-0"	14'-4"	11'-6"	9'-10"	8'-7"	7'-8"
2-1000L150-54	N/U	N/U	N/U	16'-0"	16'-0"	16'-0"	13'-3"	11'-3"	9'-10"	8'-10"
2-1000L150-68	N/U	N/U	N/U	16'-0"	16'-0"	16'-0"	15'-7"	13'-3"	11'-8"	10'-5"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

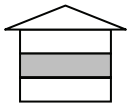
[1] Building width is measured in the direction of horizontal framing members supported by the *header*.

[2] Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2) Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2) 2 foot (0.61 m) roof overhang

[3] N/U indicates no net uplift loads acting on *header*.

33 KSI

Table E7-50a
Inverted Double L-Header Assembly Spans – Uplift Loading
Headers Supporting One Floor, Roof and Ceiling
40-Foot Wide Building [1,2,3]
F_y = 33 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Double L-Header Designation										
2-600L150-43	N/U	N/U	N/U	16'-0"	10'-7"	8'-3"	6'-9"	5'-9"	5'-1"	4'-7"
2-600L150-54	N/U	N/U	N/U	16'-0"	12'-3"	9'-7"	7'-10"	6'-8"	5'-11"	5'-3"
2-600L150-68	N/U	N/U	N/U	16'-0"	14'-3"	11'-1"	9'-1"	7'-9"	6'-10"	6'-2"
2-800L150-43	N/U	N/U	N/U	16'-0"	13'-2"	10'-3"	8'-4"	7'-2"	6'-4"	5'-8"
2-800L150-54	N/U	N/U	N/U	16'-0"	15'-5"	12'-1"	9'-10"	8'-5"	7'-5"	6'-8"
2-800L150-68	N/U	N/U	N/U	16'-0"	16'-0"	13'-11"	11'-4"	9'-9"	8'-7"	7'-9"
2-1000L150-43	N/U	N/U	N/U	16'-0"	13'-9"	10'-9"	8'-9"	7'-6"	6'-8"	5'-11"
2-1000L150-54	N/U	N/U	N/U	16'-0"	15'-9"	12'-4"	10'-0"	8'-7"	7'-7"	6'-10"
2-1000L150-68	N/U	N/U	N/U	16'-0"	16'-0"	14'-6"	11'-10"	10'-2"	8'-11"	8'-0"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

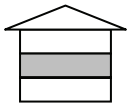
1 Building width is measured in the direction of horizontal framing members supported by the *header*.

2 Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2) Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2) 2 foot (0.61 m) roof overhang

3 N/U indicates no net uplift loads acting on *header*.

50 KSI

Table E7-50b
Inverted Double L-Header Assembly Spans – Uplift Loading
Headers Supporting One Floor, Roof and Ceiling
40-Foot Wide Building [1,2,3]
F_y = 50 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Double L-Header Designation										
2-600L150-43	N/U	N/U	N/U	16'-0"	12'-11"	10'-1"	8'-3"	7'-1"	6'-2"	5'-7"
2-600L150-54	N/U	N/U	N/U	16'-0"	15'-1"	11'-9"	9'-7"	8'-2"	7'-2"	6'-6"
`2-600L150-68	N/U	N/U	N/U	16'-0"	16'-0"	13'-8"	11'-1"	9'-6"	8'-5"	7'-6"
2-800L150-43	N/U	N/U	N/U	16'-0"	16'-0"	12'-7"	10'-3"	8'-9"	7'-9"	6'-11"
2-800L150-54	N/U	N/U	N/U	16'-0"	16'-0"	14'-10"	12'-1"	10'-4"	9'-1"	8'-2"
2-800L150-68	N/U	N/U	N/U	16'-0"	16'-0"	16'-0"	13'-11"	11'-11"	10'-6"	9'-5"
2-1000L150-43	N/U	N/U	N/U	16'-0"	16'-0"	13'-2"	10'-9"	9'-2"	8'-1"	7'-3"
2-1000L150-54	N/U	N/U	N/U	16'-0"	16'-0"	15'-1"	12'-4"	10'-7"	9'-4"	8'-4"
2-1000L150-68	N/U	N/U	N/U	16'-0"	16'-0"	16'-0"	14'-6"	12'-6"	11'-0"	9'-10"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

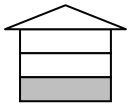
1 Building width is measured in the direction of horizontal framing members supported by the *header*.

2 Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2) Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2) 2 foot (0.61 m) roof overhang

3 N/U indicates no net uplift loads acting on *header*.

33 KSI

Table E7-51a
Inverted Double L-Header Assembly Spans – Uplift Loading
Headers Supporting Two Floors, Roof and Ceiling
24-Foot Wide Building [1,2,3]
F_y = 33 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Double L-Header Designation										
2-600L150-43	N/U	N/U	N/U	N/U	N/U	16'-0"	13'-8"	9'-8"	7'-10"	6'-8"
2-600L150-54	N/U	N/U	N/U	N/U	N/U	16'-0"	15'-10"	11'-3"	9'-1"	7'-9"
2-600L150-68	N/U	N/U	N/U	N/U	N/U	16'-0"	16'-0"	13'-1"	10'-7"	9'-0"
2-800L150-43	N/U	N/U	N/U	N/U	N/U	16'-0"	16'-0"	12'-1"	9'-9"	8'-4"
2-800L150-54	N/U	N/U	N/U	N/U	N/U	16'-0"	16'-0"	14'-2"	11'-5"	9'-9"
2-800L150-68	N/U	N/U	N/U	N/U	N/U	16'-0"	16'-0"	16'-0"	13'-3"	11'-3"
2-1000L150-43	N/U	N/U	N/U	N/U	N/U	16'-0"	16'-0"	12'-8"	10'-2"	8'-8"
2-1000L150-54	N/U	N/U	N/U	N/U	N/U	16'-0"	16'-0"	14'-6"	11'-8"	10'-0"
2-1000L150-68	N/U	N/U	N/U	N/U	N/U	16'-0"	16'-0"	16'-0"	13'-9"	11'-9"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

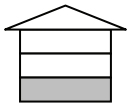
[1] Building width is measured in the direction of horizontal framing members supported by the *header*.

[2] Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2) Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2) 2 foot (0.61 m) roof overhang

[3] N/U indicates no net uplift loads acting on *header*.

50 KSI

Table E7-51b
Inverted Double L-Header Assembly Spans – Uplift Loading
Headers Supporting Two Floors, Roof and Ceiling
24-Foot Wide Building [1,2,3]
F_y = 50 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Double L-Header Designation										
2-600L150-43	N/U	N/U	N/U	N/U	N/U	16'-0"	16'-0"	11'-11"	9'-7"	8'-2"
2-600L150-54	N/U	N/U	N/U	N/U	N/U	16'-0"	16'-0"	13'-10"	11'-2"	9'-6"
2-600L150-68	N/U	N/U	N/U	N/U	N/U	16'-0"	16'-0"	16'-0"	12'-11"	11'-1"
2-800L150-43	N/U	N/U	N/U	N/U	N/U	16'-0"	16'-0"	14'-10"	11'-11"	10'-2"
2-800L150-54	N/U	N/U	N/U	N/U	N/U	16'-0"	16'-0"	16'-0"	14'-1"	12'-0"
2-800L150-68	N/U	N/U	N/U	N/U	N/U	16'-0"	16'-0"	16'-0"	16'-0"	13'-10"
2-1000L150-43	N/U	N/U	N/U	N/U	N/U	16'-0"	16'-0"	15'-6"	12'-6"	10'-8"
2-1000L150-54	N/U	N/U	N/U	N/U	N/U	16'-0"	16'-0"	16'-0"	14'-4"	12'-3"
2-1000L150-68	N/U	N/U	N/U	N/U	N/U	16'-0"	16'-0"	16'-0"	16'-0"	14'-5"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

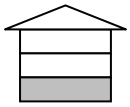
[1] Building width is measured in the direction of horizontal framing members supported by the *header*.

[2] Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2) Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2) 2 foot (0.61 m) roof overhang

[3] N/U indicates no net uplift loads acting on *header*.

33 KSI

Table E7-52a
Inverted Double L-Header Assembly Spans – Uplift Loading
Headers Supporting Two Floors, Roof and Ceiling
28-Foot Wide Building [1,2,3]
F_y = 33 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Double L-Header Designation										
2-600L150-43	N/U	N/U	N/U	N/U	N/U	16'-0"	12'-5"	9'-0"	7'-3"	6'-3"
2-600L150-54	N/U	N/U	N/U	N/U	N/U	16'-0"	14'-5"	10'-5"	8'-5"	7'-3"
2-600L150-68	N/U	N/U	N/U	N/U	N/U	16'-0"	16'-0"	12'-1"	9'-10"	8'-5"
2-800L150-43	N/U	N/U	N/U	N/U	N/U	16'-0"	15'-6"	11'-2"	9'-1"	7'-9"
2-800L150-54	N/U	N/U	N/U	N/U	N/U	16'-0"	16'-0"	13'-2"	10'-8"	9'-1"
2-800L150-68	N/U	N/U	N/U	N/U	N/U	16'-0"	16'-0"	15'-2"	12'-4"	10'-6"
2-1000L150-43	N/U	N/U	N/U	N/U	N/U	16'-0"	16'-0"	11'-8"	9'-6"	8'-1"
2-1000L150-54	N/U	N/U	N/U	N/U	N/U	16'-0"	16'-0"	13'-5"	10'-11"	9'-4"
2-1000L150-68	N/U	N/U	N/U	N/U	N/U	16'-0"	16'-0"	15'-10"	12'-10"	11'-0"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

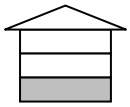
1 Building width is measured in the direction of horizontal framing members supported by the *header*.

2 Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2) Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2) 2 foot (0.61 m) roof overhang

3 N/U indicates no net uplift loads acting on *header*.

50 KSI

Table E7-52b
Inverted Double L-Header Assembly Spans – Uplift Loading
Headers Supporting Two Floors, Roof and Ceiling
28-Foot Wide Building [1,2,3]
F_y = 50 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Double L-Header Designation										
2-600L150-43	N/U	N/U	N/U	N/U	N/U	16'-0"	15'-3"	11'-0"	8'-11"	7'-8"
2-600L150-54	N/U	N/U	N/U	N/U	N/U	16'-0"	16'-0"	12'-9"	10'-4"	8'-10"
2-600L150-68	N/U	N/U	N/U	N/U	N/U	16'-0"	16'-0"	14'-10"	12'-1"	10'-4"
2-800L150-43	N/U	N/U	N/U	N/U	N/U	16'-0"	16'-0"	13'-9"	11'-1"	9'-6"
2-800L150-54	N/U	N/U	N/U	N/U	N/U	16'-0"	16'-0"	16'-0"	13'-1"	11'-2"
2-800L150-68	N/U	N/U	N/U	N/U	N/U	16'-0"	16'-0"	16'-0"	15'-1"	12'-11"
2-1000L150-43	N/U	N/U	N/U	N/U	N/U	16'-0"	16'-0"	14'-4"	11'-8"	9'-11"
2-1000L150-54	N/U	N/U	N/U	N/U	N/U	16'-0"	16'-0"	16'-0"	13'-4"	11'-5"
2-1000L150-68	N/U	N/U	N/U	N/U	N/U	16'-0"	16'-0"	16'-0"	15'-9"	13'-6"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

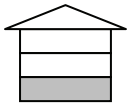
1 Building width is measured in the direction of horizontal framing members supported by the *header*.

2 Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2) Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2) 2 foot (0.61 m) roof overhang

3 N/U indicates no net uplift loads acting on *header*.

33 KSI

Table E7-53a
Inverted Double L-Header Assembly Spans – Uplift Loading
Headers Supporting Two Floors, Roof and Ceiling
32-Foot Wide Building [1,2,3]
F_y = 33 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Double L-Header Designation										
2-600L150-43	N/U	N/U	N/U	N/U	N/U	16'-0"	11'-6"	8'-5"	6'-10"	5'-10"
2-600L150-54	N/U	N/U	N/U	N/U	N/U	16'-0"	13'-4"	9'-9"	7'-11"	6'-10"
2-600L150-68	N/U	N/U	N/U	N/U	N/U	16'-0"	15'-6"	11'-4"	9'-3"	7'-11"
2-800L150-43	N/U	N/U	N/U	N/U	N/U	16'-0"	14'-4"	10'-5"	8'-6"	7'-4"
2-800L150-54	N/U	N/U	N/U	N/U	N/U	16'-0"	16'-0"	12'-3"	10'-0"	8'-7"
2-800L150-68	N/U	N/U	N/U	N/U	N/U	16'-0"	16'-0"	14'-2"	11'-7"	9'-11"
2-1000L150-43	N/U	N/U	N/U	N/U	N/U	16'-0"	15'-0"	10'-11"	8'-11"	7'-8"
2-1000L150-54	N/U	N/U	N/U	N/U	N/U	16'-0"	16'-0"	12'-6"	10'-3"	8'-9"
2-1000L150-68	N/U	N/U	N/U	N/U	N/U	16'-0"	16'-0"	14'-10"	12'-1"	10'-4"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

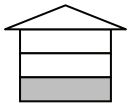
[1] Building width is measured in the direction of horizontal framing members supported by the *header*.

[2] Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2) Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2) 2 foot (0.61 m) roof overhang

[3] N/U indicates no net uplift loads acting on *header*.

50 KSI

Table E7-53b
Inverted Double L-Header Assembly Spans – Uplift Loading
Headers Supporting Two Floors, Roof and Ceiling
32-Foot Wide Building [1,2,3]
F_y = 50 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Double L-Header Designation										
2-600L150-43	N/U	N/U	N/U	N/U	N/U	16'-0"	14'-1"	10'-3"	8'-4"	7'-2"
2-600L150-54	N/U	N/U	N/U	N/U	N/U	16'-0"	16'-0"	11'-11"	9'-9"	8'-4"
2-600L150-68	N/U	N/U	N/U	N/U	N/U	16'-0"	16'-0"	13'-11"	11'-4"	9'-8"
2-800L150-43	N/U	N/U	N/U	N/U	N/U	16'-0"	16'-0"	12'-10"	10'-5"	8'-11"
2-800L150-54	N/U	N/U	N/U	N/U	N/U	16'-0"	16'-0"	15'-1"	12'-3"	10'-6"
2-800L150-68	N/U	N/U	N/U	N/U	N/U	16'-0"	16'-0"	16'-0"	14'-2"	12'-2"
2-1000L150-43	N/U	N/U	N/U	N/U	N/U	16'-0"	16'-0"	13'-5"	10'-11"	9'-4"
2-1000L150-54	N/U	N/U	N/U	N/U	N/U	16'-0"	16'-0"	15'-5"	12'-6"	10'-9"
2-1000L150-68	N/U	N/U	N/U	N/U	N/U	16'-0"	16'-0"	16'-0"	14'-10"	12'-8"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

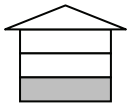
[1] Building width is measured in the direction of horizontal framing members supported by the *header*.

[2] Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2) Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2) 2 foot (0.61 m) roof overhang

[3] N/U indicates no net uplift loads acting on *header*.

33 KSI

Table E7-54a
Inverted Double L-Header Assembly Spans – Uplift Loading
Headers Supporting Two Floors, Roof and Ceiling
36-Foot Wide Building [1,2,3]
F_y = 33 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Double L-Header Designation										
2-600L150-43	N/U	N/U	N/U	N/U	N/U	16'-0"	10'-9"	7'-11"	6'-6"	5'-7"
2-600L150-54	N/U	N/U	N/U	N/U	N/U	16'-0"	12'-5"	9'-2"	7'-6"	6'-5"
2-600L150-68	N/U	N/U	N/U	N/U	N/U	16'-0"	14'-6"	10'-8"	8'-9"	7'-6"
2-800L150-43	N/U	N/U	N/U	N/U	N/U	16'-0"	13'-4"	9'-10"	8'-1"	6'-11"
2-800L150-54	N/U	N/U	N/U	N/U	N/U	16'-0"	15'-8"	11'-7"	9'-5"	8'-2"
2-800L150-68	N/U	N/U	N/U	N/U	N/U	16'-0"	16'-0"	13'-4"	10'-11"	9'-5"
2-1000L150-43	N/U	N/U	N/U	N/U	N/U	16'-0"	14'-0"	10'-4"	8'-5"	7'-3"
2-1000L150-54	N/U	N/U	N/U	N/U	N/U	16'-0"	16'-0"	11'-10"	9'-8"	8'-4"
2-1000L150-68	N/U	N/U	N/U	N/U	N/U	16'-0"	16'-0"	13'-11"	11'-5"	9'-10"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

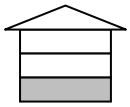
1 Building width is measured in the direction of horizontal framing members supported by the *header*.

2 Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2) Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2) 2 foot (0.61 m) roof overhang

3 N/U indicates no net uplift loads acting on *header*.

50 KSI

Table E7-54b
Inverted Double L-Header Assembly Spans – Uplift Loading
Headers Supporting Two Floors, Roof and Ceiling
36-Foot Wide Building [1,2,3]
F_y = 50 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Double L-Header Designation										
2-600L150-43	N/U	N/U	N/U	N/U	N/U	16'-0"	13'-2"	9'-8"	7'-11"	6'-10"
2-600L150-54	N/U	N/U	N/U	N/U	N/U	16'-0"	15'-4"	11'-3"	9'-2"	7'-11"
2-600L150-68	N/U	N/U	N/U	N/U	N/U	16'-0"	16'-0"	13'-1"	10'-8"	9'-2"
2-800L150-43	N/U	N/U	N/U	N/U	N/U	16'-0"	16'-0"	12'-1"	9'-10"	8'-6"
2-800L150-54	N/U	N/U	N/U	N/U	N/U	16'-0"	16'-0"	14'-2"	11'-7"	10'-0"
2-800L150-68	N/U	N/U	N/U	N/U	N/U	16'-0"	16'-0"	16'-0"	13'-5"	11'-6"
2-1000L150-43	N/U	N/U	N/U	N/U	N/U	16'-0"	16'-0"	12'-8"	10'-4"	8'-10"
2-1000L150-54	N/U	N/U	N/U	N/U	N/U	16'-0"	16'-0"	14'-6"	11'-10"	10'-2"
2-1000L150-68	N/U	N/U	N/U	N/U	N/U	16'-0"	16'-0"	16'-0"	14'-0"	12'-0"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

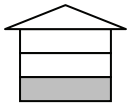
1 Building width is measured in the direction of horizontal framing members supported by the *header*.

2 Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2) Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2) 2 foot (0.61 m) roof overhang

3 N/U indicates no net uplift loads acting on *header*.

33 KSI

Table E7-55a
Inverted Double L-Header Assembly Spans – Uplift Loading
Headers Supporting Two Floors, Roof and Ceiling
40-Foot Wide Building [1,2,3]
F_y = 33 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Double L-Header Designation										
2-600L150-43	N/U	N/U	N/U	N/U	N/U	16'-0"	10'-1"	7'-6"	6'-2"	5'-3"
2-600L150-54	N/U	N/U	N/U	N/U	N/U	16'-0"	11'-9"	8'-8"	7'-2"	6'-2"
2-600L150-68	N/U	N/U	N/U	N/U	N/U	16'-0"	13'-8"	10'-1"	8'-3"	7'-2"
2-800L150-43	N/U	N/U	N/U	N/U	N/U	16'-0"	12'-7"	9'-4"	7'-8"	6'-7"
2-800L150-54	N/U	N/U	N/U	N/U	N/U	16'-0"	14'-9"	11'-0"	9'-0"	7'-9"
2-800L150-68	N/U	N/U	N/U	N/U	N/U	16'-0"	16'-0"	12'-8"	10'-5"	8'-11"
2-1000L150-43	N/U	N/U	N/U	N/U	N/U	16'-0"	13'-2"	9'-9"	8'-0"	6'-11"
2-1000L150-54	N/U	N/U	N/U	N/U	N/U	16'-0"	15'-1"	11'-3"	9'-2"	7'-11"
2-1000L150-68	N/U	N/U	N/U	N/U	N/U	16'-0"	16'-0"	13'-3"	10'-10"	9'-4"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

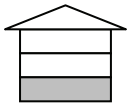
[1] Building width is measured in the direction of horizontal framing members supported by the *header*.

[2] Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2) Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2) 2 foot (0.61 m) roof overhang

[3] N/U indicates no net uplift loads acting on *header*.

50 KSI

Table E7-55b
Inverted Double L-Header Assembly Spans – Uplift Loading
Headers Supporting Two Floors, Roof and Ceiling
40-Foot Wide Building [1,2,3]
F_y = 50 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Double L-Header Designation										
2-600L150-43	N/U	N/U	N/U	N/U	N/U	16'-0"	12'-5"	9'-2"	7'-6"	6'-6"
2-600L150-54	N/U	N/U	N/U	N/U	N/U	16'-0"	14'-5"	10'-8"	8'-9"	7'-6"
2-600L150-68	N/U	N/U	N/U	N/U	N/U	16'-0"	16'-0"	12'-5"	10'-2"	8'-9"
2-800L150-43	N/U	N/U	N/U	N/U	N/U	16'-0"	15'-5"	11'-5"	9'-5"	8'-1"
2-800L150-54	N/U	N/U	N/U	N/U	N/U	16'-0"	16'-0"	13'-6"	11'-0"	9'-6"
2-800L150-68	N/U	N/U	N/U	N/U	N/U	16'-0"	16'-0"	15'-7"	12'-9"	11'-0"
2-1000L150-43	N/U	N/U	N/U	N/U	N/U	16'-0"	16'-0"	12'-0"	9'-10"	8'-5"
2-1000L150-54	N/U	N/U	N/U	N/U	N/U	16'-0"	16'-0"	13'-9"	11'-3"	9'-8"
2-1000L150-68	N/U	N/U	N/U	N/U	N/U	16'-0"	16'-0"	16'-0"	13'-4"	11'-5"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

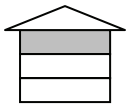
[1] Building width is measured in the direction of horizontal framing members supported by the *header*.

[2] Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2) Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2) 2 foot (0.61 m) roof overhang

[3] N/U indicates no net uplift loads acting on *header*.

33 KSI

Table E7-56a
Inverted Single L-Header Assembly Spans – Uplift Loading
Headers Supporting Roof and Ceiling Only
24-Foot Wide Building [1,2]
F_y = 33 ksi

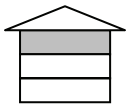


	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Single L-Header Designation										
600L150-43	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	3'-10"	3'-6"	3'-2"
600L150-54	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	3'-8"
600L150-68	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-43	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	3'-10"
800L150-54	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-68	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m
[1] Building width is measured in the direction of horizontal framing members supported by the *header*.
[2] Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2), 2 foot roof overhang (0.61 m)
[3] N/U indicates no net uplift loads acting on *header*.

50 KSI

Table E7-56b
Inverted Single L-Header Assembly Spans – Uplift Loading
Headers Supporting Roof and Ceiling Only
24-Foot Wide Building [1,2]
F_y = 50 ksi

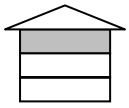


	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Single L-Header Designation										
600L150-43	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	3'-11"
600L150-54	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
600L150-68	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-43	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-54	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-68	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m
[1] Building width is measured in the direction of horizontal framing members supported by the *header*.
[2] Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2), 2 foot roof overhang (0.61 m)
[3] N/U indicates no net uplift loads acting on *header*.

33 KSI

Table E7-57a
Inverted Single L-Header Assembly Spans – Uplift Loading
Headers Supporting Roof and Ceiling Only
28-Foot Wide Building [1,2]
F_y = 33 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Single L-Header Designation										
600L150-43	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	3'-7"	3'-3"	3'-0"
600L150-54	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	3'-9"	3'-6"
600L150-68	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-43	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	3'-11"	3'-7"
800L150-54	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-68	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

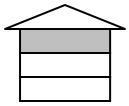
1 Building width is measured in the direction of horizontal framing members supported by the *header*.

2 Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m2), 2 foot (0.61 m) roof overhang

3 N/U indicates no net uplift loads acting on *header*.

50 KSI

Table E7-57b
Inverted Single L-Header Assembly Spans – Uplift Loading
Headers Supporting Roof and Ceiling Only
28-Foot Wide Building [1,2]
F_y = 50 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Single L-Header Designation										
600L150-43	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	3'-8"
600L150-54	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
600L150-68	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-43	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-54	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-68	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

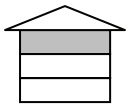
1 Building width is measured in the direction of horizontal framing members supported by the *header*.

2 Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m2), 2 foot (0.61 m) roof overhang

3 N/U indicates no net uplift loads acting on *header*.

33 KSI

Table E7-58a
Inverted Single L-Header Assembly Spans – Uplift Loading
Headers Supporting Roof and Ceiling Only
32-Foot Wide Building [1,2,3]
F_y = 33 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Single L-Header Designation										
600L150-43	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	3'-9"	3'-5"	3'-1"	2'-10"
600L150-54	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	3'-11"	3'-7"	3'-4"
600L150-68	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	3'-10"
800L150-43	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	3'-9"	3'-5"
800L150-54	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	3'-11"
800L150-68	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

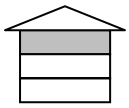
1 Building width is measured in the direction of horizontal framing members supported by the *header*.

2 Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2), 2 foot (0.61 m) roof overhang

3 N/U indicates no net uplift loads acting on *header*.

50 KSI

Table E7-58b
Inverted Single L-Header Assembly Spans – Uplift Loading
Headers Supporting Roof and Ceiling Only
32-Foot Wide Building [1,2,3]
F_y = 50 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Single L-Header Designation										
600L150-43	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	3'-10"	3'-6"
600L150-54	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
600L150-68	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-43	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-54	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-68	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

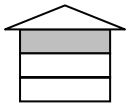
1 Building width is measured in the direction of horizontal framing members supported by the *header*.

2 Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2), 2 foot (0.61 m) roof overhang

3 N/U indicates no net uplift loads acting on *header*.

33 KSI

Table E7-59a
Inverted Single L-Header Assembly Spans – Uplift Loading
Headers Supporting Roof and Ceiling Only
36-Foot Wide Building [1,2,3]
F_y = 33 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Single L-Header Designation										
600L150-43	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	3'-7"	3'-3"	3'-11"	3'-9"
600L150-54	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	3'-9"	3'-5"	3'-2"
600L150-68	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	3'-8"
800L150-43	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	3'-11"	3'-7"	3'-4"
800L150-54	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	3'-9"
800L150-68	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

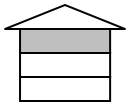
1 Building width is measured in the direction of horizontal framing members supported by the *header*.

2 Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2), 2 foot (0.61 m) roof overhang

3 N/U indicates no net uplift loads acting on *header*.

50 KSI

Table E7-59b
Inverted Single L-Header Assembly Spans – Uplift Loading
Headers Supporting Roof and Ceiling Only
36-Foot Wide Building [1,2,3]
F_y = 50 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Single L-Header Designation										
600L150-43	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	3'-8"	3'-4"
600L150-54	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	3'-11"
600L150-68	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-43	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-54	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-68	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

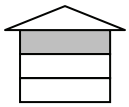
1 Building width is measured in the direction of horizontal framing members supported by the *header*.

2 Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2), 2 foot (0.61 m) roof overhang

3 N/U indicates no net uplift loads acting on *header*.

33 KSI

Table E7-60a
Inverted Single L-Header Assembly Spans – Uplift Loading
Headers Supporting Roof and Ceiling Only
40-Foot Wide Building [1,2,3]
F_y = 33 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Single L-Header Designation										
600L150-43	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	3'-11"	3'-5"	3'-1"	2'-10"	2'-7"
600L150-54	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	3'-7"	3'-3"	3'-0"
600L150-68	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	3'-10"	3'-6"
800L150-43	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	3'-9"	3'-5"	3'-2"
800L150-54	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	3'-11"	3'-7"
800L150-68	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

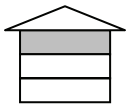
1 Building width is measured in the direction of horizontal framing members supported by the *header*.

2 Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2), 2 foot (0.61 m) roof overhang

3 N/U indicates no net uplift loads acting on *header*.

50 KSI

Table E7-60b
Inverted Single L-Header Assembly Spans – Uplift Loading
Headers Supporting Roof and Ceiling Only
40-Foot Wide Building [1,2,3]
F_y = 50 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Single L-Header Designation										
600L150-43	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	3'-10"	3'-6"	3'-2"
600L150-54	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	3'-9"
600L150-68	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-43	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	3'-10"
800L150-54	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-68	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

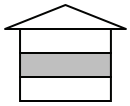
1 Building width is measured in the direction of horizontal framing members supported by the *header*.

2 Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2), 2 foot (0.61 m) roof overhang

3 N/U indicates no net uplift loads acting on *header*.

33 KSI

Table E7-61a
Inverted Single L-Header Assembly Spans – Uplift Loading
Headers Supporting One Floor, Roof and Ceiling
24-Foot Wide Building [1,2,3]
F_y = 33 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Single L-Header Designation										
600L150-43	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	3'-7"
600L150-54	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
600L150-68	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-43	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-54	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-68	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

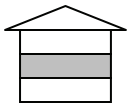
1 Building width is measured in the direction of horizontal framing members supported by the *header*.

2 Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2) Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2) 2 foot (0.61 m) roof overhang

3 N/U indicates no net uplift loads acting on *header*.

50 KSI

Table E7-61b
Inverted Single L-Header Assembly Spans – Uplift Loading
Headers Supporting One Floor, Roof and Ceiling
24-Foot Wide Building [1,2,3]
F_y = 50 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Single L-Header Designation										
600L150-43	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
600L150-54	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
600L150-68	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-43	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-54	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-68	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

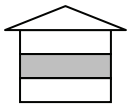
1 Building width is measured in the direction of horizontal framing members supported by the *header*.

2 Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2) Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2) 2 foot (0.61 m) roof overhang

3 N/U indicates no net uplift loads acting on *header*.

33 KSI

Table E7-62a
Inverted Single L-Header Assembly Spans – Uplift Loading
Headers Supporting One Floor, Roof and Ceiling
28-Foot Wide Building [1,2,3]
F_y = 33 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Single L-Header Designation										
600L150-43	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	3'-9"	3'-5"
600L150-54	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	3'-11"
600L150-68	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-43	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-54	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-68	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

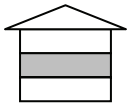
1 Building width is measured in the direction of horizontal framing members supported by the *header*.

2 Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2) Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2) 2 foot (0.61 m) roof overhang

3 N/U indicates no net uplift loads acting on *header*.

50 KSI

Table E7-62b
Inverted Single L-Header Assembly Spans – Uplift Loading
Headers Supporting One Floor, Roof and Ceiling
28-Foot Wide Building [1,2,3]
F_y = 50 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Single L-Header Designation										
600L150-43	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
600L150-54	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
600L150-68	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-43	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-54	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-68	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

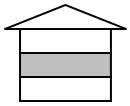
1 Building width is measured in the direction of horizontal framing members supported by the *header*.

2 Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2) Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2) 2 foot (0.61 m) roof overhang

3 N/U indicates no net uplift loads acting on *header*.

33 KSI

Table E7-63a
Inverted Single L-Header Assembly Spans – Uplift Loading
Headers Supporting One Floor, Roof and Ceiling
32-Foot Wide Building [1,2,3]
F_y = 33 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Single L-Header Designation										
600L150-43	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	3'-7"	3'-2"
600L150-54	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	3'-9"
600L150-68	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-43	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	3'-10"
800L150-54	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-68	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

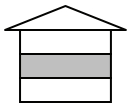
1 Building width is measured in the direction of horizontal framing members supported by the *header*.

2 Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2) Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2) 2 foot (0.61 m) roof overhang

3 N/U indicates no net uplift loads acting on *header*.

50 KSI

Table E7-63b
Inverted Single L-Header Assembly Spans – Uplift Loading
Headers Supporting One Floor, Roof and Ceiling
32-Foot Wide Building [1,2,3]
F_y = 50 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Single L-Header Designation										
600L150-43	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	3'-11"
600L150-54	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
600L150-68	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-43	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-54	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-68	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

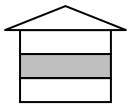
1 Building width is measured in the direction of horizontal framing members supported by the *header*.

2 Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2) Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2) 2 foot (0.61 m) roof overhang

3 N/U indicates no net uplift loads acting on *header*.

33 KSI

Table E7-64a
Inverted Single L-Header Assembly Spans – Uplift Loading
Headers Supporting One Floor, Roof and Ceiling
36-Foot Wide Building [1,2,3]
F_y = 33 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Single L-Header Designation										
600L150-43	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	3'-11"	3'-5"	3'-1"
600L150-54	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	3'-7"
600L150-68	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-43	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	3'-9"
800L150-54	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-68	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

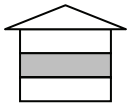
1 Building width is measured in the direction of horizontal framing members supported by the *header*.

2 Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2) Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2) 2 foot (0.61 m) roof overhang

3 N/U indicates no net uplift loads acting on *header*.

50 KSI

Table E7-64b
Inverted Single L-Header Assembly Spans – Uplift Loading
Headers Supporting One Floor, Roof and Ceiling
36-Foot Wide Building [1,2,3]
F_y = 50 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Single L-Header Designation										
600L150-43	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	3'-10"
600L150-54	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
600L150-68	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-43	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-54	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-68	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

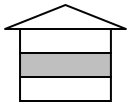
1 Building width is measured in the direction of horizontal framing members supported by the *header*.

2 Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2) Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2) 2 foot (0.61 m) roof overhang

3 N/U indicates no net uplift loads acting on *header*.

33 KSI

Table E7-65a
Inverted Single L-Header Assembly Spans – Uplift Loading
Headers Supporting One Floor, Roof and Ceiling
40-Foot Wide Building [1,2,3]
F_y = 33 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Single L-Header Designation										
600L150-43	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	3'-8"	3'-3"	2'-11"
600L150-54	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	3'-9"	3'-4"
600L150-68	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	3'-11"
800L150-43	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	3'-11"	3'-6"
800L150-54	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-68	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

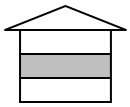
1 Building width is measured in the direction of horizontal framing members supported by the *header*.

2 Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2) Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2) 2 foot (0.61 m) roof overhang

3 N/U indicates no net uplift loads acting on *header*.

50 KSI

Table E7-65b
Inverted Single L-Header Assembly Spans – Uplift Loading
Headers Supporting One Floor, Roof and Ceiling
40-Foot Wide Building [1,2,3]
F_y = 50 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Single L-Header Designation										
600L150-43	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	3'-7"
600L150-54	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
600L150-68	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-43	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-54	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-68	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

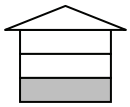
1 Building width is measured in the direction of horizontal framing members supported by the *header*.

2 Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2) Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2) 2 foot (0.61 m) roof overhang

3 N/U indicates no net uplift loads acting on *header*.

33 KSI

Table E7-66a
Inverted Single L-Header Assembly Spans – Uplift Loading
Headers Supporting Two Floors, Roof and Ceiling
24-Foot Wide Building [1,2,3]
F_y = 33 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Single L-Header Designation										
600L150-43	N/U	N/U	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
600L150-54	N/U	N/U	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
600L150-68	N/U	N/U	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-43	N/U	N/U	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-54	N/U	N/U	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-68	N/U	N/U	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

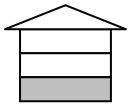
1 Building width is measured in the direction of horizontal framing members supported by the *header*.

2 Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2) Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2) 2 foot (0.61 m) roof overhang

3 N/U indicates no net uplift loads acting on *header*.

50 KSI

Table E7-66b
Inverted Single L-Header Assembly Spans – Uplift Loading
Headers Supporting Two Floors, Roof and Ceiling
24-Foot Wide Building [1,2,3]
F_y = 50 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Single L-Header Designation										
600L150-43	N/U	N/U	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
600L150-54	N/U	N/U	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
600L150-68	N/U	N/U	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-43	N/U	N/U	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-54	N/U	N/U	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-68	N/U	N/U	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

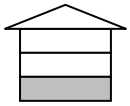
1 Building width is measured in the direction of horizontal framing members supported by the *header*.

2 Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2) Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2) 2 foot (0.61 m) roof overhang

3 N/U indicates no net uplift loads acting on *header*.

33 KSI

Table E7-67a
Inverted Single L-Header Assembly Spans – Uplift Loading
Headers Supporting Two Floors, Roof and Ceiling
28-Foot Wide Building [1,2,3]
F_y = 33 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Single L-Header Designation										
600L150-43	N/U	N/U	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
600L150-54	N/U	N/U	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
600L150-68	N/U	N/U	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-43	N/U	N/U	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-54	N/U	N/U	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-68	N/U	N/U	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

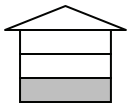
1 Building width is measured in the direction of horizontal framing members supported by the *header*.

2 Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m²) Floor live load = 30 psf (1.44 kN/m²)
Floor dead load = 10 psf (0.48 kN/m²) 2 foot (0.61 m) roof overhang

3 N/U indicates no net uplift loads acting on *header*.

50 KSI

Table E7-67b
Inverted Single L-Header Assembly Spans – Uplift Loading
Headers Supporting Two Floors, Roof and Ceiling
28-Foot Wide Building [1,2,3]
F_y = 50 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Single L-Header Designation										
600L150-43	N/U	N/U	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
600L150-54	N/U	N/U	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
600L150-68	N/U	N/U	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-43	N/U	N/U	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-54	N/U	N/U	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-68	N/U	N/U	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

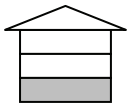
1 Building width is measured in the direction of horizontal framing members supported by the *header*.

2 Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m²) Floor live load = 30 psf (1.44 kN/m²)
Floor dead load = 10 psf (0.48 kN/m²) 2 foot (0.61 m) roof overhang

3 N/U indicates no net uplift loads acting on *header*.

33 KSI

Table E7-68a
Inverted Single L-Header Assembly Spans – Uplift Loading
Headers Supporting Two Floors, Roof and Ceiling
32-Foot Wide Building [1,2,3]
F_y = 33 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Single L-Header Designation										
600L150-43	N/U	N/U	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	3'-9"
600L150-54	N/U	N/U	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
600L150-68	N/U	N/U	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-43	N/U	N/U	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-54	N/U	N/U	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-68	N/U	N/U	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

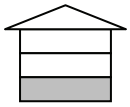
1 Building width is measured in the direction of horizontal framing members supported by the *header*.

2 Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2) Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2) 2 foot (0.61 m) roof overhang

3 N/U indicates no net uplift loads acting on *header*.

50 KSI

Table E7-68b
Inverted Single L-Header Assembly Spans – Uplift Loading
Headers Supporting Two Floors, Roof and Ceiling
32-Foot Wide Building [1,2,3]
F_y = 50 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Single L-Header Designation										
600L150-43	N/U	N/U	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
600L150-54	N/U	N/U	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
600L150-68	N/U	N/U	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-43	N/U	N/U	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-54	N/U	N/U	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-68	N/U	N/U	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

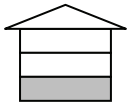
1 Building width is measured in the direction of horizontal framing members supported by the *header*.

2 Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2) Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2) 2 foot (0.61 m) roof overhang

3 N/U indicates no net uplift loads acting on *header*.

33 KSI

Table E7-69a
Inverted Single L-Header Assembly Spans – Uplift Loading
Headers Supporting Two Floors, Roof and Ceiling
36-Foot Wide Building [1,2,3]
F_y = 33 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Single L-Header Designation										
600L150-43	N/U	N/U	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	3'-7"
600L150-54	N/U	N/U	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
600L150-68	N/U	N/U	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-43	N/U	N/U	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-54	N/U	N/U	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-68	N/U	N/U	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

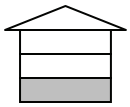
1 Building width is measured in the direction of horizontal framing members supported by the *header*.

2 Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m²) Floor live load = 30 psf (1.44 kN/m²)
Floor dead load = 10 psf (0.48 kN/m²) 2 foot (0.61 m) roof overhang

3 N/U indicates no net uplift loads acting on *header*.

50 KSI

Table E7-69b
Inverted Single L-Header Assembly Spans – Uplift Loading
Headers Supporting One Floor, Roof and Ceiling
36-Foot Wide Building [1,2,3]
F_y = 50 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Single L-Header Designation										
600L150-43	N/U	N/U	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
600L150-54	N/U	N/U	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
600L150-68	N/U	N/U	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-43	N/U	N/U	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-54	N/U	N/U	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-68	N/U	N/U	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

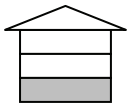
1 Building width is measured in the direction of horizontal framing members supported by the *header*.

2 Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m²) Floor live load = 30 psf (1.44 kN/m²)
Floor dead load = 10 psf (0.48 kN/m²) 2 foot (0.61 m) roof overhang

3 N/U indicates no net uplift loads acting on *header*.

33 KSI

Table E7-70a
Inverted Single L-Header Assembly Spans – Uplift Loading
Headers Supporting Two Floors, Roof and Ceiling
40-Foot Wide Building [1,2,3]
F_y = 33 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Single L-Header Designation										
600L150-43	N/U	N/U	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	3'-11"	3'-5"
600L150-54	N/U	N/U	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	3'-11"
600L150-68	N/U	N/U	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-43	N/U	N/U	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-54	N/U	N/U	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-68	N/U	N/U	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

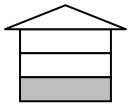
1 Building width is measured in the direction of horizontal framing members supported by the *header*.

2 Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2) Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2) 2 foot (0.61 m) roof overhang

3 N/U indicates no net uplift loads acting on *header*.

50 KSI

Table E7-70b
Inverted Single L-Header Assembly Spans – Uplift Loading
Headers Supporting Two Floors, Roof and Ceiling
40-Foot Wide Building [1,2,3]
F_y = 50 ksi



	Wind Speed, mph									
EXPOSURE B	85	90	100	110	120	130	140	150		
EXPOSURE C			85	90	100	110	120	130	140	150
Single L-Header Designation										
600L150-43	N/U	N/U	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
600L150-54	N/U	N/U	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
600L150-68	N/U	N/U	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-43	N/U	N/U	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-54	N/U	N/U	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
800L150-68	N/U	N/U	N/U	N/U	N/U	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"

For SI: 1 inch = 25.4 mm, 1 mph = 1.61 km/hr = 0.447 m/sec, 1 foot = 0.305 m

1 Building width is measured in the direction of horizontal framing members supported by the *header*.

2 Design assumptions: Roof and ceiling dead load = 12 psf (0.58 kN/m^2) Floor live load = 30 psf (1.44 kN/m^2)
Floor dead load = 10 psf (0.48 kN/m^2) 2 foot (0.61 m) roof overhang

3 N/U indicates no net uplift loads acting on *header*.

Table E7-71
Jack and King Studs Required at Each End of an Opening

Size of Opening	24 inch o.c. Stud Spacing		16 inch o.c. Stud Spacing	
	No. of Jack Studs	No. of King Studs	No. of Jack Studs	No. of King Studs
Up to 3'-6"	1	1	1	1
> 3'-6" to 5'-0"	1	2	1	2
> 5'-0" to 5'-6"	1	2	2	2
> 5'-6" to 8'-0"	1	2	2	2
> 8'-0" to 10'-6"	2	2	2	3
> 10'-6" to 12'-0"	2	2	3	3
> 12'-0" to 13'-0"	2	3	3	3
> 13'-0" to 14'-0"	2	3	3	4
> 14'-0" to 16'-0"	2	3	3	4
> 16'-0" to 18'-0"	3	3	4	4

For SI: 1 inch = 25.4 mm, 1 foot = 0.305 m

33 KSI

Table E7-72
Head and Sill Track Span
F_y = 33 ksi

Basic Wind Speed (mph)		Allowable Head and Sill Track Span[1,2,3] (ft-in.)					
Exposure		Track Designation					
B	C	350T125-33	350T125-43	350T125-54	550T125-33	550T125-43	550T125-54
85		5'-0"	5'-7"	6'-2"	5'-10"	6'-8"	7'-0"
90		4'-10"	5'-5"	6'-0"	5'-8"	6'-3"	6'-10"
100	85	4'-6"	5'-1"	5'-8"	5'-4"	5'-11"	6'-5"
110	90	4'-2"	4'-9"	5'-4"	5'-1"	5'-7"	6'-1"
120	100	3'-11"	4'-6"	5'-0"	4'-10"	5'-4"	5'-10"
130	110	3'-8"	4'-2"	4'-9"	4'-1"	5'-1"	5'-7"
140	120	3'-7"	4'-1"	4'-7"	3'-6"	4'-11"	5'-5"
150	130	3'-5"	3'-10"	4'-4"	2'-11"	4'-7"	5'-2"
	140	3’-1”	3’-6”	4’-1”	2’-3”	4’-0”	4’-10”
	150	2’-9”	3’-4”	3’-10”	2’-0”	3’-7”	4’-7”

For SI: 1 inch = 25.4 mm, 1 foot = 0.305 m

[1] Deflection Limit: L/240

[2] Head and sill *track spans* are based on components and cladding wind speeds and 48 inch (1.22 m) tributary *span*.

[3] For openings less than 4 feet (1.22 m) in height that have both a head *track* and a sill *track*, the above *spans* are permitted to be multiplied by 1.75. For openings less than or equal to 6 feet (1.83 m) in height that have both a head *track* and a sill *track*, the above *spans* are permitted to be multiplied by a factor of 1.5.

Table E8-1
Minimum Percentage of Full Height
Structural Sheathing on Braced Wall Line

Wall Supporting	Roof Slope	Basic wind Speed (mph) and Exposure					
		85 B	90 B	100 B	<110 B	100 C	<110 C
				85 C	90 C		
Roof & Ceiling Only (One Story or Top Floor of Two or Three Story Building)	3:12	8	9	9	12	16	20
	6:12	12	13	15	20	26	35
	9:12	21	23	25	30	50	58
	12:12	30	33	35	40	66	75
One Story, Roof & Ceiling (First Floor of a Two-Story Building or Second Floor of a Three Story Building)	3:12	24	27	30	35	50	66
	6:12	25	28	30	40	58	74
	9:12	35	38	40	55	74	91
	12:12	40	45	50	65	100	115
Two Story, Roof & Ceiling (First Floor of a Three Story Building)	3:12	40	45	51	58	84	112
	6:12	38	43	45	60	90	113
	9:12	49	53	55	80	98	124
	12:12	50	57	65	90	134	155

For SI: 1 mph = 0.447 m/sec, 1 inch = 25.4 mm, 1 foot = 0.305 m

[1] Linear interpolation shall be permitted.

[2] For hip roofed homes the minimum percentage of full height sheathing, based upon wind, is permitted to be multiplied by a factor of 0.95 for roof slopes not exceeding 7:12 and a factor of 0.9 for roof slopes greater than 7:12.

Table E8-2
Minimum Percentage of Full Height
Structural Sheathing on Braced Wall Line

Wall Supporting	Seismic Design Category A	Seismic Design Category B	Seismic Design Category C
Roof & Ceiling Only (One Story or Second-Floor of Two-Story)	6	6	19
One Story, Roof & Ceiling (First Floor of a Two-Story Building)	13	13	40

Table E8-3
Minimum Percentage of Full Height
Structural Sheathing on Braced Wall Line

Wall Supporting	Seismic Design Category A	Seismic Design Category B	Seismic Design Category C
Roof & Ceiling Only	7	7	22
One Story, Roof & Ceiling	16	16	50
Two Stories, Roof & Ceiling	23	23	70

Table E8-4
Full Height Sheathing Length Adjustment Factors

Plan Aspect Ratio	Length Adjustment Factors	
	Short Wall	Long Wall
1:1	1.0	1.0
1.5:1	1.5	0.67
2:1	2.0	0.50
3:1	3.0	0.33

Table E8-5
Full Height Sheathing Length Adjustment Factors

Plan Aspect Ratio	Length Adjustment Factors	
	Short Wall	Long Wall
1:1	1.0	1.0
1.5:1	1.5	1.0
2:1	2.0	1.0
3:1	3.0	1.0

Table E11-1
Full Height Sheathing Length Adjustment Factors Based Upon Edge Screw Spacing

Bracing Material	Length Adjustment Factors							
	Type 1 Braced Wall Shearwall Edge Screw Spacing (in.)				Type II Braced Wall Shearwall Edge Screw Spacing (in.)			
	6	4	3	2	6	4	3	2
Wood structural panels	1.00	0.80	0.55	0.50	1.00	0.80	0.80	0.80
Steel sheet panels	NA	0.70	0.65	0.60	NA	0.70	0.70	0.70

For SI: 1inch =25.4 mm

Table E11-2
Type II Braced Wall Full Height Sheathing Length Adjustment Factors

Percent Fully Sheathed Wall[1]	Length Adjustment Factors					
	Maximum Unrestrained Opening Height					
	H/3	H/2	2H/3	3H/4	5H/6	H
0	1.00	1.50	2.00	2.22	2.50	3.00
20	1.00	1.36	1.67	1.79	1.92	2.14
40	1.00	1.25	1.43	1.49	1.56	1.67
60	1.00	1.15	1.25	1.28	1.32	1.36
80	1.00	1.07	1.11	1.12	1.14	1.15
100	1.00	1.00	1.00	1.00	1.00	1.00

[1] Percent fully sheathed wall is the percent of wall by length, measured between hold down anchors, that is sheathed full-height.

Table E12-1
SDC D_0 Type I Sidewall Sheathing for Top of One or Two Story Building
(Normal Roof and Heavy Wall Systems)

Type I Percent Full Height Sidewall Sheathing [1]						
Aspect Ratio	Diaphragm Span (feet) [2]					
	15	20	30	40	50	60
0.25	12	13	17	20	24	28
0.50	12	14	18	21	25	28
0.75	13	15	19	22	26	29
1.00	14	16	20	23	27	30
1.25	-	17	21	24	28	31
1.50	-	-	21	25	29	32
1.75	-	-	22	26	29	33
2.00	-	-	23	27	30	34
2.25	-	-	-	28	31	35
2.50	-	-	-	29	32	36
2.75	-	-	-	30	33	37
3.00	-	-	-	-	34	38
3.25	-	-	-	-	35	38
3.50	-	-	-	-	-	39
3.75	-	-	-	-	-	40
4.00	-	-	-	-	-	41

[1] Interpolation is permitted for intermediate values of diaphragm span and aspect ratio.
[2] Diaphragm span is the dimension of the diaphragm perpendicular to the walls under consideration.

Table E12-2
SDC D_0 Type I Sidewall Sheathing for Bottom of Two Story Building
(Normal Roof and Heavy Wall Systems)

Type I Percent Full Height Sidewall Sheathing [1]						
Aspect Ratio	Diaphragm Span (feet) [2]					
	15	20	30	40	50	60
0.25	16	18	23	28	33	38
0.50	18	20	25	30	35	39
0.75	19	22	27	31	36	41
1.00	21	24	28	33	38	43
1.25	-	25	30	35	40	44
1.50	-	-	32	37	41	46
1.75	-	-	33	38	43	48
2.00	-	-	35	40	45	49
2.25	-	-	-	42	46	51
2.50	-	-	-	43	48	53
2.75	-	-	-	45	50	55
3.00	-	-	-	-	51	56
3.25	-	-	-	-	53	58
3.50	-	-	-	-	-	60
3.75	-	-	-	-	-	61
4.00	-	-	-	-	-	63

[1] Interpolation is permitted for intermediate values of diaphragm span and aspect ratio.
[2] Diaphragm span is the dimension of the diaphragm perpendicular to the walls under consideration.

Table E12-3
SDC D_0 Type I Sidewall Sheathing for Top of Three Story Building
(Normal Roof and Heavy Wall Systems)

Type I Percent Full Height Sidewall Sheathing [1]						
Aspect Ratio	Diaphragm Span (feet) [2]					
	15	20	30	40	50	60
0.25	13	15	19	24	28	32
0.50	14	16	20	25	29	33
0.75	15	17	22	26	30	34
1.00	16	18	23	27	31	35
1.25	-	20	24	28	32	36
1.50	-	-	25	29	33	37
1.75	-	-	26	30	34	38
2.00	-	-	27	31	35	39
2.25	-	-	-	32	36	40
2.50	-	-	-	33	37	41
2.75	-	-	-	34	38	42
3.00	-	-	-	-	39	43
3.25	-	-	-	-	40	44
3.50	-	-	-	-	-	45
3.75	-	-	-	-	-	46
4.00	-	-	-	-	-	47

[1] Interpolation is permitted for intermediate values of diaphragm span and aspect ratio.
[2] Diaphragm span is the dimension of the diaphragm perpendicular to the walls under consideration.

Table E12-4
SDC D_0 Type I Sidewall Sheathing for Middle of Three Story Building
(Normal Roof and Heavy Wall Systems)

Type I Percent Full Height Sidewall Sheathing [1]						
Aspect Ratio	Diaphragm Span (feet) [2]					
	15	20	30	40	50	60
0.25	20	23	29	35	41	47
0.50	22	25	31	37	43	49
0.75	24	27	33	39	45	51
1.00	26	29	35	41	47	53
1.25	-	32	38	44	50	55
1.50	-	-	40	46	52	58
1.75	-	-	42	48	54	60
2.00	-	-	44	50	56	62
2.25	-	-	-	52	58	64
2.50	-	-	-	54	60	66
2.75	-	-	-	56	62	68
3.00	-	-	-	-	64	70
3.25	-	-	-	-	66	72
3.50	-	-	-	-	-	75
3.75	-	-	-	-	-	77
4.00	-	-	-	-	-	79

[1] Interpolation is permitted for intermediate values of diaphragm span and aspect ratio.
[2] Diaphragm span is the dimension of the diaphragm perpendicular to the walls under consideration.

Table E12-5
SDC D_0 Type I Sidewall Sheathing for Bottom of Three Story Building
(Normal Roof and Heavy Wall Systems)

Type I Percent Full Height Sidewall Sheathing [1]						
Aspect Ratio	Diaphragm Span (feet) [2]					
	15	20	30	40	50	60
0.25	24	27	34	41	48	55
0.50	27	30	37	44	51	58
0.75	29	33	40	47	54	61
1.00	32	36	43	50	56	63
1.25	-	39	45	52	59	66
1.50	-	-	48	55	62	69
1.75	-	-	51	58	65	72
2.00	-	-	54	61	68	75
2.25	-	-	-	64	71	78
2.50	-	-	-	67	74	81
2.75	-	-	-	70	76	83
3.00	-	-	-	-	79	86
3.25	-	-	-	-	82	89
3.50	-	-	-	-	-	92
3.75	-	-	-	-	-	95
4.00	-	-	-	-	-	98

[1] Interpolation is permitted for intermediate values of diaphragm span and aspect ratio.
[2] Diaphragm span is the dimension of the diaphragm perpendicular to the walls under consideration.

Table E12-6
SDC D_1 Type I Sidewall Sheathing for Top of One or Two Story Building
(Normal Roof and Heavy Wall Systems)

Type I Percent Full Height Sidewall Sheathing [1]						
Aspect Ratio	Diaphragm Span (feet) [2]					
	15	20	30	40	50	60
0.25	14	17	21	25	30	34
0.50	15	18	22	26	31	35
0.75	17	19	23	28	32	36
1.00	18	20	24	29	33	38
1.25	-	21	25	30	34	39
1.50	-	-	27	31	35	40
1.75	-	-	28	32	36	41
2.00	-	-	29	33	38	42
2.25	-	-	-	34	39	43
2.50	-	-	-	35	40	44
2.75	-	-	-	37	41	45
3.00	-	-	-	-	42	47
3.25	-	-	-	-	43	48
3.50	-	-	-	-	-	49
3.75	-	-	-	-	-	50
4.00	-	-	-	-	-	51

[1] Interpolation is permitted for intermediate values of diaphragm span and aspect ratio.
[2] Diaphragm span is the dimension of the diaphragm perpendicular to the walls under consideration.

Table E12-7
SDC D_1 Type I Sidewall Sheathing for Bottom of Two Story Building
(Normal Roof and Heavy Wall Systems)

Type I Percent Full Height Sidewall Sheathing [1]						
Aspect Ratio	Diaphragm Span (feet) [2]					
	15	20	30	40	50	60
0.25	20	23	29	35	41	47
0.50	22	25	31	37	43	49
0.75	24	27	33	39	45	51
1.00	26	29	35	41	47	53
1.25	-	31	37	43	49	55
1.50	-	-	39	45	51	57
1.75	-	-	41	47	53	59
2.00	-	-	44	49	55	61
2.25	-	-	-	52	57	63
2.50	-	-	-	54	60	66
2.75	-	-	-	56	62	68
3.00	-	-	-	-	64	70
3.25	-	-	-	-	66	72
3.50	-	-	-	-	-	74
3.75	-	-	-	-	-	76
4.00	-	-	-	-	-	78

[1] Interpolation is permitted for intermediate values of diaphragm span and aspect ratio.
[2] Diaphragm span is the dimension of the diaphragm perpendicular to the walls under consideration.

Table E12-8
SDC D_1 Type I Sidewall Sheathing for Top of Three Story Building
(Normal Roof and Heavy Wall Systems)

Type I Percent Full Height Sidewall Sheathing [1]						
Aspect Ratio	Diaphragm Span (feet) [2]					
	15	20	30	40	50	60
0.25	16	19	24	29	34	39
0.50	18	20	25	30	35	41
0.75	19	22	27	32	37	42
1.00	20	23	28	33	38	43
1.25	-	24	29	34	39	44
1.50	-	-	31	36	41	46
1.75	-	-	32	37	42	47
2.00	-	-	33	38	43	48
2.25	-	-	-	39	45	50
2.50	-	-	-	41	46	51
2.75	-	-	-	42	47	52
3.00	-	-	-	-	48	53
3.25	-	-	-	-	50	55
3.50	-	-	-	-	-	56
3.75	-	-	-	-	-	57
4.00	-	-	-	-	-	59

[1] Interpolation is permitted for intermediate values of diaphragm span and aspect ratio.
[2] Diaphragm span is the dimension of the diaphragm perpendicular to the walls under consideration.

Table E12-9
SDC D_1 Type I Sidewall Sheathing for Middle of Three Story Building
(Normal Roof and Heavy Wall Systems)

Type I Percent Full Height Sidewall Sheathing [1]						
Aspect Ratio	Diaphragm Span (feet) [2]					
	15	20	30	40	50	60
0.25	25	29	36	43	51	58
0.50	28	31	39	46	53	61
0.75	30	34	41	49	56	64
1.00	33	36	44	51	59	66
1.25	-	39	47	54	61	69
1.50	-	-	49	57	64	71
1.75	-	-	52	59	67	74
2.00	-	-	54	62	69	77
2.25	-	-	-	64	72	79
2.50	-	-	-	67	74	82
2.75	-	-	-	70	77	85
3.00	-	-	-	-	80	87
3.25	-	-	-	-	82	90
3.50	-	-	-	-	-	92
3.75	-	-	-	-	-	95
4.00	-	-	-	-	-	98

[1] Interpolation is permitted for intermediate values of diaphragm span and aspect ratio.
[2] Diaphragm span is the dimension of the diaphragm perpendicular to the walls under consideration.

Table E12-10
SDC D_1 Type I Sidewall Sheathing for Bottom of Three Story Building
(Normal Roof and Heavy Wall Systems)

Type I Percent Full Height Sidewall Sheathing [1]						
Aspect Ratio	Diaphragm Span (feet) [2]					
	15	20	30	40	50	60
0.25	29	34	42	51	59	68
0.50	33	37	46	54	63	71
0.75	36	41	49	58	66	75
1.00	40	44	53	61	70	79
1.25	-	48	56	65	73	82
1.50	-	-	60	68	77	86
1.75	-	-	63	72	81	89
2.00	-	-	67	76	84	93
2.25	-	-	-	79	88	96
2.50	-	-	-	83	91	100
2.75	-	-	-	86	95	103
3.00	-	-	-	-	98	107
3.25	-	-	-	-	102	110
3.50	-	-	-	-	-	114
3.75	-	-	-	-	-	117
4.00	-	-	-	-	-	121

[1] Interpolation is permitted for intermediate values of diaphragm span and aspect ratio.
[2] Diaphragm span is the dimension of the diaphragm perpendicular to the walls under consideration.

Table E12-11
SDC D_2 Type I Sidewall Sheathing for Top of One or Two Story Building
(Normal Roof and Heavy Wall Systems)

Type I Percent Full Height Sidewall Sheathing [1]						
Aspect Ratio	Diaphragm Span (feet) [2]					
	15	20	30	40	50	60
0.25	20	23	29	36	42	48
0.50	22	25	31	37	43	50
0.75	23	26	33	39	45	51
1.00	25	28	34	40	47	53
1.25	-	30	36	42	48	54
1.50	-	-	37	44	50	56
1.75	-	-	39	45	51	58
2.00	-	-	41	47	53	59
2.25	-	-	-	48	55	61
2.50	-	-	-	50	56	62
2.75	-	-	-	52	58	64
3.00	-	-	-	-	59	66
3.25	-	-	-	-	61	67
3.50	-	-	-	-	-	69
3.75	-	-	-	-	-	70
4.00	-	-	-	-	-	72

[1] Interpolation is permitted for intermediate values of diaphragm span and aspect ratio.
[2] Diaphragm span is the dimension of the diaphragm perpendicular to the walls under consideration.

Table E12-12
SDC D_2 Type I Sidewall Sheathing for Bottom of Two Story Building
(Normal Roof and Heavy Wall Systems)

Type I Percent Full Height Sidewall Sheathing [1]						
Aspect Ratio	Diaphragm Span (feet) [2]					
	15	20	30	40	50	60
0.25	28	32	41	49	57	66
0.50	31	35	44	52	60	69
0.75	34	38	47	55	63	72
1.00	37	41	49	58	66	75
1.25	-	44	52	61	69	78
1.50	-	-	55	64	72	80
1.75	-	-	58	67	75	83
2.00	-	-	61	70	78	86
2.25	-	-	-	73	81	89
2.50	-	-	-	76	84	92
2.75	-	-	-	79	87	95
3.00	-	-	-	-	90	98
3.25	-	-	-	-	93	101
3.50	-	-	-	-	-	104
3.75	-	-	-	-	-	107
4.00	-	-	-	-	-	110

[1] Interpolation is permitted for intermediate values of diaphragm span and aspect ratio.
[2] Diaphragm span is the dimension of the diaphragm perpendicular to the walls under consideration.

Table E12-13
SDC D_2 Type I Sidewall Sheathing for Top of Three Story Building
(Normal Roof and Heavy Wall Systems)

Type I Percent Full Height Sidewall Sheathing [1]						
Aspect Ratio	Diaphragm Span (feet) [2]					
	15	20	30	40	50	60
0.25	23	27	34	41	48	55
0.50	25	29	36	43	50	57
0.75	27	30	38	45	52	59
1.00	29	32	39	47	54	61
1.25	-	34	41	48	55	63
1.50	-	-	43	50	57	64
1.75	-	-	45	52	59	66
2.00	-	-	47	54	61	68
2.25	-	-	-	56	63	70
2.50	-	-	-	57	65	72
2.75	-	-	-	59	66	74
3.00	-	-	-	-	68	75
3.25	-	-	-	-	70	77
3.50	-	-	-	-	-	79
3.75	-	-	-	-	-	81
4.00	-	-	-	-	-	83

[1] Interpolation is permitted for intermediate values of diaphragm span and aspect ratio.
[2] Diaphragm span is the dimension of the diaphragm perpendicular to the walls under consideration.

Table E12-14
SDC D_2 Type I Sidewall Sheathing for Middle of Three Story Building
(Normal Roof and Heavy Wall Systems)

Type I Percent Full Height Sidewall Sheathing [1]						
Aspect Ratio	Diaphragm Span (feet) [2]					
	15	20	30	40	50	60
0.25	35	40	51	61	72	82
0.50	39	44	54	65	75	86
0.75	42	48	58	69	79	90
1.00	46	51	62	72	83	93
1.25	-	55	66	76	86	97
1.50	-	-	69	80	90	101
1.75	-	-	73	83	94	104
2.00	-	-	77	87	98	108
2.25	-	-	-	91	101	112
2.50	-	-	-	95	105	115
2.75	-	-	-	98	109	119
3.00	-	-	-	-	112	123
3.25	-	-	-	-	116	127
3.50	-	-	-	-	-	130
3.75	-	-	-	-	-	134
4.00	-	-	-	-	-	138

[1] Interpolation is permitted for intermediate values of diaphragm span and aspect ratio.
[2] Diaphragm span is the dimension of the diaphragm perpendicular to the walls under consideration.

Table E12-15
SDC D_2 Type I Sidewall Sheathing for Bottom of Three Story Building
(Normal Roof and Heavy Wall Systems)

Type I Percent Full Height Sidewall Sheathing [1]						
Aspect Ratio	Diaphragm Span (feet) [2]					
	15	20	30	40	50	60
0.25	41	47	59	72	84	96
0.50	46	52	64	77	89	101
0.75	51	57	69	82	94	106
1.00	56	62	74	87	99	111
1.25	-	67	79	91	104	116
1.50	-	-	84	96	109	121
1.75	-	-	89	101	114	126
2.00	-	-	94	106	119	131
2.25	-	-	-	111	124	136
2.50	-	-	-	116	129	141
2.75	-	-	-	121	134	146
3.00	-	-	-	-	138	151
3.25	-	-	-	-	143	156
3.50	-	-	-	-	-	161
3.75	-	-	-	-	-	166
4.00	-	-	-	-	-	171

[1] Interpolation is permitted for intermediate values of diaphragm span and aspect ratio.
[2] Diaphragm span is the dimension of the diaphragm perpendicular to the walls under consideration.

Table E12-16
Braced Wall Full Height Sheathing Length Adjustment Factors for Roof and Exterior Wall System Weights [1]

Braced Wall Supporting	Light weight Roof/ ceiling Assembly	Light weight exterior walls.	Buildings having both light weight walls and roofs	Light weight exterior walls and heavy roof/ceiling assembly	Heavy weight roof/ceiling assembly
Roof/Ceiling Only	0.91	0.90	0.78	1.25	1.35
One Floor and Roof/Ceiling	0.95	0.86	0.78	1.10	1.25

For SI: 1 psf = 0.0479 kN/m²

[1] Factors are based on the baseline configuration of a *normal weight roof* and a *heavy weight exterior wall*. See Table A1-1 for roof and wall system weights.

Table E12-17
Required Hold Down Anchor[1] and Chord Stud Strengths - Seismic

Required Hold Down Anchor and Chord Stud Strengths (lbs)				
Wall Height (ft)	Panel Edge Screw Spacing (in.)			
	6	4	3	2
8	3150	4130	5770	7365
9	3535	4635	6470	8255
10	3920	5135	7170	9150

For SI: 1 inch = 25.4 mm, 1 foot = 0.305 m, 1 lb = 4.45 N

[1] Required strengths are permitted to be divided by 1.4 when comparing requirements with published strengths expressed as allowable loads.

Table E12-18
Required Shear Anchorage For Braced Walls

Required Anchor Bolt Spacing (ft-in.)				
Anchor Bolt Diameter (in.)	Panel Edge Screw Spacing (in.)			
	6	4	3	2
1/2"	5'- 0"	3'- 6"	2'- 6"	2'- 0"
5/8"	6' -0"	4' –6"	3' -3"	2' -6"

For SI: 1 inch = 25.4 mm, 1 foot = 0.305 m

Table E12-19
Chord Stud Strength [1]

Chord Stud Strength (lbs)			
(2) Back-to-Back	Wall Height (ft)		
	8	9	10
350S162 -33	5665	4945	4065
350S162 -43	7655	6535	5405
550S162 -33	5050	4175	3480
550S162 -43	6990	5790	4835

For SI: 1 inch = 25.4 mm, 1 foot = 0.305 m, 1 lb = 4.45 N

[1] *Chord stud* strengths given are for (2) back-to-back *studs* connected with a minimum of (2) No.8 screws at 12 inches on center vertically.

Table E12-20
Top Track Thickness and Splice Screw Requirements [1,2,3]

Total Number of No.8 Screws On Each Side of Track Splice																				
Diaph. Span	Aspect Ratio		Seismic Design Category																	
			D_0						D_1						D_2					
			NR/ HW	LR/ HW	NR/ LW	LR/ LW	HR/ LW	HR/ HW	NR/ HW	LR/ HW	NR/ LW	LR/ LW	HR/ LW	HR/ HW	NR/ HW	LR/ HW	NR/ LW	LR/ LW	HR/ LW	HR/ HW
60'	≥3	Roof	23	20	19	16	18	20	28	25	23	20	22	25	27	24	22	29	31	NA[3]
		1st	17	17	12	12	12	17	21	21	15	15	15	21	30	30	22	22	22	NA[3]
	<3	Roof	19	17	16	15	15	18	23	21	20	18	19	22	22	20	19	25	27	30
		1st	14	14	11	11	11	14	17	17	13	13	13	17	23	23	18	18	17	23
50'	≥ 2.5	Roof	16	14	13	11	19	15	20	17	16	14	23	18	28	25	23	20	22	25
		1st	12	12	9	9	9	12	15	15	11	11	11	15	21	21	15	15	15	21
	<2.5	Roof	13	11	11	10	16	12	16	14	14	12	20	15	23	20	20	18	19	21
		1st	9	9	7	7	7	9	11	11	9	9	9	11	16	16	13	13	13	16
40'	≥2.67	Roof	11	9	8	7	12	14	13	11	10	9	15	17	18	16	15	13	21	24
		1st	7	7	6	6	6	7	9	9	7	7	7	9	13	13	10	10	10	13
	<2.67	Roof	9	8	8	6	11	12	11	10	10	8	14	15	16	14	14	12	19	22
		1st	6	6	5	5	5	6	8	8	6	6	6	8	11	11	9	9	9	11
30'	All	Roof	6	5	5	4	6	8	7	6	6	5	8	10	10	9	9	7	12	14
		1st	4	4	3	3	3	4	5	5	4	4	4	5	8	8	5	5	5	8
<20'	All	Roof	2	2	2	2	3	4	3	3	3	2	4	5	5	4	4	3	6	6
		1st	2	2	2	2	2	2	2	2	2	2	2	2	3	3	2	2	2	3

For SI: 1 inch = 25.4 mm, 1 foot = 0.305 m

[1] Minimum top *track* thickness is 33 mil (0.84 mm), except where indicated by shading. In locations indicated by shading, minimum top *track* thickness is 43 mils (1.09 mm).

[2] NR = *Normal Weight Roof*; LR = *Light Weight Roof*; HR = *Heavy Weight Roof*

[3] HW = *Heavy Weight Exterior Wall*; LW = *Light Weight Exterior Wall*

Table E13-1
Range of Allowable Sidewall Lengths
(One Story Slab on Grade)

		Basic Wind Speed (mph)									
EXPOSURE B		130		140		150					
EXPOSURE C		110		120		130		140		150	
Foundation Supporting	Building Endwall Width (ft)	Allowable Building Sidewall Length (ft)									
		Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
One Story Slab on Grade	12	10	38	10	32	10	27	10	23	10	20
	16	10	50	10	42	10	36	10	31	11	27
	20	10	63	10	53	10	45	12	39	13	34
	24	10	74	10	63	12	54	14	46	16	40
	28	10	80	12	74	14	63	16	54	19	47
	32	11	80	14	80	16	72	19	62	21	54
	36	13	80	15	80	18	80	21	70	24	61
	40	14	80	17	80	20	80	23	77	27	67

For SI: 1 foot =0. 305 m, 1 mph = 1.61 km/hr

Table E13-2
Range of Allowable Sidewall Lengths
(All Other Cases)

		Basic Wind Speed (mph)									
EXPOSURE B		130		140		150					
EXPOSURE C		110		120		130		140		150	
Foundation Supporting	Building Endwall Width (ft)	Allowable Building Sidewall Length (ft)									
		Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
1-3 Stories	12	10	27	10	22	10	19	10	16	10	14
	16	10	36	10	30	10	25	11	22	12	19
	20	10	45	10	37	11	32	13	27	15	24
	24	10	53	12	45	14	38	16	33	18	29
	28	11	62	14	52	16	45	18	38	21	34
	32	13	71	15	60	18	51	21	44	24	38
	36	15	80	17	67	20	57	24	49	27	43
	40	16	80	19	75	23	64	26	55	30	48

For SI: 1 foot = 0.305 m, 1 mph = 1.61 km/hr

Table E13-3
Type I Braced Wall Panel
Sidewall Sheathing Length Requirements

		Basic Wind Speed (mph)				
EXPOSURE B		130	140	150		
EXPOSURE C		110	120	130	140	150
Braced Wall Supporting	Building Endwall Length, W (ft)	Minimum Length of Full Height Sheathing on Building Sidewall, L[1,2,3] (ft)				
Roof/Ceiling Only [4]	12	5	5	5	5	5
	16	5	5	5	5	6
	20	5	5	6	7	7
	24	5	6	7	8	9
	28	6	7	8	9	10
	32	6	8	9	10	12
	36	7	9	10	12	13
	40	8	10	11	13	15
One Floor and Roof/Ceiling [5]	20	8	10	11	13	15
	24	10	12	14	16	18
	28	11	14	16	18	21
	32	13	15	18	21	24
	36	15	17	20	24	27
	40	16	19	23	26	30
Two Floors and Roof/Ceiling [6]	20	12	15	17	20	23
	24	15	17	20	24	27
	28	17	20	24	28	32
	32	20	23	27	32	36
	36	22	26	31	36	41
	40	24	29	34	40	45

For SI: 1 foot = 0.305 m, 1 mph = 1.61 km/hr

1 Tabulated sheathing lengths are based on 8 feet (2.44 m) wall heights. For 9 feet (2.74 m) wall heights the tabulated values are to be multiplied by 1.13. For 10 feet (3.05 m) wall heights the tabulated values are to be multiplied by 1.25.

2 Tabulated sheathing lengths assume a *mean roof height* of 33 feet (10.8 m). For *mean roof heights* of 15 feet (4.92 m) or less, the tabulated values are permitted to be multiplied by 0.8.

3 Tabulated sheathing lengths assume a 6 inch (152 mm) edge screw spacing. Required lengths are permitted to be multiplied by the adjustment factors in Table E11-1 for edge screw spacing other than 6 inch (152 mm), but the resulting sheathing length shall not be less than 5 feet (1.64 m).

4 Applies to a one story building or the top story of a two or three story building.

5 Applies to the lower story of a two story building and the middle story of a three story building.

6 Applies to the lower story of a three story building.

Table E13-4
Type I Braced Wall Panel
Endwall Sheathing Length Requirements

		Basic Wind Speed (mph)				
EXPOSURE B		130	140	150		
EXPOSURE C		110	120	130	140	150
Braced Wall Supporting	Building Sidewall Length, W (ft)	Minimum Length of Full Height Sheathing on Building Endwall, L[1,2,3] (ft)				
Roof/Ceiling Only [4]	12	5	5	5	5	5
	16	5	5	5	5	5
	20	5	5	5	6	7
	24	5	5	6	7	8
	28	5	6	7	8	9
	32	6	7	8	9	11
	36	6	8	9	10	12
	40	7	9	10	12	13
	50	9	11	12	14	17
	60	11	13	15	17	20
One Floor and Roof/Ceiling [5]	20	9	11	13	15	17
	24	11	13	15	17	20
	28	13	15	18	20	23
	32	14	17	20	23	27
	36	16	19	23	26	30
	40	18	21	25	29	33
	50	22	27	31	36	42
	60	27	32	38	44	50
Two Floors and Roof/Ceiling [6]	20	15	18	21	24	27
	24	18	21	25	29	33
	28	21	25	29	33	38
	32	24	28	33	38	44
	36	27	32	37	43	49
	40	30	35	41	48	55
	50	37	44	52	60	69
	60	44	53	62	72	82

For SI: 1 foot = 0.305 m, 1 mph = 1.61 km/hr

1 Tabulated sheathing lengths are based on 8 feet (2.44 m) wall heights. For 9 feet (2.74 m) wall heights the tabulated values are to be multiplied by 1.13. For 10 feet (3.05 m) wall heights, the tabulated values are to be multiplied by 1.25.

2 Tabulated sheathing lengths are based on a *mean roof height* of 33 (10.8 m) feet. For *mean roof heights* of 15 feet (4.92 m) or less, the tabulated values are permitted to be multiplied by 0.8.

3 Tabulated sheathing lengths are based on a 6 inch (152 mm) edge screw spacing. Required lengths are permitted to be multiplied by the adjustment factors in Table E11-1 for edge screw spacing other than 6 inch (152 mm), but the resulting sheathing length shall not be less than 5 feet (1.64 m).

4 Applies to a one story building or the top story of a two story building.

5 Applies to the lower story of a two story building and the middle story of a three story building.

6 Applies to the lower story of a three story building.

Table E13-5
Required Uplift Strength
Wall Assembly to Wall Assembly

		Basic Wind Speed (mph)				
EXPOSURE B		130	140	150		
EXPOSURE C		110	120	130	140	150
Framing Spacing [4] (in.)	Roof Span (ft)	Required Connection Strength [1,2,3] (lbs)				
12	24	157	227	302	386	475
	28	187	268	356	450	552
	32	217	308	407	514	629
	36	247	351	460	579	706
	40	281	391	511	643	783
16	24	209	302	402	514	632
	28	249	356	473	599	734
	32	289	410	541	684	836
	36	329	467	612	770	939
	40	374	520	680	855	1041
19.2	24	251	363	483	618	760
	28	299	429	570	720	883
	32	347	493	651	823	1006
	36	395	562	736	926	1129
	40	450	626	818	1028	1252
24	24	314	454	604	772	950
	28	374	536	712	901	1104
	32	434	616	814	1029	1258
	36	494	702	920	1157	1411
	40	562	782	1022	1286	1565

For SI: 1 inch = 25.4 mm, 1 foot = 0.305 m, 1 lb = 4.45 N,1 mph = 1.61 km/hr

1 Uplift requirements assume a roof/ceiling dead load of 12 psf (0.58 kN/m^2).

2 Required strengths are permitted to be multiplied by 0.70 for framing not located within 8 feet (2.44 m) of building corners.

3 Required strengths are permitted to be divided by 1.3 when comparing requirements with published strengths expressed as allowable loads.

4 The 12 inch (305 mm) and 19.2 inch (488 mm) framing spacing provide options for design, but do not negate the *in-line framing* requirement of Section E.

Table E13-6
Uplift Strap Connection Requirements
Wall Assembly to Wall Assembly

		Basic Wind Speed (mph)				
EXPOSURE B		130	140	150		
EXPOSURE C		110	120	130	140	140
Framing Spacing[1] (in.)	Roof Span (ft)	Number of No.8 Screws in Each End of Steel Uplift Strap				
12	24	2	2	2	2	3
	28	2	2	3	3	4
	32	2	2	3	4	4
	36	2	3	3	4	5
	40	2	3	4	4	5
16	24	2	2	3	4	4
	28	2	3	3	4	5
	32	2	3	4	5	6
	36	2	3	4	5	6
	40	3	4	5	6	7
19.2	24	2	3	3	4	5
	28	2	3	4	5	6
	32	3	3	4	5	7
	36	3	4	5	6	7
	40	3	4	5	7	8
24	24	2	3	4	5	6
	28	3	4	5	6	7
	32	3	4	5	7	8
	36	3	5	6	8	9
	40	4	5	7	8	10

For SI: 1 inch = 25.4 mm, 1 foot = 0.305 m, 1 mph = 1.61 km/hr

[1] The 12 inch (305 mm) and 19.2 inch (488 mm) framing spacing provide options for design, but do not negate the *in-line framing* requirement of Section E.

Table E13-7
Required Uplift Strength
Roof Rafter or Roof Truss to Wall

		Basic Wind Speed (mph)				
EXPOSURE B		130	140	150		
EXPOSURE C		110	120	130	140	150
Framing Spacing [4] (in.)	Roof Span (ft)	Required Connection Strength [1,2,3] (lbs)				
12	24	229	299	374	458	547
	28	259	340	428	522	624
	32	289	380	479	586	701
	36	319	423	532	651	778
	40	353	463	583	715	855
16	24	305	398	497	609	728
	28	344	452	569	695	830
	32	384	505	637	780	932
	36	424	563	708	865	1034
	40	469	616	775	951	1136
19.2	24	366	478	598	733	875
	28	414	544	685	836	998
	32	462	608	766	938	1121
	36	510	677	851	1041	1244
	40	565	741	933	1144	1367
24	24	458	598	748	916	1094
	28	518	680	856	1045	1248
	32	578	760	958	1173	1402
	36	638	846	1064	1301	1555
	40	706	926	1166	1430	1709

For SI: 1 inch = 25.4 mm, 1 foot = 0.305 m, 1 lb = 4.45 N, 1 mph = 1.61 km/hr

1 Uplift requirements assume a roof/ceiling dead load of 12 psf (0.58 kN/m^2).

2 Required strengths are permitted to be multiplied by 0.70 for framing not located within 8 feet (2.44 m) of building corners.

3 Required strengths are permitted to be divided by 1.3 when comparing requirements with published strengths expressed as allowable loads.

4 The 12 inch (305 mm) and 19.2 inch (488 mm) framing spacing provide options for design, but do not negate the in-line framing requirement of Section E.

Table E13-8
Uplift Strap Connection Requirements
Roof Rafter or Roof Truss to Wall

		Basic Wind Speed (mph)				
Exposure B		130	140	150		
Exposure C		110	120	130	140	150
Framing Spacing[1] (in.)	Roof Span (ft)	Number of No.8 Screws in Each End of Steel Uplift Strap				
12	24	2	2	3	3	4
	28	2	3	3	4	4
	32	2	3	3	4	5
	36	2	3	4	4	5
	40	3	3	4	5	6
16	24	2	3	4	4	5
	28	3	3	4	5	6
	32	3	4	4	5	6
	36	3	4	5	6	7
	40	3	4	5	6	7
19.2	24	3	3	4	5	6
	28	3	4	5	6	7
	32	3	4	5	6	7
	36	4	5	6	7	8
	40	4	5	6	7	9
24	24	3	4	5	6	7
	28	4	5	6	7	8
	32	4	5	6	8	9
	36	4	6	7	8	10
	40	5	6	8	9	11

For SI: 1 inch = 25.4 mm, 1 foot = 0.305 m, 1 mph = 1.61 km/hr

[1] The 12 inch (305 mm) and 19.2 inch (488 mm) framing spacing provide options for design, but do not negate the *in-line framing* requirement of Section E.

Table E13-9
Minimum Size of Steel Uplift Strap

Strap Width (in.)	Minimum Thickness of Strap (mils)									
	Required Number of Screws[1]									
	4 OR LESS	5	6	7	8	9	10	11	12	13
1.25	33	43	54	54	68	68	97	97	97	97
1.50	33	43	43	54	54	68	68	97	97	97
1.75	33	33	33	43	54	54	54	68	68	97
2.00	33	33	33	43	43	54	54	68	68	68

For SI: 1 inch = 25.4 mm

[1] Required number of screws per Table E13-6 or E13-8 in each end of the steel uplift *strap*.

Table E13-10
Required Hold Down Anchor[1] and Chord Stud Strengths - Wind

Required Hold Down Anchor and Chord Stud Strengths (lbs) [2]				
Wall Height (ft)	Panel Edge Screw Spacing (in.)			
	6	4	3	2
8	3938	5163	7213	9206
9	4419	5794	8088	10,319
10	4900	6419	8963	11,438

For SI: 1 inch = 25.4 mm, 1 foot = 0.305 m, 1 lb = 4.45 N

[1] Required strengths are permitted to be divided by 1.3 when comparing requirements with published strengths expressed as allowable loads.

[2] Required strengths are permitted to be multiplied by a factor equal to the required full height sheathing length divided by the actual full height sheathing length that is provided.

F. ROOF FRAMING

F1 Roof Construction

Roof framing shall consist of *ceiling joists*, *roof rafters*, and other structural elements as required by this section. Alternatively, roof *trusses* shall be permitted subject to the requirements in Section F6.

F2 Ceiling Joists

F2.1 Minimum Ceiling Joist Size

Ceiling joist size and thickness shall be determined in accordance with the limits set forth in Tables F2-1 through F2-8. When determining the size of *ceiling joists*, the lateral support of the top *flange* shall be classified as unbraced, braced at mid-*span,* or braced at third points in accordance with Section F2.4. Where sheathing material is attached to the top *flange* of *ceiling joists* or where the *bracing* is spaced closer than third point of the joists, the "third point" values from Tables F2-1 through F2-8 shall be used.

When continuous joists are framed across interior bearing supports, the interior bearing supports shall be located within 2 feet (0.610 m) of mid-*span* of the *ceiling joist*, and the individual *spans* shall not exceed the applicable *spans* in Tables F2-1 through F2-8.

Ceiling joists shall have a bearing support length of not less than 1.5 inches (38 mm) and shall be connected to *roof rafters* (heel joint) with No.10 screws in accordance with Figures F2-1, F2-2 and F2-3 and Table F2-9.

When the attic is to be used as an occupied space, the *ceiling joists* shall be designed in accordance with Section D.

F2.2 Ceiling Joist Bearing Stiffeners

Where required in Tables F2-1 through F2-8, *bearing stiffeners* shall be installed at each bearing support in accordance with Section B2 and Figure F2-3.

F2.3 Ceiling Joist Bottom Flange Bracing

The bottom *flanges* of *ceiling joists* shall be laterally braced by the application of gypsum board or continuous steel *straps* installed perpendicular to the joist run, in accordance with one of the following:

(a) Gypsum board shall be fastened with No.6 screws in accordance with Table F2-10.

(b) Steel *straps* with a minimum size of 1-1/2 inch x 33 mil (38 mm x 0.84 mm) shall be installed at a maximum spacing of 4 feet (1.2 m). *Straps* shall be fastened to the bottom *flange* at each joist with one No.8 screw and shall be fastened to *blocking* with two No.8 screws. *Blocking* shall be installed between joists at a maximum spacing of 12 feet (3.7 m) measured along a line of continuous *strapping* (perpendicular to the joist run). *Blocking* shall also be located at the termination of all *straps*.

F2.4 Ceiling Joist Top Flange Bracing

The top *flanges* of *ceiling joists* shall be laterally braced as required by Tables F2-1 through F2-8, in accordance with one of the following:

(a) Minimum 33 mil (0.84 mm) *C-shaped* member in accordance with Figure F2-5.

(b) Minimum 33 mil (0.84 mm) *track* section in accordance with Figure F2-5.

(c) Minimum 33 mil (0.84 mm) hat section in accordance with Figure F2-5.

(d) Minimum 54 mil (1.37 mm) 1- 1/2" cold-rolled channel section in accordance with Figure F2-5.

(e) Minimum 1-1/2 inch x 33 mil (38 mm x 0.84 mm) continuous steel *strap* in accordance with Figure F2-6.

Lateral *bracing* shall be installed perpendicular to the *ceiling joists* and shall be fastened to the top *flange* of each joist with one No.8 screw. *Blocking* shall be installed between joists in-line with *bracing* at a maximum spacing of 12 feet (3.66 m) measured perpendicular to the joists. Ends of lateral *bracing* shall be attached to *blocking* or anchored to a stable building component with two No.8 screws.

Exception: When *strap bracing* and 3.5" (88.9 mm) ceiling *joists* are used, *strap bracing* shall be fastened to *blocking* with three No.8 screws and ends of the *strap bracing* shall be attached to *blocking* or anchored to a stable building component with three No.8 screws.

F2.5 Ceiling Joist Splicing

Splices in *ceiling joists* shall be permitted, provided that *ceiling joist* splices are supported at interior bearing points and are constructed in accordance with Figure F2-4. The number of screws on each side of the splice shall be the same as required for the heel joint connection in Table F2-9.

F3 Roof Rafters

F3.1 Minimum Roof Rafter Sizes

Roof rafter size and thickness shall be determined in accordance with the limits set forth in Tables F3-1a and F3-1b based upon the horizontal projection of the *roof rafter span*. For determination of *roof rafter* sizes, roof *spans* shall be permitted to be reduced when a *roof rafter* support brace is installed in accordance with Section F3.2. The reduced *roof rafter span* shall be taken as the larger of the distance from the *roof rafter* support brace to the *ridge* or to the heel measured horizontally.

For the purpose of determining *roof rafter* sizes in Tables F3-1a and F3-1b, wind speeds shall be converted to equivalent ground snow load in accordance with Table F3-2. *Roof rafter* sizes shall be based on the higher of the ground snow load or the equivalent snow load converted from the wind speed.

F3.1.1 Eave Overhang

Eave overhangs shall not exceed 24 inches (610 mm) measured horizontally.

F3.1.2 Rake Overhang

Rake overhangs shall not exceed 12 inches (305 mm) measured horizontally. Outlookers at gable endwalls shall be installed in accordance with Figure F3-1.

F3.2 Roof Rafter Support Brace

When used to reduce *roof rafter spans* in determining *roof rafter* sizes, a *roof rafter* support brace shall meet all of the following conditions:

(1) Minimum 350S162-33 *C-shaped* brace member with maximum length of 8 feet (2.44 m).

(2) Minimum brace member slope of 45 degrees to the horizontal.

(3) Minimum connection of brace to a *roof rafter* and *ceiling joist* with 4 No.10 screws at each end.

(4) Maximum 6 inches (152 mm) between brace/*ceiling joist* connection and structural wall below.

(5) Each *roof rafter* support brace greater than 4 feet (1.22 m) in length, shall be braced with a supplemental brace having a minimum size of 350S162-33 or 350T162-33 such that the maximum unsupported length of the *roof rafter* support brace is 4 foot (1.22 m). The supplemental brace shall be continuous and shall be connected to each *roof rafter* support brace using 2 No.8 screws.

F3.3 Roof Rafter Splice

Roof rafters shall not be spliced without an *approved* design. Splicing of *tracks* used as a fascia connected to the ends of rafters shall conform to Figure D6-1.

F3.4 Roof Rafter to Ceiling Joist and Ridge Member Connection

Roof rafters shall be connected to a parallel *ceiling joist* to form a continuous tie between exterior walls in accordance with Figures F2-2 or F2-3 and Table F2-9. *Ceiling joists* shall be connected to the top *track* of the structural wall in accordance with Table F2-10, either with 2 No.10 screws applied through the *flange* of the *ceiling joist* or by using a 54 mil (1.37 mm) *clip angle* with 2 No.10 screws in each leg. *Roof rafters* shall be connected to a *ridge* member with a minimum 2 inch x 2 inch (51x51 mm) *clip angle* fastened with No.10 screws to the *ridge* member in accordance with Figure F3-2 and Table F3-3. The *clip angle* shall have a steel thickness equivalent to or greater than the *roof rafter* thickness and shall extend the depth of the *roof rafter* member to the extent possible. The *ridge* member shall be fabricated from a *C-shaped* member and a *track* section, which shall have a minimum size and steel thickness equivalent to or greater than that of adjacent *roof rafters* and shall be installed in accordance with Figure F3-2. The *ridge* member shall extend the full depth of the sloped *roof rafter* cut.

F3.5 Roof Rafter Bottom Flange Bracing

The bottom *flanges* of *roof rafters* shall be continuously braced, at a maximum spacing of 8 feet (2.44 m) as measured parallel to the *roof rafters*, with one of the following members:

(a) Minimum 33 mil (0.84 mm) *C-shaped member*.

(b) Minimum 33 mil (0.84 mm) *track* section.

(c) Minimum 1-1/2 inch x 33 mil (38 x 0.84 mm) steel *strap*.

The *bracing* element shall be fastened to the bottom *flange* of each *roof rafter* with one No.8 screw and shall be fastened to *blocking* with two No.8 screws. *Blocking* shall be installed between *roof rafters* in-line with the continuous *bracing* at a maximum spacing of 12 feet (3.66 m) measured perpendicular to the *roof rafters*. The ends of continuous *bracing* shall be fastened to *blocking* or anchored to a stable building component with two No.8 screws.

F4 Hip Framing

Hip framing shall consist of jack rafters, hip members, hip support columns and connections in accordance with this section or shall be in accordance with an *approved* design.

The provisions of this section for hip members and hip support columns shall only apply where the jack rafter slope is greater than or equal to the roof slope.

For the purpose of determining member sizes in this Section, wind speeds shall be converted to equivalent ground snow load in accordance with Table F3-2. Member sizes shall be

based on the higher of the ground snow load or the equivalent snow load converted from the wind speed.

F4.1 Jack Rafters

Jack rafters shall meet the requirements for *roof rafters* in accordance with Section F3, except the requirements in Section F3.4 shall not apply.

F4.2 Hip Members

Hip members shall be fabricated from a *C-shape* member and a *track* section, which shall have minimum sizes determined in accordance with Table F4-1. The *C-shaped* member and *track* section shall be connected at a maximum spacing of 24 inches using No.10 screws through top and bottom *flanges*, as shown in Figure F3-2.

The depth of the hip member shall match that of the *roof rafters* and jack rafters, unless an *approved* beam pocket is provided at the corner of the supporting wall.

F4.3 Hip Support Columns

Hip support columns shall be used to support hip members at the *ridge*. A hip support column shall consist of a pair of *C-shapes*, with a minimum size determined in accordance with Table F4-2. The *C-shapes* shall be connected at a maximum spacing of 24 inches to form a box using minimum 3″ x 33-mil strap connected to each of the *flanges* of the *C-shapes* with 3 No.10 screws.

Hip support columns shall have a continuous load path to the foundation and shall be supported at the ceiling line by an interior wall or by an *approved* supporting element.

F4.4 Hip Framing Connections

Jack rafters shall be connected at the eave to a parallel *C-shape* blocking member in accordance with Figure F4-1. In other than *high wind areas*, the *C-shape* blocking member shall be attached to the supporting wall *track* with minimum 2-No.10 screws. In *high wind areas*, the C-shape blocking member shall be attached to the supporting wall in accordance with Section F7.2.

Jack rafters shall be connected to a hip member with a minimum 2 inch x 2 inch (51x51 mm) clip angle fastened with No.10 screws to the hip member in accordance with Figure F3-1 and Table F3-3. The clip angle shall have a steel thickness equivalent to or greater than the jack rafter thickness and shall extend the depth of the jack rafter member to the extent possible.

The connection of hip support columns at the ceiling line shall be in accordance with Figure F4-2, with an uplift strap sized in accordance with Table F4-3.

The connection of hip members, *ridge* members and hip support columns at the *ridge* shall be in accordance with Figures F4-3 and F4-4 and Table F4-4.

The connection of hip members to the wall corner shall be in accordance with Figure F4-5 and Table F4-5.

F5 Framing of Openings in Roofs and Ceilings

Openings in roofs and ceilings shall be framed with *header* and trimmer joists. *Header* joist *spans* shall not exceed 4 feet (1.2 m) in length. *Header* and trimmer joists shall be fabricated from joist and *track* members having a minimum size and thickness at least equivalent to the adjacent *ceiling joists* or *roof rafters* and shall be installed in accordance with Figures F5-1 and F5-2. Each *header* joist shall be connected to trimmer joists with a minimum of four 2 inch x 2 inch (51x51

mm) *clip angles*. Each *clip angle* shall be fastened to both the *header* and trimmer joists with four No.8 screws, evenly spaced, through each leg of the *clip angle*. The *clip angles* shall have a steel thickness not less than that of the *ceiling joist* or *roof rafter*. Each *track* section for a built-up *header* or trimmer joist shall extend the full length of the joist (continuous).

F6 Roof Trusses

Trusses shall be designed and installed in accordance with the *Standard for Cold-Formed Steel Framing – Truss Design*.

Trusses shall be connected to the top *track* of the structural wall in accordance with Table F2-10, either with 2 No.10 screws applied through the *flange* of the *truss* or by using a 54 mil (1.37 mm) *clip angle* with 2 No.10 screws in each leg.

F7 Ceiling and Roof Diaphragms

At gable endwalls a ceiling *diaphragm* shall be provided by attaching a minimum 1/2-inch (13 mm) gypsum board in accordance with Tables F7-1 and F7-2 or a minimum 3/8-inch (9.5 mm) wood structural panel sheathing, which complies with DOC PS 1, DOC PS 2, CSA O437, or CSA O325, in accordance with Table F7-3 and F7-4 to the bottom of *ceiling joists* or roof *trusses* and connected to wall framing in accordance with Figures F7-1 and F7-2, unless *studs* are designed as full height without bracing at the ceiling. Flat *blocking* shall consist of *C-shape* or *track* section with a minimum thickness of 33 mils (0.84 mm).

The ceiling *diaphragm* shall be secured with screws spaced at a maximum 6" o.c. at panel edges and a maximum 12" o.c. in the field. The required lengths in Table F7-1 and F7-2 for gypsum board sheathed ceiling *diaphragms* shall be permitted to be multiplied by 0.35 if all panel edges are blocked. The required lengths in Table F7-1 and Table F7-2 for gypsum board sheathed ceiling *diaphragms* shall be permitted to be multiplied by 0.9 if all panel edges are secured with screws spaced at 4" o.c.

A roof *diaphragm* shall be provided by attaching a minimum of 3/8 inch (9.5 mm) wood structural panel, which complies with DOC PS 1, DOC PS 2, CSA O437 or CSA O325 to *roof rafters* or *truss* top chords in accordance with Table F2-10. Buildings with 3-1 or larger *plan aspect ratio* and with *roof rafters* slope (pitch) of 9:12 or larger shall have the *roof rafters* and *ceiling joists* blocked in accordance with Figure F7-3.

F7.1 Roof Diaphragms in High Seismic Areas

Roof *diaphragms* in *high seismic areas* shall be constructed with the provisions of this section.

Roof *diaphragms* shall be constructed of minimum 3/8 inch (9.5 mm) C-D or C-C Sheathing with screws at 6 inch (152 mm) spacing on panel edges and in the field. The *diaphragms* shall be permitted to be unblocked, and shall be permitted to be constructed in any panel configuration except in the case of a building in *Seismic Design Category* D_2, where a heavy roof system is used and the *diaphragm span* is greater than or equal to 40 feet (12.2 m).

In *Seismic Design Category* D_2, where a heavy roof system is used on a building with a *diaphragm span* greater than or equal to 40 feet (12.2 m), the roof *diaphragm* shall be constructed of 15/32 inch (12 mm) Structural I Plywood, unblocked, and in any configuration, with screws at 6 inch (152 mm) spacing on panel edges and at maximum 12 inch (305 mm) spacing in the field. Alternatively it shall be permitted to use 3/8 inch (9.5 mm) C-D or C-C Sheathing with screws at 6 inch (152 mm) spacing on panel edges and in

the field, with all unblocked edges and continuous panel joints parallel to the longer *diaphragm span*.

F7.2 Roof Diaphragms in High Wind Areas

In *high wind areas*, roof *diaphragms* shall be constructed of minimum 3/8 inch (9.5 mm) C-D or C-C Sheathing with screws at 6 inch (152 mm) spacing on panel edges and in the field. The *diaphragms* shall be permitted to be unblocked, and shall be permitted to be constructed in any panel configuration.

F8 Roof Framing Connections in High Wind Areas

F8.1 General

In *high wind areas* connection of the roof framing members shall be provided, in accordance with this section, to ensure a continuous load path capable of transferring shear and uplift loads from floors, *studs*, and roof framing to the foundation.

F8.2 Uplift Connection - Roof Rafter or Truss to Wall

Roof rafters and *trusses* shall be attached to their supporting wall assemblies by connections capable of resisting the uplift loads listed in Table F8-1. Alternatively, a steel uplift *strap* sized in accordance with Table F8-5 connecting the *roof rafter* or *truss* to the *in-line framing stud* below shall be permitted. Each end of the uplift *strap* shall be fastened with minimum No.8 screws as required by Table F8-2.

Required strengths in Table F8-1 shall be permitted to be multiplied by 0.70 for framing not located within 8 feet (2.44 m) of building corners. Required strengths shall be permitted to be divided by 1.3 when comparing requirements with published strengths expressed as allowable loads.

F8.3 Ridge Strap Connection

Roof rafters shall be provided with a connection at the *ridge* line to transfer tension loads. The *ridge* connection shall be capable of resisting the unit loads listed in Table F8-3 multiplied by the appropriate spacing multiplier listed in Table F8-4. Alternatively, a steel *ridge strap* sized in accordance with Table F8-5 shall be provided with minimum No.8 screws on each end of the *strap* as required in Table F8-3. The number of screws shall be increased to account for the spacing multipliers shown in Table F8-4.

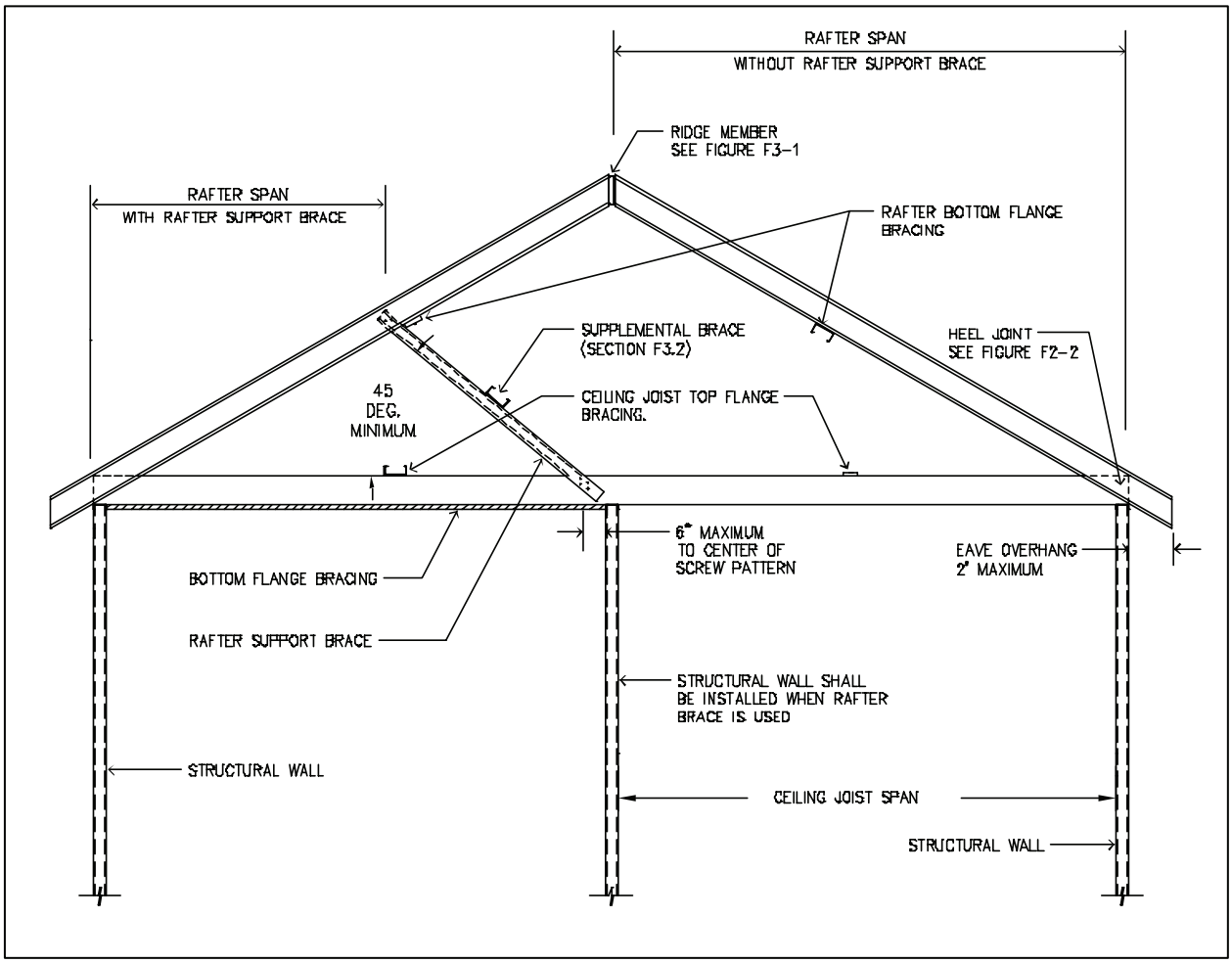


Figure F2-1 Roof Construction

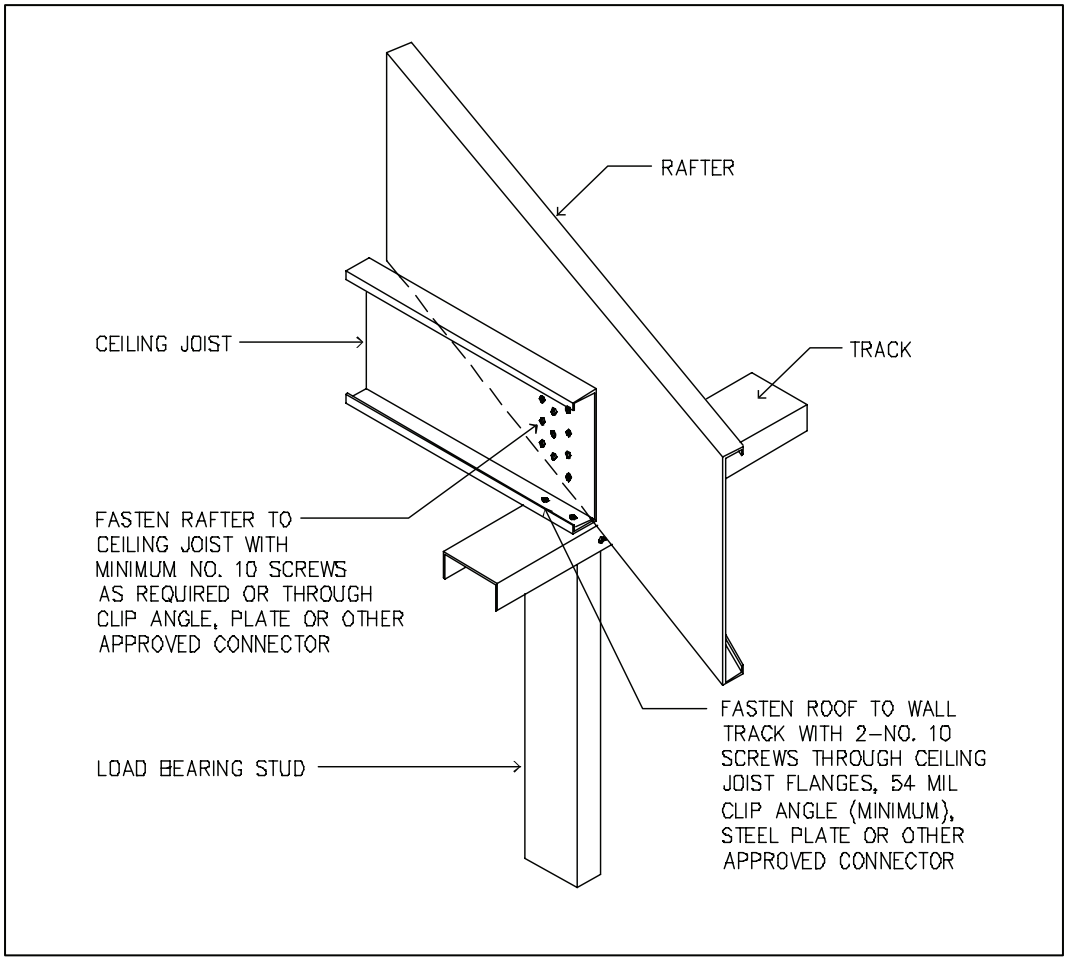


Figure F2-2 Heel Joint Connection

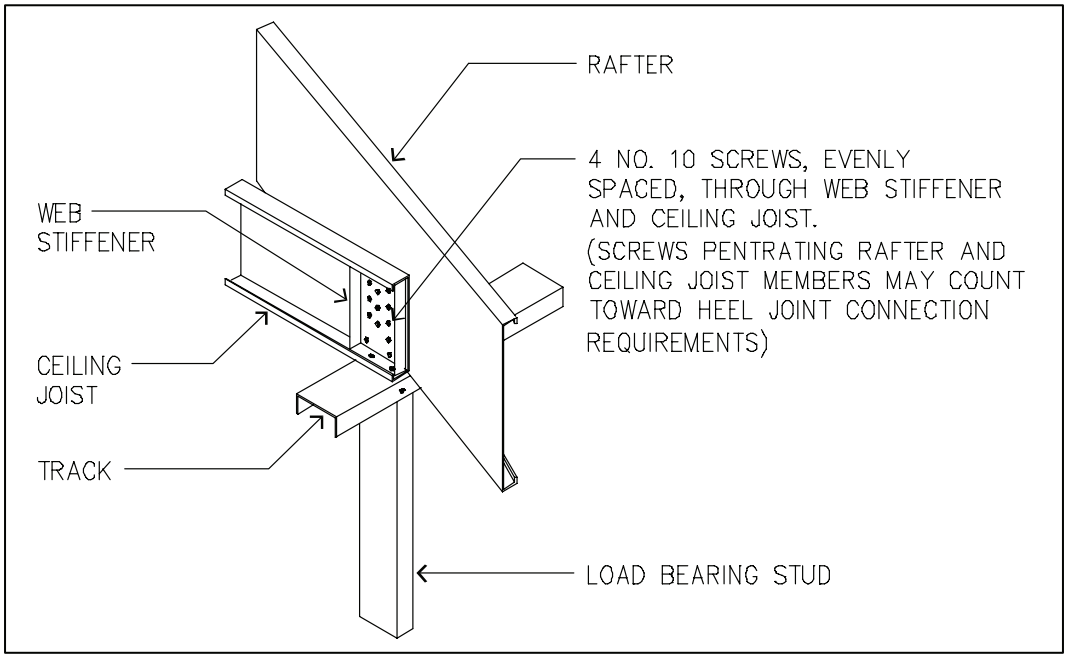


Figure F2-3 Bearing Stiffener at the Heel Joint Connection

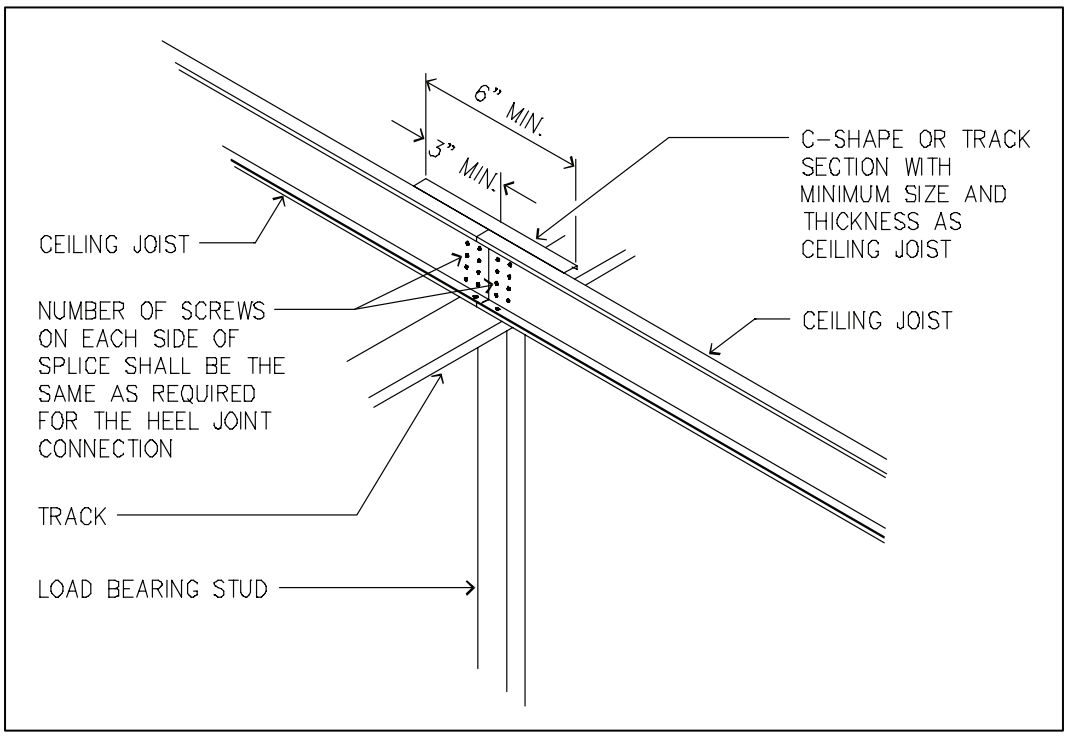


Figure F2-4 Spliced Ceiling Joists

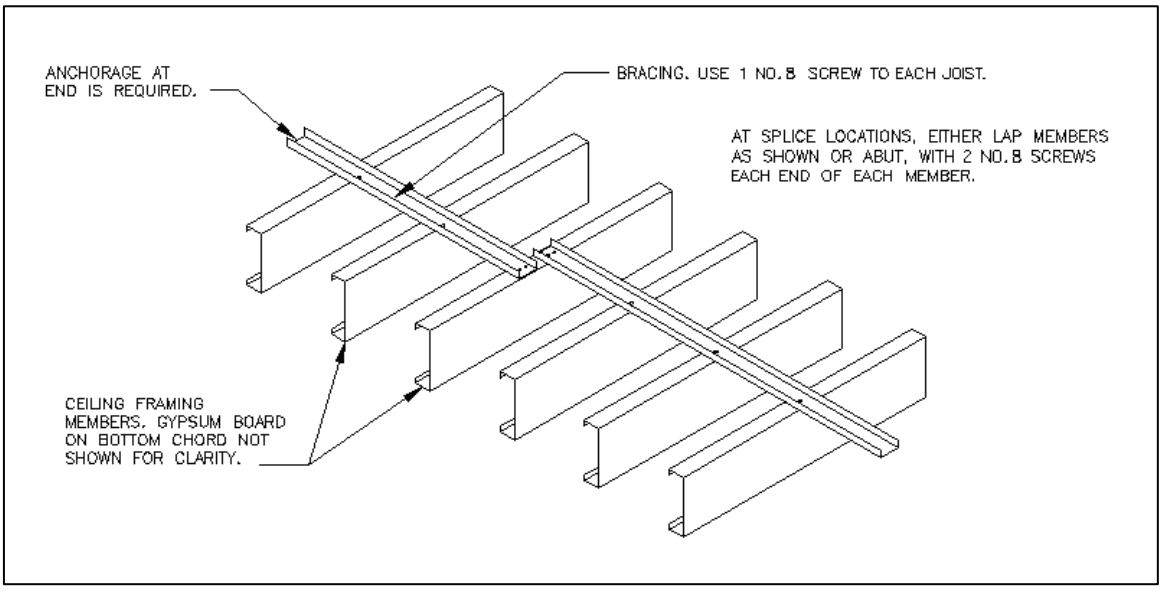


Figure F2-5 Ceiling Joist Top Flange Bracing with C-Shape, Track or Cold-Rolled Channel

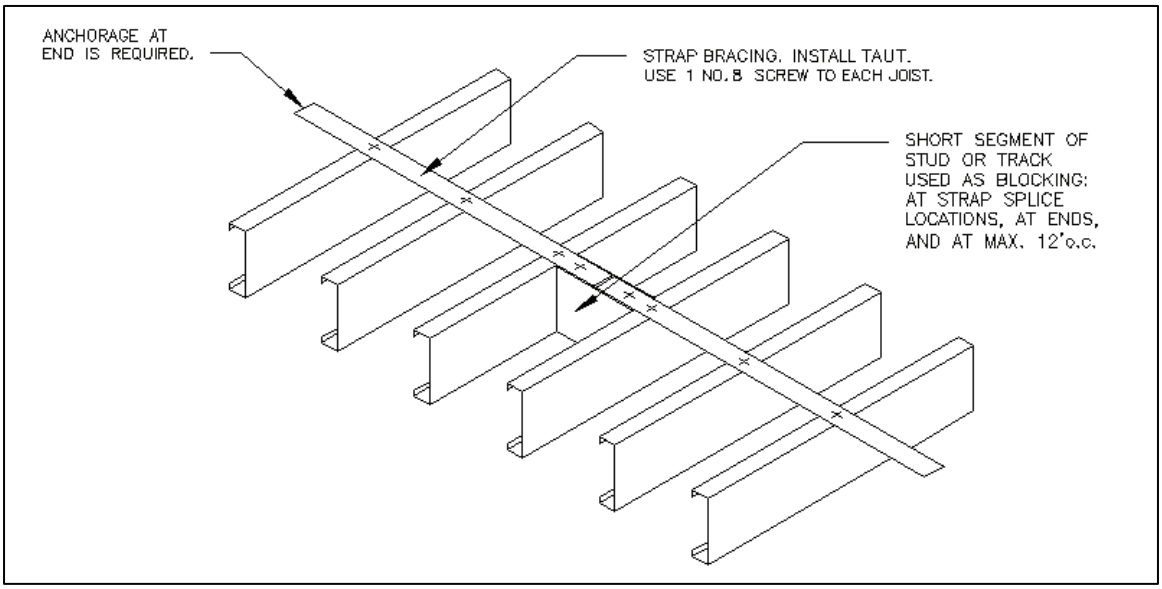


Figure F2-6 Ceiling Joist Top Flange Bracing with Continuous Steel Strap and Blocking

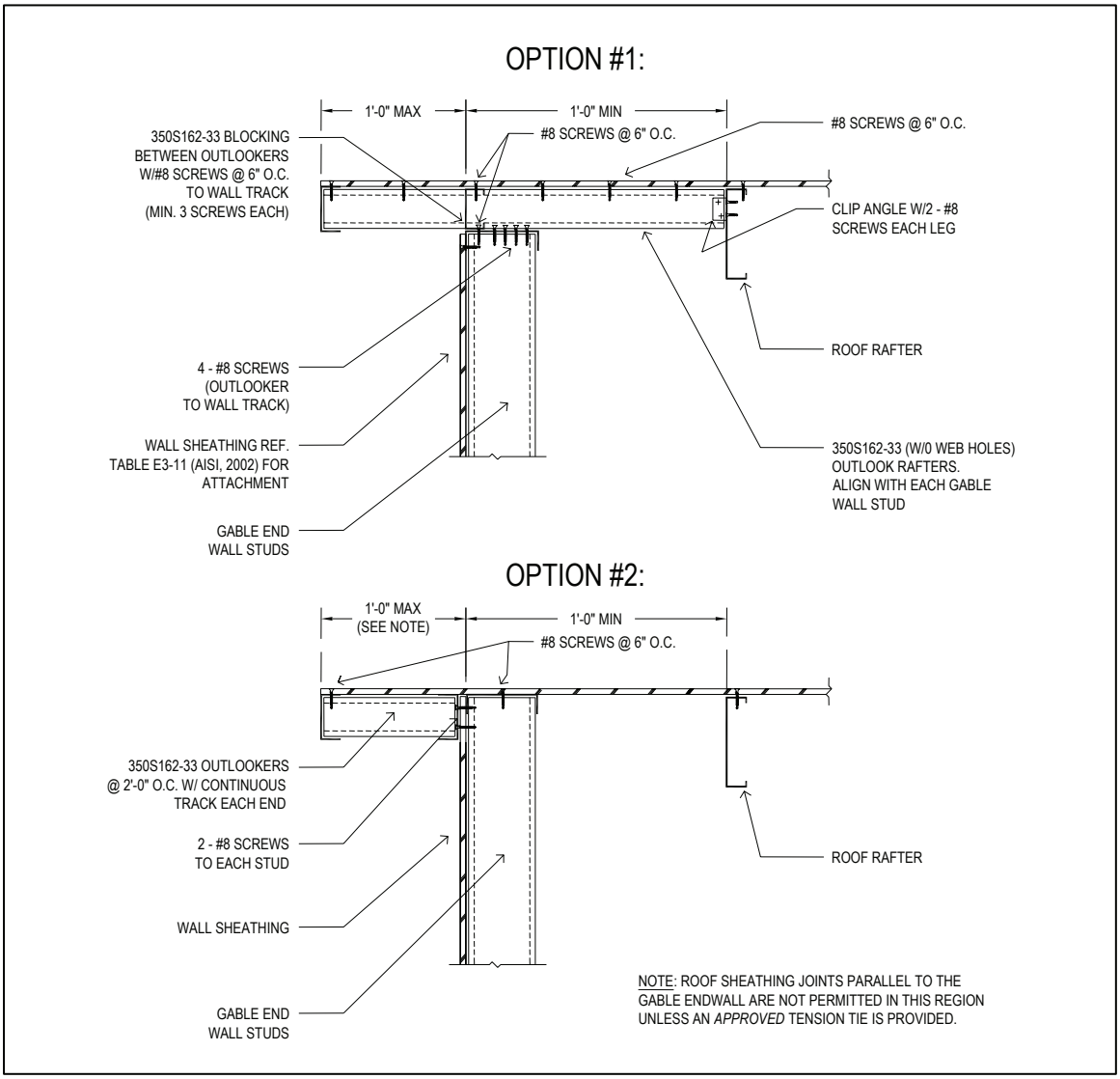


Figure F3-1 Gable Endwall Overhang Details

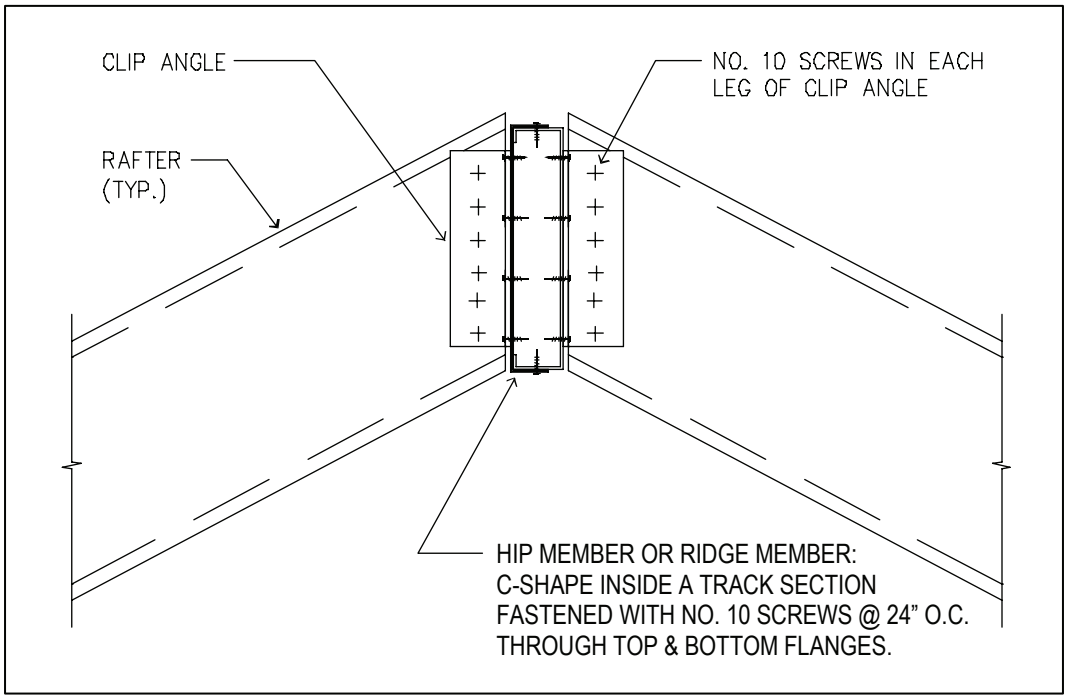


Figure F3-2 Hip Member or Ridge Member Connection

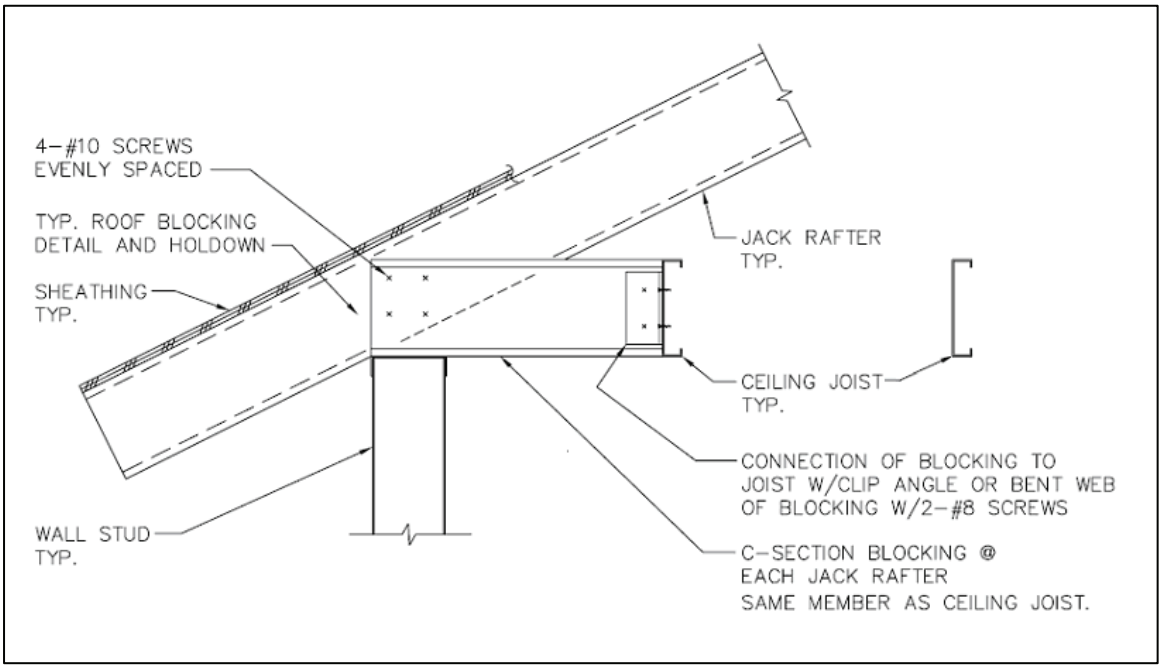


Figure F4-1 Jack Rafter Connection at Eave

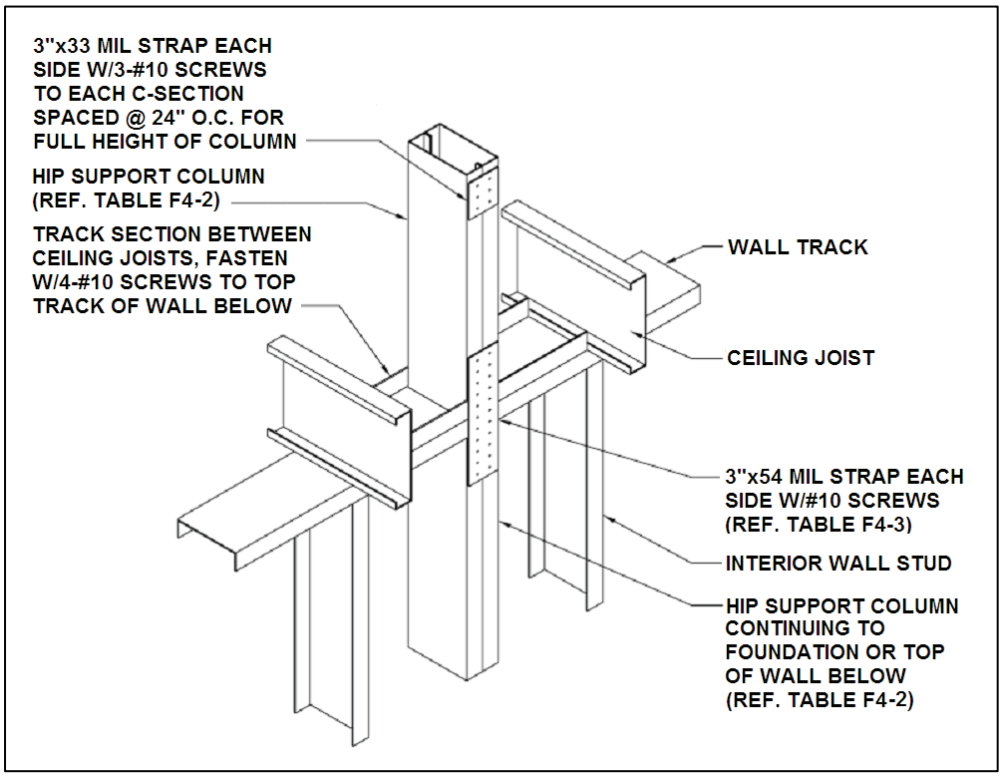


Figure F4-2 Hip Support Column

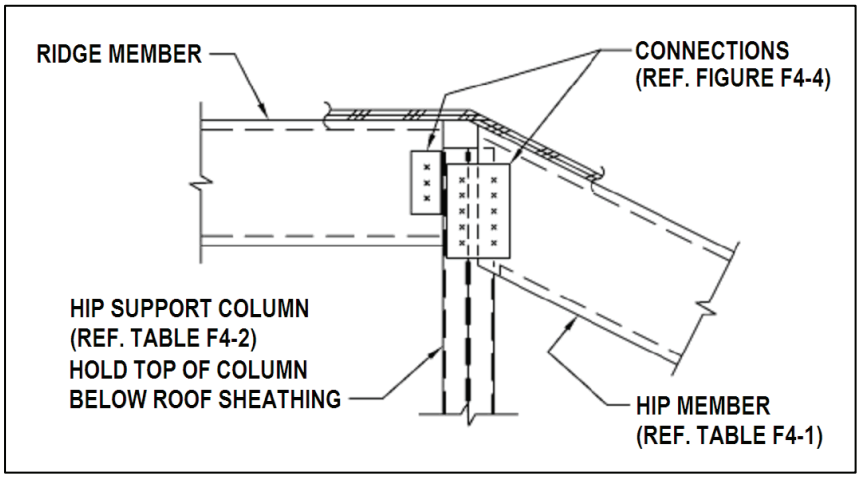


Figure F4-3 Hip Connections at Ridge

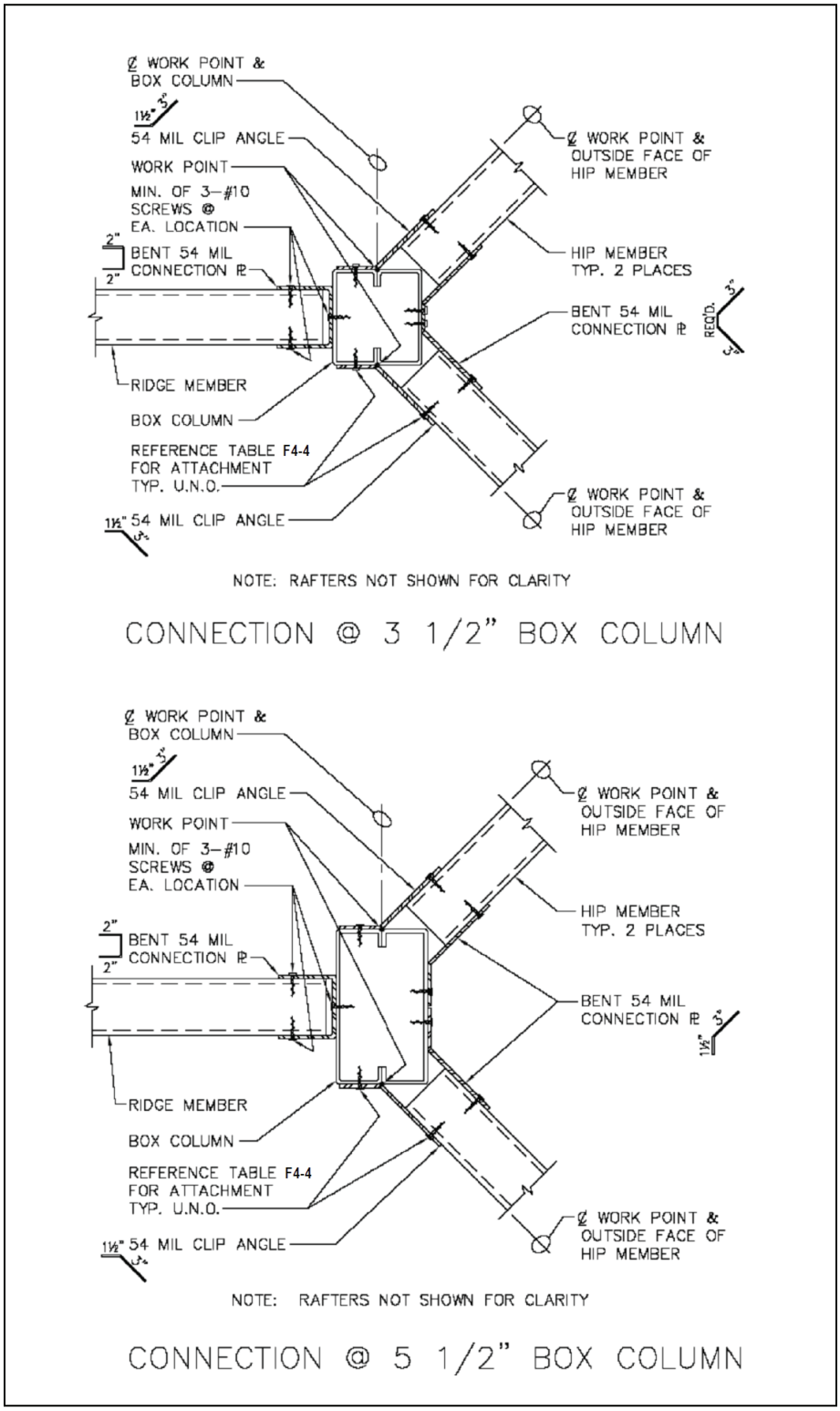


Figure F4-4 Hip Connections at Ridge and Box Column

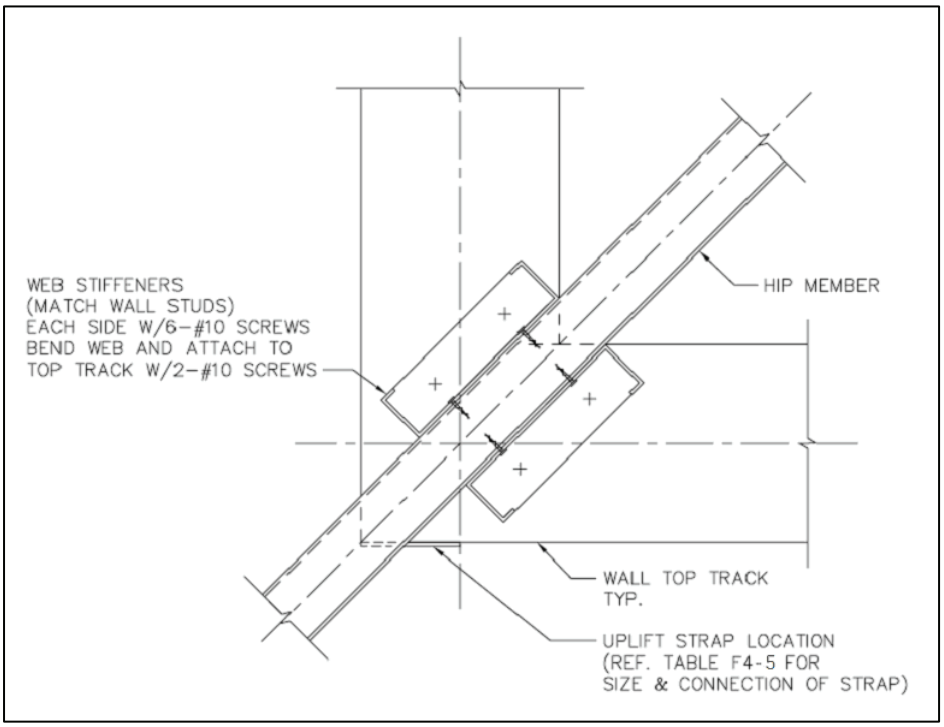


Figure F4-5 Hip Member Connection at Wall Corner

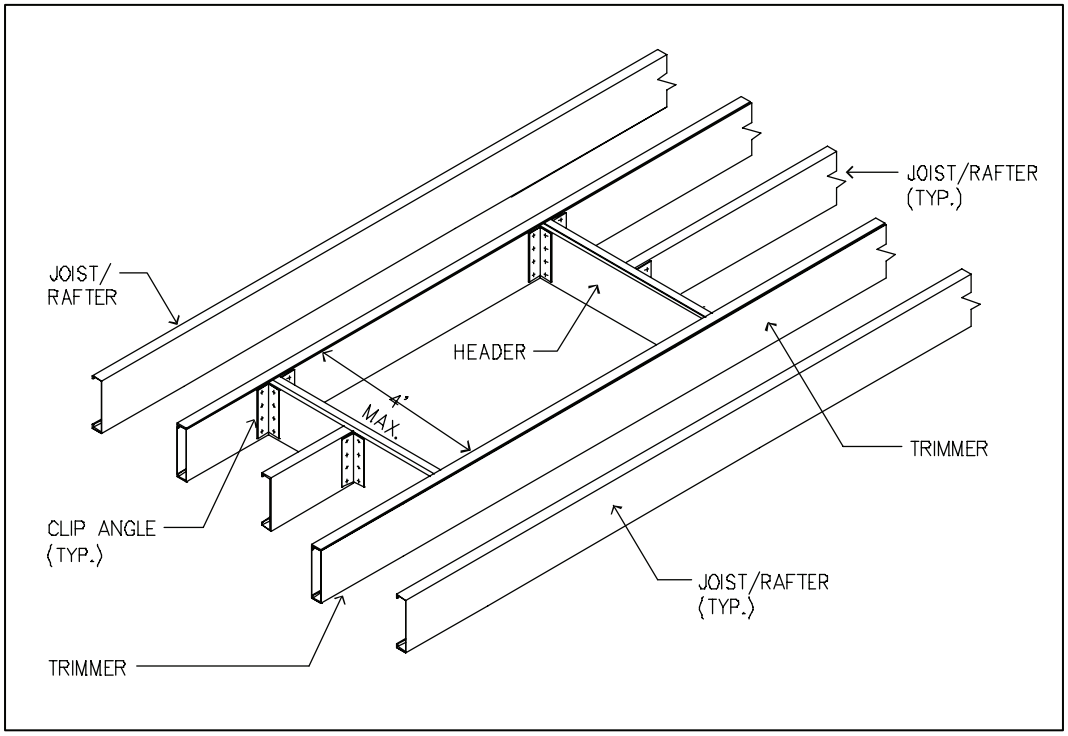


Figure F5-1 Roof or Ceiling Opening

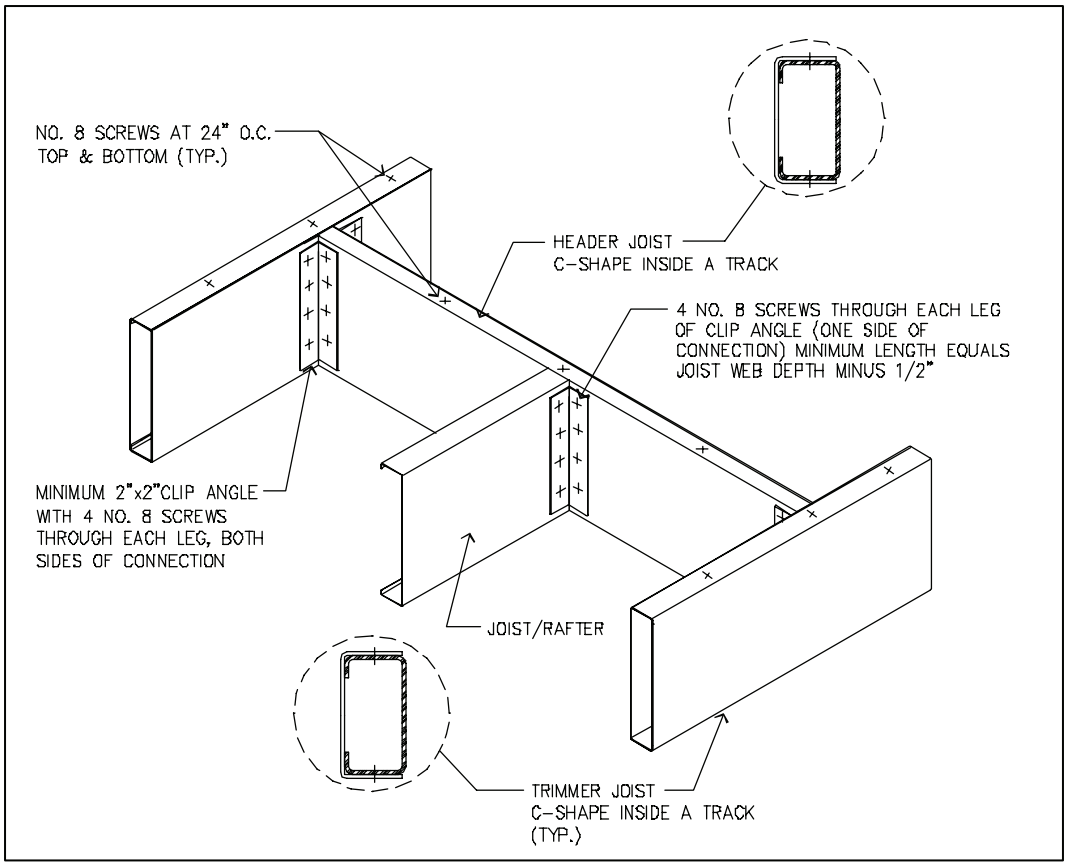


Figure F5-2 Header to Trimmer Detail

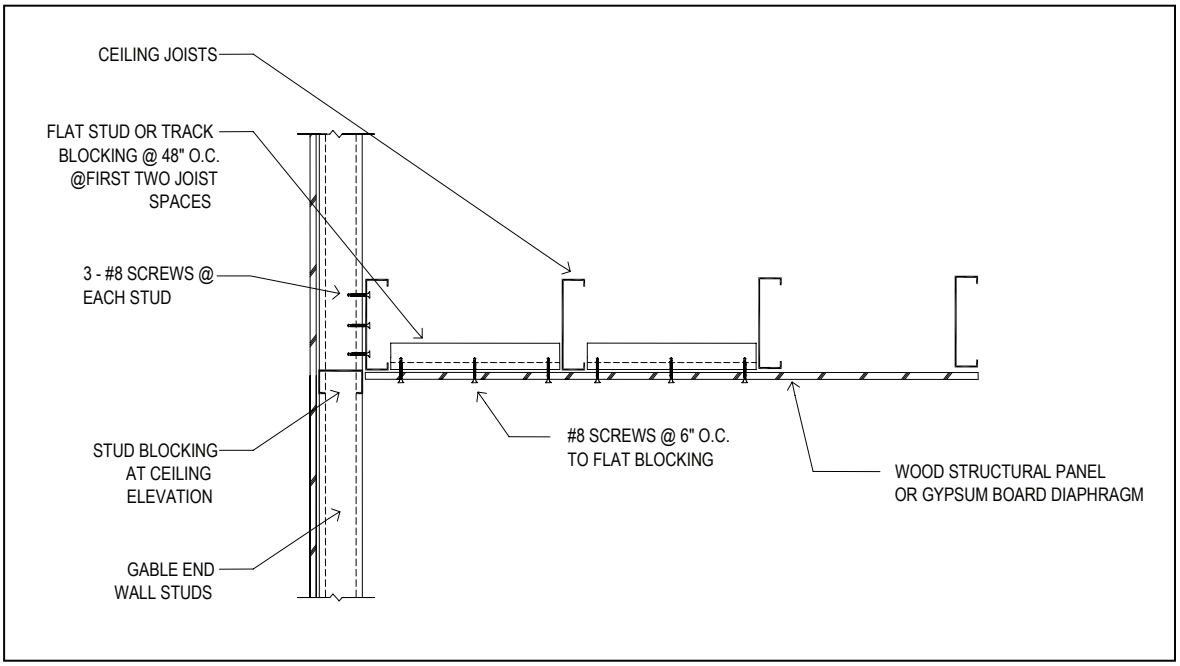


Figure F7-1 Ceiling Diaphragm to Gable Endwall Detail

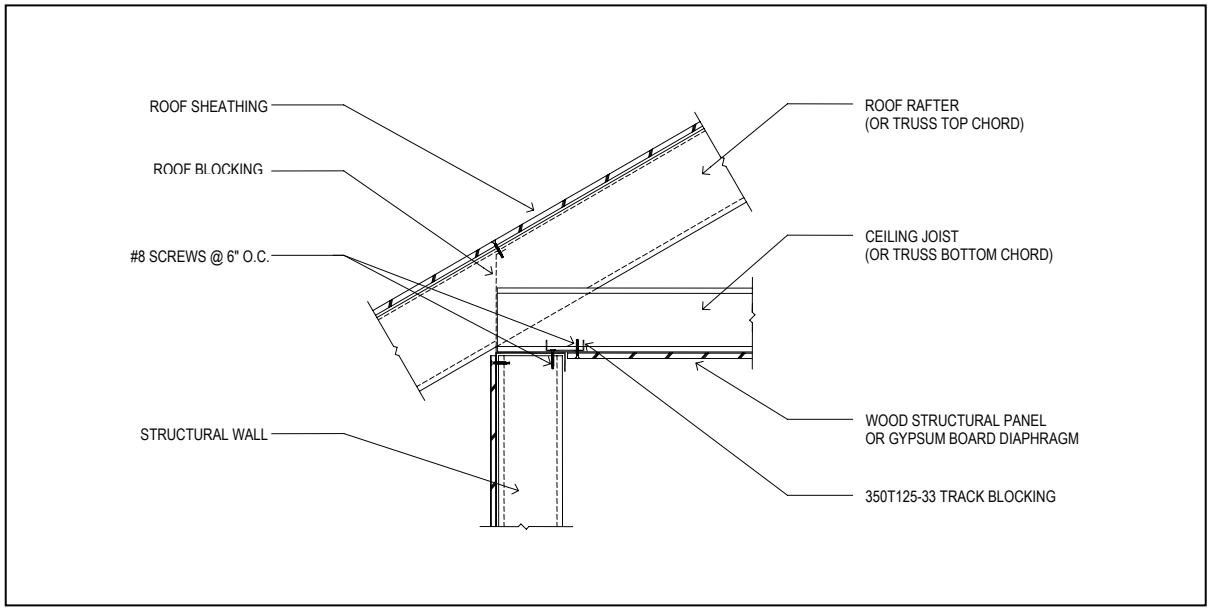


Figure F7-2 Ceiling Diaphragm to Sidewall Detail

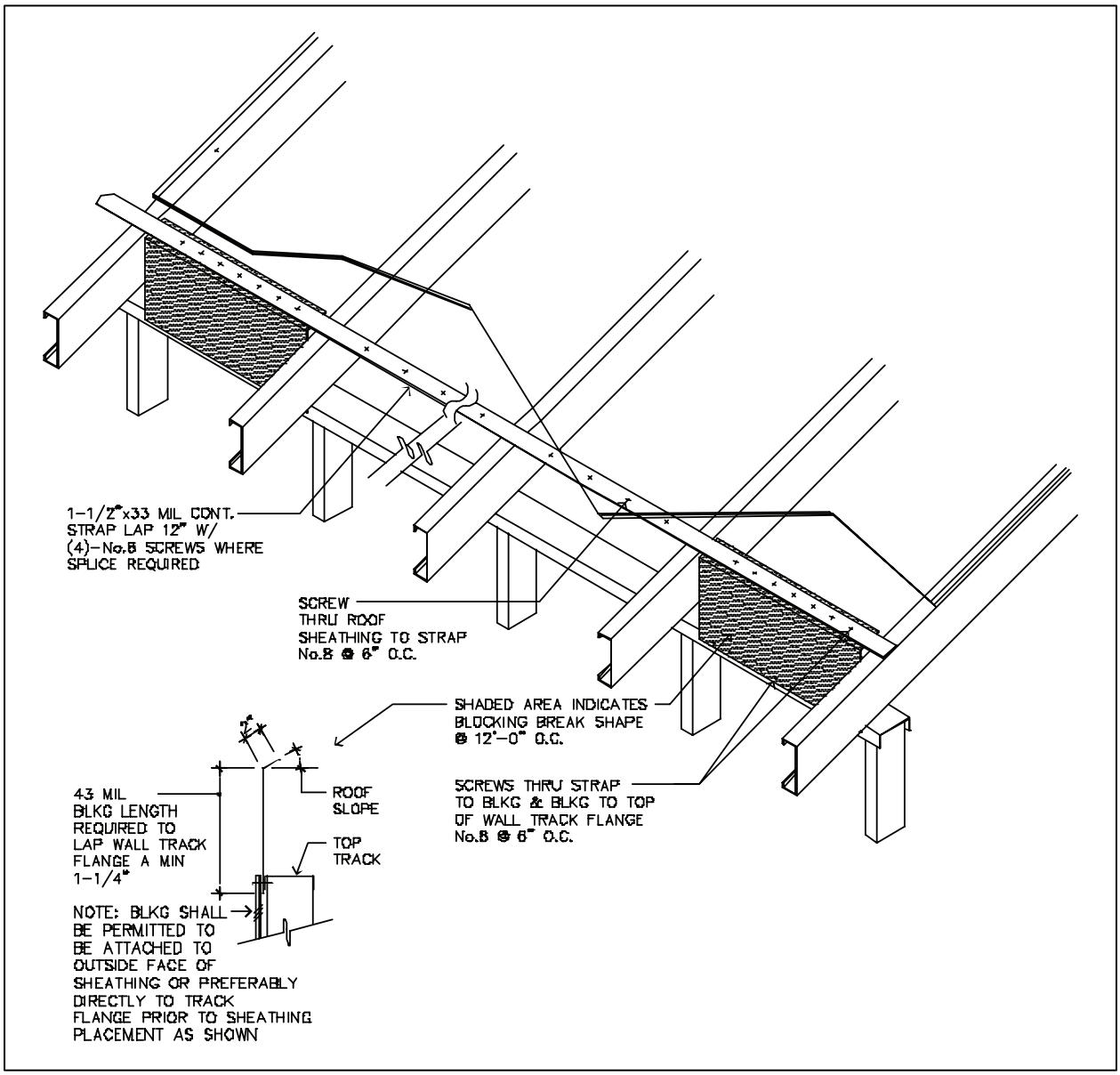


Figure F7-3 Roof Blocking Detail

33 KSI

Table F2-1
Ceiling Joist Spans
Single Spans with Bearing Stiffeners
10 Lbs per Sq. Ft. Live Load (No Attic Storage) [1,2,3]
F_y = 33 ksi

Member Designation	Allowable Span (Feet-Inches)					
	Lateral Support of Top (Compression) Flange					
	Unbraced		Mid-Span Bracing		Third-Point Bracing	
	Ceiling Joist Spacing (inches)					
	16	24	16	24	16	24
350S162-33	9'-5"	8'-6"	12'-2"	10'-4"	12'-2"	10'-7"
350S162-43	10'-3"	9'-2"	12'-10"	11'-2"	12'-10"	11'-2"
350S162-54	11'-1"	9'-11"	13'-9"	12'-0"	13'-9"	12'-0"
350S162-68	12'-1"	10'-9"	14'-8"	12'-10"	14'-8"	12'-10"
350S162-97	14'-4"	12'-7"	16'-4"	14'-3"	16'-4"	14'-3"
550S162-33	10'-7"	9'-6"	14'-10"	12'-10"	15'-11"	13'-4"
550S162-43	11'-8"	10'-6"	16'-4"	14'-3"	17'-10"	15'-3"
550S162-54	12'-6"	11'-2"	17'-7"	15'-7"	19'-5"	16'-10"
550S162-68	13'-6"	12'-1"	19'-2"	17'-1"	21'-0"	18'-4"
550S162-97	15'-9"	13'-11"	21'-8"	19'-3"	23'-5"	20'-5"
800S162-33	12'-2"	10'-11"	17'-8"	15'-10"	19'-10"	17'-1"
800S162-43	13'-0"	11'-9"	18'-10"	17'-0"	21'-6"	19'-1"
800S162-54	13'-10"	12'-5"	20'-0"	18'-0"	22'-9"	20'-4"
800S162-68	14'-11"	13'-4"	21'-3"	19'-1"	24'-1"	21'-8"
800S162-97	17'-1"	15'-2"	23'-10"	21'-3"	26'-7"	23'-10"
1000S162-43	13'-11"	12'-6"	20'-2"	18'-3"	23'-1"	20'-9"
1000S162-54	14'-9"	13'-3"	21'-4"	19'-3"	24'-4"	22'-0"
1000S162-68	15'-10"	14'-2"	22'-8"	20'-5"	25'-9"	23'-2"
1000S162-97	18'-0"	16'-0"	25'-3"	22'-7"	28'-3"	25'-4"
1200S162-43	14'-8"	13'-3"	21'-4"	19'-3"	24'-5"	21'-8"
1200S162-54	15'-7"	14'-0"	22'-6"	20'-4"	25'-9"	23'-2"
1200S162-68	16'-8"	14'-11"	23'-11"	21'-6"	27'-2"	24'-6"
1200S162-97	18'-9"	16'-9"	26'-6"	23'-8"	29'-9"	26'-9"

For SI: 1 inch = 25.4 mm, 1 foot = 0.305 m, 1 psf = 0.0479 kN/m^2

1 *Bearing stiffeners* are to be installed at all bearing and concentrated load locations.

2 Deflection criteria: L/240 for total loads

3 Ceiling dead load = 5 psf (0.24 kN/m^2)

33 KSI

Table F2-2
Ceiling Joist Spans
Two Equal Spans with Bearing Stiffeners
10 Lbs per Sq. Ft. Live Load (No Attic Storage) [1,2,3,4,5]
F_y = 33 ksi

Member Designation	Allowable Span (Feet-Inches)					
	Lateral Support of Top (Compression) Flange					
	Unbraced		Mid-Span Bracing		Third-Point Bracing	
	Ceiling Joist Spacing (inches)					
	16	24	16	24	16	24
350S162-33	12'-11"	10'-11"	13'-5"	10'-11"	13'-5"	10'-11"
350S162-43	14'-2"	12'-8"	15'-10"	12'-11"	15'-10"	12'-11"
350S162-54	15'-6"	13'-10"	17'-1"	14'-6"	17'-9"	14'-6"
350S162-68	17'-3"	15'-3"	18'-6"	16'-1"	19'-8"	16'-1"
350S162-97	20'-10"	18'-4"	21'-5"	18'-10"	21'-11"	18'-10"
550S162-33	14'-4"	12'-11"	16'-7"	14'-1"	17'-3"	14'-1"
550S162-43	16'-0"	14'-1"	17'-11"	16'-1"	20'-7"	16'-10"
550S162-54	17'-4"	15'-6"	19'-5"	17'-6"	23'-2"	19'-0"
550S162-68	19'-1"	16'-11"	20'-10"	18'-8"	25'-2"	21'-5"
550S162-97	22'-8"	19'-9"	23'-6"	20'-11"	27'-11"	25'-1"
800S162-33	16'-5"	14'-10"	19'-2"	17'-3"	23'-1"	18'-3"
800S162-43	17'-9"	15'-11"	20'-6"	18'-5"	25'-0"	22'-6"
800S162-54	19'-1"	17'-1"	21'-8"	19'-6"	26'-4"	23'-9"
800S162-68	20'-9"	18'-6"	23'-1"	20'-9"	28'-0"	25'-2"
800S162-97	24'-5"	21'-6"	26'-0"	23'-2"	31'-1"	27'-9"
1000S162-43	18'-11"	17'-0"	21'-11"	19'-9"	26'-8"	24'-1"
1000S162-54	20'-3"	18'-2"	23'-2"	20'-10"	28'-2"	25'-5"
1000S162-68	21'-11"	19'-7"	24'-7"	22'-2"	29'-10"	26'-11"
1000S162-97	25'-7"	22'-7"	27'-6"	24'-6"	33'-0"	29'-7"
1200S162-43	19'-11"	17'-11"	23'-1"	20'-10"	28'-3"	25'-6"
1200S162-54	21'-3"	19'-1"	24'-5"	22'-0"	29'-9"	26'-10"
1200S162-68	23'-0"	20'-7"	25'-11"	23'-4"	31'-6"	28'-4"
1200S162-97	26'-7"	23'-6"	28'-9"	25'-10"	34'-8"	31'-1"

For SI: 1 inch = 25.4 mm, 1 foot = 0.305 m, 1 psf = 0.0479 kN/m^2

1 Table provides the maximum *ceiling joist span* in feet and inches to either side of the interior support.
2 *Bearing stiffeners* are to be installed at all bearing and concentrated load locations.
3 Deflection criteria: L/240 for total loads
4 Ceiling dead load = 5 psf (0.24 kN/m^2)
5 Interior supports for *multiple span* joists consist of structural walls or beams. Interior supports are to be located within 2 feet (0.610 m) of mid *span* provided that each of the resulting *spans* does not exceed the maximum applicable *span* shown in the table above.

33 KSI

Table F2-3
Ceiling Joist Spans
Single Spans with Bearing Stiffeners
20 Lbs per Sq. Ft. Live Load (Limited Attic Storage) [1,2,3]
F_y = 33 ksi

Member Designation	Allowable Span (Feet-Inches)					
	Lateral Support of Top (Compression) Flange					
	Unbraced		Mid-Span Bracing		Third-Point Bracing	
	Ceiling Joist Spacing (inches)					
	16	24	16	24	16	24
350S162-33	8'-2"	7'-2"	9'-9"	8'-1"	9'-11"	8'-1"
350S162-43	8'-10"	7'-10"	11'-0"	9'-5"	11'-0"	9'-7"
350S162-54	9'-6"	8'-6"	11'-9"	10'-3"	11'-9"	10'-3"
350S162-68	10'-4"	9'-2"	12'-7"	11'-0"	12'-7"	11'-0"
350S162-97	12'-1"	10'-8"	14'-0"	12'-0"	14'-0"	12'-0"
550S162-33	9'-2"	8'-3"	12'-2"	10'-2"	12'-6"	10'-5"
550S162-43	10'-1"	9'-1"	13'-7"	11'-7"	14'-5"	12'-2"
550S162-54	10'-9"	9'-8"	14'-10"	12'-10"	15'-11"	13'-6"
550S162-68	11'-7"	10'-4"	16'-4"	14'-0"	17'-5"	14'-11"
550S162-97	13'-4"	11'-10"	18'-5"	16'-2"	20'-1"	17'-1"
800S162-33	10'-7"	9'-6"	15'-1"	13'-0"	16'-2"	13'-7"
800S162-43	11'-4"	10'-2"	16'-5"	14'-6"	18'-2"	15'-9"
800S162-54	12'-0"	10'-9"	17'-4"	15'-6"	19'-6"	17'-0"
800S162-68	12'-10"	11'-6"	18'-5"	16'-6"	20'-10"	18'-3"
800S162-97	14'-7"	12'-11"	20'-5"	18'-3"	22'-11"	20'-5"
1000S162-43	12'-1"	10'-11"	17'-7"	15'-10"	19'-11"	17'-3"
1000S162-54	12'-10"	11'-6"	18'-7"	16'-9"	21'-2"	18'-10"
1000S162-68	13'-8"	12'-3"	19'-8"	17'-8"	22'-4"	20'-1"
1000S162-97	15'-4"	13'-8"	21'-8"	19'-5"	24'-5"	21'-11"
1200S162-43	12'-9"	11'-6"	18'-7"	16'-6"	20'-9"	18'-2"
1200S162-54	13'-6"	12'-2"	19'-7"	17'-8"	22'-5"	20'-2"
1200S162-68	14'-4"	12'-11"	20'-9"	18'-8"	23'-7"	21'-3"
1200S162-97	16'-1"	14'-4"	22'-10"	20'-6"	25'-9"	23'-2"

For SI: 1 inch = 25.4 mm, 1 foot = 0.305 m, 1 psf = 0.0479 kN/m^2

1 *Bearing stiffeners* are to be installed at all bearing and concentrated load locations.

2 Deflection criteria: L/240 for total loads

3 Ceiling dead load = 5 psf (0.24 kN/m^2)

Table F2-4
Ceiling Joist Spans
Two Equal Spans with Bearing Stiffeners
20 Lbs per Sq. Ft. Live Load (Limited Attic Storage) [1,2,3,4,5]
F_y = 33 ksi

Member Designation	Allowable Span (Feet-Inches)					
	Lateral Support of Top (Compression) Flange					
	Unbraced		Mid-Span Bracing		Third-Point Bracing	
	Ceiling Joist Spacing (inches)					
	16	24	16	24	16	24
350S162-33	10'-2"	8'-4"	10'-2"	8'-4"	10'-2"	8'-4"
350S162-43	12'-1"	9'-10"	12'-1"	9'-10"	12'-1"	9'-10"
350S162-54	13'-3"	11'-0"	13'-6"	11'-0"	13'-6"	11'-0"
350S162-68	14'-7"	12'-3"	15'-0"	12'-3"	15'-0"	12'-3"
350S162-97	17'-6"	14'-3"	17'-6"	14'-3"	17'-6"	14'-3"
550S162-33	12'-5"	10'-9"	13'-2"	10'-9"	13'-2"	10'-9"
550S162-43	13'-7"	12'-1"	15'-6"	12'-9"	15'-8"	12'-9"
550S162-54	14'-11"	13'-4"	16'-10"	14'-5"	17'-9"	14'-5"
550S162-68	16'-3"	14'-5"	18'-0"	16'-1"	20'-0"	16'-4"
550S162-97	19'-1"	16'-10"	20'-3"	18'-0"	23'-10"	19'-5"
800S162-33	14'-3"	12'-4"	16'-7"	12'-4"	16'-7"	12'-4"
800S162-43	15'-4"	13'-10"	17'-9"	16'-0"	21'-8"	17'-9"
800S162-54	16'-5"	14'-9"	18'-10"	16'-11"	22'-11"	20'-6"
800S162-68	17'-9"	15'-11"	20'-0"	18'-0"	24'-3"	21'-10"
800S162-97	20'-8"	18'-3"	22'-3"	19'-11"	26'-9"	24'-0"
1000S162-43	16'-5"	14'-9"	19'-0"	17'-2"	23'-3"	18'-11"
1000S162-54	17'-6"	15'-8"	20'-1"	18'-1"	24'-6"	22'-1"
1000S162-68	18'-10"	16'-10"	21'-4"	19'-2"	25'-11"	23'-4"
1000S162-97	21'-8"	19'-3"	23'-7"	21'-2"	28'-5"	25'-6"
1200S162-43	17'-3"	15'-7"	20'-1"	18'-2"	24'-6"	18'-3"
1200S162-54	18'-5"	16'-6"	21'-3"	19'-2"	25'-11"	23'-5"
1200S162-68	19'-9"	17'-8"	22'-6"	20'-3"	27'-4"	24'-8"
1200S162-97	22'-7"	20'-1"	24'-10"	22'-3"	29'-11"	26'-11"

For SI: 1 inch = 25.4 mm, 1 foot = 0.305 m, 1 psf = 0.0479 kN/m^2

1 Table provides the maximum *ceiling joist span* in feet and inches to either side of the interior support.
2 *Bearing stiffeners* are to be installed at all bearing and concentrated load locations.
3 Deflection criteria: L/240 for total loads
4 Ceiling dead load = 5 psf (0.24 kN/m^2)
5 Interior supports for *multiple span* joists consist of structural walls or beams. Interior supports are to be located within 2 feet (0.610 m) of mid *span* provided that each of the resulting *spans* does not exceed the maximum applicable *span* shown in the table above.

33 KSI

Table F2-5
Ceiling Joist Spans
Single Spans without Bearing Stiffeners
10 Lbs per Sq. Ft. Live Load (No Attic Storage) [1,2]
F_y = 33 ksi

Member Designation	Allowable Span (Feet-Inches)					
	Lateral Support of Top (Compression) Flange					
	Unbraced		Mid-Span Bracing		Third-Point Bracing	
	Ceiling Joist Spacing (inches)					
	16	24	16	24	16	24
350S162-33	9'-5"	8'-6"	12'-2"	10'-4"	12'-2"	10'-7"
350S162-43	10'-3"	9'-12	13'-2"	11'-6"	13'-2"	11'-6"
350S162-54	11'-1"	9'-11"	13'-9"	12'-0"	13'-9"	12'-0"
350S162-68	12'-1"	10'-9"	14'-8"	12'-10"	14'-8"	12'-10"
350S162-97	14'-4"	12'-7"	16'-10"	14'-3"	16'-4"	14'-3"
550S162-33	10'-7"	9'-6"	14'-10"	12'-10"	15'-11"	13'-4"
550S162-43	11'-8"	10'-6"	16'-4"	14'-3"	17'-10"	15'-3"
550S162-54	12'-6"	11'-2"	17'-7"	15'-7"	19'-5"	16'-10"
550S162-68	13'-6"	12'-1"	19'-2"	17'-0"	21'-0"	18'-4"
550S162-97	15'-9"	13'-11"	21'-8"	19'-3"	23'-5"	20'-5"
800S162-33	-	-	-	-	-	-
800S162-43	13'-0"	11'-9"	18'-10"	17'-0"	21'-6"	19'-0"
800S162-54	13'-10"	12'-5"	20'-0"	18'-0"	22'-9"	20'-4"
800S162-68	14'-11"	13'-4"	21'-3"	19'-1"	24'-1"	21'-8"
800S162-97	17'-1"	15'-2"	23'-10"	21'-3"	26'-7"	23'-10"
1000S162-43	-	-	-	-	-	-
1000S162-54	14'-9"	13'-3"	21'-4"	19'-3"	24'-4"	22'-0"
1000S162-68	15'-10"	14'-2"	22'-8"	20'-5"	25'-9"	23'-2"
1000S162-97	18'-0"	16'-0"	25'-3"	22'-7"	28'-3"	25'-4"
1200S162-43	-	-	-	-	-	-
1200S162-54	-	-	-	-	-	-
1200S162-68	16'-8"	14'-11"	23'-11"	21'-6"	27'-2"	24'-6"
1200S162-97	18'-9"	16'-9"	26'-6"	23'-8"	29'-9"	26'-9"

For SI: 1 inch = 25.4 mm, 1 foot = 0.305 m, 1 psf = 0.0479 kN/m^2

1 Ceiling dead load = 5 psf (0.24 kN/m^2)

2 Deflection criteria: L/240 for total loads

33
KSI

Table F2-6
Ceiling Joist Spans
Two Equal Spans without Bearing Stiffeners
10 Lbs per Sq. Ft. Live Load (No Attic Storage) [1,2,3,4,5]
F_y = 33 ksi

Member Designation	Allowable Span (Feet-Inches)					
	Lateral Support of Top (Compression) Flange					
	Unbraced		Mid-Span Bracing		Third-Point Bracing	
	Ceiling Joist Spacing (inches)					
	16	24	16	24	16	24
350S162-33	11'-9"	8'-11"	11'-9"	8'-11"	11'-9"	8'-11"
350S162-43	14'-2"	11'-7"	14'-11"	11'-7"	14'-11"	11'-7"
350S162-54	15'-6"	13'-10"	17'-1"	13'-10"	17'-7"	13'-10"
350S162-68	17'-3"	15'-3"	18'-6"	16'-1"	19'-8"	16'-1"
350S162-97	20'-10"	18'-4"	21'-5"	18'-9"	21'-11"	18'-9"
550S162-33	13'-4"	9'-11"	13'-4"	9'-11"	13'-4"	9'-11"
550S162-43	16'-0"	13'-6"	17'-9"	13'-6"	17'-9"	13'-6"
550S162-54	17'-4"	15'-6"	19'-5"	16'-10"	21'-9"	16'-10"
550S162-68	19'-1"	16'-11"	20'-10"	18'-8"	24'-11"	20'-6"
550S162-97	22'-8"	20'-0"	23'-9"	21'-1"	28'-2"	25'-1"
800S162-33	-	-	-	-	-	-
800S162-43	17'-9"	15'-7"	20'-6"	15'-7"	21'-0"	15'-7"
800S162-54	19'-1"	17'-1"	21'-8"	19'-6"	26'-4"	23'-10"
800S162-68	20'-9"	18'-6"	23'-1"	20'-9"	28'-0"	25'-2"
800S162-97	24'-5"	21'-6"	26'-0"	23'-2"	31'-1"	27'-9"
1000S162-43	-	-	-	-	-	-
1000S162-54	20'-3"	18'-2"	23'-2"	20'-10"	28'-2"	21'-2"
1000S162-68	21'-11"	19'-7"	24'-7"	22'-2"	29'-10"	26'-11"
1000S162-97	25'-7"	22'-7"	27'-6"	24'-6"	33'-0"	29'-7"
1200S162-43	-	-	-	-	-	-
1200S162-54	-	-	-	-	-	-
1200S162-68	23'-0"	20'-7"	25'-11"	23'-4"	31'-6"	28'-4"
1200S162-97	26'-7"	23'-6"	28'-9"	25'-10"	34'-8"	31'-1"

For SI: 1 inch = 25.4 mm, 1 foot = 0.305 m, 1 psf = 0.0479 kN/m^2

1 Table provides the maximum *ceiling joist span* in feet and inches to either side of the interior support.

2 Deflection criteria: L/240 for total loads

3 Ceiling dead load = 5 psf (0.24 kN/m^2)

4 Interior supports for *multiple span* joists consist of structural walls or beams. Interior supports are to be located within 2 feet (0.610 m) of mid *span* provided that each of the resulting *spans* does not exceed the maximum applicable *span* shown in the table above.

33 KSI

Table F2-7
Ceiling Joist Spans
Single Spans without Bearing Stiffeners
20 Lbs per Sq. Ft. Live Load (Limited Attic Storage) [1,2]
F_y = 33 ksi

Member Designation	Allowable Span (Feet-Inches)					
	Lateral Support of Top (Compression) Flange					
	Unbraced		Mid-Span Bracing		Third-Point Bracing	
	Ceiling Joist Spacing (inches)					
	16	24	16	24	16	24
350S162-33	8'-2"	6'-10"	9'-9"	6'-10"	9'-11"	6'-10"
350S162-43	8'-10"	7'-10"	11'-0"	9'-5"	11'-0"	9'-7"
350S162-54	9'-6"	8'-6"	11'-9"	10'-3"	11'-9"	10'-3"
350S162-68	10'-4"	9'-2"	12'-7"	11'-0"	12'-7"	11'-0"
350S162-97	12'-10"	10'-8"	13'-9"	12'-0"	13'-9"	12'-0"
550S162-33	9'-2"	8'-3"	12'-2"	8'-5"	12'-6"	8'-5"
550S162-43	10'-1"	9'-1"	13'-7"	11'-8"	14'-5"	12'-2"
550S162-54	10'-9"	9'-8"	14'-10"	12'-10"	15'-11"	13'-6"
550S162-68	11'-7"	10'-4"	16'-4"	14'-0"	17'-5"	14'-11"
550S162-97	13'-4"	11'-10"	18'-5"	16'-2"	20'-1"	17'-4"
800S162-33	-	-	-	-	-	-
800S162-43	11'-4"	10'-1"	16'-5"	13'-6"	18'-1"	13'-6"
800S162-54	12'-0"	10'-9"	17'-4"	15'-6"	19'-6"	17'-0"
800S162-68	12'-10"	11'-6"	18'-5"	16'-6"	20'-10"	18'-3"
800S162-97	14'-7"	12'-11"	20'-5"	18'-3"	22'-11"	20'-5"
1000S162-43	-	-	-	-	-	-
1000S162-54	12'-10"	11'-6"	18'-7"	16'-9"	21'-2"	15'-5"
1000S162-68	13'-8"	12'-3"	19'-8"	17'-8"	22'-4"	20'-1"
1000S162-97	15'-4"	13'-8"	21'-8"	19'-5"	24'-5"	21'-11"
1200S162-43	-	-	-	-	-	-
1200S162-54	-	-	-	-	-	-
1200S162-68	14'-4"	12'-11"	20'-9"	18'-8"	23'-7"	21'-3"
1200S162-97	16'-1"	14'-4"	22'-10"	20'-6"	25'-9"	23'-2"

For SI: 1 inch = 25.4 mm, 1 foot = 0.305 m, 1 psf = 0.0479 kN/m^2

1 Ceiling dead load = 5 psf (0.24 kN/m^2)

2 Deflection criteria: L/240 for total loads

33 KSI

Table F2-8
Ceiling Joist Spans
Two Equal Spans without Bearing Stiffeners
20 Lbs per Sq. Ft. Live Load (Limited Attic Storage) [1,2,3,4]
F_y = 33 ksi

Member Designation	Allowable Span (Feet-Inches)					
	Lateral Support of Top (Compression) Flange					
	Unbraced		Mid-Span Bracing		Third-Point Bracing	
	Ceiling Joist Spacing (inches)					
	16	24	16	24	16	24
350S162-33	8'-1"	6'-1"	8'-1"	6'-1"	8'-1"	6'-1"
350S162-43	10'-7"	8'-1"	10'-7"	8'-1"	10'-7"	8'-1"
350S162-54	12'-8"	9'-10"	12'-8"	9'-10"	12'-8"	9'-10"
350S162-68	14'-7"	11'-10"	14'-11"	11'-10"	14'-11"	11'-10"
350S162-97	17'-6"	14'-3"	17'-6"	14'-3"	17'-6"	14'-3"
550S162-33	8'-11"	6'-8"	8'-11"	6'-8"	8'-11"	6'-8"
550S162-43	12'-3"	9'-2"	12'-3"	9'-2"	12'-3"	9'-2"
550S162-54	14'-11"	11'-8"	15'-4"	11'-8"	15'-4"	11'-8"
550S162-68	16'-3"	14'-5"	18'-0"	15'-8"	18'-10"	14'-7"
550S162-97	19'-1"	16'-10"	20'-3"	18'-0"	23'-9"	19'-5"
800S162-33	-	-	-	-	-	-
800S162-43	13'-11"	9'-10"	13'-11"	9'-10"	13'-11"	9'-10"
800S162-54	16'-5"	13'-9"	18'-8"	13'-9"	18'-8"	13'-9"
800S162-68	17'-9"	15'-11"	20'-0"	18'-0"	24'-1"	18'-3"
800S162-97	20'-8"	18'-3"	22'-3"	19'-11"	26'-9"	24'-0"
1000S162-43	-	-	-	-	-	-
1000S162-54	17'-6"	13'-11"	19'-1"	13'-11"	19'-1"	13'-11"
1000S162-68	18'-10"	16'-10"	21'-4"	19'-2"	25'-11"	19'-7"
1000S162-97	21'-8"	19'-3"	23'-7"	21'-2"	28'-5"	25'-6"
1200S162-43	-	-	-	-	-	-
1200S162-54	-	-	-	-	-	-
1200S162-68	19'-9"	17'-8"	22'-6"	19'-8"	26'-8"	19'-8"
1200S162-97	22'-7"	20'-1"	24'-10"	22'-3"	29'-11"	26'-11"

For SI: 1 inch = 25.4 mm, 1 foot = 0.305 m, 1 psf = 0.0479 kN/m²

1 Table provides the maximum *ceiling joist span* in feet and inches to either side of the interior support.

2 Deflection criteria: L/240 for total loads.

3 Ceiling dead load = 5 psf (0.24 kN/m²)

4 Interior supports for *multiple span* joists consist of structural walls or beams. Interior supports are to be located within 2 feet (0.610 m) of mid *span* provided that each of the resulting *spans* does not exceed the maximum applicable *span* shown in the table above.

Table F2-9
Screws Required For Ceiling Joist to Roof Rafter Connections [1]

Roof Slope	Number of Screws																			
	Building Width (feet)																			
	24'				28'				32'				36'				40'			
	Ground Snow Load (psf)																			
	20	30	50	70	20	30	50	70	20	30	50	70	20	30	50	70	20	30	50	70
3/12	5	6	9	11	5	7	10	13	6	8	11	15	7	8	13	17	8	9	14	19
4/12	4	5	7	9	4	5	8	10	5	6	9	12	5	7	10	13	6	7	11	14
5/12	3	4	6	7	4	4	6	8	4	5	7	10	5	5	8	11	5	6	9	12
6/12	3	3	5	6	3	4	6	7	4	4	6	8	4	5	7	9	4	5	8	10
7/12	3	3	4	6	3	3	5	7	3	4	6	7	4	4	6	8	4	5	7	9
8/12	2	3	4	5	3	3	5	6	3	4	5	7	3	4	6	8	4	4	6	8
9/12	2	3	4	5	3	3	4	6	3	3	5	6	3	4	5	7	3	4	6	8
10/12	2	2	4	5	2	3	4	5	3	3	5	6	3	3	5	7	3	4	6	7
11/12	2	2	3	4	2	3	4	5	3	3	4	6	3	3	5	6	3	4	5	7
12/12	2	2	3	4	2	3	4	5	2	3	4	5	3	3	5	6	3	4	5	7

For SI: 1 foot = 0.305 m, 1 psf = 0.0479 kN/m^2

[1] Screws are minimum No.10.

Table F2-10
Roof Framing Fastening Schedule

Description of Building Elements	Number and Size of Fasteners	Number and Spacing of Fasteners
Ceiling joist to top *track* of structural wall [1]	2 - No.10 screws	Each joist
Roof sheathing (oriented strand board or plywood) to *roof rafter* or *truss*	No.8 screws	6" o.c. on edges and 12" o.c. at interior supports. (6" o.c. at gable end *truss*)
Gypsum board to *ceiling Joists*	No.6 screws	12" on center
Truss to top *track* of structural wall [1]	2 - No.10 screws	Each *truss*
Gable end *truss* to endwall top *track*	No.10 screws	12" o.c.
Roof rafter to *ceiling joist* and to *ridge* member	No.10 screws	See Tables F2-9 and F3-3

For SI: 1 inch = 25.4 mm, 1 foot = 0.305 m, 1 psf = 0.0479 kN/m^2

[1] Screws are to be applied through the *flanges* of the *truss* or *ceiling joist* or a 54 mil (1.37 mm) *clip angle* is to be used with 2 No.10 screws in each leg.

33
KSI

Table F3-1a
Roof Rafter Spans [1,2,3]
F_y = 33 ksi

Member Designation	Allowable Span Measured Horizontally (Feet-Inches)							
	Equivalent Ground Snow Load							
	20 psf		30 psf		50 psf		70 psf	
	Roof Rafter Spacing (in.)							
	16	24	16	24	16	24	16	24
550S162-33	14'-0"	11'-6"	11'-11"	9'-7"	9'-6"	7'-9"	8'-2"	6'-8"
550S162-43	16'-8"	13'-11"	14'-5"	11'-9"	11'-6"	9'-5"	9'-10	8'-0"
550S162-54	17'-11"	15'-7"	15'-7"	13'-3"	12'-11"	10'-7"	11'-1"	9'-1"
550S162-68	19'-2"	16'-9"	16'-9"	14'-7"	14'-1"	11'-10"	12'-6"	10'-2"
550S162-97	21'-3"	18'-6"	18'-6"	16'-2"	15'-8"	13'-8"	14'-0"	12'-2"
800S162-33	16'-5"	13'-5"	13'-11"	11'-4"	11'-1"	8'-2"	9'-0"	6'-0"
800S162-43	19'-9"	16'-1"	16'-8"	13'-7"	13'-4"	10'-10"	11'-5"	9'-4"
800S162-54	22'-8"	18'-6"	19'-2"	15'-8"	15'-4"	12'-6"	13'-1"	10'-8"
800S162-68	25'-10"	21'-2"	21'-11"	17'-10"	17'-6"	14'-4"	15'-0"	12'-3"
800S162-97	21'-3"	18'-6"	18'-6"	16'-2"	15'-8"	13'-8"	14'-0"	12'-2"
1000S162-43	22'-3"	18'-2"	18'-9"	15'-8"	15'-0"	12'-3"	12'-10"	10'-6"
1000S162-54	25'-8"	20'-11"	21'-8"	17'-9"	17'-4"	14'-2"	14'-10"	12'-1"
1000S162-68	29'-7"	24'-2"	25'-0"	20'-5"	20'-0"	16'-4"	17'-2"	14'-0"
1000S162-97	34'-8"	30'-4"	30'-4"	25'-10"	25'-3"	20'-8"	21'-8"	17'-8"
1200S162-54	28'-3"	23'-1"	23'-11"	19'-7"	19'-2"	15'-7"	16'-5"	13'-5"
1200S162-68	32'-10"	26'-10"	27'-9"	22'-8"	22'-2"	18'-1"	19'-0"	15'-6"
1200S162-97	40'-6"	33'-5"	34'-6"	28'-3"	27'-8"	22'-7"	23'-8"	19'-4"

For SI: 1 inch = 25.4 mm, 1 foot = 0.305 m, 1 psf = 0.0479 kN/m^2

1 Table provides maximum horizontal *roof rafter spans* in feet & inches for slopes between 3:12 & 12:12

2 Deflection criteria: L/240 for live loads and L/180 for total loads

3 Roof dead load = 12 psf (0.58 kN/m^2)

50 KSI

Table F3-1b
Roof Rafter Spans [1,2,3]
F_y = 50 ksi

Member Designation	Allowable Span Measured Horizontally (Feet-Inches)							
	Equivalent Ground Snow Load							
	20 psf		30 psf		50 psf		70 psf	
	Roof Rafter Spacing (in.)							
	16	24	16	24	16	24	16	24
550S162-33	15'-4"	12'-11"	13'-4"	10'-11"	10'-9"	8'-9"	9'-2"	7'-6"
550S162-43	16'-8"	14'-7"	14'-7"	12'-9"	12'-3"	10'-6"	11'-0"	9'-0"
550S162-54	17'-11"	15'-7"	15'-7"	13'-8"	13'-2"	11'-6"	11'-9"	10'-3"
550S162-68	19'-2"	16'-9"	16'-9"	14'-7"	14'-1"	12'-4"	12'-7"	11'-0"
550S162-97	21'-3"	18'-6"	18'-6"	16'-2"	15'-8"	13'-8"	14'-0"	12'-3"
800S162-33	18'-10"	15'-5"	15'-11"	12'-9"	12'-3"	8'-2"	9'-0"	6'-0"
800S162-43	22'-3"	18'-2"	18'-10"	15'-5"	15'-1"	12'-3"	12'-11"	10'-6"
800S162-54	24'-2"	21'-1"	21'-1"	18'-5"	17'-10"	14'-8"	15'-5"	12'-7"
800S162-68	25'-11"	22'-8"	22'-8"	19'-9"	19'-1"	16'-8"	17'-1"	14'-9"
800S162-97	28'-10	25'-2"	25'-2"	22'-0"	21'-2"	18'-6"	19'-0"	16'-7"
1000S162-43	25'-2"	20'-7"	21'-4"	17'-5"	17'-0"	13'-11"	14'-7"	10'-7"
1000S162-54	29'-0"	24'-6"	25'-4"	20'-9"	20'-3"	16'-7"	17'-5"	14'-2"
1000S162-68	31'-2"	27'-3"	27'-3"	23'-9"	23'-0"	19'-6"	20'-6"	16'-8"
1000S162-97	34'-8"	30'-4"	30'-4"	26'-5"	25'-7"	22'-4"	22'-10"	20'-0"
1200S162-54	33'-2"	27'-1"	28'-1"	22'-11"	22'-5"	18'-4"	19'-3"	15'-8"
1200S162-68	36'-4"	31'-9"	31'-9"	27'-0"	26'-5"	21'-6"	22'-6"	18'-6"
1200S162-97	40'-6"	35'-4"	35'-4"	30'-11"	29'-10"	26'-1"	26'-8"	23'-1"

For SI: 1 inch = 25.4 mm, 1 foot = 0.305 m, 1 psf = 0.0479 kN/m^2

[1] Table provides maximum horizontal *roof rafter spans* in feet & inches for slopes between 3:12 & 12:12

[2] Deflection criteria: L/240 for live loads and L/180 for total loads

[3] Roof dead load = 12 psf (0.58 kN/m^2)

Table F3-2
Conversion of Basic Wind Speed to Equivalent Snow Load [1,2]

Basic Wind Speed And Exposure		Equivalent Ground Snow Load (psf)									
		Roof Slope									
Exposure	Wind Speed	3:12	4:12	5:12	6:12	7:12	8:12	9:12	10:12	11:12	12:12
B	85 mph	20	20	20	20	20	20	30	30	30	30
	90 mph	20	20	20	20	30	30	30	30	30	50
	100 mph	20	20	20	20	30	30	30	30	50	50
	110 mph	20	20	20	20	30	50	50	50	50	50
	120 mph	30	30	30	50	50	50	70	70	70	-
	130 mph	30	50	50	50	70	70	70	-	-	-
	140 mph	50	50	50	70	70	70	-	-	-	-
	150 mph	50	50	70	70	70	-	-	-	-	-
C	85 mph	20	20	20	20	30	30	30	30	50	50
	90 mph	20	20	20	20	30	30	30	50	50	50
	100 mph	20	20	20	20	30	50	50	50	50	50
	110 mph	30	30	30	50	50	50	70	70	70	-
	120 mph	30	50	50	50	70	70	70	-	-	-
	130 mph	50	50	50	70	70	-	-	-	-	-
	140 mph	50	50	70	70	-	-	-	-	-	-
	150 mph	50	70	70	-	-	-	-	-	-	-

For SI: 1 mph = 1.61 km/hr, 1 psf = 0.0479 kN/m^2

[1] In areas where the *basic wind speed* equals or exceeds 90 mph (144.8 km/h) the equivalent snow load is to be used only to determine the size of members.

[2] Connections of *roof rafters* to the *ridge* and the roof members to walls are to comply with Section F3.4 and Section F7.

Table F3-3
Screws Required at Each Leg of Clip Angle
For Hip Rafter to Hip Member or Roof Rafter to Ridge Member Connection [1]

Building Width (feet)	Number of Screws			
	Ground Snow Load (psf)			
	0 to 20	21 to 30	31 to 50	51 to 70
24	2	2	3	4
28	2	3	4	5
32	2	3	4	5
36	3	3	5	6
40	3	4	5	7

For SI: 1 foot = 0.305 m, 1 psf = 0.0479 kN/m^2

[1] Screws are minimum No.10.

33 KSI

Table F4-1
Hip Member Sizes
F_y = 33 ksi

Building Width (feet)	Hip Member Designation [1]			
	Equivalent Ground Snow Load (psf)			
	0 to 20	21 to 30	31 to 50	51 to 70
24	800S162-68 800T150-68	800S162-68 800T150-68	800S162-97 800T150-97	1000S162-97 1000T150-97
28	1000S162-68 1000T150-68	1000S162-68 1000T150-68	1000S162-97 1000T150-97	1200S162-97 1200T150-97
32	1000S162-97 1000T150-97	1000S162-97 1000T150-97	1200S162-97 1200T150-97	-
36	1200S162-97 1200T150-97	-	-	-
40	-	-	-	-

For SI: 1 foot = 0.305 m, 1 psf = 0.0479 kN/m^2

[1] It is generally desirable that the *web* depth of the *roof rafters* and jack rafters match the hip member selected.

Table F4-2
Hip Support Column Sizes

Building Width (feet)	Hip Support Column Designation [1, 2]			
	Equivalent Ground Snow Load (psf)			
	0 to 20	21 to 30	31 to 50	51 to 70
24	2-350S162-33	2-350S162-33	2-350S162-43	2-350S162-54
28	2-350S162-54	2-550S162-54	2-550S162-68	2-550S162-68
32	2-550S162-68	2-550S162-68	2-550S162-97	-
36	2-550S162-97	-	-	-
40	-	-	-	-

For SI: 1 foot = 0.305 m, 1 psf = 0.0479 kN/m^2

[1] Box shape column only. Refer to Figure F4-2.

[2] F_y = 33 ksi for 33 and 43 mil material and F_y = 50 ksi for thicker material.

Table F4-3
Uplift Strap Connection Requirements
Hip Support Column at Ceiling Line

Basic Wind Speed (mph)										
Exposure B	85	90	100	110	120	130	140	150		
Exposure C			85	90	100	110	120	130	140	150
Building Width (feet)	Number of No.10 Screws in Each End of Each 3" x 54-mil Steel Strap [1, 2, 3]									
24	3	3	4	4	6	7	8	10	12	14
28	4	4	6	6	8	10	12	14	16	19
32	5	6	8	8	11	13	16	18	22	25
36	7	8	10	11	14	17	20	24	27	-
40	-	-	-	-	-	-	-	-	-	-

For SI: 1 foot = 0.305 m, 1 psf = 0.0479 kN/m^2

1 Two straps are required, one on each side of the column.

2 Space screws at ¾" on center and provide a minimum of ¾" end distance.

3 F_y = 50 ksi for the strap.

Table F4-4
Connection Requirements
Hip Member to Hip Support Column

Building Width (feet)	Number of No.10 Screws in Each Framing Angle [1, 2, 3]			
	Equivalent Ground Snow Load (psf)			
	0 to 20	21 to 30	31 to 50	51 to 70
24	10	10	10	12
28	10	10	14	18
32	10	12		-
36	14	-	-	-
40	-	-	-	-

For SI: 1 foot = 0.305 m, 1 psf = 0.0479 kN/m^2

1 Screws are to be divided equally between the connection to the hip member and the column. Refer to Figures F4-3 and F4-4.

2 The number of screws required in each framing angle is not to be less than shown in Table F4-3.

3 F_y = 50 ksi for the framing angle.

Table F4-5
Uplift Strap Connection Requirements
Hip Member to Wall

Basic Wind Speed (mph)										
Exposure B	85	90	100	110	120	130	140	150		
Exposure C			85	90	100	110	120	130	140	150
Building Width (feet)	Number of No.10 Screws in Each End of 1-1/2" x 54-mil Steel Strap [1, 2, 3, 4]									
24	2	2	2	3	3	4	5	6	7	8
28	2	3	3	3	4	5	6	8	9	10
32	3	4	4	4	6	7	8	10	11	13
36	3	5	5	5	7	8	10	12	14	17
40	-	-	-	-	-	-	-	-	-	-

For SI: 1 foot = 0.305 m, 1 psf = 0.0479 kN/m^2

[1] Connections in the unshaded area require a single strap located on either side of the hip member.
[2] Connections in the shaded area require two straps with half the number of screws shown in each end of the strap.
[3] Space screws at ¾" on center and provide a minimum of ¾" end distance.
[4] F_y = 50 ksi for the strap.

Table F7-1
Required Lengths for Ceiling Diaphragms at Gable Endwalls
Gypsum Board Sheathed
Ceiling Height = 8 ft [1,2,3,4,5,6]

		Basic Wind Speed (mph)									
Exposure B		85	90	100	110	120	130	140	150		
Exposure C				85	90	100	110	120	130	140	150
Roof Pitch	Building Endwall Width (ft)	Minimum Diaphragm Length (ft)									
3:12 to 6:12	24 - 28	14	16	20	22	28	32	38	44	50	58
	28 - 32	16	18	22	28	32	38	44	52	60	70
	32 - 36	20	22	26	32	38	44	52	62	70	80
	36 - 40	22	24	30	36	44	50	60	70	82	94
6:12 to 9:12	24 - 28	16	18	22	26	32	36	44	50	58	66
	28 - 32	20	22	26	32	38	44	52	60	70	80
	32 - 36	22	26	32	38	44	52	62	72	84	96
	36 - 40	26	30	36	44	52	60	72	84	96	110
9:12 to 12:12	24 - 28	18	20	26	30	36	42	48	58	66	76
	28 - 32	22	24	30	36	42	50	60	70	80	92
	32 - 36	26	28	36	42	50	60	70	82	96	110
	36 - 40	30	34	42	50	60	70	82	96	112	128

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m2, 1 mph = 1.61 km/hr, 1 foot = 0.305 m

1 Ceiling *diaphragm* is composed of 1/2" gypsum board (min. thickness) secured with screws spaced at 6" o.c. at panel edges and 12" o.c. in field. Use No. 8 screws (min.) when framing members have a *designation thickness* of 54 mils or less and No. 10 screws (min.) when framing members have a *designation thickness* greater than 54 mils.

2 Maximum aspect ratio (length/width) of *diaphragms* is 2:1.

3 Building width is in the direction of horizontal framing members supported by the wall *studs*.

4 Required *diaphragm* lengths are to be provided at each end of the structure.

5 Required *diaphragm* lengths are permitted to be multiplied by 0.35 if all panel edges are blocked.

6 Required *diaphragm* lengths are permitted to be multiplied by 0.9 if all panel edges are secured with screws spaced at 4" o.c.

Table F7-2
Required Lengths for Ceiling Diaphragms at Gable Endwalls
Gypsum Board Sheathed
Ceiling Height = 9 or 10 ft [1,2,3,4,5,6]

		Basic Wind Speed (mph)									
Exposure B		85	90	100	110	120	130	140	150		
Exposure C				85	90	100	110	120	130	140	150
Roof Pitch	Building Endwall Width (ft)	Minimum Diaphragm Length (ft)									
3:12 to 6:12	24 - 28	16	18	22	26	32	38	44	52	60	68
	28 - 32	20	22	26	32	38	44	52	60	70	80
	32 - 36	22	24	30	36	44	50	60	70	82	94
	36 - 40	26	28	36	42	50	58	70	82	94	108
6:12 to 9:12	24 - 28	18	20	26	30	36	42	50	58	68	76
	28 - 32	22	24	30	36	42	50	60	70	80	92
	32 - 36	26	28	36	42	50	58	70	82	94	108
	36 - 40	30	32	42	48	58	68	80	94	110	126
9:12 to 12:12	24 - 28	20	22	28	34	40	46	56	64	74	86
	28 - 32	24	28	34	40	48	56	66	78	90	104
	32 - 36	28	32	40	48	56	66	78	92	106	122
	36 - 40	34	38	46	56	66	78	92	106	124	142

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m2, 1 mph = 1.61 km/hr, 1 foot = 0.305 m

1 Ceiling *diaphragm* is composed of 1/2" gypsum board (min. thickness) secured with screws spaced at 6" o.c. at panel edges and 12" o.c. in field. Use No. 8 screws (min.) when framing members have a *designation thickness* of 54 mils or less and No. 10 screws (min.) when framing members have a *designation thickness* greater than 54 mils.

2 Maximum aspect ratio (length/width) of *diaphragms* is 2:1.

3 Building width is in the direction of horizontal framing members supported by the wall *studs*.

4 Required *diaphragm* lengths are to be provided at each end of the structure.

5 Required *diaphragm* lengths are permitted to be multiplied by 0.35 if all panel edges are blocked.

6 Required *diaphragm* lengths are permitted to be multiplied by 0.9 if all panel edges are secured with screws spaced at 4" o.c.

Table F7-3
Required Lengths for Ceiling Diaphragms at Gable Endwalls
Wood Structural Panel Sheathed
Ceiling Height = 8 ft [1,2,3,4]

		Basic Wind Speed (mph)									
Exposure B		85	90	100	110	120	130	140	150		
Exposure C				85	90	100	110	120	130	140	150
Roof Pitch	Building Endwall Width (ft)	Minimum Diaphragm Length (ft)									
3:12 to 6:12	24 - 28	10	10	10	10	10	10	10	10	10	10
	28 - 32	12	12	12	12	12	12	12	12	12	12
	32 - 36	12	12	12	12	12	12	12	12	12	12
	36 - 40	14	14	14	14	14	14	14	14	14	14
6:12 to 9:12	24 - 28	10	10	10	10	10	10	10	10	10	10
	28 - 32	12	12	12	12	12	12	12	12	12	12
	32 - 36	12	12	12	12	12	12	12	12	14	14
	36 - 40	14	14	14	14	14	14	14	14	16	16
9:12 to 12:12	24 - 28	10	10	10	10	10	10	10	10	10	12
	28 - 32	12	12	12	12	12	12	12	12	12	14
	32 - 36	12	12	12	12	12	12	12	14	16	18
	36 - 40	14	14	14	14	14	14	14	16	18	20

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m2, 1 mph = 1.61 km/hr, 1 foot = 0.305 m

1 Ceiling *diaphragm* is composed of 3/8" wood structural panel sheathing (min. thickness) secured with screws spaced at 6" o.c. at panel edges and in field. Use No. 8 screws (min.) when framing members have a *designation thickness* of 54 mils or less and No. 10 screws (min.) when framing members have a *designation thickness* greater than 54 mils.

2 Maximum aspect ratio (length/width) of *diaphragms* is 3:1.

3 Building width is in the direction of horizontal framing members supported by the wall *studs*.

4 Required *diaphragm* lengths are to be provided at each end of the structure.

Table F7-4
Required Lengths for Ceiling Diaphragms at Gable Endwalls
Wood Structural Panel Sheathed
Ceiling Height = 9 or 10 ft [1,2,3,4]

		Basic Wind Speed (mph)									
Exposure B		85	90	100	110	120	130	140	150		
Exposure C				85	90	100	110	120	130	140	150
Roof Pitch	Building Endwall Width (ft)	Minimum Diaphragm Length (ft)									
3:12 to 6:12	24 - 28	10	10	10	10	10	10	10	10	10	12
	28 - 32	12	12	12	12	12	12	12	12	12	12
	32 - 36	12	12	12	12	12	12	12	12	14	14
	36 - 40	14	14	14	14	14	14	14	14	14	16
6:12 to 9:12	24 - 28	10	10	10	10	10	10	10	10	10	12
	28 - 32	12	12	12	12	12	12	12	12	12	14
	32 - 36	12	12	12	12	12	12	12	12	14	16
	36 - 40	14	14	14	14	14	14	14	14	18	20
9:12 to 12:12	24 - 28	10	10	10	10	10	10	10	10	12	14
	28 - 32	12	12	12	12	12	12	12	12	14	16
	32 - 36	12	12	12	12	12	12	12	14	16	20
	36 - 40	14	14	14	14	14	14	14	16	20	22

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kN/m2, 1 mph = 1.61 km/hr, 1 foot = 0.305 m

[1] Ceiling *diaphragm* is composed of 3/8" wood structural panel sheathing (min. thickness) secured with screws spaced at 6" o.c. at panel edges and in field. Use No. 8 screws (min.) when framing members have a *designation thickness* of 54 mils or less and No. 10 screws (min.) when framing members have a *designation thickness* greater than 54 mils.

[2] Maximum aspect ratio (length/width) of *diaphragms* is 3:1.

[3] Building width is in the direction of horizontal framing members supported by the wall *studs*.

[4] Required *diaphragm* lengths are to be provided at each end of the structure.

Table F8-1
Required Uplift Strength
Roof Rafter or Roof Truss to Wall

		Basic Wind Speed (mph)				
EXPOSURE B		130	140	150		
EXPOSURE C		110	120	130	140	150
Framing Spacing [4] (in.)	Roof Span (ft)	Required Connection Strength [1,2,3] (lbs)				
12	24	229	299	374	458	547
	28	259	340	428	522	624
	32	289	380	479	586	701
	36	319	423	532	651	778
	40	353	463	583	715	855
16	24	305	398	497	609	728
	28	344	452	569	695	830
	32	384	505	637	780	932
	36	424	563	708	865	1034
	40	469	616	775	951	1136
19.2	24	366	478	598	733	875
	28	414	544	685	836	998
	32	462	608	766	938	1121
	36	510	677	851	1041	1244
	40	565	741	933	1144	1367
24	24	458	598	748	916	1094
	28	518	680	856	1045	1248
	32	578	760	958	1173	1402
	36	638	846	1064	1301	1555
	40	706	926	1166	1430	1709

For SI: 1 inch = 25.4 mm, 1 foot = 0.305 m, 1 lb = 4.45 N, 1 mph = 1.61 km/hr

1 Uplift requirements assume a roof/ceiling dead load of 12 psf (0.58 kN/m^2).

2 Required strengths are permitted to be multiplied by 0.70 for framing not located within 8 feet (2.44 m) of building corners.

3 Required strengths are permitted to be divided by 1.3 when comparing requirements with published strengths expressed as allowable loads.

4 The 12 inch (305 mm) and 19.2 inch (488 mm) framing spacing provide options for design, but do not negate the in-line framing requirement of Section E.

Table F8-2
Uplift Strap Connection Requirements
Roof Rafter or Roof Truss to Wall

		Basic Wind Speed (mph)				
Exposure B		130	140	150		
Exposure C		110	120	130	140	150
Framing Spacing[1] (in.)	Roof Span (ft)	Number of No.8 Screws in Each End of Steel Uplift Strap				
12	24	2	2	3	3	4
	28	2	3	3	4	4
	32	2	3	3	4	5
	36	2	3	4	4	5
	40	3	3	4	5	6
16	24	2	3	4	4	5
	28	3	3	4	5	6
	32	3	4	4	5	6
	36	3	4	5	6	7
	40	3	4	5	6	7
19.2	24	3	3	4	5	6
	28	3	4	5	6	7
	32	3	4	5	6	7
	36	4	5	6	7	8
	40	4	5	6	7	9
24	24	3	4	5	6	7
	28	4	5	6	7	8
	32	4	5	6	8	9
	36	4	6	7	8	10
	40	5	6	8	9	11

For SI: 1 inch = 25.4 mm, 1 foot = 0.305 m, 1 mph = 1.61 km/hr

[1] The 12 inch (305 mm) and 19.2 inch (488 mm) framing spacing provide options for design, but do not negate the *in-line framing* requirement of Section E.

Table F8-3
Ridge Tension Strap Connection Requirements Per Foot of Ridge Span [3]

		Basic Wind Speed (mph)					Basic Wind Speed (mph)				
EXPOSURE B		130	140	150			130	140	150		
EXPOSURE C		110	120	130	140	150	110	120	130	140	140
Roof Pitch	Roof Span (ft)	Number of No.8 Screws in Each End of a Steel Ridge Strap [2]					Required Ridge Connection Strength [1] (plf)				
3:12	24	4	5	6	7	8	614	759	916	106	122
	28	5	6	7	8	9	709	877	106	122	141
	32	5	7	8	9	10	823	101	122	142	163
	36	6	7	9	10	12	927	114	138	160	183
	40	7	8	10	11	13	103	127	153	178	204
4:12	24	3	4	5	6	6	489	606	727	843	968
	28	4	5	6	6	7	567	703	844	979	112
	32	4	5	6	7	8	653	806	972	112	129
	36	5	6	7	8	9	736	908	109	127	145
	40	5	7	8	9	10	818	100	121	141	162
5:12	24	3	3	4	5	5	383	474	570	661	759
	28	3	4	5	5	6	445	551	663	769	883
	32	4	4	5	6	7	511	633	761	883	101
	36	4	5	6	7	7	575	711	858	995	114
	40	4	5	6	7	8	640	793	953	110	126
6:12	24	3	3	4	4	5	339	420	505	586	672
	28	3	3	4	5	5	394	488	587	681	782
	32	3	4	5	5	6	452	560	673	781	896
	36	4	4	5	6	7	509	631	758	879	100
	40	4	5	6	6	7	565	700	841	975	112
7:12	24	2	3	3	4	4	310	384	462	536	615
	28	3	3	4	4	5	361	447	538	624	716
	32	3	4	4	5	5	414	513	616	714	820
	36	3	4	5	5	6	466	577	694	805	924
	40	4	4	5	6	7	518	642	771	894	102
8:12-12:12	24	2	3	3	4	4	291	360	434	503	578
	28	3	3	4	4	5	339	420	505	586	672
	32	3	3	4	5	5	389	482	579	672	771
	36	3	4	4	5	6	437	541	651	755	867
	40	3	4	5	6	6	486	602	724	840	964

Table F8-4

Framing Spacing	12 in.	16 in.	19.2 in.	24 in.
Multiplier	1.00	1.33	1.60	2.00

For SI: 1 inch = 25.4 mm, 1 foot = 0.305 m, 1 lb = 4.45 N, 1 mph = 1.61 km/hr

[1] Connection requirements are based on a roof assembly dead load of 7 psf (0.34 kN/m^2).

[2] Connection strengths shown in Table F8-3 are based on a 12 inch (305 mm) *ridge strap* spacing. For spacing greater than 12 inches (305 mm), strength values are to be increased using the multipliers in Table F8-4.

[3] The required number of screws shown in Table F8-3 are based on a 12 inch (305 mm) *strap* spacing. For spacing other than 12 inches (305 mm), the appropriate connection strength in the table is to be increased using the multipliers in Table F8-4 and dividing by the screw shear value of 165 lb/screw. Screw substitutions factors from Table B1-1 can be used for screws larger than No.8.

Table F8-5
Minimum Size of Steel Uplift Strap or Ridge Strap

Strap Width (in.)	Minimum Thickness of Strap (mils)									
	Required Number of Screws [1]									
	4 OR LESS	5	6	7	8	9	10	11	12	13
1.25	33	43	54	54	68	68	97	97	97	97
1.50	33	43	43	54	54	68	68	97	97	97
1.75	33	33	33	43	54	54	54	68	68	97
2.00	33	33	33	43	43	54	54	68	68	68

For SI: 1 inch = 25.4 mm

[1] Required number of screws per Table F8-2 or F8-3 in each end of the steel uplift *strap* or *ridge strap*.