

PRESCRIPTIVE DESIGN

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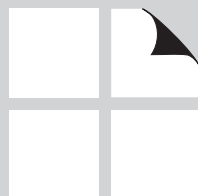


Table 3 Prescriptive Design Limitations

	Attribute	Limitation	Reference Section	Figures
BUILDING DIMENSIONS				
Building	Mean Roof Height (MRH)	33'	2.1.3.1	1.2
	Number of Stories	3	1.1.3.1a	-
	Building Length and Width	80'	1.1.3.1b	-
FLOOR SYSTEMS				
Lumber Joists	Joist Span	26'	3.1.3.2a	-
	Joist Spacing	24" o.c.	3.1.3.2b	-
	Cantilevers - Supporting loadbearing walls ¹	d	3.1.3.2c	2.1a
	Setbacks - Loadbearing walls ¹	d	3.1.3.2d	2.1d
Floor Diaphragm	Vertical Floor Offset	d _f	3.1.3.2e	2.1i
	Floor Diaphragm Aspect Ratio	Tables 3.16B and 3.16C	3.1.3.2f	-
	Floor Diaphragm Openings	Lesser of 12' or 50% of Building Dimension	3.1.3.2g	2.1k
WALL SYSTEMS				
Wall Studs	Loadbearing Wall Height	10'	3.1.3.3a	-
	Non-Loadbearing Wall Height	20'	3.1.3.3a	-
	Wall Stud Spacing	24" o.c.	3.1.3.3b	-
Shear Walls	Shear Wall Line Offset ¹	4'	3.1.3.3c	2.1ℓ, 3.1b
	Shear Wall Story Offset ¹	No offset unless per Exception	3.1.3.3d	
	Shear Wall Segment Aspect Ratio	Table 3.17D	3.1.3.3e	
ROOF SYSTEMS				
Lumber Rafters	Rafter Span (Horizontal Projection) ²	26'	3.1.3.4a	-
	Rafter Spacing	24" o.c.	3.1.3.4b	-
	Eave Overhang Length ¹	Lesser of 2' or rafter span/3	3.1.3.4c	2.1f
	Roof Slope	1.5:12 - 12:12	3.1.3.4d	-
Rakes	Rake Overhang Length ¹	Lesser of 2' or outlooker length/2	3.1.3.4c	2.1g
Roof Diaphragms	Roof Diaphragm Aspect Ratio ¹	Tables 3.16A and 3.16C	3.1.3.4e	-

¹ See exceptions.² For roof snow loads, tabulated spans are limited to 20 ft.

3.1 General Provisions

3.1.1 Prescriptive Requirements

The provisions in Chapter 3 establish a specific set of resistance requirements for buildings meeting the scope of this document (see 1.1). Tabular wind requirements are provided for buildings sited in exposure categories B and C.

3.1.2 Equivalent Materials and Systems

The provisions of this Chapter are not intended to preclude the use of other methods or materials of construction. When alternative methods or materials are used, design loads and capacities shall be determined from the provisions of Chapter 2.

3.1.3 Prescriptive Design Limitations

Wood frame buildings built in accordance with Chapter 3 of this document shall be limited to the conditions of this section (see Table 3). Conditions not complying with Chapter 3 of this document shall be designed in accordance with accepted engineering practice in accordance with Chapter 2.

3.1.3.1 Wind Exposure and Mean Roof Height

Tabulated wind requirements in Chapter 3 are provided for exposure categories B and C at a mean roof height of up to 33 feet. The building shall neither exceed three stories nor a mean roof height of 33 feet, measured from average grade to average roof elevation (see Figure 3.1a). Habitable attics shall be considered an additional floor for purposes of determining gravity and seismic loads.

3.1.3.2 Floor Systems

a. Framing Member Spans Single spans of floor framing members shall not exceed 26 feet for lumber joists.

b. Framing Member Spacings Floor framing member spacings shall not exceed 24 inches on center for lumber joists, I-joists, and floor trusses.

c. Cantilevers Lumber floor joist cantilevers supporting loadbearing walls shall not exceed the depth, d , of the joists (see Figure 2.1a). Lumber floor joist cantilevers supporting non-loadbearing walls shall be limited to $L/4$ (see Figure 2.1b). Lumber joists shall be located directly over studs when used in cantilever conditions.

EXCEPTION: For roof live loads and ground snow loads less than or equal to 20 psf and 30 psf, respectively, lumber floor joist cantilevers supporting load-bearing walls shall not exceed one-eighth of the backspan when supporting only a roof load where the roof clear span does not exceed 28 feet.

d. Setbacks Setbacks of loadbearing walls on lumber floor joist systems shall not exceed the depth, d , of the joists (see Figure 2.1d). Lumber floor joists shall be located directly over studs when used in setback conditions supporting loadbearing walls.

e. Vertical Floor Offsets Vertical floor offsets shall be limited to the floor depth, d_f , (including floor framing members and floor sheathing), and the floor framing members on each side of the offset shall be lapped or tied together to provide a direct tension tie across the offset, and to transfer diaphragm shear in both orthogonal directions (see Figure 2.1i).

f. Diaphragm Aspect Ratio Floor diaphragm lengths shall be in accordance with Tables 3.16B and 3.16C.

g. Diaphragm Openings Floor diaphragm openings shall not exceed the lesser of 12 feet or 50% of the building dimension (see Figure 2.1k).

3.1.3.3 Wall Systems

a. Wall Heights Loadbearing walls shall not exceed 10 feet in height. Non-loadbearing walls shall not exceed 20 feet in height.

b. Wall Stud Spacings Wall stud spacings shall not exceed 24 inches on center.

c. Shear Wall Line Offsets Offsets in a shear wall line within a story shall not exceed 4 feet (see Figure 2.1ℓ).

EXCEPTION: Where shear wall line offsets exceed these limits, the structure shall be designed as separate structures attached in the plane of the offset. Shear wall length for the shared wall shall be the sum of the lengths required for the shared wall of each attached structure. For the purpose of determining wind loads, the structure shall be permitted to be considered as a rectangular structure with perimeter dimensions which inscribe the total structure (see Figure 3.1b). Distribution of shear loads into shear wall lines shall be proportional to the diaphragm area tributary to each shear wall line or by other accepted engineering practice.

d. Shear Wall Story Offsets Upper story shear wall segments shall not be offset in-plane or out-of-plane from lower story shear wall segments.

EXCEPTION: Shear wall segments shall be permitted to be offset out-of-plane (see Figure 3.1c) from the story below by a maximum distance equal to the depth, d , of the floor joists where all of the following conditions are met:

1. Upper and lower story shear wall segments are attached to the floor diaphragm through wall plate to blocking connections and wall plate to band joist connections in accordance with Table 3.1.
2. Floor diaphragm wood structural panel sheathing is nailed to blocking and band joists at 6 inches on center in accordance with the edge nail spacing requirements of Table 3.1.
3. Allowable unit shear capacity for the shear wall above does not exceed 436 plf for wind or 239 plf for seismic in accordance with Table 3.17D.
4. Floor joists supporting the shear wall are nominal 2x8 or larger, tripled at ends of shear walls, and provide support for loads from roof and ceiling only.
5. Continuous load path is provided for uplift in accordance with 3.2.2 and overturning in accordance with Section 3.2.4.

e. Shear Wall Aspect Ratio Shear wall aspect ratios

shall not exceed the limits in Table 3.17D.

f. Shear Wall Orientation Shear wall lines shall be oriented to resist loads in two orthogonal directions.

g. Load Transfer Band joists, blocking, or other methods to transfer roof, wall, and/or floor loads from upper stories shall be installed between floor framing members for 2 and 3 story structures (see Figures 3.4d and 3.5a).

3.1.3.4 Roof Systems

a. Framing Spans Single spans (horizontal projection) of roof framing members shall not exceed 26 feet for lumber rafters. The total roof span shall not exceed 36 feet.

b. Framing Spacings Roof framing member spacings shall not exceed 24 inches on center for lumber rafters, I-joists, and roof trusses.

c. Overhang Lengths Rafter overhang lengths shall not exceed one-third of the rafter span or 2 feet, whichever is less (see Figure 2.1f). Rake overhangs shall not exceed the lesser of one-half of the outlooker length or 2 feet (see Figure 2.1g).

EXCEPTION: Rake overhangs using lookout blocks shall not exceed 9 inches (see Figure 2.1h).

d. Slope Roof slope shall not exceed 12:12.

e. Diaphragm Aspect Ratio Roof diaphragm lengths shall be in accordance with Tables 3.16A and 3.16C.

3.1.4 Interpolation

Tabulated values in this Chapter shall be permitted to be interpolated unless otherwise noted in the applicable table footnotes.

3.2 Connections

3.2.1 Lateral Framing and Shear Connections

3.2.1.1 Roof Assembly

Roof framing connections shall be in accordance with the requirements of Table 3.1.

3.2.1.2 Roof Assembly to Wall Assembly

Lateral framing and shear connections for rafter, ceiling joist, or truss to top plate shall be in accordance with the requirements of Table 3.4. Prescriptive solutions are provided for lateral framing and shear connections in Table 3.4A.

3.2.1.3 Wall Assembly

Lateral framing connections for top and bottom plate to wall stud shall be in accordance with the requirements of Table 3.5. Prescriptive solutions are provided for lateral framing connections in 3.5A. Other wall assembly lateral framing and shear connections shall be in accordance with the requirements of Table 3.1.

3.2.1.4 Wall Assembly to Floor Assembly

Lateral framing and shear connections for bottom plate to floor assembly shall be in accordance with the requirements of Table 3.1.

3.2.1.5 Floor Assembly

Floor framing connections shall be in accordance with

the requirements of Table 3.1.

3.2.1.6 Floor Assembly to Wall Assembly or Sill Plate

Lateral framing and shear connections for floor assembly to sill, top plate, or girder shall be in accordance with the requirements of Table 3.1.

3.2.1.7 Wall Assembly or Sill Plate to Foundation

Sill plates or wall bottom plates shall be anchored to the foundation system to resist lateral and shear loads from wind in accordance with the requirements of Table 3.2. Prescriptive solutions are provided for sill plate to foundation in Table 3.2A, and for bottom plate to foundation in Table 3.2B. Sill plates or wall bottom plates shall be anchored to the foundation system to resist seismic shear loads in accordance with the requirements of Table 3.3. Prescriptive solutions are provided for sill or bottom plate to foundation in Table 3.3A. A minimum of one anchor bolt shall be provided within 6 to 12 inches of each end of each plate. Anchor bolts shall have a minimum embedment of 7 inches in concrete foundations and slabs-on-grade or 7 inches in masonry block foundations when resisting lateral and shear loads only (see Figures 3.2a-c). Anchor bolts shall be located within 12 inches of corners and at spacings specified in Tables 3.2A-B or Table 3.3A, but not exceeding 6 feet on center. Sill plates or bottom plates shall have full bearing on the foundation system.

3.2.2 Uplift Connections

3.2.2.1 Roof Assembly to Wall Assembly

Rafter or truss to wall uplift connections shall be in accordance with the requirements of Section 3.2.2.1. Prescriptive solutions using uplift straps are provided in Table A-3.4. Where rafters or trusses are not attached directly to studs, rafters or trusses shall be attached to the wall top plate and the wall top plate shall be attached to the wall stud with uplift connections in accordance with Table 3.4. Roof to top plate connections shall be on the same side of the wall as top plate to stud connections unless other methods are used to prevent twisting of the top plate due to eccentric loading (see Figure 3.2j-k). Wood structural panels shall be permitted to resist wall top plate to wall stud uplift when designed in accordance with 3.2.3. Prescriptive solutions to resist wind uplift are provided in Table 3.4B.

3.2.2.2 Wall Assembly to Wall Assembly

Story to story uplift connections from upper story wall stud to lower story wall stud shall be in accordance with the requirements of Table 3.4. Prescriptive solutions using uplift straps are provided in Table A-3.4. Where

upper story wall studs are not attached directly to lower story wall studs, the studs shall be attached to a common member in the floor assembly with uplift connections in accordance with Table 3.4. Wood structural panels shall be permitted to resist wall plate to wall stud uplift when designed in accordance with 3.2.3. Prescriptive solutions to resist wind uplift are provided in Table 3.4B.

3.2.2.3 Wall Assembly to Foundation

First floor wall studs shall be connected to the foundation, sill plate, or bottom plate in accordance with the requirements of Table 3.2. Prescriptive solutions for stud to foundation, sill plate, or bottom plate using uplift straps are provided in Table A-3.4 (see Figures 3.2a-e).

Steel connectors used to resist uplift shall be a minimum of a 1-1/4" x 20 gage ASTM A653 Grade 33 steel strap and have a minimum embedment of 7 inches in concrete foundations and slabs-on-grade, 15 inches in masonry block foundations, or be lapped under the plate and nailed in accordance with the steel connector requirements (see Figures 3.2a-c). Where the steel strap is lapped under the bottom plate, 3 inch square washers shall be used on the anchor bolts and anchor bolt spacings shall not exceed the requirements specified in Table 3.2C. If steel connectors that only fasten to one side of the bottom plate are used, the square washer shall extend to within 1/2 inch of the edge of the plate to which the connector is nailed. Steel straps embedded in or in contact with slab-on-grade or masonry block foundations shall be hot-dipped galvanized after fabrication, or manufactured from G185 or Z450 galvanized steel.

Wood structural panels shall be permitted to resist wall stud to foundation, sill plate, or bottom plate uplift when designed in accordance with 3.2.3. Prescriptive solutions to resist wind uplift are provided in Table 3.4B. Where wood structural panels are used to resist uplift, bottom plates or sill plates shall be anchored in accordance with 3.2.3.6.

3.2.3 Wood Structural Panels Resisting Uplift

Wood structural panels shall be permitted to be used to resist uplift alone or simultaneously to resist uplift and shear from wind forces.

3.2.3.1 Nailing

Nails in any single row shall not be spaced closer than 3 inches on center.

3.2.3.2 Panels

Panels shall have a minimum thickness of 7/16 inch and

shall be installed with the strength axis parallel to the studs.

3.2.3.3 Horizontal Joints

All horizontal joints shall occur over common framing members or common blocking and shall meet all other requirements of 3.4.4.2.

3.2.3.4 Openings

Where windows and doors interrupt wood structural panel sheathing or siding, framing anchors or connectors shall be provided to resist and transfer the appropriate uplift loads around the opening and into the foundation.

3.2.3.5 Sheathing Extending to Top Plate

The top edge of the wood structural panel shall be attached to the upper top plate. Nail row, end spacing, and edge spacing shall be as shown in Figure 3.2f. Roof or upper level uplift connectors shall be on the same side of the wall as the sheathing unless other methods are used to prevent twisting of the top plate due to eccentric loading (see Figure 3.2j-k).

3.2.3.6 Sheathing Extending to Bottom Plate or Sill Plate

The bottom edge of the wood structural panel shall extend to and be attached to the bottom plate or sill plate as shown in Figure 3.2f. Anchorage of bottom plates or sill plates to the foundation shall be designed to resist the combined uplift and shear forces developed in the wall. Anchors shall be spaced at 16 inches on center or less.

- a. Where anchor bolts are used, a minimum 0.229" x 3" x 3" steel plate washer shall be used at each anchor bolt location. The edge of the plate washer shall extend to within ½ inch of the edge of the bottom plate on the sheathed side.
- b. Where other anchoring devices are used to anchor the wall to the foundation, they shall be installed on the same side of the wall as the sheathing unless other approved methods are used.

3.2.3.7 Sheathing Splices

- a. In multi-story applications where the upper story and lower story sheathing adjoin over a common horizontal framing member, the nail spacing shall be not less than 3 inches on center for a single row and not less than 6 inches on center for a double row in Table 3.4B (see Figure 3.2g).
- b. In single or multi-story applications where horizontal joints in the sheathing occur

over blocking between studs, nailing of the sheathing to the studs above and below the joint shall be designed to transfer the uplift across the joint using provisions of *SDPWS* 4.4.1.7(2) (see Figure 3.2h). Blocking shall be in accordance with 3.2.3.3 for shear transfer.

Exception: Horizontal blocking and sheathing tension splices placed between studs and backing the horizontal joint shall be permitted to be used to resist both uplift and shear at sheathing splices over studs provided the following conditions are met (see Figure 3.2i):

- a. sheathing tension splices shall be made from the same thickness and grade as the shear wall sheathing.
- b. edges of sheathing shall be nailed to sheathing tension splices using the same nail size and spacing as the sheathing or siding nails at the bottom plate.

3.2.4 Overturning Resistance

3.2.4.1 Hold-downs

Hold-downs shall be installed at the end of each shear wall in accordance with 3.4.4.2.3 (see Figures 3.8a-b). A continuous load path from the hold-down to the foundation shall be maintained. Where a hold-down resists the overturning load from the story or stories above, the hold-down shall be sized for the required hold-down tension capacity at its level plus the required hold-down tension capacity of the story or stories above. For walls sheathed with materials other than those specified in 3.4.4.2, hold-down tension capacity at each level shall equal the tabulated shear capacity in Table 3.17D times the wall height.

3.2.5 Sheathing and Cladding Attachment

3.2.5.1 Roof Sheathing

Roof sheathing attachment shall be in accordance with the minimum nailing requirements specified in Table 3.10. A prescriptive solution is provided for 7/16" nominal thickness roof sheathing in Table 3.10A.

3.2.5.2 Wall Sheathing

Wall sheathing attachment shall be in accordance with the minimum nailing requirements specified in Table 3.11.

3.2.5.3 Floor Sheathing

Floor sheathing shall be attached with a minimum of

8d common nails spaced at a maximum of 6 inches on center at panel edges and 12 inches on center in the panel field.

3.2.5.4 Roof Cladding

Roof cladding shall be attached in accordance with the manufacturer's recommendations.

3.2.5.5 Wall Cladding

Wall cladding shall be attached in accordance with the minimum nailing requirements in Table 3.11 or comply with the manufacturer's recommendations.

3.2.6 Special Connections

3.2.6.1 Ridge Connection Requirements

Ridge connections shall be in accordance with the requirements given in Table 3.6. Prescriptive solutions for ridge straps are provided in Table A-3.6. Where ridge straps are used, they shall attach to opposing rafters.

EXCEPTION: Ridge straps are not required when collar ties (collar beams) of nominal 1x6 or 2x4 lumber are located in the upper third of the attic space and attached to rafters in accordance with Table A-3.6.

3.2.6.2 Jack Rafters

Jack rafters shall be attached to the wall assembly in accordance with 3.2.2.1 and attached to hip beams in accordance with Table 3.6.

3.3 Floor Systems

3.3.1 Lumber Joist Systems

3.3.1.1 Floor Joists

Floor joists shall be in accordance with the maximum spans for common species and grades of lumber floor joists specified in Tables 3.18A-B.

3.3.1.1.1 Notching and Boring Notches in the top or bottom edge of solid-sawn joists shall not be located in the middle one-third of the joist span. Notches in the outer thirds of the span shall not exceed one-sixth of the actual joist depth, and shall not be longer than one-third of the depth of the member. Where notches are made at the supports, they shall not exceed one-fourth the actual joist depth. Bored holes are limited in diameter to one-third the actual joist depth and the edge of the hole shall not be closer than 2 inches to the top or bottom edge of the joist. Bored holes shall not be located closer than 2 inches to a notch (see Figure 3.3a).

3.2.6.3 Non-Loadbearing Wall Assemblies

Rake outlooker overhang to wall, wall to wall, and wall to foundation connections shall be in accordance with the requirements given in Table 3.4C. Walls which do not support the roof assembly and are attached in accordance with 3.2.1 need no additional uplift connections.

3.2.6.4 Connections around Wall Openings

3.2.6.4.1 Header and/or Girder to Stud Connections

Header and/or girder to stud connections shall be in accordance with the requirements given in Table 3.7. Window sill plate to stud connections shall be in accordance with the requirements given in Table 3.8.

3.2.6.4.2 Top and Bottom Plate to Full Height Studs

When the number of full height studs required at each end of a header are selected from Table 3.23C, each stud shall be connected in accordance with the requirements given in Table 3.5. Prescriptive solutions for top and bottom plate to stud connections are provided in Table 3.5A.

EXCEPTION: When the number of full height studs required at each end of a header are selected from Table 3.23D, the capacity of the connection of the top or bottom plate to each full height stud shall be equal to the unit lateral load, w (plf), given in Table 3.5 times half of the header span, $L/2$ (ft), divided by the required number of full height studs, NFH , selected from Table 3.23D.

Top or Bottom Plate to Each Full Height Stud Connection = $w * (L/2) / NFH$

3.3.1.2 Bearing

Joists shall bear directly on beams, girders, ledgers, or loadbearing walls or be supported by hangers. Joist bearing shall not be less than 1-1/2 inches on wood or metal or 3 inches on masonry (see Figures 3.4a-e). Beams and girders shall bear on loadbearing walls, piles, concrete or masonry foundations, or beam hangers (see Figure 3.4f).

3.3.1.3 End Restraint

Restraint against twisting shall be provided at the end of each joist by fastening to a rim, band joist, header, or other member or by using full-height blocking between floor joist ends. Fasteners for end restraint shall be provided in accordance with Table 3.1 (see Figures 3.4a-e).

3.3.1.4 Lateral Stability

The following rules shall be applied to provide lateral restraint to prevent rotation or lateral displacement. If the ratio of depth to breadth, d/b , based on nominal dimensions is:

- a. $d/b \leq 2$; no lateral support shall be required.
- b. $2 < d/b \leq 4$; the ends shall be held in position, as by full depth solid blocking, bridging, hangers, nailing or bolting to other framing members, or other acceptable means.
- c. $4 < d/b \leq 5$; the compression edge of the member shall be held in line for its entire length to prevent lateral displacement, as by adequate sheathing or subflooring, and ends at point of bearing shall be held in position to prevent rotation and/or lateral displacement.
- d. $5 < d/b \leq 6$; bridging, full depth solid blocking or diagonal cross bracing shall be installed at intervals not exceeding 8 feet, the compression edge of the member shall be held in line as by adequate sheathing or subflooring, and ends at point of bearing shall be held in position to prevent rotation and/or lateral displacement.
- e. $6 < d/b \leq 7$; both edges of the member shall be held in line for their entire length and ends at points of bearing shall be held in position to prevent rotation and/or lateral displacement.

If a bending member is subjected to both flexure and axial compression, the depth to breadth ratio shall be permitted to be as much as 5 to 1 if one edge is firmly held in line. If under all combinations of load, the unbraced edge of the member is in tension, the depth to breadth ratio shall be permitted to be no more than 6 to 1.

3.3.1.5 Single or Continuous Floor Joists

3.3.1.5.1 Single or Continuous Floor Joists Supporting Loadbearing Walls Loadbearing walls parallel to joists shall be directly supported by beams, girders, or other loadbearing walls. Loadbearing walls perpendicular to joists shall not be offset from supporting girders, beams, or other loadbearing walls by more than the depth of the joists (see Figures 2.1d and 3.5a).

3.3.1.5.2 Single or Continuous Floor Joists Supporting Non-Loadbearing Walls Where non-loadbearing walls are parallel to floor joists, the joist supporting the non-loadbearing wall shall be doubled (see Figure 3.5b).

EXCEPTION: When the non-loadbearing wall is located between two floor joists, the floor joists need not be doubled. Solid blocking shall be installed at intervals not exceeding 32 inches on center to transfer the wall load to the supporting joists (see Figure 3.5c).

3.3.1.5.3 Single or Continuous Floor Joists Supporting Concentrated Loads Where concentrated loads

exceeding 300 pounds must be supported by floor joists, the joist supporting the load shall be doubled (see Figure 3.5d).

3.3.1.6 Cantilevered Floor Joists

3.3.1.6.1 Cantilevered Floor Joists Supporting Loadbearing Walls Overhang lengths of cantilevered floor joists supporting a loadbearing wall at the end of the cantilever shall be limited to the depth of the joists (see Figure 2.1a).

EXCEPTION: For roof live loads and ground snow loads less than or equal to 20 psf and 30 psf, respectively, cantilevers shall not exceed one-eighth of the joist span for lumber joists supporting only a roof with a clear span of 28 feet or less. Lumber joists shall be located directly over studs when used in cantilever conditions supporting loadbearing walls (see Figure 2.1a).

3.3.1.6.2 Cantilevered Floor Joists Supporting Non-Loadbearing Walls Overhang lengths of cantilevered floor joists supporting a non-loadbearing wall at the end of the cantilever shall not exceed one-fourth of the joist span (see Figure 2.1b).

3.3.1.7 Floor Diaphragm Openings

Trimmers and headers shall be doubled when the header span exceeds 4 feet. Headers more than 6 feet in length shall be supported by joist hangers or framing anchors unless they bear on a partition, beam, or wall. Tail joists which exceed 12 feet in length shall be supported on framing anchors or on ledger strips not less than nominal 2x2 inches (see Figures 3.6a-b). Nailing requirements are given in Table 3.1.

3.3.2 Wood I-Joist Systems

Wood I-joist systems shall meet the requirements of 2.3.2.

3.3.3 Wood Floor Truss Systems

Wood floor truss systems shall meet the requirements of 2.3.3. See Table 3.19 for representative metal plate connected wood floor truss span tables. Actual design spans will vary by truss manufacturer as a result of specific design conditions.

3.3.4 Floor Sheathing

3.3.4.1 Sheathing Spans

Floor sheathing spans shall not exceed the provisions of Table 3.14.

3.3.4.2 Sheathing Edge Support

Edges of floor sheathing shall have approved tongue-and-groove joints or shall be supported with blocking, unless $\frac{1}{4}$ inch minimum thickness underlayment or $1\frac{1}{2}$ inches of approved cellular or lightweight concrete is installed, or unless the finish floor is of $\frac{3}{4}$ inch wood strip.

3.3.5 Floor Diaphragm Bracing

For 3-second gust wind speeds greater than 130 mph (See Figure 1.1), blocking and connections shall be provided at panel edges perpendicular to floor framing members in the first two bays of framing and shall be spaced at a maximum of 4 feet on center. Nailing requirements are given in Table 3.1 (see Figure 3.7b).

3.4 Wall Systems

3.4.1 Exterior Walls

3.4.1.1 Wood Studs

Wall studs shall be in accordance with the maximum spans for common species and grades of wall studs specified in Tables 3.20A-B and spaced in accordance with Table 3.20C. Exterior loadbearing studs shall be limited to a height of 10 feet or less between horizontal supports as specified in Table 3.20C. Exterior non-loadbearing studs shall be limited to a height of 14 feet or less for 2x4 studs and 20 feet or less for 2x6 and 2x8 studs in accordance with Table 3.20C.

3.4.1.1.1 Notching and Boring Notches in either edge of studs shall not be located in the middle one-third of the stud length. Notches in the outer thirds of the stud length shall not exceed 25% of the actual stud depth. Bored holes shall not exceed 40% of the actual stud depth and the edge of the hole shall not be closer than $\frac{5}{8}$ inch to the edge of the stud (see Figure 3.3b). Notches and holes shall not occur in the same cross-section.

EXCEPTION: Bored holes shall not exceed 60% of the actual stud depth when studs are doubled.

3.4.1.1.2 Stud Continuity Studs shall be continuous between horizontal supports, including but not limited to: girders, floor diaphragm assemblies, ceiling diaphragm assemblies, and roof diaphragm assemblies. When attic floor diaphragm or ceiling diaphragm assemblies are used to brace gable endwalls, the sheathing and fasteners shall be as specified in Table 3.15. The framing and connections shall be capable of transferring the loads into the ceiling or attic floor diaphragm (see Figures 3.7a-b).

3.4.1.1.3 Corners A minimum of three studs shall be provided at each corner of an exterior wall (see Figures 3.8a-b).

EXCEPTION: Reduced stud requirements shall be permitted provided shear walls are not continuous to corners. Framing must be capable of

transferring axial tension and compression loads from above and providing adequate backing for the attachment of sheathing and cladding materials.

3.4.1.2 Top Plates

Double top plates shall be provided at the top of all exterior stud walls. The double plates shall overlap at corners and at intersections with other exterior or interior loadbearing walls (see Figure 3.8d). Double top plates shall be lap spliced with end joints offset in accordance with the minimum requirements given in Table 3.21.

3.4.1.3 Bottom Plates

Bottom plates shall not be less than 2 inch nominal thickness and not less than the width of the wall studs. Studs shall have full bearing on the bottom plate.

3.4.1.4 Wall Openings

Headers shall be provided over all exterior wall openings. Headers shall be supported by wall studs, jack studs, hangers, or framing anchors (see Figures 3.9a-b).

3.4.1.4.1 Headers Maximum spans for common species of lumber headers and structural glued laminated timber beams used in exterior loadbearing walls shall not exceed the lesser of the applicable spans given in Tables 3.22A-E and Table 3.23A. Maximum spans for common species of lumber headers used in exterior non-loadbearing walls shall not exceed spans given in Table 3.23B.

3.4.1.4.2 Full Height Studs Full height studs shall meet the same requirements as exterior wall studs selected in 3.4.1.1 (see Figures 3.9a-b). The minimum number of full height studs at each end of the header shall not be less than half the number of studs replaced by the opening, in accordance with Table 3.23C.

EXCEPTION: The minimum number of full height studs at each end of the header shall be permitted to be reduced in accordance with Table 3.23D. The capacity of the connection of the top

or bottom plate to each full height stud shall be equal to the unit lateral load, w (plf) given in Table 3.5 times half of the header span, $L/2$ (ft.), divided by the required number of full height studs, N_{FH} , selected from Table 3.23D.

Top or Bottom Plate to Each Full Height Stud
 Connection = $w * (L/2) / N_{FH}$

3.4.1.4.3 Jack Studs Jack studs shall be at least Stud grade lumber. The minimum number of jack studs supporting each end of a header shall not be less than jack stud requirements given in Table 3.22F (see Figures 3.9a-b). Full height studs selected in accordance with 3.4.1.4.2 shall be permitted to replace an equivalent number of jack studs, when adequate gravity connections are provided.

3.4.1.4.4 Window Sill Plates Maximum spans for window sill plates used in exterior walls shall not exceed the spans given in Table 3.23B.

3.4.2 Interior Loadbearing Partitions

3.4.2.1 Wood Studs

Interior loadbearing studs shall be at least Stud grade lumber.

EXCEPTION: Interior loadbearing studs supporting only a roof shall be at least Utility grade lumber.

3.4.2.1.1 Notching and Boring Notches in either edge of studs shall not be located in the middle one-third of the stud length. Notches in the outer thirds of the stud length shall not exceed 25% of the actual stud depth. Bored holes in interior loadbearing studs shall not exceed 40% of the actual stud depth and shall not be closer than 5/8 inch to the edge. Notches and holes shall not occur in the same cross-section (see Figure 3.3b).

EXCEPTION: Bored holes shall not exceed 60% of the actual stud depth when studs are doubled.

3.4.2.1.2 Stud Continuity Studs shall be continuous between horizontal supports, including but not limited to: girders, floor diaphragm assemblies, ceiling diaphragm assemblies, and roof diaphragm assemblies.

3.4.2.2 Top Plates

Double top plates shall be provided at the top of all interior loadbearing partition walls. The double plates shall overlap at corners and at intersections with other exterior or interior loadbearing walls (see Figure 3.8d).

3.4.2.3 Bottom Plates

Bottom plates shall not be less than 2 inch nominal thickness and not less than the width of the wall studs. Studs shall have full bearing on the bottom plate.

3.4.2.4 Wall Openings

Headers shall be provided over all interior loadbearing wall openings. Headers shall be supported by wall studs, jack studs, joist hangers, or framing anchors.

3.4.2.4.1 Headers Maximum spans for common species of lumber headers and glued laminated beams are given in Tables 3.24A-B.

3.4.2.4.2 Studs Supporting Header Beams Jack studs shall be at least Stud grade lumber. The minimum number of jack studs supporting each end of a header shall not be less than jack stud requirements given in Table 3.24C (see Figures 3.9a-b). An equivalent number of full height studs shall be permitted to replace jack studs, when adequate gravity connections are provided.

3.4.3 Interior Non-Loadbearing Partitions

3.4.3.1 Wood Studs

Interior non-loadbearing studs shall be at least Utility grade lumber.

3.4.3.1.1 Notching and Boring Notches in studs shall not exceed 40% of the stud depth. Bored holes shall not exceed 60% of the stud depth and shall not be closer than 5/8 inch to the edge. Notches and holes shall not occur in the same cross-section.

3.4.3.2 Top Plates

Single or double top plates shall be provided at the top of all stud walls.

3.4.3.3 Bottom Plates

Bottom plates shall not be less than 2 inch nominal thickness and not less than the width of the wall studs. Studs shall have full bearing on the bottom plate.

3.4.4 Wall Sheathing

3.4.4.1 Sheathing and Cladding

Exterior wall sheathing shall be in accordance with the minimum requirements specified in Table 3.13A. Exterior wall cladding shall be in accordance with the minimum requirements specified in Table 3.13B.

3.4.4.2 Exterior Shear Walls

a. Wind Loads Segmented shear walls shall be in accordance with the full height sheathing requirements

specified in Table 3.17A. Tabulated values assume wall studs are spaced at a maximum of 16 inches on center, are sheathed with 3/8 inch wood structural panels on the exterior attached with 8d common nails at 6 inches on center at panel edges and 12 inches on center in the field, and 1/2 inch gypsum wallboard on the interior attached with 5d cooler nails at 7 inches on center at panel edges and 10 inches on center in the field. Exterior sheathing shall be continuous from the bottom plate to the upper top plate, with all panel edges over framing. For other sheathing materials or sheathing configurations see 3.4.4.2.1.

b. Seismic Loads Segmented shear walls shall be in accordance with the full height sheathing requirements specified in Table 3.17C. Tabulated values assume wall studs are spaced at a maximum of 16 inches on center and are sheathed with 3/8 inch wood structural panels on the exterior attached with 8d common nails at 6 inches on center at panel edges and 12 inches on center in the field. Exterior sheathing shall be continuous from the bottom plate to the upper top plate, with all panel edges over framing. For other sheathing materials or sheathing configurations see 3.4.4.2.1.

c. Interior Shear Walls Where an interior shear wall is used, the structure shall be designed as separate

structures attached in the plane of the interior shear wall. Shear wall length of the shared wall (interior shear wall) shall be the sum of the lengths required for the shear wall of each attached structure.

3.4.4.2.1 Sheathing Type Adjustments When other sheathing material or nailing patterns are used, the length requirements in Tables 3.17A and 3.17C shall be multiplied by the appropriate length adjustment factor in Table 3.17D.

3.4.4.2.2 Perforated Shear Wall Adjustments When perforated shear walls are used, the shear wall length requirements in Tables 3.17A and 3.17C shall be multiplied by the appropriate full-height sheathing length adjustment factors in Table 3.17E. Combinations of identically sheathed segmented and perforated walls shall be permitted.

3.4.4.2.3 Hold-downs Hold-downs with a capacity in accordance with Table 3.17F, divided by the appropriate length adjustment factor in Table 3.17D, are required at the end of each shear wall segment or at each end of a perforated shear wall. Where full height shear wall segments meet at a corner, a single hold-down shall be permitted to be used to resist the overturning forces in both directions when the corner framing in the adjoining walls is fastened together to transfer the uplift load (see Figures 3.8a-b).

3.5 Roof Systems

3.5.1 Lumber Rafter Systems

3.5.1.1 Rafters

Rafters shall be in accordance with the maximum spans (horizontal projection) for common species of lumber rafters specified in Table 3.26A-C for live loads, 3.26D-L for snow loads, and 3.26M for wind loads. The span of each rafter shall be measured along the horizontal projection of the rafter.

3.5.1.1.1 Jack Rafters Jack rafters shall be sized in accordance with 3.5.1.1.

3.5.1.1.2 Rafter Overhangs Rafter overhangs shall not exceed the lesser of one-third of the rafter span or 2 feet (see Figure 2.1f).

3.5.1.1.3 Rake Overhangs Rake overhang outlookers shall use continuous 2x4 members connected in accordance with 3.2.6.3. Rake overhangs shall not exceed the lesser of one-half of the outlooker length or 2 feet (see Table 3.4C).

EXCEPTION: Rake overhangs using lookout blocks shall not exceed 9 inches (see Figure 2.1h).

3.5.1.1.4 Notching and Boring Notches in the top or bottom edge of solid-sawn rafters shall not be cut in the middle one-third of the rafter span. Notches in the outer thirds of the span shall not exceed one-sixth of the actual rafter depth. Where notches are made at supports, they shall not exceed one-fourth the actual rafter depth. Bored holes are limited in diameter to one-third the actual rafter depth and the edge of the hole shall not be closer than 2 inches to the top or bottom edges (see Figure 3.3a).

3.5.1.2 Bearing

Rafters shall bear directly on beams, girders, ledgers, or loadbearing walls or be supported by approved joist hangers or framing anchors. Rafter bearing shall not be less than 1½ inches on wood, metal, or masonry.

3.5.1.3 End Restraint

Where the nominal depth to thickness ratio of a solid-sawn rafter exceeds 3, restraint against twisting shall be provided at the end of each rafter by fastening to a rim board or by using full-height blocking between rafter ends. Fasteners for end restraint shall be provided in accordance with Table 3.1.

EXCEPTION: Where ceiling joists are attached directly to rafters, the combined bearing thickness of the ceiling joist and rafter shall be used to determine the depth to thickness ratio.

3.5.1.4 Ridge Beams

Ridge beams shall be installed at roof peaks. Ridge beams shall be in accordance with the maximum spans for common species of lumber beams and structural glued laminated timber beams specified in Table 3.29. Rafters shall bear directly on the ridge beam or be supported by hangers or framing anchors (see Figure 3.10a). Ceiling joists or rafter ties shall not be required where a ridge beam is provided.

EXCEPTION: A ridge board shall be permitted to be substituted for a ridge beam when roof slopes equal or exceed 3 in 12. The ridge board shall be at least 1 inch nominal in thickness and not less than the depth of the cut end of the rafter. The rafters shall be placed directly opposite each other. Ceiling joists or rafter ties shall be used to provide a continuous tie between exterior walls. Ceiling joist/rafter tie to rafter connections shall be in accordance with Tables 3.9. Prescriptive solutions for ceiling joist/rafter tie to rafter connections are provided in Table 3.9A (see Figures 3.10b-c).

3.5.1.5 Hip and Valley Beams

Hip and valley beams shall be in accordance with the maximum spans (horizontal projection) for common species of lumber hip and valley beams specified in Table 3.28, respectively (see Figures 3.12a-c).

3.5.1.6 Ceiling Joists

Ceiling joists shall be in accordance with the maximum spans for common species of solid sawn ceiling joists specified in Tables 3.25A-B, and shall be braced in accordance with 3.3.1.4.

3.5.1.7 Open Ceilings

When ceiling joists and roof ties are omitted and the rafters are used to create an open (cathedral) ceiling, rafter ends shall be supported on bearing walls, headers, or ridge beams. Rafters shall be attached to the support at each end in accordance with 3.2.

3.5.1.8 Roof Openings

Trimmers and headers shall be doubled when the header span exceeds 4 feet. Headers more than 6 feet in length shall be supported at the ends by rafter hangers or framing anchors unless they bear on a partition, beam, or

wall. Tail rafters which exceed 12 feet in length shall be supported on framing anchors (see Figures 3.11a-c). Nailing requirements are given in Table 3.1.

3.5.2 Wood I-Joist Roof Systems

Wood I-joist rafter systems shall meet the requirements of 2.5.2.

3.5.3 Wood Roof Truss Systems

Wood roof truss systems shall meet the requirements of 2.5.3. See Table 3.27 for representative metal plate connected wood roof truss span tables. Actual design spans will vary by truss manufacturer as a result of specific design conditions.

3.5.4 Roof Sheathing

3.5.4.1 Sheathing

Roof sheathing shall be in accordance with the minimum requirements of Tables 3.12A and 3.12B.

3.5.4.2 Sheathing Edge Support

Edges of all 3/8-inch wood structural panel roof sheathing, or 7/16-inch wood structural panel roof sheathing supported at 24 inches on center, shall be supported with blocking or edge clips.

3.5.5 Roof Diaphragm Bracing

For 3-second gust wind speeds greater than 130 mph (See Figure 1.1) blocking and connections shall be provided, at panel edges perpendicular to roof framing members in the first two bays of framing, and shall be spaced at a maximum of 4 feet on center. Nailing requirements are given in Table 3.1 (see Figure 3.7b).

EXCEPTION: When an attic floor or ceiling diaphragm is used to brace the gable endwall or when a hip roof system is used, additional roof diaphragm blocking is not required.

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Figure 3.1a Determining the Mean Roof Height (MRH) and Top Plate to Roof Ridge Height (h_R)
(Mean Roof Height Shall Not Exceed 33')

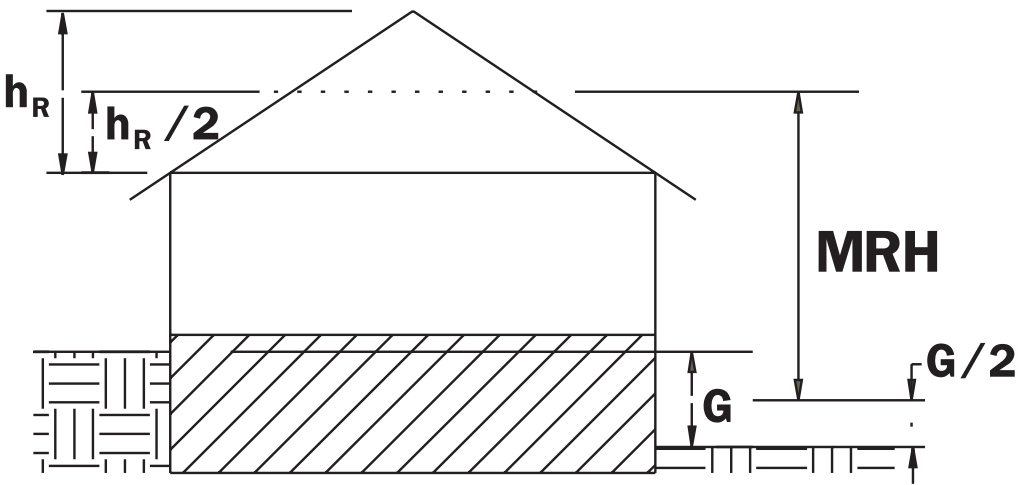


Figure 3.1b Method for Addressing Shear Wall Line Offsets

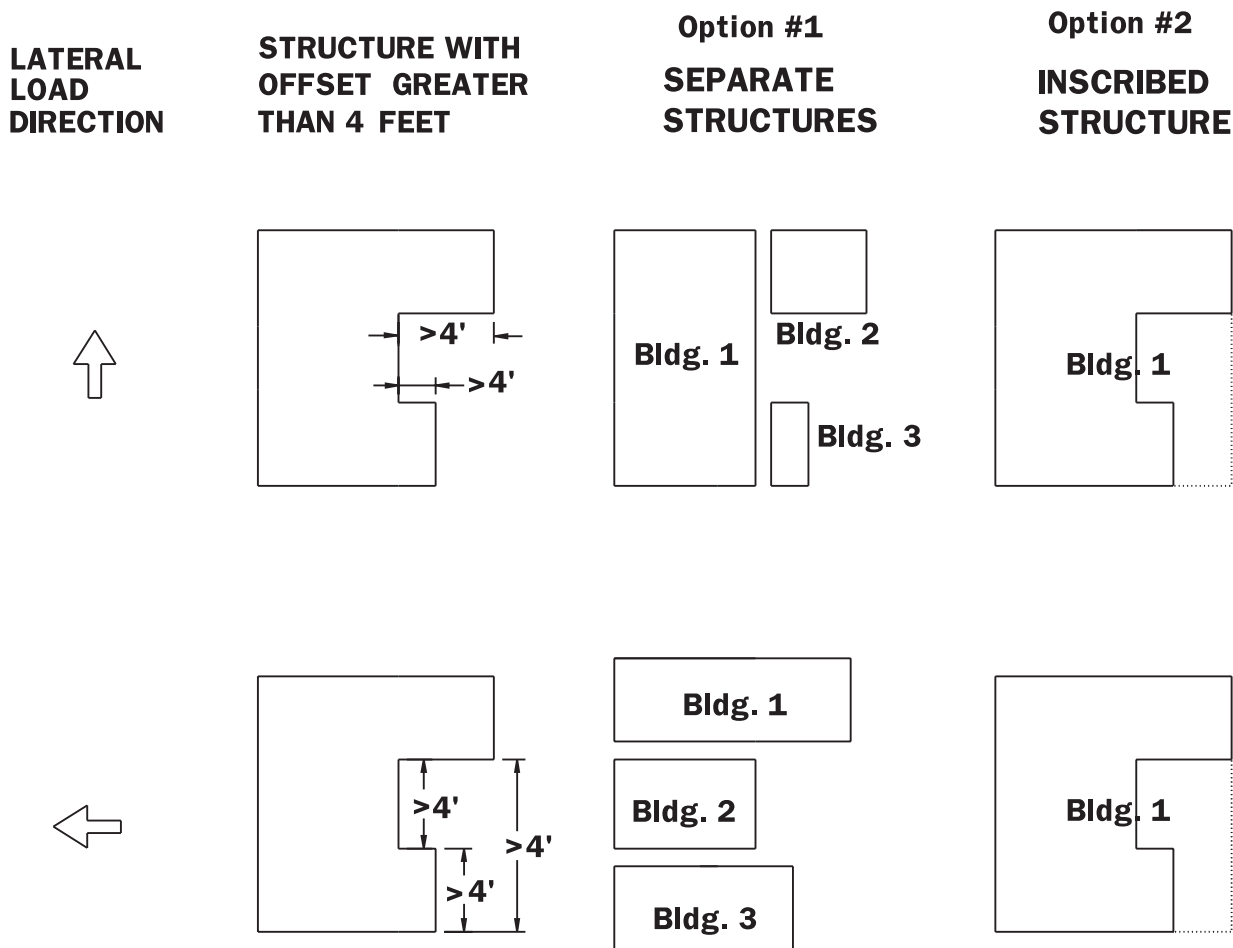


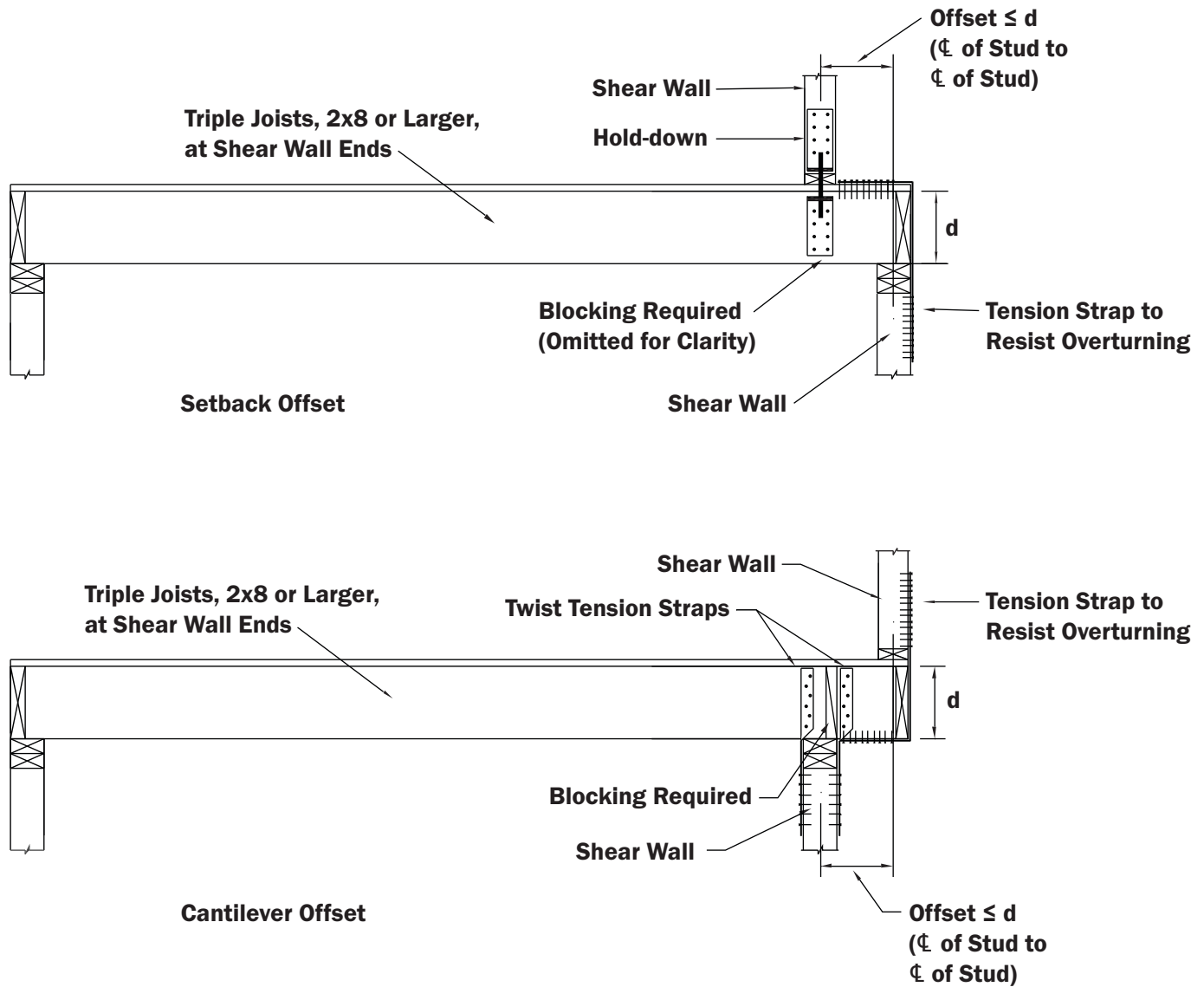
Figure 3.1c Shear Wall Offset

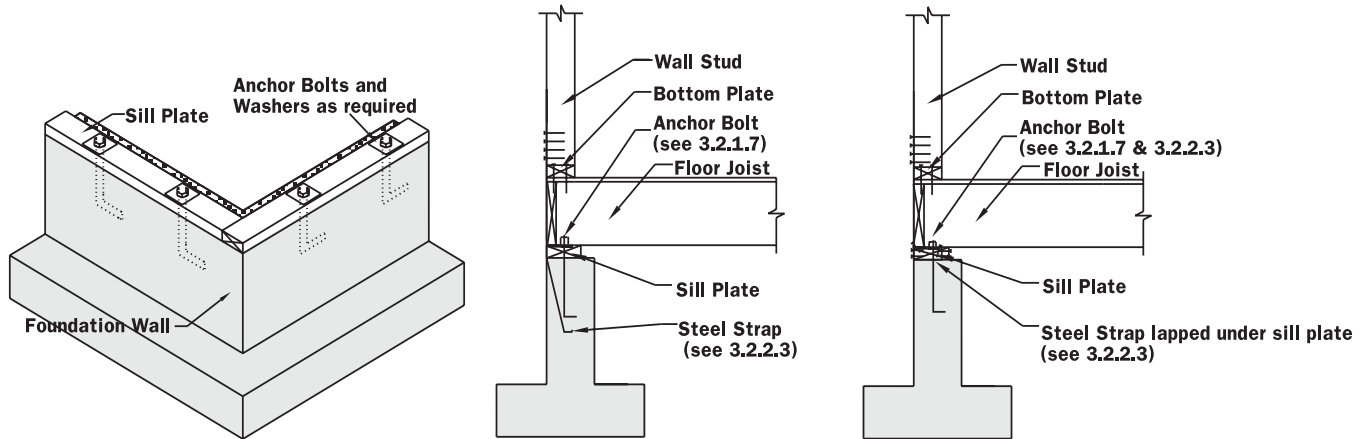
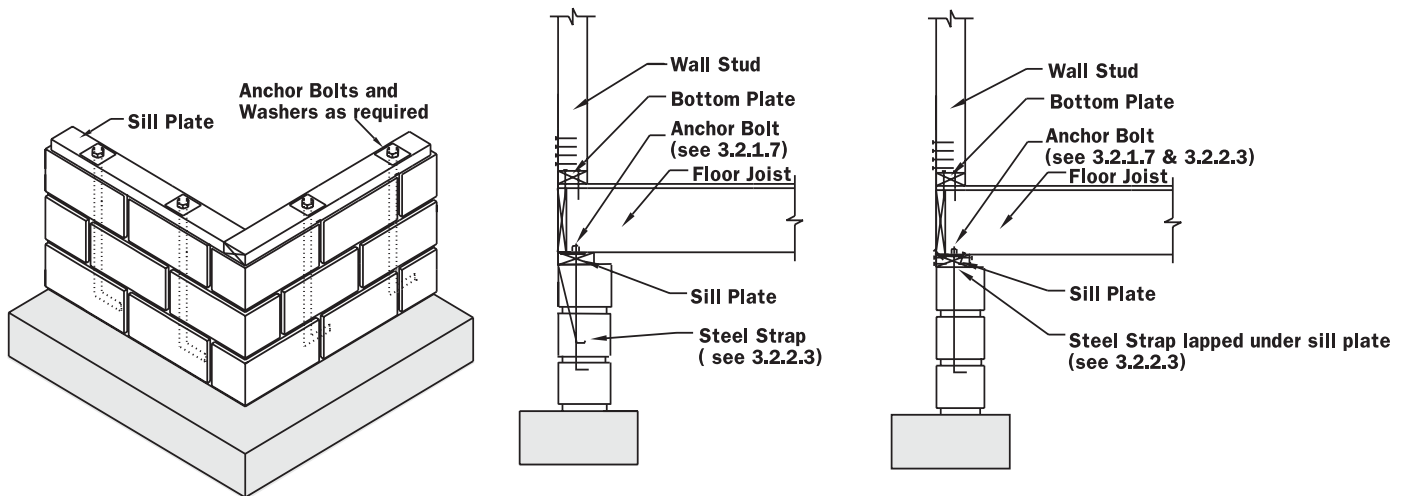
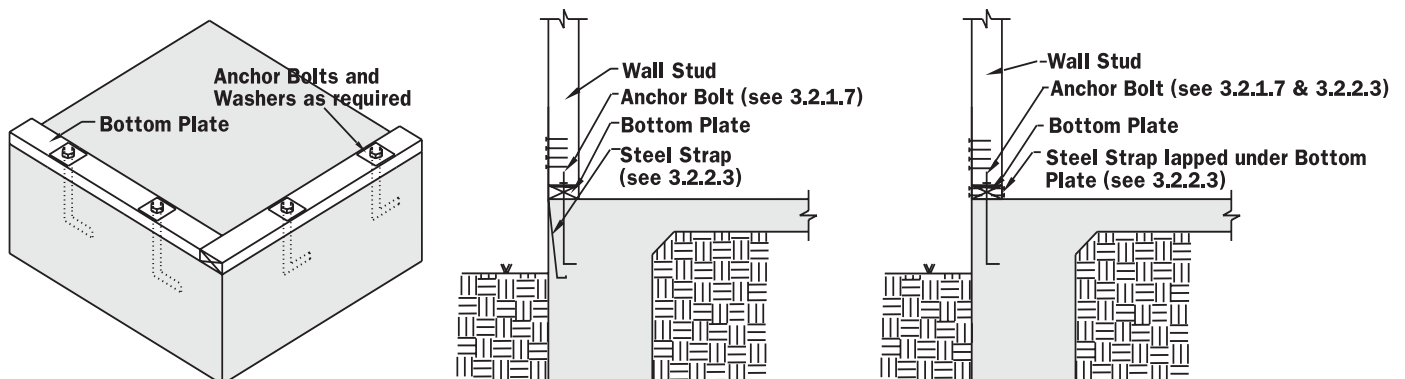
Figure 3.2a Sill Plate Anchorage to Concrete Foundation Wall**Figure 3.2b Sill Plate Anchorage to Masonry Foundation Wall****Figure 3.2c Bottom Plate Anchorage to Slab-on-Grade**

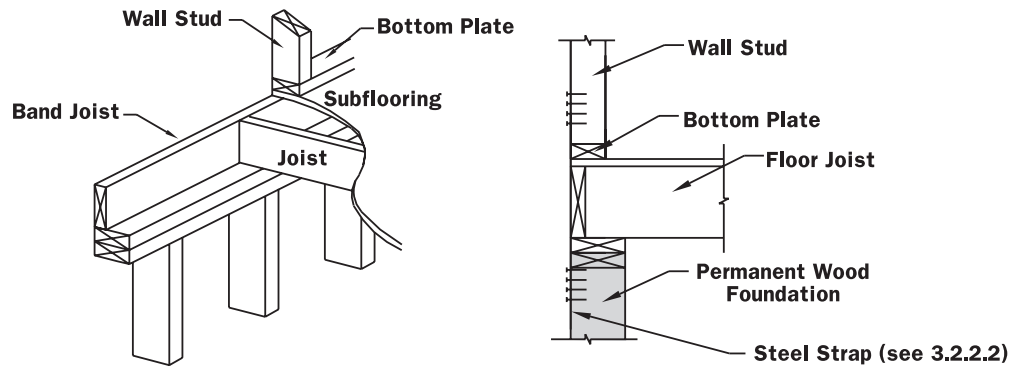
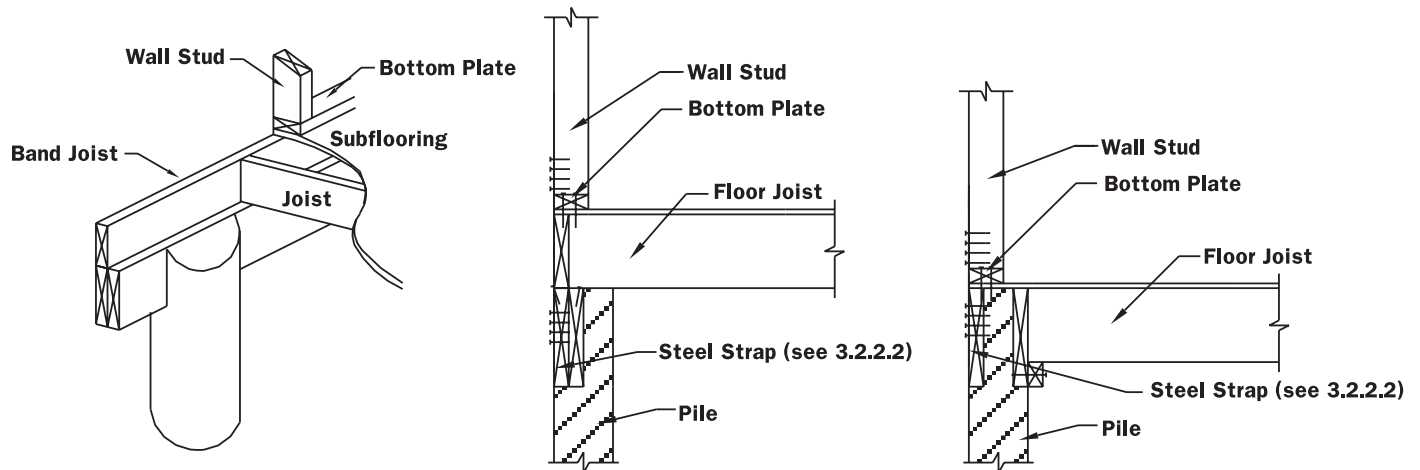
Figure 3.2d Wall Assembly to Permanent Wood Foundation**Figure 3.2e Wall Assembly to Piles**

Figure 3.2f Panel Attachment

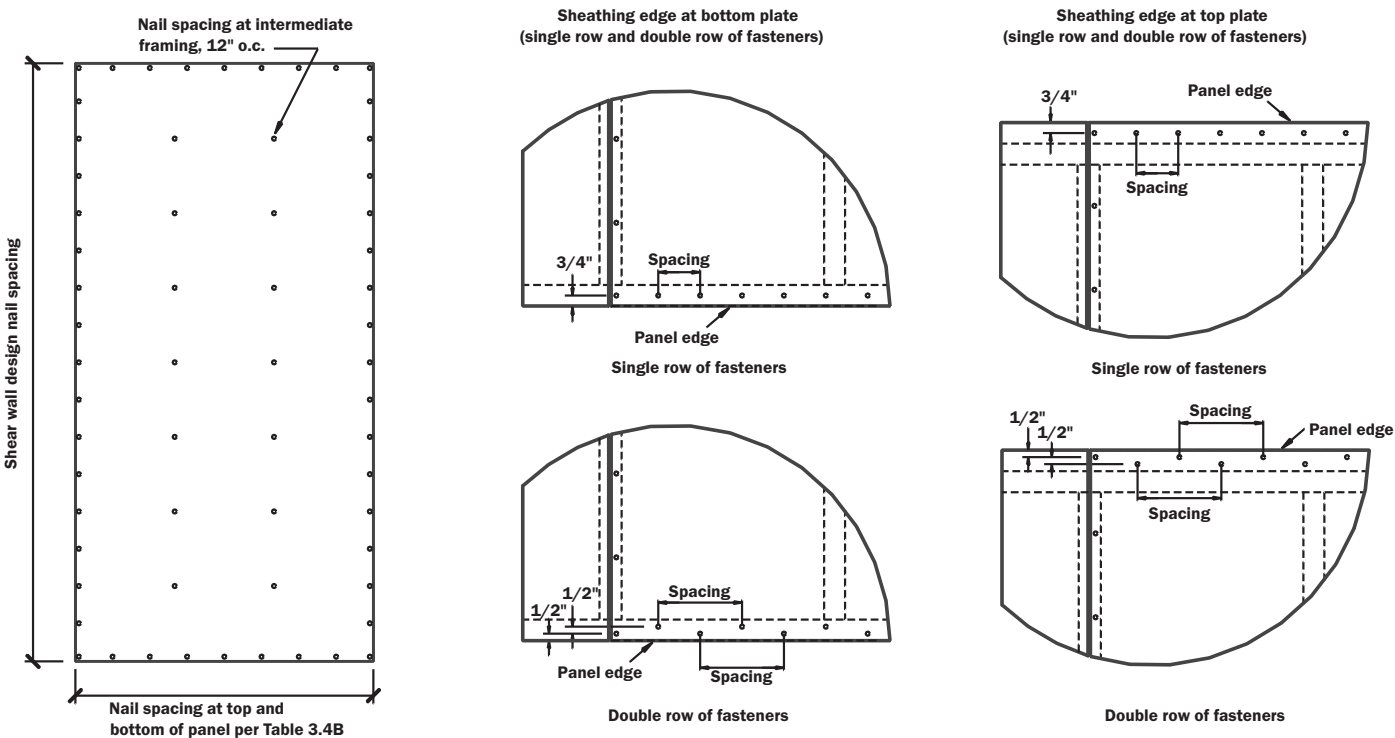


Figure 3.2g Panel Splice Occurring over Horizontal Framing Members

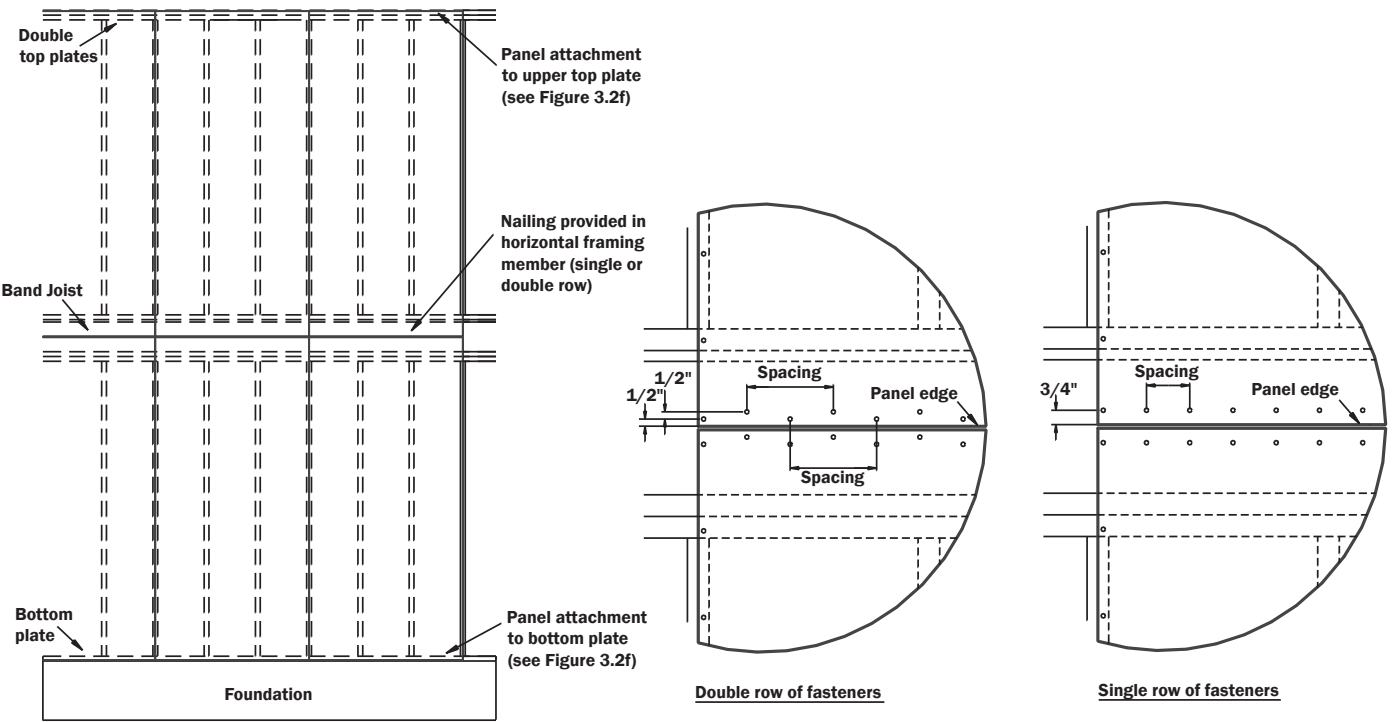


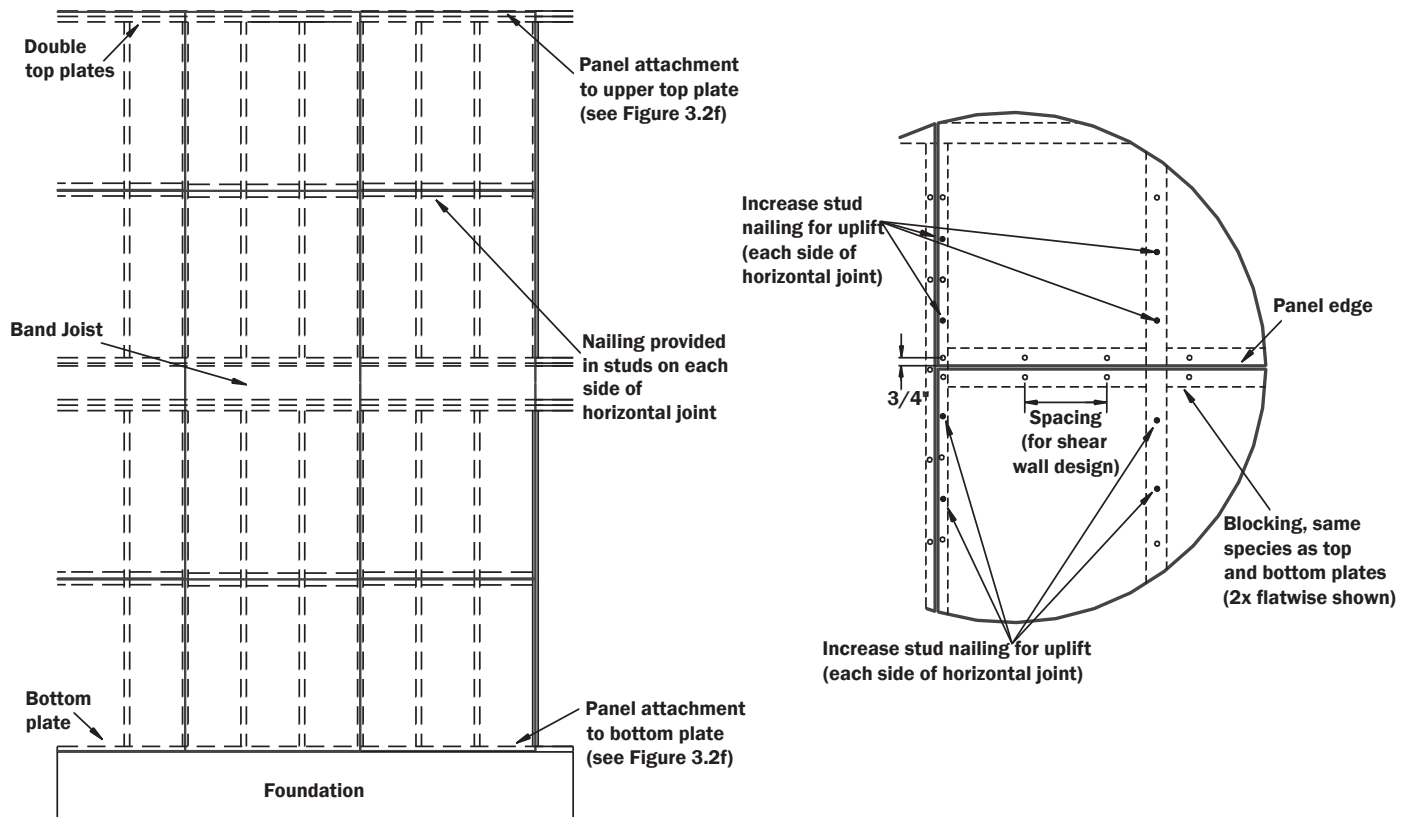
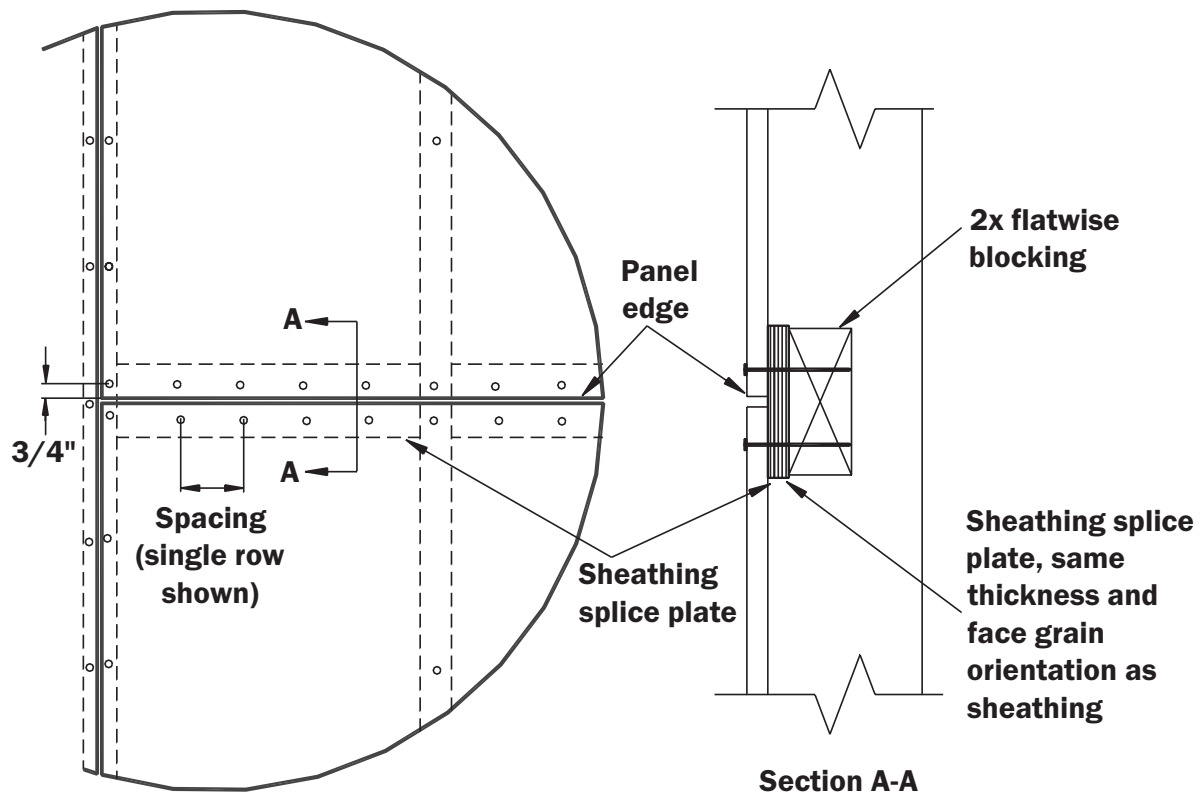
Figure 3.2h Panel Splice Occurring across Studs**Figure 3.2i Sheathing Splice Plate (Alternative Detail)**

Figure 3.2j Roof to Top Plate Connection Through Sheathing

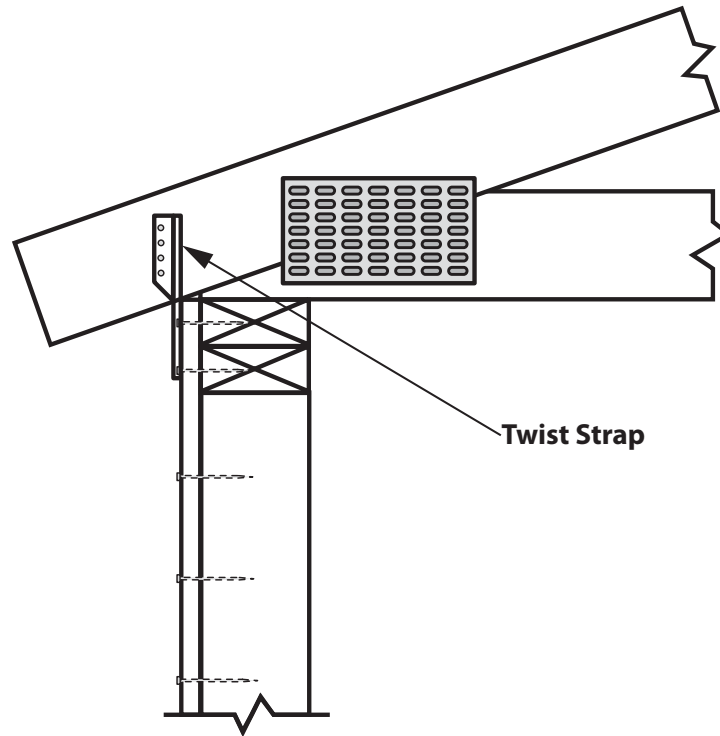


Figure 3.2k Roof to Top Plate Uplift Connection

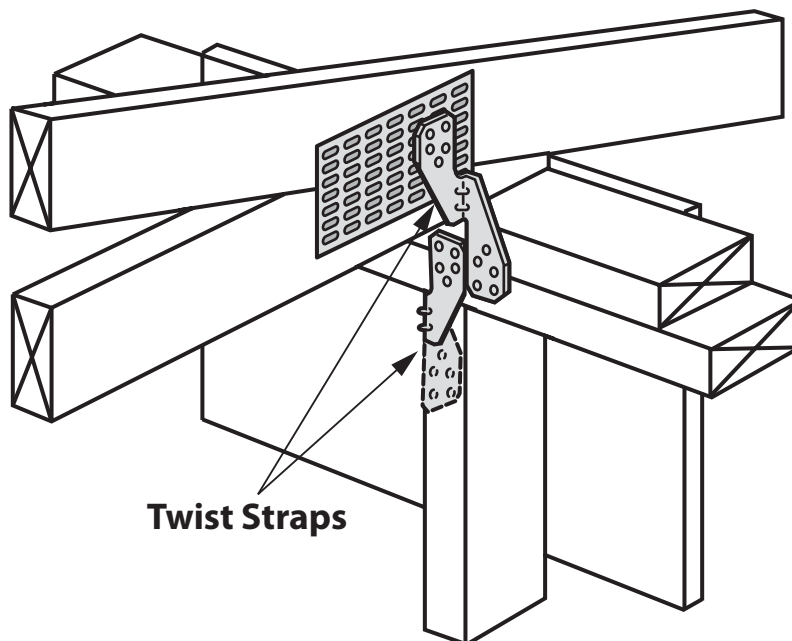


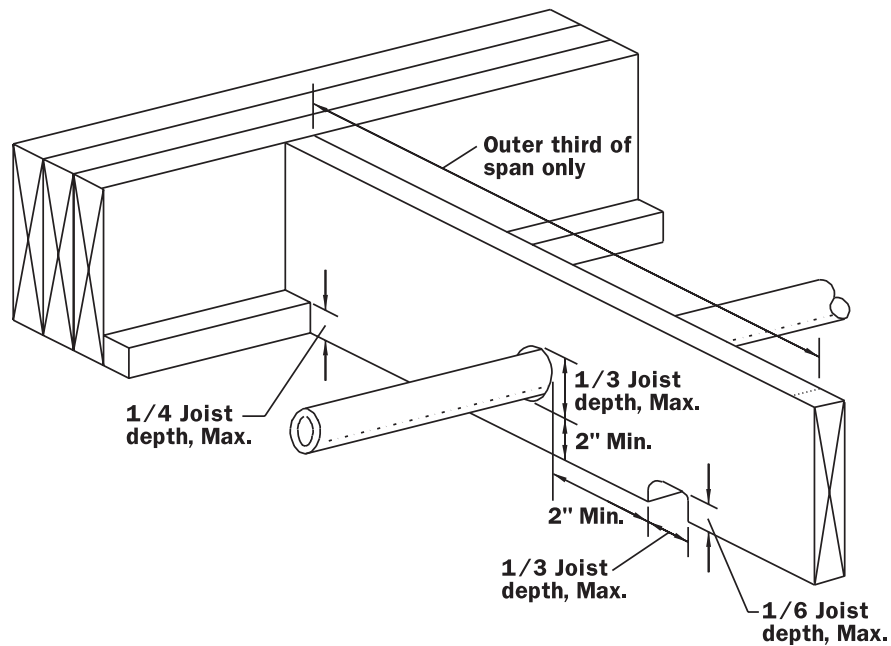
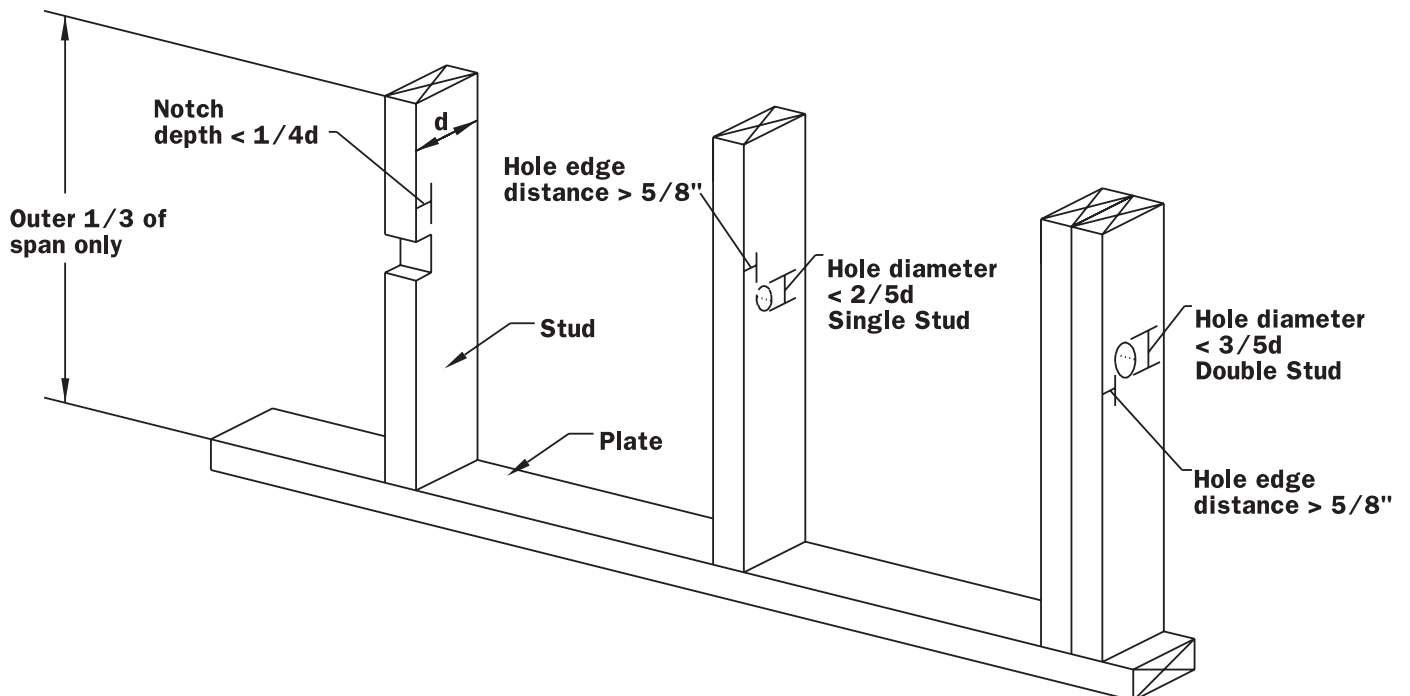
Figure 3.3a Solid Sawn Joist and Rafter Notching and Boring Limits**3****PRESCRIPTIVE DESIGN****Figure 3.3b Stud Notching and Boring Limits**

Figure 3.4a Joists Framing on a Solid Sawn Girder

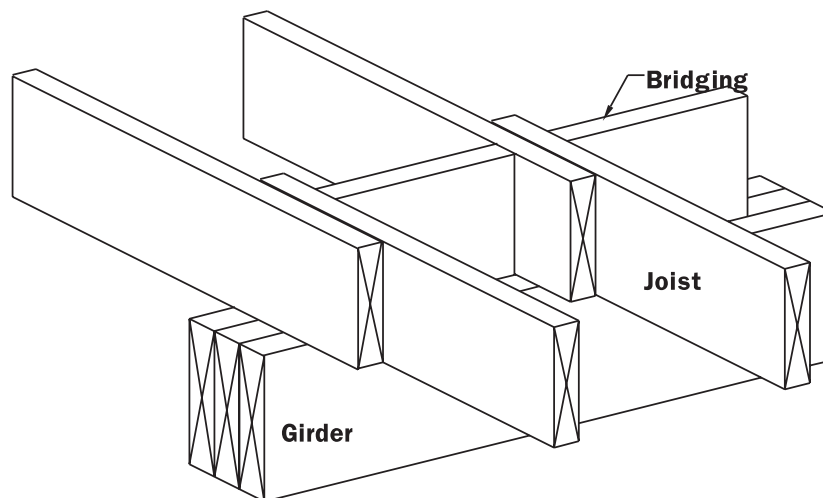


Figure 3.4b Joists Framing on a Ledger

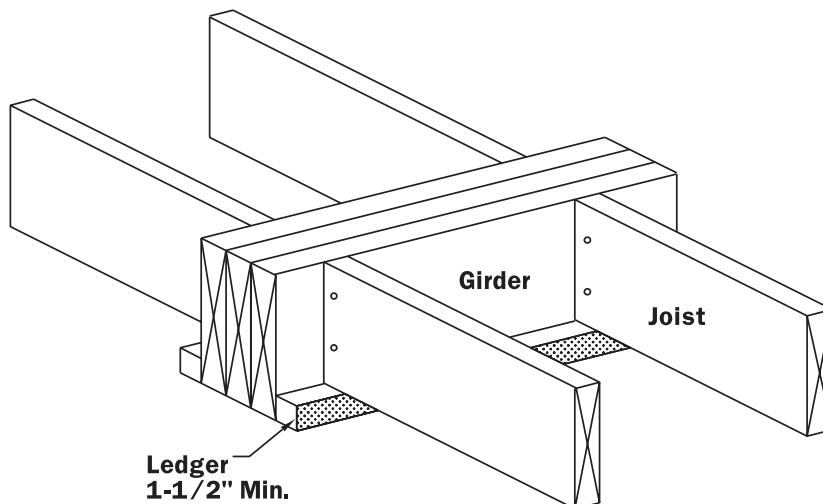


Figure 3.4c Joists Framing on a Steel Beam

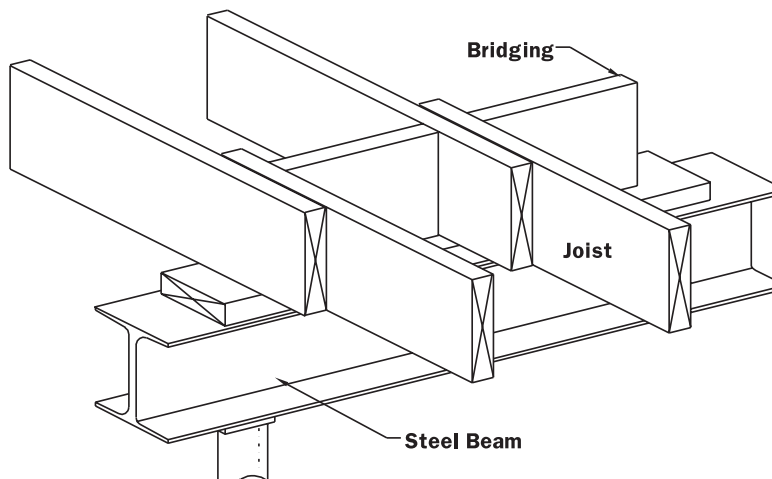


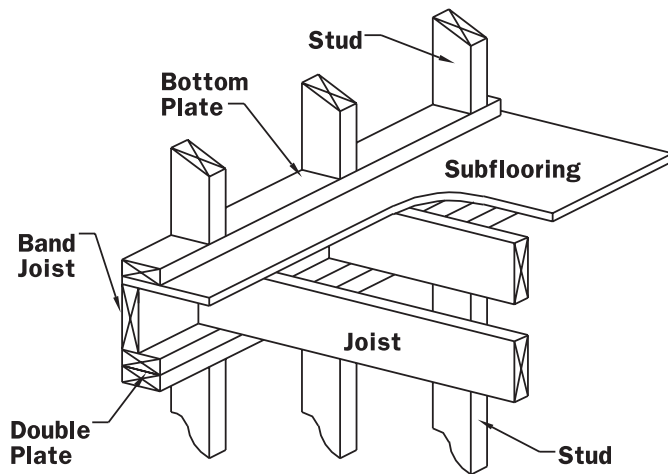
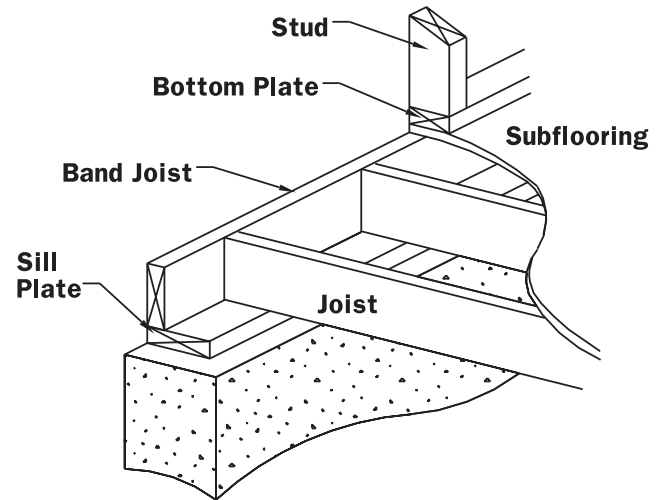
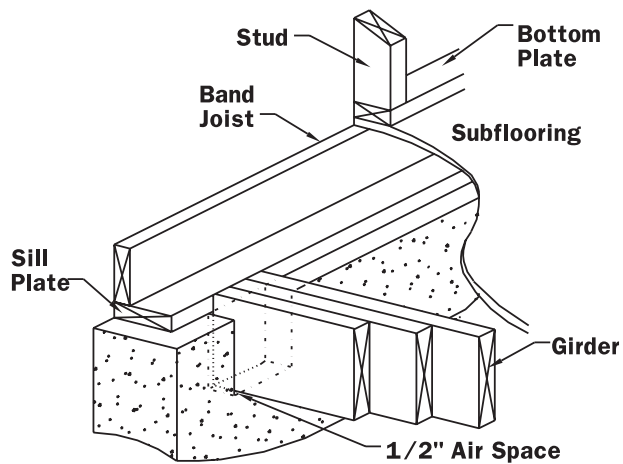
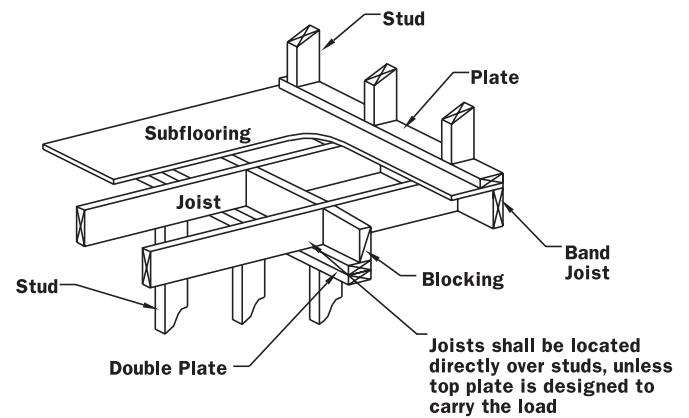
Figure 3.4d Joist Framing on a Stud Wall**Figure 3.4e Joist Framing on a Foundation Sill Plate****Figure 3.4f Girder Bearing on a Concrete Wall****Figure 3.4g Cantilever Floor - 3D View**

Figure 3.5a Loadbearing Wall Offset from Support

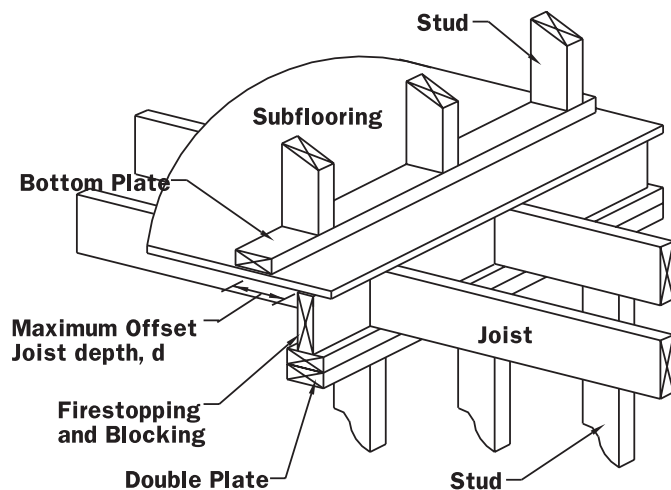


Figure 3.5b Double Joist Under a Non-Loadbearing Wall

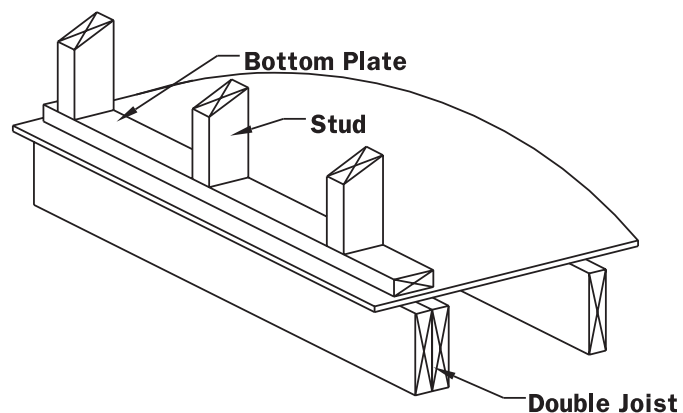


Figure 3.5c Blocking Under a Non-Loadbearing Wall

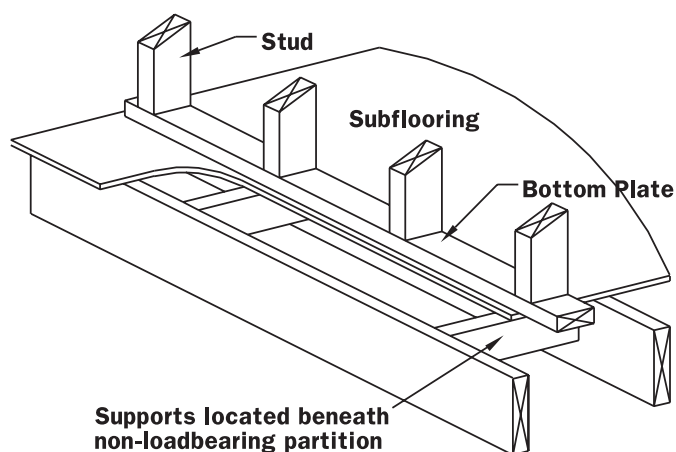


Figure 3.5d Double Joist Under a Bathtub

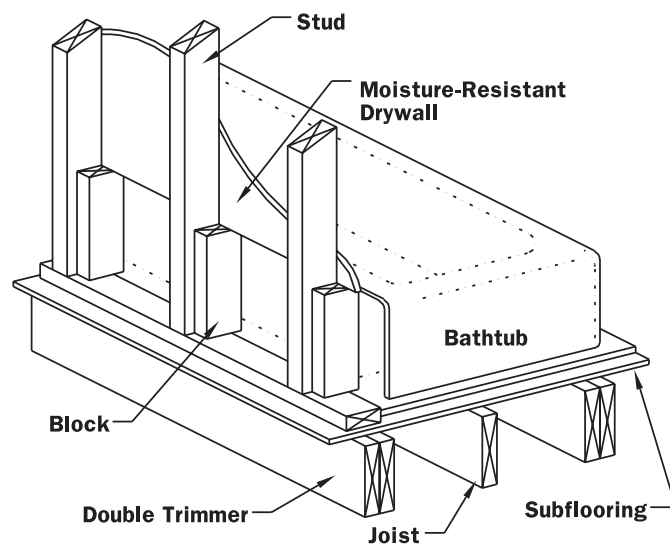


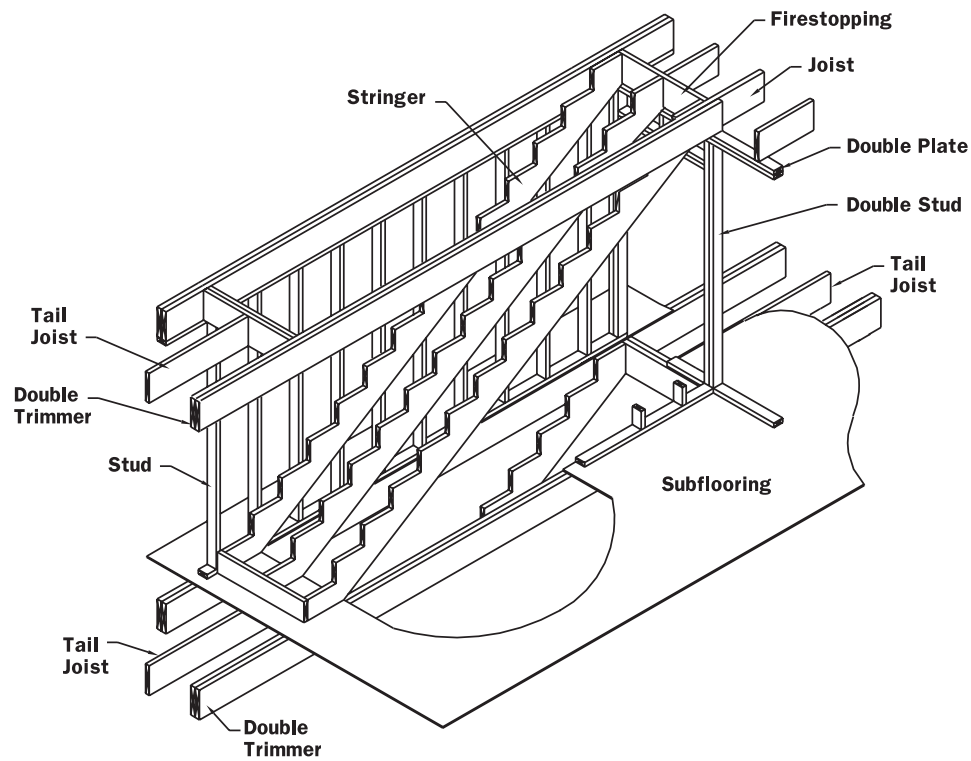
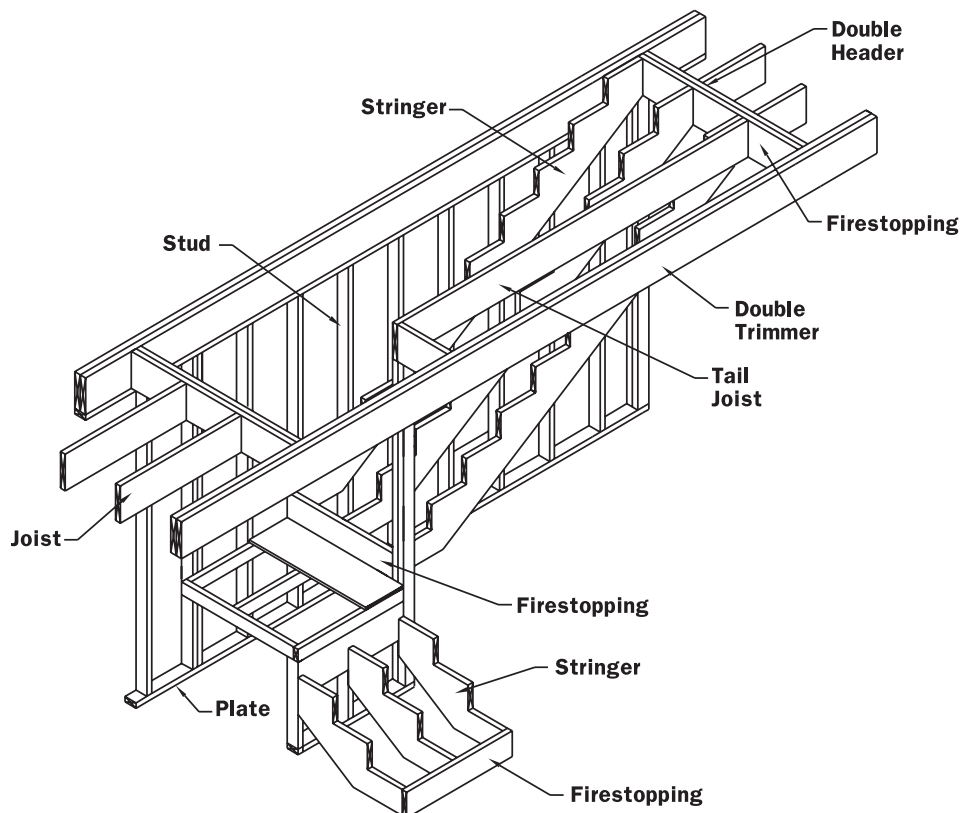
Figure 3.6a Floor Opening - Stairway**Figure 3.6b Floor Opening - Stairway With Landing**

Figure 3.7a Ceiling Bracing Gable Endwall

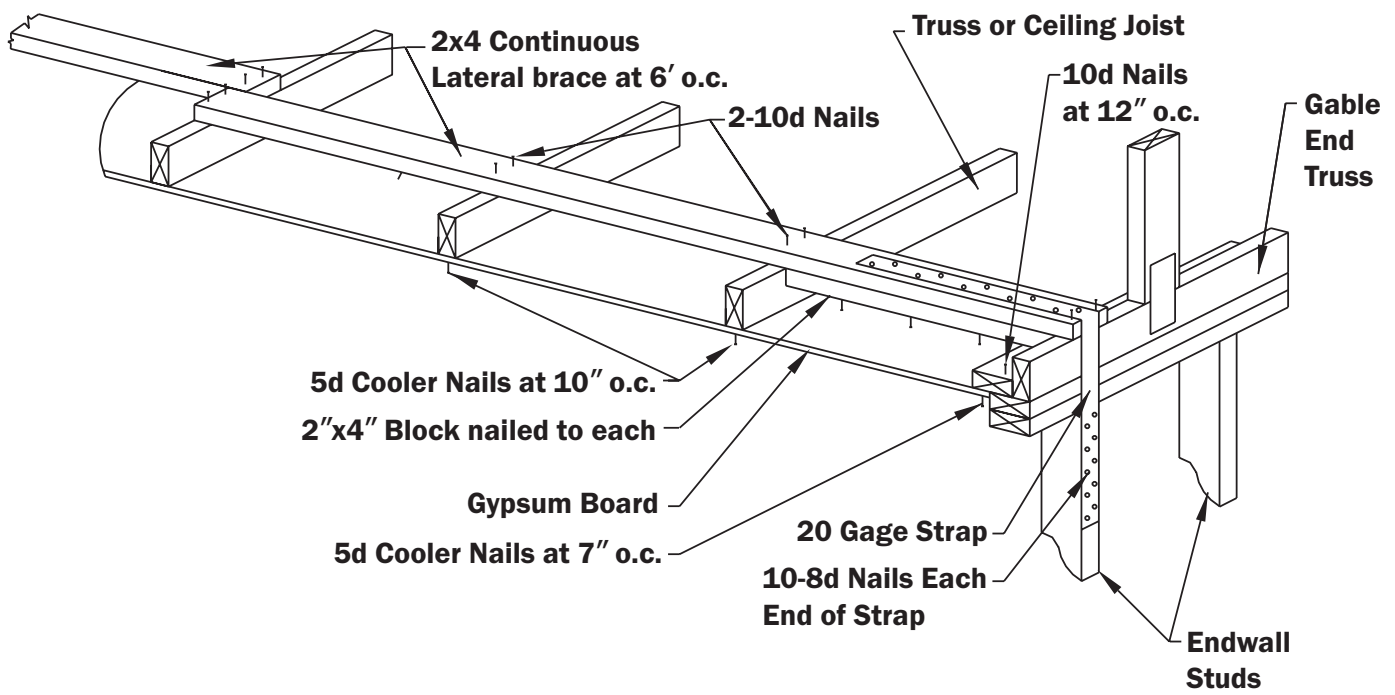


Figure 3.7b Floor Bracing Endwall (Floor or Roof)

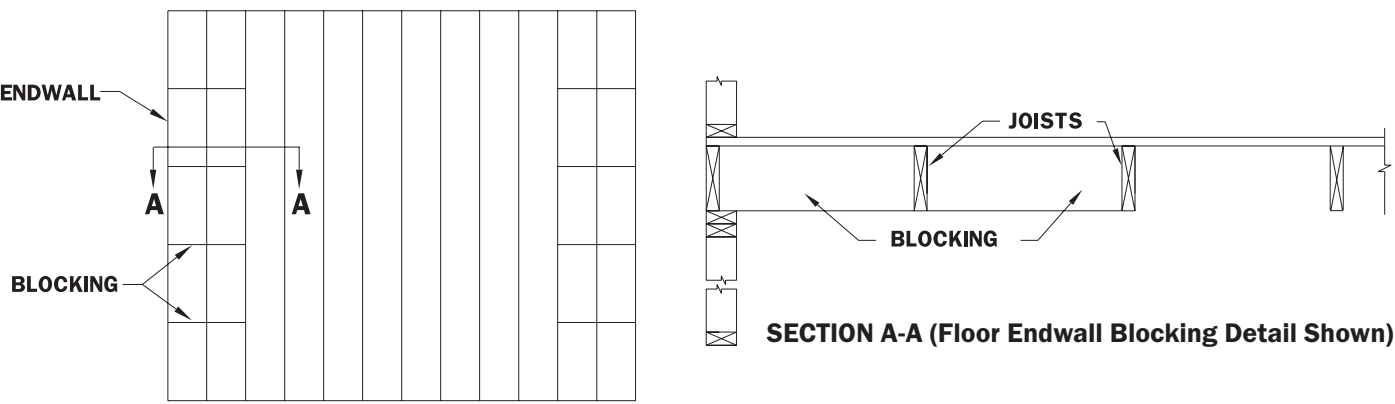


Figure 3.8a Corner Stud Hold-down Detail - 3 Studs With Blocking

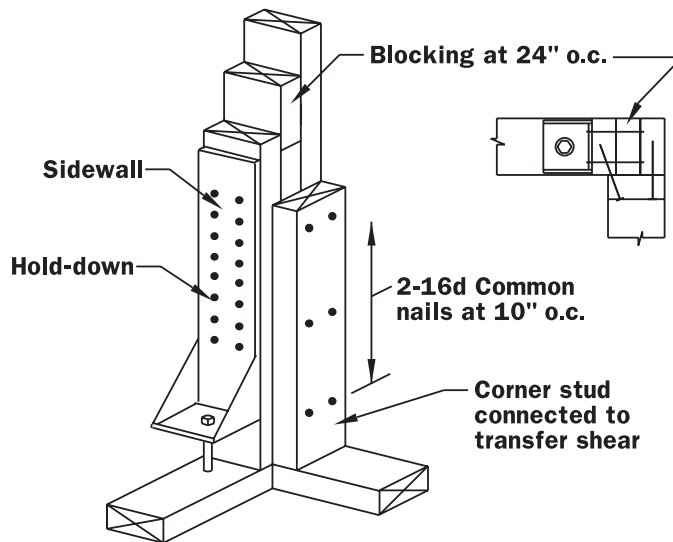


Figure 3.8b Corner Stud Hold-down Detail - 4 Studs

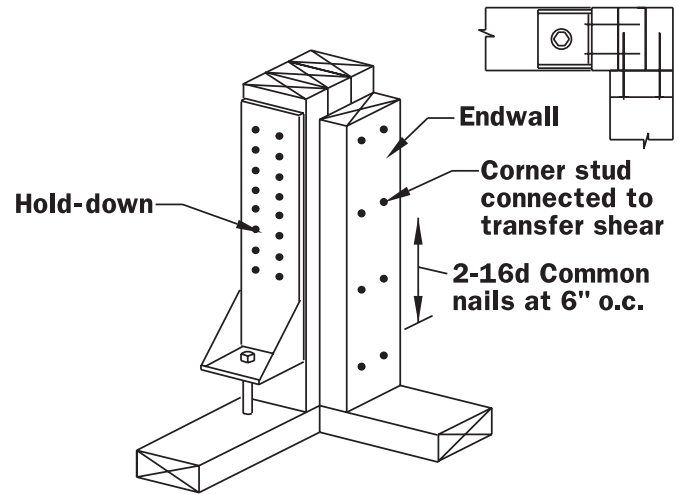


Figure 3.8c Interior Stud Detail

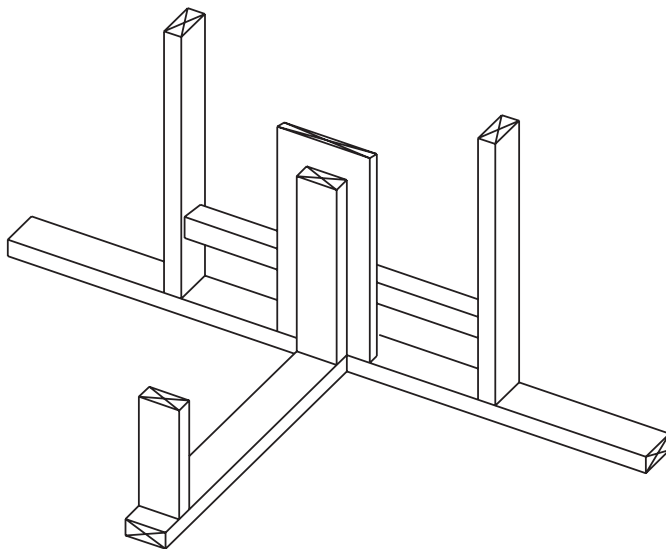


Figure 3.8d Top Plate Intersection Detail

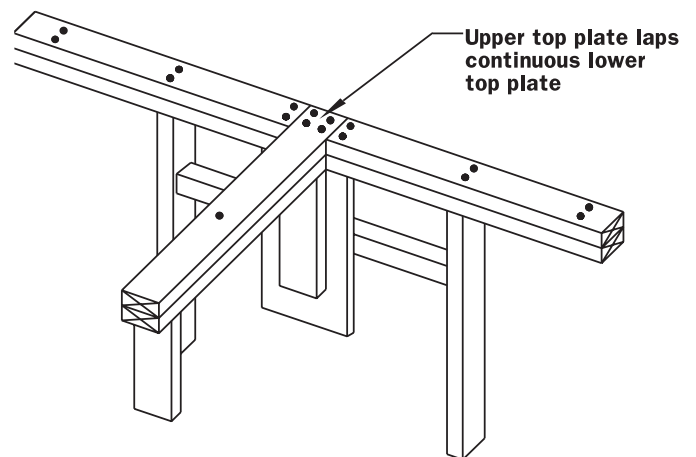


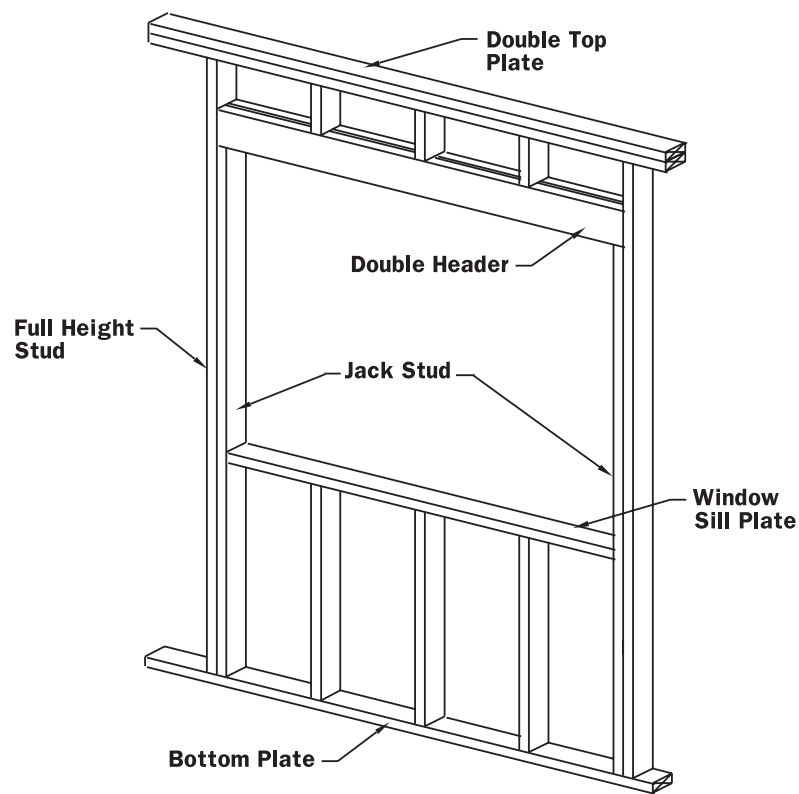
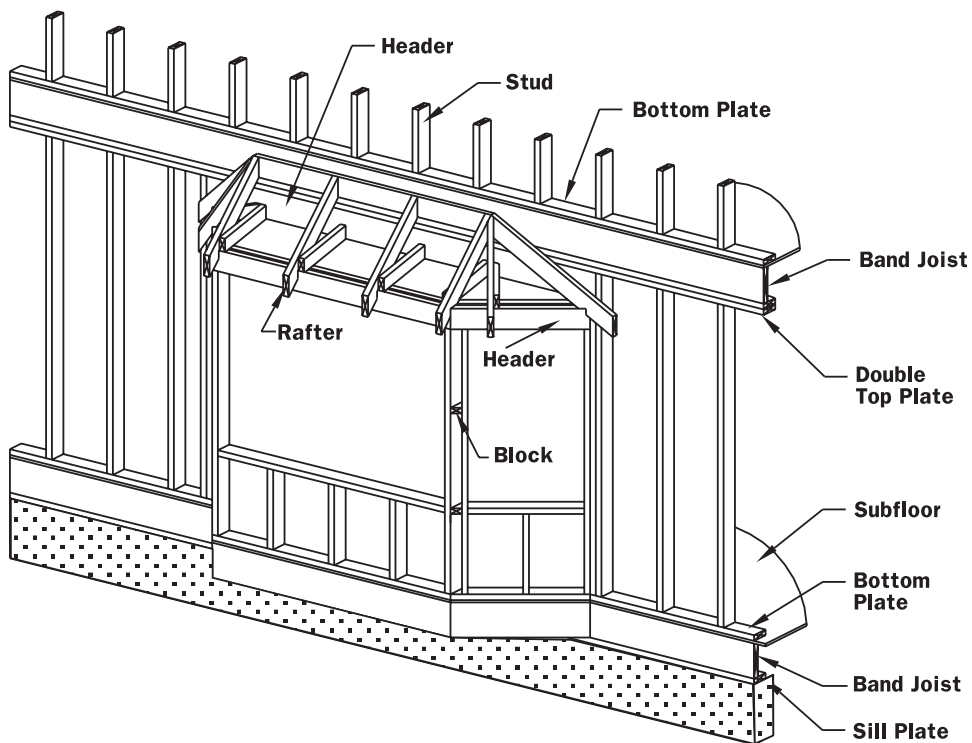
Figure 3.9a Studs and Headers Around Wall Openings

Figure 3.9b Studs and Headers Around Wall Openings - Bay Window


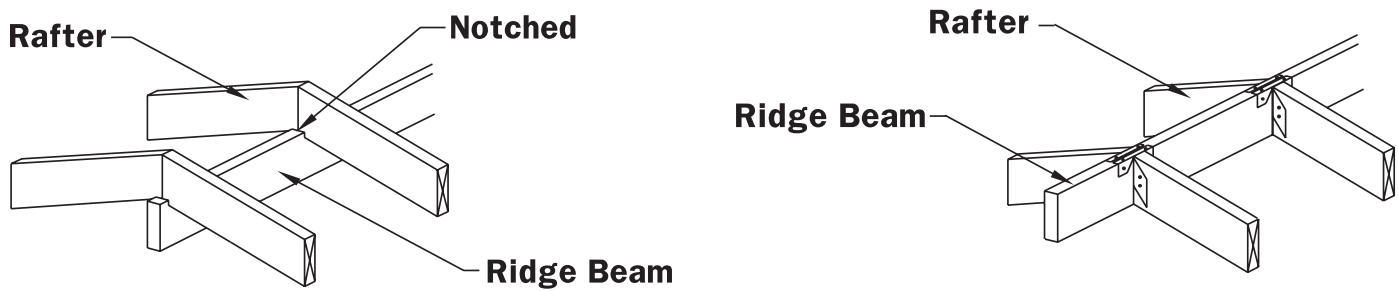
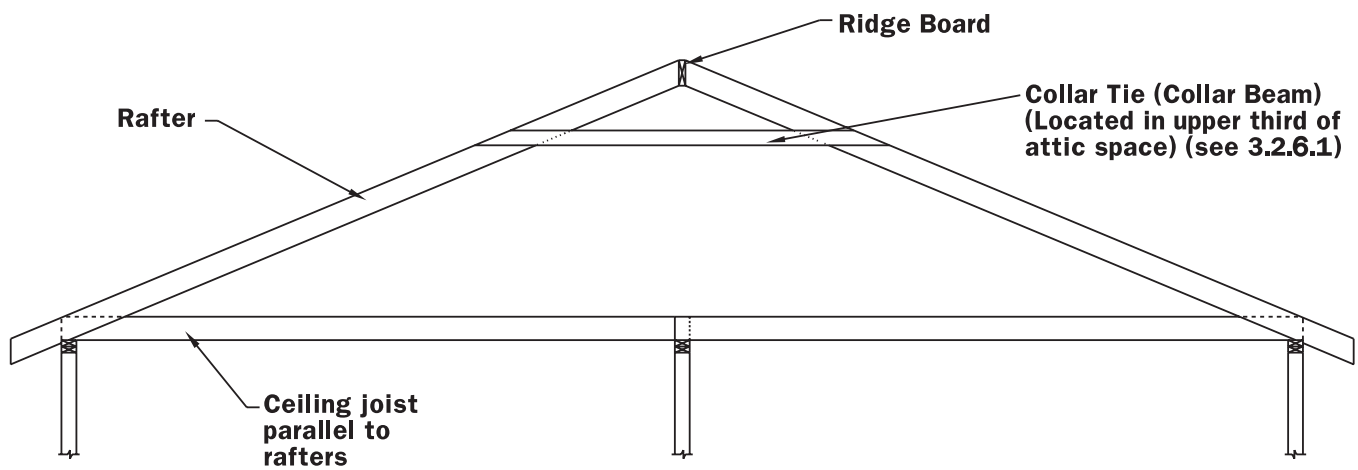
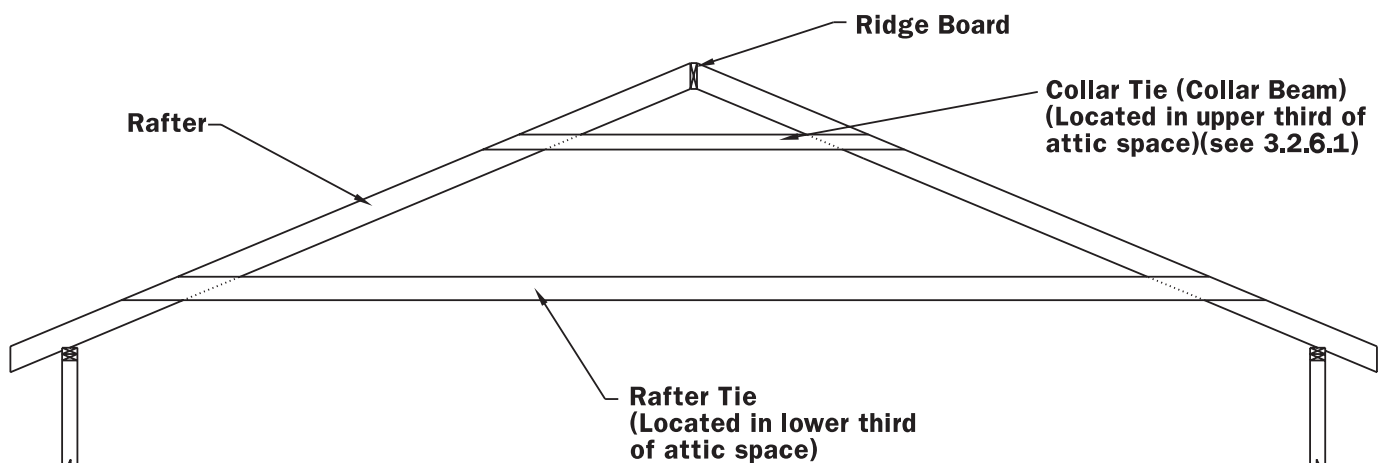
Figure 3.10a Ridge Beam Details**Figure 3.10b Ridge Board and Ceiling Joist Detail****Figure 3.10c Ridge Board and Rafter Tie Detail**

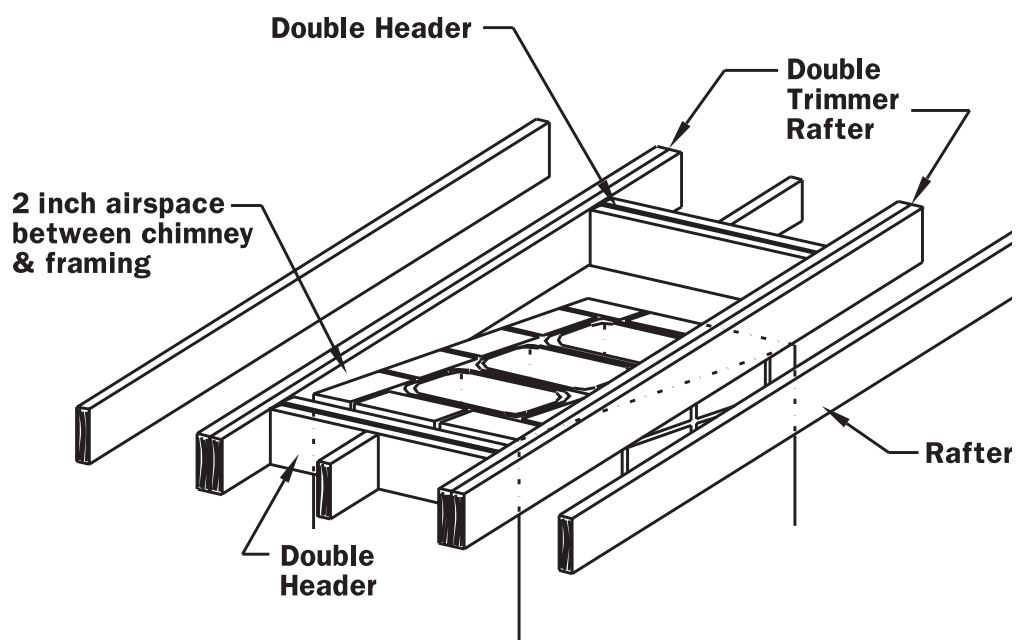
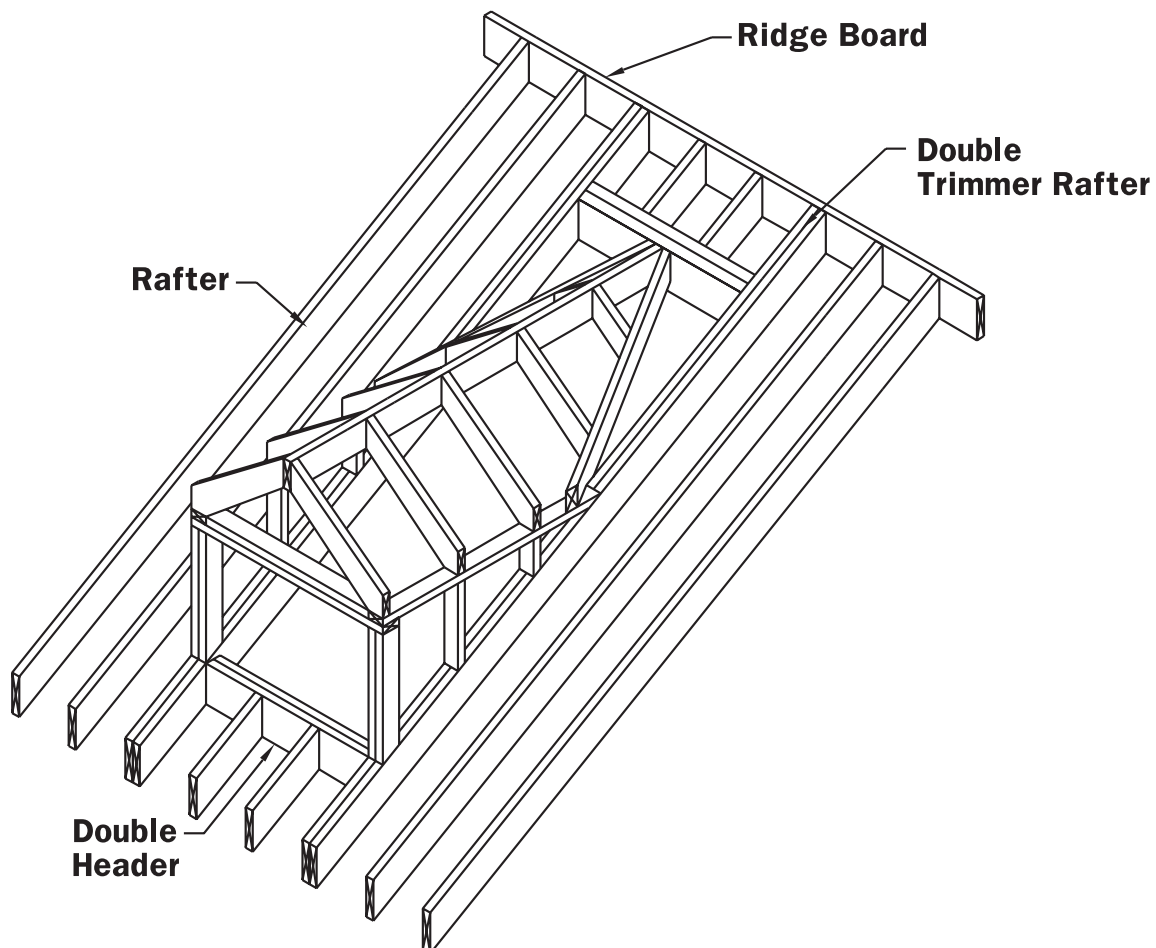
Figure 3.11a Roof Openings - Chimney**Figure 3.11b Roof Openings - Gable Dormer**

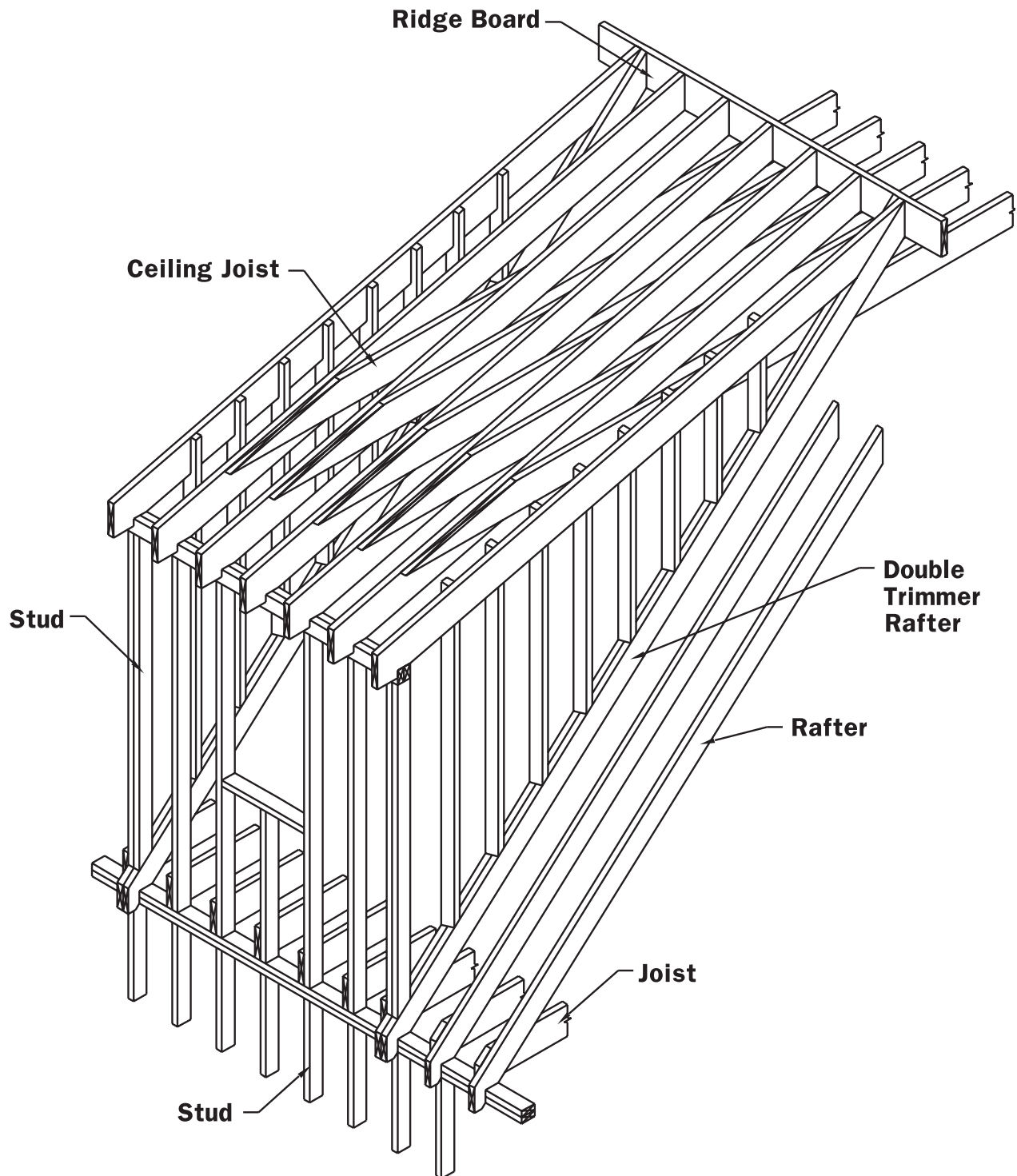
Figure 3.11c Roof Openings - Shed Dormer

Figure 3.12a Hip Roof Framing Detail

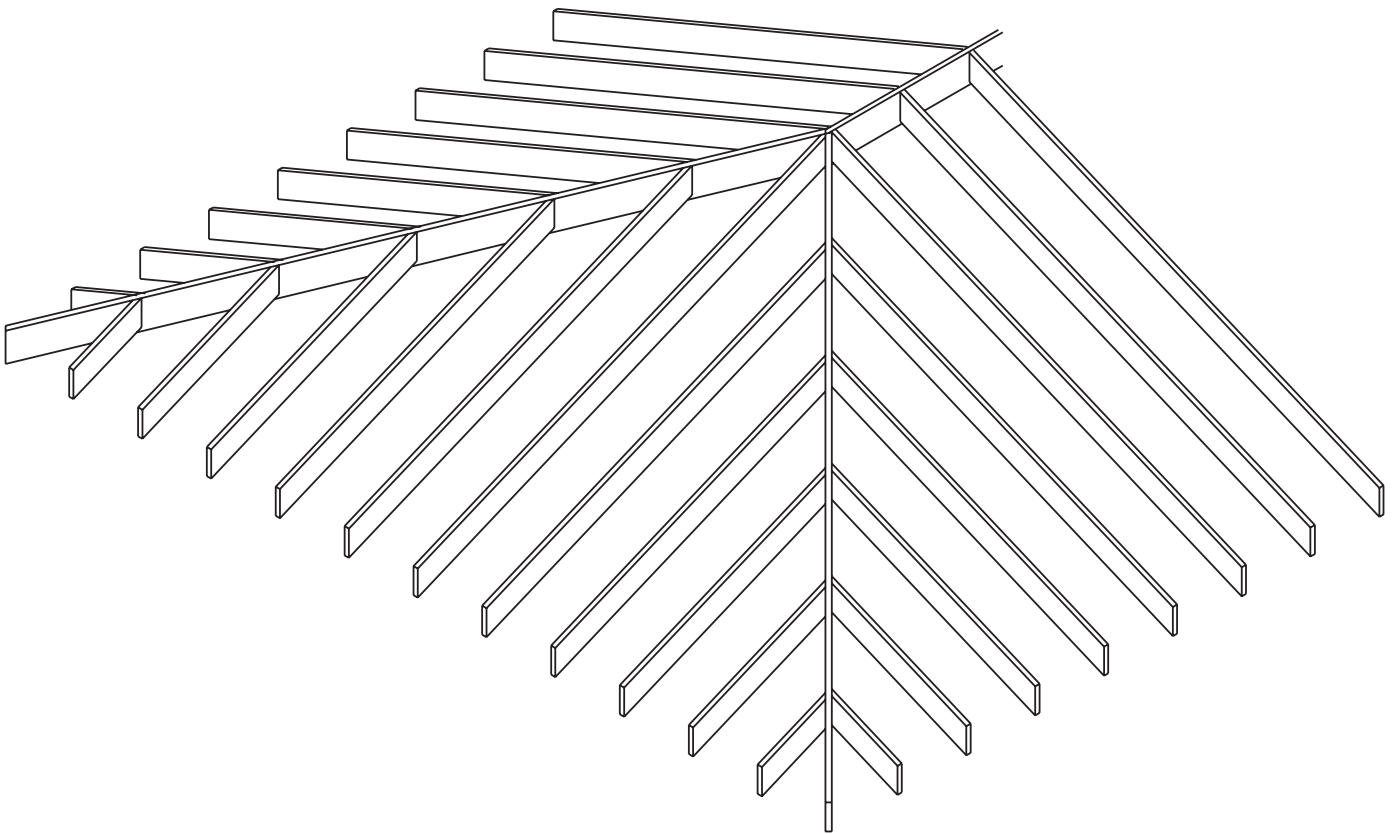
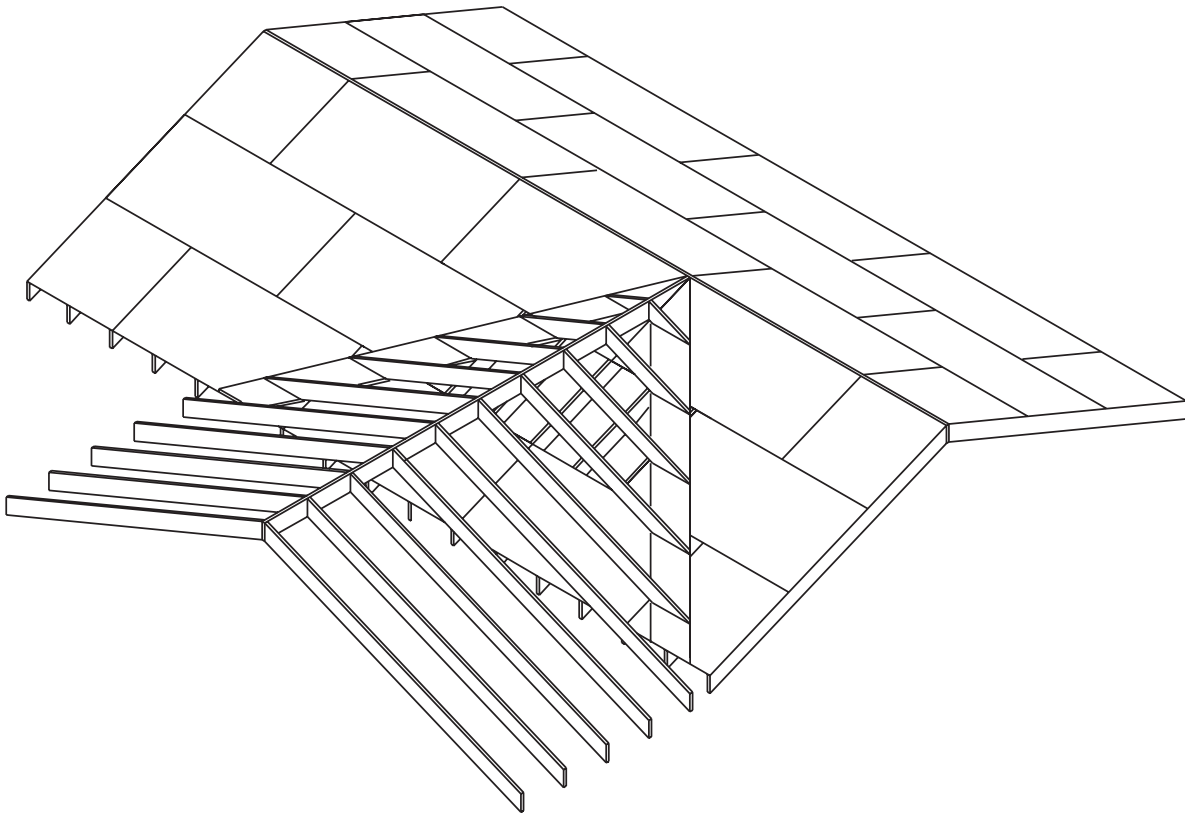
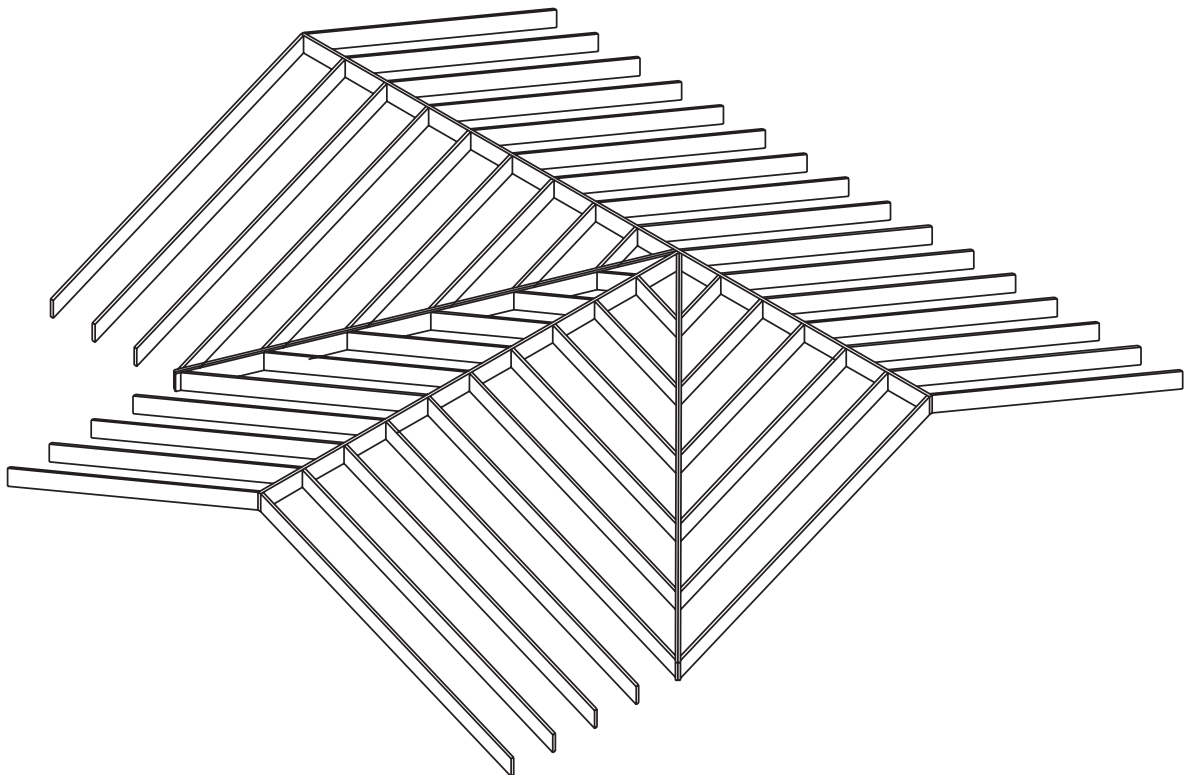


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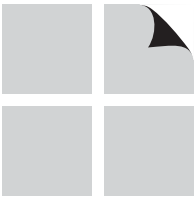


Table 3.1 Nailing Schedule

Joint Description	Number of Common Nails	Number of Box Nails	Nail Spacing
ROOF FRAMING			
Rafter to Top Plate (Toe-nailed)	(see Table 3.4A)	(see Table 3.4A)	per rafter
Ceiling Joist to Top Plate (Toe-nailed)	(see Table 3.4A)	(see Table 3.4A)	per joist
Ceiling Joist to Parallel Rafter (Face-nailed)	(see Table 3.9A)	(see Table 3.9A)	each lap
Ceiling Joist Laps over Partitions (Face-nailed)	(see Table 3.9A)	(see Table 3.9A)	each lap
Collar Tie to Rafter (Face-nailed)	(see Table 3.6)	(see Table 3.6)	per tie
Blocking to Rafter (Toe-nailed)	2- 8d	2-10d	each end
Rim Board to Rafter (End-nailed)	2-16d	3-16d	each end
WALL FRAMING			
Top Plate to Top Plate (Face-nailed)	2-16d ¹	2-16d ¹	per foot
Top Plates at Intersections (Face-nailed)	4-16d	5-16d	joints - each side
Stud to Stud (Face-nailed)	2-16d	2-16d	24" o.c.
Header to Header (Face-nailed)	16d	16d	16" o.c. along edges
Top or Bottom Plate to Stud (End-nailed)	(see Table 3.5A)	(see Table 3.5A)	per stud
Bottom Plate to Floor joist, Bandjoist, Endjoist or Blocking (Face-nailed)	2-16d ^{1,2}	2-16d ^{1,2}	per foot
FLOOR FRAMING			
Joist to Sill, Top Plate or Girder (Toe-nailed)	4- 8d	4-10d	per joist
Bridging to Joist (Toe-nailed)	2- 8d	2-10d	each end
Blocking to Joist (Toe-nailed)	2- 8d	2-10d	each end
Blocking to Sill or Top Plate (Toe-nailed)	3-16d	4-16d	each block
Ledger Strip to Beam (Face-nailed)	3-16d	4-16d	each joist
Joist on Ledger to Beam (Toe-nailed)	3- 8d	3-10d	per joist
Band Joist to Joist (End-nailed)	3-16d	4-16d	per joist
Band Joist to Sill or Top Plate (Toe-nailed)	2-16d ¹	3-16d	per foot
ROOF SHEATHING			
Wood Structural Panels	8d	10d	(see Table 3.10)
Diagonal Board Sheathing			
1"x6" or 1"x8"	2-8d	2-10d	per support
1"x10" or wider	3-8d	3-10d	per support
CEILING SHEATHING			
Gypsum Wallboard	5d coolers	5d coolers	7" edge / 10" field
WALL SHEATHING			
Wood Structural Panels	8d	10d	(see Table 3.11)
Structural Fiberboard Panels			
1/2"	11 ga. galv. roofing nail (0.120"x1-1/2"long x 7/16" head)	-	3" edge / 6" field
25/32"	11 ga. galv. roofing nail (0.120"x1-3/4"long x 3/8" head)	-	3" edge / 6" field
Gypsum Wallboard	5d coolers	5d coolers	7" edge / 10" field
Hardboard	8d	8d	(see Table 3.11)
Particleboard Panels	8d	8d	(see manufacturer)
Diagonal Board Sheathing			
1"x6" or 1"x8"	2-8d	2-10d	per support
1"x10" or wider	3-8d	3-10d	per support
FLOOR SHEATHING			
Wood Structural Panels			
1" or less	8d	10d	6" edge / 12" field
greater than 1"	10d	16d	6" edge / 12" field
Diagonal Board Sheathing			
1"x6" or 1"x8"	2-8d	2-10d	per support
1"x10" or wider	3-8d	3-10d	per support

¹ Nailing requirements are based on wall sheathing nailed 6 inches on-center at the panel edge. Alternative nailing schedules shall be used where wall sheathing nailing is reduced. For example, if wall sheathing is nailed 3 inches on-center at the panel edge to obtain higher shear capacities, nailing requirements for structural members shall be doubled, or alternate connectors shall be used to maintain the load path.

² When wall sheathing is continuous over connected members, the tabulated number of nails shall be permitted to be reduced to 1-16d nail per foot.

Table 3.2 Sill or Bottom Plate to Foundation Connection Requirements for Wind**Exposure B**

Dead Load Assumptions: Roof/Ceiling Assembly DL = 15 psf, Wall DL = 121 plf

Wind Speed 3-second gust (mph) (See Figure 1.1)			90			95			100			105		
Connections	Foundation Supporting	Roof Span (ft)	Required Capacity of Connection (plf) ^{1,2,3,4}											
			U	L	S	U	L	S	U	L	S	U	L	S
Sill Plate to Foundation (Crawl Space or Basement)	Roof & 1 Floor	12	-	*	101R	-	*	103R	-	*	111R	-	*	122R
		16	-			-			-			-		
		20	-			-			-			-		
		24	-			-			-			-		
		28	-			-			-			-		
		32	-			-			-			-		
		36	-			-			-			-		
	Roof & 2 Floors	20	-	*	154R	-	*	156R	-	*	167R	-	*	184R
		24	-			-			-			-		
		28	-			-			-			-		
		32	-			-			-			-		
		36	-			-			-			-		
	Roof & 3 Floors	28	-	*	207R	-	*	209R	-	*	223R	-	*	246R
		32	-			-			-			-		
		36	-			-			-			-		
Wall Bottom Plate to Foundation (Slab-on-Grade)	Roof	12	-	53	436 ³	-	59	436 ³	-	66	436 ³	-	72	436 ³
		16	-			-			-			-		
		20	-			-			-			-		
		24	-			-			-			-		
		28	-			-			-			-		
		32	-			-			-			-		
		36	-			-			-			-		
	Roof & 1 Floor	20	-	53	436 ³	-	59	436 ³	-	66	436 ³	-	72	436 ³
		24	-			-			-			-		
		28	-			-			-			-		
		32	-			-			-			-		
		36	-			-			-			-		
	Roof & 2 Floors	28	-	53	436 ³	-	59	436 ³	-	66	436 ³	-	72	436 ³
		32	-			-			-			-		
		36	-			-			-			-		

U = Connector uplift load.

L = Connector lateral load (perpendicular to the wall).

S = Connector shear load (parallel to the wall).

R = L/W for wind perpendicular to the ridge and W/L for wind parallel to the ridge, where W is the building width and L is the building length.

* Anchorage required to resist lateral loads shall be determined in the foundation design per Section 1.1.4.

See footnotes 1-4.

Table 3.2 Sill or Bottom Plate to Foundation Connection Requirements for Wind (Cont.)**Exposure B**

Dead Load Assumptions: Roof/Ceiling Assembly DL = 15 psf, Wall DL = 121 plf

Wind Speed 3-second gust (mph) (See Figure 1.1)			110			115			120			130			140		
Connections	Foundation Supporting	Roof Span (ft)	Required Capacity of Connection (plf) ^{1,2,3,4}														
			U	L	S	U	L	S	U	L	S	U	L	S	U	L	S
Sill Plate to Foundation (Crawl Space or Basement)	Roof & 1 Floor	12	-	*	134R	-	*	147R	-	*	160R	23	*	188R	49	*	218R
		16	-			-			10			40			73		
		20	-			6			23			58			96		
		24	-			16			35			76			120		
		28	6			27			48			94			144		
		32	14			37			61			112			168		
	36	22			47			74			131			192			
	Roof & 2 Floors	20	-	*	202R	-	*	221R	-	*	240R	-	*	282R	24	*	327R
		24	-			-			-			4			47		
		28	-			-			-			22			71		
		32	-			-			-			40			95		
		36	-			-			1			58			119		
	Roof & 3 Floors	28	-	*	270R	-	*	295R	-	*	321R	-	*	376R	-	*	437R
		32	-			-			-			-			23		
		36	-			-			-			-			47		
Wall Bottom Plate to Foundation (Slab-on-Grade)	Roof	12	-	79	436 ³	-	87	436 ³	-	94	436 ³	23	111	436 ³	49	129	436 ³
		16	-			-			10			40			73		
		20	-			6			23			58			96		
		24	-			16			35			76			120		
		28	6			27			48			94			144		
		32	14			37			61			112			168		
	36	22			47			74			131			192			
	Roof & 1 Floor	20	-	79	436 ³	-	87	436 ³	-	94	436 ³	-	111	436 ³	24	129	436 ³
		24	-			-			-			4			47		
		28	-			-			-			22			71		
		32	-			-			-			40			95		
		36	-			-			1			58			119		
	Roof & 2 Floors	28	-	79	436 ³	-	87	436 ³	-	94	436 ³	-	111	436 ³	-	129	436 ³
		32	-			-			-			-			23		
		36	-			-			-			-			47		

U = Connector uplift load.**L** = Connector lateral load (perpendicular to the wall).**S** = Connector shear load (parallel to the wall).**R** = L/W for wind perpendicular to the ridge and W/L for wind parallel to the ridge, where W is the building width and L is the building length.

* Anchorage required to resist lateral loads shall be determined in the foundation design per Section 1.1.4.

See footnotes 1-4.

Table 3.2 Sill or Bottom Plate to Foundation Connection Requirements for Wind (Cont.)**Exposure B**

Dead Load Assumptions: Roof/Ceiling Assembly DL = 15 psf, Wall DL = 121 plf

Wind Speed 3-second gust (mph) (See Figure 1.1)					150			160			170			180			195		
Connections	Foundation Supporting	Roof Span (ft)	Required Capacity of Connection (plf) ^{1,2,3,4}																
			U	L	S	U	L	S	U	L	S	U	L	S	U	L	S		
Sill Plate to Foundation (Crawl Space or Basement)	Roof & 1 Floor	12	78	*	250R	109	*	284R	141	*	321R	176	*	360R	231	*	422R		
		16	107			145			184			226			294				
		20	137			181			228			277			356				
		24	167			218			271			328			419				
		28	197			254			315			379			483				
		32	227			291			359			431			546				
		36	258			328			403			482			610				
	Roof & 2 Floors	20	65	*	376R	108	*	427R	155	*	482R	204	*	541R	284	*	635R		
		24	95			145			199			255			347				
		28	125			182			242			307			410				
		32	155			218			286			358			473				
		36	185			255			330			409			537				
	Roof & 3 Floors	28	52	*	501R	109	*	570R	170	*	644R	234	*	722R	338	*	847R		
		32	82			146			214			285			401				
		36	112			183			257			337			464				
	Wall Bottom Plate to Foundation (Slab-on-Grade)	Roof	12	78	148	436 ³	109	168	436 ³	141	190	436 ³	176	212	436 ³	231	249	436 ³	
			16	107			145			184			226			294			
			20	137			181			228			277			356			
24			167			218			271			328			419				
28			197			254			315			379			483				
32			227			291			359			431			546				
36			258			328			403			482			610				
Roof & 1 Floor		20	65	148	436 ³	108	168	436 ³	155	190	436 ³	204	212	436 ³	284	249	436 ³		
		24	95			145			199			255			347				
		28	125			182			242			307			410				
		32	155			218			286			358			473				
		36	185			255			330			409			537				
Roof & 2 Floors		28	52	148	436 ³	109	168	436 ³	170	190	436 ³	234	212	436 ³	338	249	436 ³		
		32	82			146			214			285			401				
		36	112			183			257			337			464				

U = Connector uplift load.

L = Connector lateral load (perpendicular to the wall).

S = Connector shear load (parallel to the wall).

R = L/W for wind perpendicular to the ridge and W/L for wind parallel to the ridge, where W is the building width and L is the building length.

* Anchorage required to resist lateral loads shall be determined in the foundation design per Section 1.1.4.

See footnotes 1-4.

Table 3.2 Sill or Bottom Plate to Foundation Connection Requirements for Wind**Exposure C**

Dead Load Assumptions: Roof/Ceiling Assembly DL = 15 psf, Wall DL = 121 plf

Wind Speed 3-second gust (mph) (See Figure 1.1)			90			95			100			105			
Connections	Foundation Supporting	Roof Span (ft)	Required Capacity of Connection (plf) ^{1,2,3,4}												
			U	L	S	U	L	S	U	L	S	U	L	S	
Sill Plate to Foundation (Crawl Space or Basement)	Roof & 1 Floor	12	-	*	125R	-	*	139R	-	*	154R	9	*	170R	
		16	-			-			7			24			
		20	-			-			18			38			
		24	-			8			30			53			
		28	-			17			41			68			
		32	-			25			53			82			
		36	5			34			65			97			
	Roof & 2 Floors	20	-	*	188R	-	*	209R	-	*	232R	-	*	256R	
		24	-			-			-			-			
		28	-			-			-			-			
		32	-			-			-			12			
		36	-			-			-			27			
	Roof & 3 Floors	28	-	*	251R	-	*	279R	-	*	309R	-	*	341R	
		32	-			-			-			-			
		36	-			-			-			-			
	Wall Bottom Plate to Foundation (Slab-on-Grade)	Roof	12	-	74	436 ³	-	82	436 ³	-	91	436 ³	9	100	436 ³
			16	-			-			7			24		
			20	-			-			18			38		
24			-			8			30			53			
28			-			17			41			68			
32			-			25			53			82			
36			5			34			65			97			
Roof & 1 Floor		20	-	74	436 ³	-	82	436 ³	-	91	436 ³	-	100	436 ³	
		24	-			-			-			-			
		28	-			-			-			-			
		32	-			-			-			12			
		36	-			-			-			27			
Roof & 2 Floors		28	-	74	436 ³	-	82	436 ³	-	91	436 ³	-	100	436 ³	
		32	-			-			-			-			
		36	-			-			-			-			

U = Connector uplift load.

L = Connector lateral load (perpendicular to the wall).

S = Connector shear load (parallel to the wall).

R = L/W for wind perpendicular to the ridge and W/L for wind parallel to the ridge, where W is the building width and L is the building length.

* Anchorage required to resist lateral loads shall be determined in the foundation design per Section 1.1.4.
See footnotes 1-4.

Table 3.2 Sill or Bottom Plate to Foundation Connection Requirements for Wind (Cont.)**Exposure C**

Dead Load Assumptions: Roof/Ceiling Assembly DL = 15 psf, Wall DL = 121 plf

Wind Speed 3-second gust (mph) (See Figure 1.1)			110			115			120			130			140		
Connections	Foundation Supporting	Roof Span (ft)	Required Capacity of Connection (plf) ^{1,2,3,4}														
			U	L	S	U	L	S	U	L	S	U	L	S	U	L	S
Sill Plate to Foundation (Crawl Space or Basement)	Roof & 1 Floor	12	24	*	187R	40	*	204R	56	*	222R	90	*	261R	127	*	302R
		16	42			60			80			122			167		
		20	59			81			104			153			206		
		24	77			103			129			186			246		
		28	95			124			154			218			287		
		32	113			145			179			250			327		
		36	131			166			203			282			367		
	Roof & 2 Floors	20	-	*	280R	11	*	307R	34	*	334R	83	*	392R	136	*	454R
		24	7			33			59			116			176		
		28	25			54			84			148			217		
		32	43			75			109			180			257		
		36	61			96			133			212			297		
	Roof & 3 Floors	28	-	*	374R	-	*	409R	14	*	445R	78	*	523R	147	*	606R
		32	-			5			39			110			187		
		36	-			26			63			142			227		
Wall Bottom Plate to Foundation (Slab-on-Grade)	Roof	12	24	110	436 ³	40	120	436 ³	56	131	436 ³	90	154	436 ³	127	179	436 ³
		16	42			60			80			122			167		
		20	59			81			104			153			206		
		24	77			103			129			186			246		
		28	95			124			154			218			287		
		32	113			145			179			250			327		
		36	131			166			203			282			367		
	Roof & 1 Floor	20	-	110	436 ³	11	120	436 ³	34	131	436 ³	83	154	436 ³	136	179	436 ³
		24	7			33			59			116			176		
		28	25			54			84			148			217		
		32	43			75			109			180			257		
		36	61			96			133			212			297		
	Roof & 2 Floors	28	-	110	436 ³	-	120	436 ³	14	131	436 ³	78	154	436 ³	147	179	436 ³
		32	-			5			39			110			187		
		36	-			26			63			142			227		

U = Connector uplift load.

L = Connector lateral load (perpendicular to the wall).

S = Connector shear load (parallel to the wall).

R = L/W for wind perpendicular to the ridge and W/L for wind parallel to the ridge, where W is the building width and L is the building length.

* Anchorage required to resist lateral loads shall be determined in the foundation design per Section 1.1.4.

See footnotes 1-4.

Table 3.2 Sill or Bottom Plate to Foundation Connection Requirements for Wind (Cont.)**Exposure C**

Dead Load Assumptions: Roof/Ceiling Assembly DL = 15 psf, Wall DL = 121 plf

Wind Speed 3-second gust (mph) (See Figure 1.1)					150			160			170			180			195		
Connections	Foundation Supporting	Roof Span (ft)	Required Capacity of Connection (plf) ^{1,2,3,4}																
			U	L	S	U	L	S	U	L	S	U	L	S	U	L	S		
Sill Plate to Foundation (Crawl Space or Basement)	Roof & 1 Floor	12	167	*	347R	210	*	395R	255	*	446R	303	*	500R	380	*	587R		
		16	215			267			322			380			474				
		20	263			324			389			458			568				
		24	312			382			456			535			662				
		28	361			440			524			614			757				
		32	410			498			592			692			852				
		36	459			556			660			770			947				
	Roof & 2 Floors	20	193	*	522R	254	*	593R	319	*	670R	388	*	751R	498	*	881R		
		24	242			312			386			465			592				
		28	291			370			454			544			687				
		32	340			428			522			622			782				
		36	389			486			590			700			877				
	Roof & 3 Floors	28	221	*	696R	300	*	792R	384	*	894R	474	*	1002R	617	*	1176R		
		32	270			358			452			552			712				
		36	319			416			520			630			807				
Wall Bottom Plate to Foundation (Slab-on-Grade)	Roof	12	167	205	436 ³	210	233	436 ³	255	263	436 ³	303	295	436 ³	380	346	436 ³		
		16	215			267			322			380			474				
		20	263			324			389			458			568				
		24	312			382			456			535			662				
		28	361			440			524			614			757				
		32	410			498			592			692			852				
		36	459			556			660			770			947				
	Roof & 1 Floor	20	193	205	436 ³	254	233	436 ³	319	263	436 ³	388	295	436 ³	498	346	436 ³		
		24	242			312			386			465			592				
		28	291			370			454			544			687				
		32	340			428			522			622			782				
		36	389			486			590			700			877				
	Roof & 2 Floors	28	221	205	436 ³	300	233	436 ³	384	263	436 ³	474	295	436 ³	617	346	436 ³		
		32	270			358			452			552			712				
		36	319			416			520			630			807				

U = Connector uplift load.

L = Connector lateral load (perpendicular to the wall).

S = Connector shear load (parallel to the wall).

R = L/W for wind perpendicular to the ridge and W/L for wind parallel to the ridge, where W is the building width and L is the building length.

* Anchorage required to resist lateral loads shall be determined in the foundation design per Section 1.1.4.

See footnotes 1-4.

Footnotes for Table 3.2

- ¹ Tabulated uplift and lateral loads shall be permitted to be multiplied by 0.75 and 0.92, respectively, for framing not located within 8 feet of building corners.
- ² Tabulated connection requirements are based on total uplift minus the roof assembly dead load of 9 psf (0.6 x 15 psf = 9 psf) and wall assembly dead load of 73 plf (0.6 x 121 plf).
- ³ Tabulated shear capacity requirements assume all walls are sheathed in accordance with Section 3.4.4.2. For other wall sheathing types the tabulated shear capacity of the connection shall be divided by the appropriate sheathing type adjustment factor in Table 3.17D.
- ⁴ Tabulated shear capacity is tabulated based upon a 10 ft wall height and 10 ft top plate to ridge height. For other conditions, multiply value by the following adjustment.

		Roof + 1 Floor		Roof + 2 Floors		Roof + 3 Floors	
Wall Height		8'	10'	8'	10'	8'	10'
Roof Pitch	Top Plate to Ridge Height (ft)	Adjustment Factor					
≤6:12	0' (flat)	0.58	0.72	0.66	0.81	0.70	0.86
	5'	0.66	0.79	0.71	0.86	0.74	0.90
	10'	0.74	0.87	0.76	0.91	0.78	0.94
>6:12	5'	0.72	0.86	0.75	0.90	0.77	0.93
	10'	0.87	1.00	0.85	1.00	0.84	1.00
	15'	1.01	1.14	0.95	1.10	0.91	1.07
	20'	1.15	1.29	1.04	1.19	0.99	1.14

Table 3.2A Sill Plate to Foundation Connections Resisting Shear Loads from Wind*
(Prescriptive Alternative to Table 3.2)

Exposure B

Wind Speed 3-second gust (mph) (See Figure 1.1)			90	95	100	105	110	115	120	130	140	150	160	170	180	190
Anchor Bolt Size	Foundation Supporting	Building Dimension Perpendicular to Sill Plate (ft)	Number of Bolts Required in Sill Plate ^{1,2,3,4}													
1/2"	Roof & 1 Floor	12	2	2	2	2	2	2	2	3	3	3	4	4	4	5
		16	2	2	2	2	2	3	3	3	4	4	5	5	6	7
		20	2	2	3	3	3	3	3	4	5	5	6	6	7	8
		24	3	3	3	3	3	4	4	5	5	6	7	8	8	10
		28	3	3	3	4	4	4	5	5	6	7	8	9	10	11
		32	3	4	4	4	4	5	5	6	7	8	9	10	11	13
		36	4	4	4	5	5	5	6	7	8	9	10	11	12	14
		40	4	4	5	5	5	6	6	7	9	10	11	12	14	16
		50	5	5	6	6	7	7	8	9	11	12	14	15	17	20
		60	6	6	7	7	8	9	9	11	13	14	16	18	20	24
		70	7	7	8	8	9	10	11	13	15	17	19	21	24	28
		80	8	8	9	10	10	11	12	14	17	19	21	24	27	32
	Roof & 2 Floors	20	3	3	4	4	4	5	5	6	7	7	8	9	10	12
		24	4	4	4	5	5	5	6	7	8	9	10	11	12	14
		28	4	5	5	5	6	6	7	8	9	10	11	13	14	17
		32	5	5	5	6	6	7	8	9	10	12	13	15	16	19
		36	6	6	6	7	7	8	8	10	11	13	15	16	18	21
		40	6	6	7	7	8	9	9	11	13	14	16	18	20	24
		50	8	8	8	9	10	11	12	13	16	18	20	23	25	30
		60	9	9	10	11	12	13	14	16	19	21	24	27	30	35
	Roof & 3 Floors	28	6	6	6	7	7	8	9	10	12	13	15	17	19	22
		32	7	7	7	8	8	9	10	12	13	15	17	19	22	25
		36	7	7	8	9	9	10	11	13	15	17	19	22	24	29
		40	8	8	9	10	10	11	12	14	17	19	21	24	27	32
		50	10	10	11	12	13	14	15	18	21	24	27	30	34	39
		60	12	12	13	14	15	17	18	21	25	28	32	36	40	47
		70	14	14	15	16	18	19	21	25	29	33	37	42	47	55
		80	16	16	17	19	20	22	24	28	33	37	42	48	54	63
5/8"	Roof & 1 Floor	12	1	1	1	1	2	2	2	2	2	2	3	3	3	4
		16	2	2	2	2	2	2	2	2	3	3	3	4	4	5
		20	2	2	2	2	2	2	3	3	3	3	4	5	5	6
		24	2	2	2	2	3	3	3	3	4	4	5	5	6	7
		28	2	2	3	3	3	3	3	4	4	5	6	6	7	8
		32	3	3	3	3	3	4	4	4	5	6	6	7	8	9
		36	3	3	3	3	4	4	4	5	6	6	7	8	9	10
		40	3	3	3	4	4	4	5	5	6	7	8	9	10	11
		50	4	4	4	4	5	5	6	7	8	9	10	11	12	14
		60	4	4	5	5	6	6	7	8	9	10	11	13	14	17
	Roof & 2 Floors	20	2	3	3	3	3	3	4	4	5	5	6	7	7	9
		24	3	3	3	3	3	4	4	5	6	6	7	8	9	10
		28	3	3	4	4	4	4	5	6	6	7	8	9	10	12
		32	4	4	4	4	5	5	5	6	7	8	9	10	12	14
		36	4	4	4	5	5	6	6	7	8	9	10	12	13	15
		40	4	5	5	5	6	6	7	8	9	10	12	13	14	17
		50	5	6	6	6	7	8	8	10	11	13	14	16	18	21
		60	6	7	7	8	8	9	10	11	13	15	17	19	21	25
	Roof & 3 Floors	28	4	4	5	5	5	6	6	7	8	10	11	12	14	16
		32	5	5	5	6	6	7	7	8	10	11	12	14	15	18
		36	5	5	6	6	7	7	8	9	11	12	14	15	17	20
		40	6	6	6	7	7	8	9	10	12	13	15	17	19	22
		50	7	7	8	8	9	10	11	13	15	17	19	21	24	28
		60	9	9	9	10	11	12	13	15	17	20	23	25	28	33
		70	10	10	11	12	13	14	15	17	20	23	26	30	33	39
		80	11	11	12	13	14	16	17	20	23	26	30	34	38	44

* Anchorage required to resist lateral loads shall be determined in the foundation design per Section 1.1.4.

See footnotes 1-4.

3

PREScriptive DESIGN

Table 3.2A Sill Plate to Foundation Connections Resisting Shear Loads from Wind*
(Prescriptive Alternative to Table 3.2)

Exposure C

Wind Speed 3-second gust (mph) (See Figure 1.1)			90	95	100	105	110	115	120	130	140	150	160	170	180	195
Anchor Bolt Size	Foundation Supporting	Building Dimension Perpendicular to Sill Plate (ft)	Number of Bolts Required in Sill Plate ^{1,2,3,4}													
1/2"	Roof & 1 Floor	12	2	2	2	2	3	3	3	3	4	4	5	5	6	7
		16	2	3	3	3	3	4	4	4	5	6	6	7	8	9
		20	3	3	3	4	4	4	5	5	6	7	8	9	10	11
		24	3	4	4	4	5	5	5	6	7	8	9	10	12	13
		28	4	4	4	5	5	6	6	7	8	9	11	12	13	16
		32	4	5	5	6	6	7	7	8	9	11	12	14	15	18
		36	5	5	6	6	7	7	8	9	11	12	14	15	17	20
		40	5	6	6	7	7	8	9	10	12	13	15	17	19	22
		50	6	7	8	8	9	10	11	12	14	16	19	21	23	27
		60	7	8	9	10	11	12	13	15	17	20	22	25	28	33
		70	9	9	10	11	13	14	15	17	20	23	26	29	33	38
		80	10	11	12	13	14	16	17	20	23	26	30	33	37	44
	Roof & 2 Floors	20	4	4	5	5	6	6	7	8	9	10	11	13	14	17
		24	5	5	6	6	7	7	8	9	11	12	14	15	17	20
		28	5	6	6	7	8	8	9	11	12	14	16	18	20	23
		32	6	7	7	8	9	10	10	12	14	16	18	20	23	26
		36	7	7	8	9	10	11	12	13	16	18	20	23	25	30
		40	7	8	9	10	11	12	13	15	17	20	22	25	28	33
		50	9	10	11	12	13	15	16	19	21	24	28	31	35	41
		60	11	12	13	15	16	17	19	22	26	29	33	37	42	49
	Roof & 3 Floors	28	7	8	8	9	10	11	12	14	16	18	21	24	26	31
		32	8	9	10	11	12	13	14	16	18	21	24	27	30	35
		36	9	10	11	12	13	14	15	18	21	24	27	30	34	39
		40	10	11	12	13	14	16	17	20	23	26	30	33	37	44
		50	12	13	15	16	18	19	21	25	28	32	37	42	47	55
		60	14	16	18	19	21	23	25	29	34	39	44	50	56	65
		70	17	18	20	22	25	27	29	34	40	45	51	58	65	76
		80	19	21	23	26	28	31	33	39	45	52	59	66	74	87
5/8"	Roof & 1 Floor	12	1	2	2	2	2	2	2	3	3	3	4	4	4	5
		16	2	2	2	2	2	3	3	3	4	4	5	5	6	7
		20	2	2	2	3	3	3	3	4	4	5	6	6	7	8
		24	2	3	3	3	3	4	4	5	5	6	7	7	8	10
		28	3	3	3	4	4	4	5	5	6	7	8	9	10	11
		32	3	3	4	4	4	5	5	6	7	8	9	10	11	13
		36	3	4	4	4	5	5	6	7	8	9	10	11	12	14
		40	4	4	4	5	5	6	6	7	8	9	11	12	13	16
		50	5	5	5	6	7	7	8	9	10	12	13	15	17	19
		60	5	6	6	7	8	8	9	11	12	14	16	18	20	23
	Roof & 2 Floors	20	3	3	3	4	4	4	5	6	6	7	8	9	10	12
		24	3	4	4	4	5	5	6	7	8	9	10	11	12	14
		28	4	4	5	5	6	6	7	8	9	10	11	13	14	16
		32	4	5	5	6	6	7	7	9	10	11	13	14	16	19
		36	5	5	6	6	7	8	8	10	11	13	14	16	18	21
		40	5	6	6	7	8	8	9	11	12	14	16	18	20	23
		50	7	7	8	9	10	10	11	13	15	17	20	22	25	29
		60	8	9	9	10	11	12	13	16	18	21	23	26	30	35
	Roof & 3 Floors	28	5	6	6	7	7	8	9	10	11	13	15	17	19	22
		32	6	6	7	8	8	9	10	11	13	15	17	19	21	25
		36	6	7	8	8	9	10	11	13	15	17	19	21	24	28
		40	7	8	8	9	10	11	12	14	16	18	21	24	26	31
		50	9	9	10	11	13	14	15	17	20	23	26	29	33	38
		60	10	11	12	14	15	16	18	21	24	27	31	35	39	46
		70	12	13	14	16	17	19	21	24	28	32	36	41	46	54
		80	13	15	16	18	20	22	23	27	32	36	41	47	52	61

* Anchorage required to resist lateral loads shall be determined in the foundation design per Section 1.1.4.

See footnotes 1-4.

Footnotes for Table 3.2A

Exposures B and C

- ¹ Prescriptive limits are based on assumptions in Table 3.2.
- ² Anchor bolts shall be uniformly distributed along the length of the sill plate. For anchor bolt limitations see Section 3.2.1.7.
- ³ Sill plates are assumed to be treated Southern Pine.
- ⁴ Tabulated shear capacity is tabulated based upon a 10 ft wall height and 10 ft top plate to ridge height. For other conditions, multiply value by the following adjustment.

	Wall Height	Roof + 1 Floor		Roof + 2 Floors		Roof + 3 Floors	
		8'	10'	8'	10'	8'	10'
Roof Pitch	Top Plate to Ridge Height (ft)	Adjustment Factor					
≤6:12	0' (flat)	0.58	0.72	0.66	0.81	0.70	0.86
	5'	0.66	0.79	0.71	0.86	0.74	0.90
	10'	0.74	0.87	0.76	0.91	0.78	0.94
>6:12	5'	0.72	0.86	0.75	0.90	0.77	0.93
	10'	0.87	1.00	0.85	1.00	0.84	1.00
	15'	1.01	1.14	0.95	1.10	0.91	1.07
	20'	1.15	1.29	1.04	1.19	0.99	1.14

Table 3.2B Bottom Plate to Foundation Connections (Anchor Bolts) Resisting Lateral and Shear Loads from Wind
(Prescriptive Alternative to Table 3.2)

Exposures B and C

For Exposures B & C and all Wind Speeds	
Anchor Bolt Diameter (in.)	Maximum Anchor Bolt Spacing (in.) ^{1,2,3,4}
1/2"	31
5/8"	48

- Prescriptive limits are based on assumptions in Table 3.2.
- When anchor bolts are used to resist uplift, lateral, and shear loads, the maximum anchor bolt spacing shall not exceed the lesser of the tabulated values for uplift loads (Table 3.2C) or lateral and shear loads (Table 3.2B). For other anchor bolt limitations see Section 3.2.1.7 and 3.2.2.3.
- Tabulated anchor bolt spacings for shear loads assume walls are sheathed in accordance with section 3.4.4.2. For other wall sheathing types the tabulated anchor bolt spacings shall be multiplied by the appropriate sheathing type adjustment factor in Table 3.17D, but in no case shall anchor bolt spacings exceed 6 feet on center.
- Lateral connections shall be designed to resist the loads in Table 3.5.

Table 3.2C Sill or Bottom Plate to Foundation Connections (Anchor Bolts) Resisting Uplift Loads from Wind
(Prescriptive Alternative to Table 3.2)

Exposure B

Wind Speed 3-second gust (mph) (See Figure 1.1)			90	95	100	105	110	115	120	130	140	150	160	170	180	195
Sill or Bottom Plate to Foundation Anchor Bolt Connection Resisting	Plate Size	Foundation Supporting	Maximum Anchor Bolt Spacing (in.) ^{1,2}													
Uplift Loads	2x4		8' End Zones													
		1-3 stories	72	72	72	72	72	72	71	57	43	35	30	27	24	22
			Interior Zones													
		1-3 stories	72	72	72	72	72	72	72	66	50	41	35	31	28	26
	2x6		8' End Zones													
		1-3 stories	72	72	72	72	72	72	72	68	51	42	36	32	29	26
			Interior Zones													
		1-3 stories	72	72	72	72	72	72	72	72	60	49	42	37	34	31

Table 3.2C Sill or Bottom Plate to Foundation Connections (Anchor Bolts) Resisting Uplift Loads from Wind
(Prescriptive Alternative to Table 3.2)

Exposure C

Wind Speed 3-second gust (mph) (See Figure 1.1)			90	95	100	105	110	115	120	130	140	150	160	170	180	195
Sill or Bottom Plate to Foundation Anchor Bolt Connection Resisting	Plate Size	Foundation Supporting	Maximum Anchor Bolt Spacing (in.) ^{1,2}													
Uplift Loads	2x4		8' End Zones													
		1-3 stories	72	72	61	50	43	38	34	29	25	23	20	19	17	16
			Interior Zones													
		1-3 stories	72	72	71	58	50	44	40	34	30	26	24	22	20	18
	2x6		8' End Zones													
		1-3 stories	72	72	72	59	51	45	41	35	30	27	25	22	21	19
			Interior Zones													
		1-3 stories	72	72	72	69	60	53	48	40	35	32	29	26	24	22

¹ Prescriptive limits are based on assumptions in Table 3.2.

² When anchor bolts are used to resist uplift, lateral, and shear loads, the maximum anchor bolt spacing shall not exceed the lesser of the tabulated values for uplift loads (Table 3.2C) or lateral and shear loads (Table 3.2B). For other anchor bolt limitations see Section 3.2.1.7 and 3.2.2.3.

Table 3.3 Sill Plate to Foundation Connection Shear Load for Seismic**GSL = 30**

(Dead Load Assumptions: Roof/ceiling = 15 psf, Floor = 12 psf, Partition = 8 psf, Wall = 110 plf;
Ground Snow Load = 30 psf; Lateral force resisting system: Wood structural panel shear walls)

Foundation Supporting	Minimum Building Dimension, W (ft)	SDC A					SDC B					SDC C				
		L/W					L/W					L/W				
		1	1.5	2	2.5	3	1	1.5	2	2.5	3	1	1.5	2	2.5	3
		Foundation Sill Plate Connection Shear Load, plf ^{1,2,3,4}														
Roof, Ceiling, & 1 Floor	12	11	15	19	23	27	21	28	36	44	51	31	43	55	66	78
	16	12	16	21	26	30	23	32	41	50	59	35	49	62	76	89
	20	13	18	24	29	34	26	36	46	56	66	39	54	70	85	100
	24	14	20	26	32	38	28	39	51	62	74	42	60	77	94	112
	28	16	22	29	35	40	30	43	56	68	77	46	65	85	104	117
	32	17	24	31	38 ⁵	-	33	47	61	75 ⁵	-	50	71	92	113 ⁵	-
	36	18	26	34	37 ⁵	-	35	51	66	72 ⁵	-	54	77	100	110 ⁵	-
Roof, Ceiling, & 2 Floors	12	19	25	32	39	45	36	49	62	75	88	55	74	94	114	133
	16	21	29	36	44	52	40	55	70	86	101	61	84	107	130	153
	20	23	32	41	50	58	45	62	79	96	114	67	94	120	146	172
	24	25	35	45	55	65	49	68	88	107	126	74	103	133	162	191
	28	27	38	50	61	69	53	75	96	118	133	80	113	146	178	202
	32	30	42	54	66 ⁵	-	57	81	105	128 ⁵	-	87	123	159	195 ⁵	-
	36	32	45	58	64 ⁵	-	62	87	113	125 ⁵	-	93	133	172	189 ⁵	-
Roof, Ceiling & 3 Floors	12	28	38	47	57	67	54	73	92	111	130	82	110	139	168	197
	16	31	42	54	65	77	60	82	105	127	149	91	125	158	192	226
	20	34	47	60	74	87	66	92	117	143	168	101	139	178	216	255
	24	38	52	67	82	96	73	101	130	159	187	110	154	197	240	284
	28	41	57	74	90	102	79	111	143	175	197	120	168	216	265	299
	32	44	62	80	98 ⁵	-	86	121	156	191 ⁵	-	130	183	236	289 ⁵	-
	36	47	67	87	95 ⁵	-	92	130	168	185 ⁵	-	139	197	255	281 ⁵	-

Foundation Supporting	Minimum Building Dimension, W (ft)	SDC D ₀					SDC D ₁					SDC D ₂				
		L/W					L/W					L/W				
		1	1.5	2	2.5	3	1	1.5	2	2.5	3	1	1.5	2	2.5	3
		Foundation Sill Plate Connection Shear Load, $plf^{1,2,3,4}$														
Roof, Ceiling, & 1 Floor	12	42	58	73	89	104	52	71	91	110	129	73	101	128	155	182
	16	47	65	83	101	119	58	81	103	125	148	82	114	145	177	209
	20	52	72	93	114	134	64	90	115	141	167	91	127	163	199	235
	24	57	80	103	126	150	70	99	128	157	185	99	140	180	221	261
	28	62	88	113	139	157	77	108	140	172	195	108	153	198	243	275
	32	67	95	123	152 ⁵	-	83	118	153	188 ⁵	-	117	166	215	265 ⁵	-
	36	72	103	133	147 ⁵	-	89	127	165	182 ⁵	-	125	179	233	257 ⁵	-
Roof, Ceiling, & 2 Floors	12	73	100	126	152	178	91	123	156	188	221	128	174	220	266	312
	16	82	112	143	174	204	101	139	177	215	253	143	196	250	303	357
	20	90	125	160	195	230	112	155	199	242	285	158	219	280	341	402
	24	99	138	178	217	257	123	171	220	269	318	173	242	310	379	448
	28	108	151	195	239	270	133	188	242	296	335	188	264	341	417	472
	32	116	164	213	261 ⁵	-	144	204	263	323 ⁵	-	203	287	371	455 ⁵	-
	36	125	178	230	253 ⁵	-	155	220	285	314 ⁵	-	218	310	402	442 ⁵	-
Roof, Ceiling & 3 Floors	12	109	148	187	225	264	135	183	231	279	327	191	258	326	393	461
	16	122	167	212	257	303	151	207	263	319	375	213	292	371	450	528
	20	135	187	238	290	341	167	231	295	359	423	236	326	416	506	596
	24	148	206	264	322	380	183	255	327	399	471	258	360	461	563	664
	28	161	225	290	355	401	199	279	359	439	496	281	394	506	619	700
	32	174	245	316	387 ⁵	-	215	303	391	479 ⁵	-	303	428	552	676 ⁵	-
	36	187	264	342	376 ⁵	-	231	327	424	466 ⁵	-	326	461	597	657 ⁵	-

See footnotes 1-5.

Table 3.3 Sill Plate to Foundation Connection Shear Load for Seismic (Cont.)**GSL = 50**

(Dead Load Assumptions: Roof/ceiling = 15 psf, Floor = 12 psf, Partition = 8 psf, Wall = 110 plf;
Ground Snow Load = 50 psf; Lateral force resisting system: Wood structural panel shear walls)

Foundation Supporting	Minimum Building Dimension, W (ft)	SDC A					SDC B					SDC C				
		L/W					L/W					L/W				
		1	1.5	2	2.5	3	1	1.5	2	2.5	3	1	1.5	2	2.5	3
		Foundation Sill Plate Connection Shear Load, plf ^{1,2,3,4}														
Roof, Ceiling, & 1 Floor	12	13	17	22	27	31	24	34	43	52	61	37	51	65	79	92
	16	14	20	25	31	36	28	38	49	60	70	42	58	74	90	107
	20	16	22	28	35	41	31	43	55	68	80	46	65	84	102	121
	24	17	25	32	39	46	34	48	62	76	89	51	72	93	114	135
	28	19	27	35	43	49	37	52	68	83	95	56	79	103	126	143
	32	21	29	38	47 ⁵	-	40	57	74	91 ⁵	-	61	87	113	139 ⁵	-
	36	22	32	42	46 ⁵	-	43	62	81	89 ⁵	-	66	94	122	135 ⁵	-
Roof, Ceiling, & 2 Floors	12	21	28	36	43	51	40	55	69	84	98	61	83	105	127	149
	16	23	32	41	50	58	45	62	79	96	113	68	94	120	146	172
	20	26	36	46	56	66	50	70	89	109	129	76	106	135	165	195
	24	28	40	51	63	74	55	77	99	122	144	84	117	151	184	218
	28	31	44	56	69	78	60	85	110	134	152	91	129	166	203	230
	32	34	48	62	76 ⁵	-	65	92	120	147 ⁵	-	99	140	181	223 ⁵	-
	36	36	52	67	74 ⁵	-	70	100	130	143 ⁵	-	107	152	197	217 ⁵	-
Roof, Ceiling & 3 Floors	12	30	41	51	62	73	58	79	100	121	141	88	120	151	183	214
	16	34	46	59	71	84	65	90	114	139	163	99	136	173	210	247
	20	37	52	66	81	95	73	101	129	157	185	110	152	195	237	280
	24	41	57	74	90	106	80	111	143	175	206	121	169	217	265	312
	28	45	63	81	99	112	87	122	157	193	218	132	185	239	292	330
	32	49	69	89	109 ⁵	-	94	133	172	211 ⁵	-	143	202	260	319 ⁵	-
	36	52	74	96	106 ⁵	-	101	144	186	205 ⁵	-	154	218	282	311 ⁵	-

Foundation Supporting	Minimum Building Dimension, W (ft)	SDC D ₀					SDC D ₁					SDC D ₂				
		L/W					L/W					L/W				
		1	1.5	2	2.5	3	1	1.5	2	2.5	3	1	1.5	2	2.5	3
		Foundation Sill Plate Connection Shear Load, plf ^{1,2,3,4}														
Roof, Ceiling, & 1 Floor	12	50	68	87	105	124	62	85	107	130	153	87	119	151	184	216
	16	56	78	99	121	143	69	96	123	150	177	98	136	174	212	249
	20	62	87	112	137	162	77	108	139	170	201	109	152	196	240	283
	24	69	97	125	153	182	85	120	155	190	225	120	169	218	268	317
	28	75	106	138	169	192	93	132	171	210	238	131	186	241	296	335
	32	81	116	151	186 ⁵	-	101	144	187	230 ⁵	-	142	203	263	324 ⁵	-
	36	88	126	164	181 ⁵	-	109	156	203	224 ⁵	-	153	220	286	316 ⁵	-
Roof, Ceiling, & 2 Floors	12	82	111	141	170	200	101	138	174	211	247	143	194	246	297	348
	16	92	126	161	196	230	114	156	199	242	285	160	221	281	341	402
	20	102	142	181	221	261	126	175	225	274	323	178	247	317	386	456
	24	112	157	202	247	292	139	194	250	306	361	196	274	353	431	509
	28	122	172	222	273	308	151	213	276	338	382	213	301	388	476	538
	32	132	188	243	298 ⁵	-	164	233	301	369 ⁵	-	231	328	424	521 ⁵	-
	36	143	203	264	290 ⁵	-	177	252	326	360 ⁵	-	249	355	460	507 ⁵	-
Roof, Ceiling & 3 Floors	12	119	161	203	245	287	147	199	251	303	355	207	281	354	428	501
	16	133	182	232	281	331	165	226	287	348	410	232	318	405	491	578
	20	147	204	261	318	375	183	253	323	394	464	257	357	456	555	654
	24	162	226	290	355	419	201	280	360	439	519	283	395	507	619	731
	28	177	248	320	391	442	219	307	396	485	548	308	433	558	683	772
	32	191	270	349	428 ⁵	-	237	335	432	530 ⁵	-	334	472	610	747 ⁵	-
	36	206	292	378	417 ⁵	-	255	362	469	516 ⁵	-	360	510	661	728 ⁵	-

See footnotes 1-5.

Table 3.3 Sill Plate to Foundation Connection Shear Load for Seismic (Cont.)**GSL = 70**

(Dead Load Assumptions: Roof/ceiling = 15 psf, Floor = 12 psf, Partition = 8 psf, Wall = 110 plf;
Ground Snow Load = 70 psf; Lateral force resisting system: Wood structural panel shear walls)

Foundation Supporting	Minimum Building Dimension, W (ft)	SDC A					SDC B					SDC C				
		L/W					L/W					L/W				
		1	1.5	2	2.5	3	1	1.5	2	2.5	3	1	1.5	2	2.5	3
		Foundation Sill Plate Connection Shear Load, plf ^{1,2,3,4}														
Roof, Ceiling, & 1 Floor	12	13	18	23	28	33	26	36	45	55	65	39	54	69	83	98
	16	15	21	27	33	39	29	41	52	64	75	44	62	79	96	114
	20	17	24	30	37	44	33	46	59	72	85	50	69	89	109	129
	24	19	26	34	42	49	36	51	66	81	96	55	77	100	122	145
	28	20	29	38	46	52	40	56	73	89	101	60	85	110	136	154
	32	22	32	41	51 ⁵	-	43	61	80	98 ⁵	-	65	93	121	149 ⁵	-
Roof, Ceiling, & 2 Floors	12	22	29	37	45	53	42	57	72	87	102	63	86	109	132	155
	16	24	33	43	52	61	47	65	83	101	118	71	98	125	152	179
	20	27	38	48	59	69	52	73	93	114	135	79	110	142	173	204
	24	30	42	54	66	78	58	81	104	127	151	87	123	158	193	228
	28	32	46	59	73	82	63	89	115	141	159	96	135	174	213	241
	32	35	50	65	79 ⁵	-	68	97	126	154 ⁵	-	104	147	190	234 ⁵	-
Roof, Ceiling & 3 Floors	12	31	42	53	64	75	60	82	103	124	146	91	124	156	189	221
	16	35	48	61	74	87	68	93	118	143	168	102	141	179	217	255
	20	39	54	69	84	98	75	104	133	162	191	114	158	202	246	290
	24	43	59	76	93	110	83	115	148	181	214	125	175	225	274	324
	28	46	65	84	103	116	90	127	163	200	226	137	192	247	303	342
	32	50	71	92	113 ⁵	-	98	138	178	219 ⁵	-	148	209	270	332 ⁵	-
	36	54	77	100	110 ⁵	-	105	149	194	213 ⁵	-	159	226	293	323 ⁵	-

Foundation Supporting	Minimum Building Dimension, W (ft)	SDC D ₀					SDC D ₁					SDC D ₂				
		L/W					L/W					L/W				
		1	1.5	2	2.5	3	1	1.5	2	2.5	3	1	1.5	2	2.5	3
		Foundation Sill Plate Connection Shear Load, plf ^{1,2,3,4}														
Roof, Ceiling, & 1 Floor	12	53	72	92	112	131	65	90	114	138	163	92	127	161	195	229
	16	60	83	106	129	152	74	102	131	160	189	104	144	185	225	266
	20	66	93	120	147	173	82	115	148	182	215	116	163	209	256	303
	24	73	104	134	164	194	91	128	166	203	241	128	181	234	287	339
	28	80	114	148	182	206	99	141	183	225	255	140	199	258	317	359
	32	87	125	162	199 ⁵	-	108	154	201	246 ⁵	-	152	218	283	348 ⁵	-
Roof, Ceiling, & 2 Floors	12	85	116	147	177	208	105	143	182	220	258	149	202	256	310	363
	16	96	132	168	204	240	118	163	208	253	298	167	230	293	357	420
	20	106	148	190	231	273	132	183	235	287	338	186	259	331	404	477
	24	117	164	211	259	306	145	204	262	320	379	205	287	369	452	534
	28	128	181	233	286	324	159	224	289	354	401	224	315	407	499	565
	32	139	197	255	313 ⁵	-	172	244	316	388 ⁵	-	243	344	445	547 ⁵	-
Roof, Ceiling & 3 Floors	12	122	166	209	253	296	151	205	259	313	367	213	289	365	441	517
	16	137	188	240	291	342	170	233	297	360	424	240	329	418	508	597
	20	152	211	270	329	388	189	262	335	408	481	266	369	472	575	678
	24	168	234	301	367	434	208	290	373	455	538	293	409	525	642	758
	28	183	257	332	406	459	227	319	411	503	569	319	449	579	709	801
	32	198	280	362	444 ⁵	-	246	347	449	550 ⁵	-	346	489	633	776 ⁵	-
	36	214	303	393	433 ⁵	-	265	376	487	536 ⁵	-	373	530	686	756 ⁵	-

See footnotes 1-5.

Footnotes to Table 3.3

¹ Tabulated foundation sill plate shear connection load is applicable to the minimum dimension, W, of the diaphragm for a rectangular building with dimension W x L. The foundation sill plate shear connection load for the side corresponding to the maximum building dimension, L, need not exceed the tabulated loads for L/W=1.0.

² Where the lateral force resisting system is other than wood structural panel shear walls, tabulated foundation sill plate shear connection loads shall be increased by multiplying by 3.25.

³ Foundation sill plate shear connection load can be determined for other load cases by multiplying by the appropriate adjustment factor given in the following table:

Foundation Supporting	Minimum Building Dimension, W (ft.)	Roof/Ceiling Assembly = 15 psf				Roof/Ceiling Assembly = 25 psf			
		Floor = 12 psf Partition = 8 psf Wall = 180 plf	Floor = 20 psf Partition = 8 psf Wall = 180 plf	Floor = 12 psf Partition = 8 psf Wall = 110 plf	Floor = 20 psf Partition = 8 psf Wall = 110 plf	Floor = 12 psf Partition = 8 psf Wall = 180 plf	Floor = 20 psf Partition = 8 psf Wall = 180 plf	Floor = 12 psf Partition = 8 psf Wall = 110 plf	Floor = 20 psf Partition = 8 psf Wall = 110 plf
		Foundation sill plate connection shear load adjustment factors							
Roof, Ceiling & 1 Floor	12	1.33	1.41	1.00	1.10	1.51	1.60	1.18	1.28
	16	1.30	1.39	1.00	1.12	1.49	1.59	1.20	1.31
	20	1.27	1.38	1.00	1.13	1.47	1.58	1.21	1.33
	24	1.24	1.37	1.00	1.14	1.45	1.57	1.21	1.35
	28	1.22	1.36	1.00	1.15	1.44	1.57	1.22	1.37
	32	1.21	1.35	1.00	1.15	1.43	1.56	1.23	1.38
	36	1.19	1.34	1.00	1.16	1.42	1.56	1.23	1.39
Roof, Ceiling & 2 Floors	12	1.36	1.46	1.00	1.13	1.48	1.58	1.12	1.25
	16	1.32	1.45	1.00	1.15	1.44	1.57	1.13	1.28
	20	1.29	1.43	1.00	1.17	1.42	1.56	1.13	1.30
	24	1.27	1.42	1.00	1.18	1.40	1.55	1.14	1.32
	28	1.25	1.41	1.00	1.19	1.38	1.54	1.14	1.33
	32	1.23	1.40	1.00	1.19	1.36	1.54	1.14	1.34
	36	1.21	1.39	1.00	1.20	1.35	1.53	1.15	1.35
Roof, Ceiling & 3 Floors	12	1.37	1.49	1.00	1.14	1.46	1.57	1.09	1.23
	16	1.34	1.47	1.00	1.16	1.42	1.56	1.09	1.26
	20	1.30	1.46	1.00	1.18	1.40	1.55	1.10	1.28
	24	1.28	1.45	1.00	1.20	1.37	1.54	1.10	1.30
	28	1.25	1.44	1.00	1.21	1.35	1.53	1.10	1.31
	32	1.24	1.43	1.00	1.21	1.34	1.53	1.11	1.32
	36	1.22	1.42	1.00	1.22	1.32	1.52	1.11	1.33

⁴ Effective seismic weight used to determine foundation sill plate anchorage load includes 20% of ground snow load where the ground snow load exceeds 30 psf. S_{DS} used for SDC A, B, C, D₀, D₁ and D₂ are as follows: S_{DS} =0.17 for SDC A; S_{DS} =0.33 for SDC B; S_{DS} =0.50 for SDC C; S_{DS} =0.67 for SDC D₀; S_{DS} =0.83 for SDC D₁; S_{DS} =1.17 for SDC D₂.

⁵ Tabulated foundation sill plate anchorage loads are based on a building length, L, equal to 80 ft.

Table 3.3A1 1/2" Anchor Bolts - Foundation Sill Plate Connection
Resisting Shear Loads from Seismic (prescriptive
alternative to Table 3.3)

GSL = 30
 $\phi = 1/2"$

(Dead Load Assumptions: Roof/ceiling = 15 psf, Floor = 12 psf, Partition = 8 psf, Wall = 110 plf;
 Ground Snow Load = 30 psf; Lateral force resisting system: Wood structural panel shear walls)

Foundation Supporting	Minimum Building Dimension, W (ft)	SDC A					SDC B					SDC C				
		L/W					L/W					L/W				
		1	1.5	2	2.5	3	1	1.5	2	2.5	3	1	1.5	2	2.5	3
		Number of Bolts Required ^{1,2,3,4,5,6}														
Roof, Ceiling, & 1 Floor	12	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
	16	1	1	1	1	1	1	1	1	1	1	1	1	2	2	
	20	1	1	1	1	1	1	1	1	2	2	1	1	2	2	
	24	1	1	1	1	1	1	1	2	2	2	1	2	2	3	
	28	1	1	1	1	2	1	2	2	2	2	2	2	3	4	
	32	1	1	1	2 ⁷	-	1	2	2	3 ⁷	-	2	3	3	4 ⁷	
	36	1	1	2	2 ⁷	-	2	2	3	3 ⁷	-	2	3	4	4 ⁷	
Roof, Ceiling, & 2 Floors	12	1	1	1	1	1	1	1	1	1	1	1	1	2	2	
	16	1	1	1	1	1	1	1	2	2	2	1	2	2	3	
	20	1	1	1	1	2	1	2	2	2	3	2	2	3	4	
	24	1	1	1	2	2	2	2	2	3	3	2	3	3	5	
	28	1	1	2	2	2	2	2	3	4	4	3	3	4	6	
	32	1	2	2	2 ⁷	-	2	3	4	4 ⁷	-	3	4	5	6 ⁷	
	36	2	2	2	3 ⁷	-	3	3	4	5 ⁷	-	4	5	6	7 ⁷	
Roof, Ceiling & 3 Floors	12	1	1	1	1	1	1	1	2	2	2	1	2	2	3	
	16	1	1	1	1	2	1	2	2	2	3	2	2	3	4	
	20	1	1	2	2	2	2	2	3	3	4	2	3	4	5	
	24	1	2	2	2	3	2	3	3	4	5	3	4	5	7	
	28	2	2	2	3	3	3	3	4	5	6	4	5	6	8	
	32	2	2	3	3 ⁷	-	3	4	5	6 ⁷	-	4	6	7	9 ⁷	
	36	2	3	3	4 ⁷	-	4	5	6	7 ⁷	-	5	7	9	10 ⁷	

Foundation Supporting	Minimum Building Dimension, W (ft)	SDC D ₀					SDC D ₁					SDC D ₂				
		L/W					L/W					L/W				
		1	1.5	2	2.5	3	1	1.5	2	2.5	3	1	1.5	2	2.5	3
		Number of Bolts Required ^{1,2,3,4,5,6}														
Roof, Ceiling, & 1 Floor	12	1	1	1	1	2	1	1	2	2	2	1	2	2	2	3
	16	1	1	2	2	2	1	2	2	2	3	2	2	3	3	4
	20	1	2	2	3	3	2	2	3	3	4	2	3	3	4	5
	24	2	2	3	3	4	2	3	3	4	5	3	4	4	5	6
	28	2	3	3	4	5	2	3	4	5	6	3	4	6	7	8
	32	2	3	4	5 ⁷	-	3	4	5	6 ⁷	-	4	5	7	8 ⁷	-
36	3	4	5	5 ⁷	-	3	5	6	7 ⁷	-	5	6	8	9 ⁷	-	
Roof, Ceiling, & 2 Floors	12	1	2	2	2	2	2	2	2	3	3	2	2	3	3	4
	16	2	2	3	3	4	2	3	3	4	4	3	3	4	5	6
	20	2	3	3	4	5	3	3	4	5	6	3	5	6	7	8
	24	3	4	4	5	6	3	4	5	6	8	4	6	7	9	10
	28	3	4	6	7	7	4	5	7	8	9	5	7	9	11	13
	32	4	5	7	8 ⁷	-	5	6	8	10 ⁷	-	6	9	11	14 ⁷	-
36	5	6	8	9 ⁷	-	6	8	10	11 ⁷	-	8	11	14	15 ⁷	-	
Roof, Ceiling & 3 Floors	12	2	2	3	3	3	2	3	3	4	4	3	3	4	5	6
	16	2	3	4	4	5	3	4	4	5	6	4	5	6	7	8
	20	3	4	5	6	7	4	5	6	7	8	5	6	8	10	11
	24	4	5	6	8	9	5	6	8	9	11	6	8	11	13	15
	28	5	6	8	10	11	6	8	10	12	13	8	11	14	16	19
	32	6	8	10	12 ⁷	-	7	9	12	15 ⁷	-	9	13	17	20 ⁷	-
36	7	9	12	13 ⁷	-	8	11	15	16 ⁷	-	11	16	20	22 ⁷	-	

See footnotes 1-7.

Table 3.3A2 1/2" Anchor Bolts - Foundation Sill Plate Connection
Resisting Shear Loads from Seismic (prescriptive
alternative to Table 3.3)

GSL = 50
 $\phi = 1/2"$

(Dead Load Assumptions: Roof/ceiling = 15 psf, Floor = 12 psf, Partition = 8 psf, Wall = 110 plf;
 Ground Snow Load = 50 psf; Lateral force resisting system: Wood structural panel shear walls)

Foundation Supporting	Minimum Building Dimension, W (ft)	SDC A					SDC B					SDC C				
		L/W					L/W					L/W				
		1	1.5	2	2.5	3	1	1.5	2	2.5	3	1	1.5	2	2.5	3
		Number of Bolts Required ^{1,2,3,4,5,6}														
Roof, Ceiling, & 1 Floor	12	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2
	16	1	1	1	1	1	1	1	1	1	2	1	1	2	2	2
	20	1	1	1	1	1	1	1	2	2	2	1	2	2	2	3
	24	1	1	1	1	2	1	2	2	2	2	2	2	3	3	3
	28	1	1	1	2	2	1	2	2	3	3	2	3	3	4	4
	32	1	1	2	2 ⁷	-	2	2	3	3 ⁷	-	2	3	4	5 ⁷	-
	36	1	2	2	2 ⁷	-	2	3	3	3 ⁷	-	3	4	5	5 ⁷	-
Roof, Ceiling, & 2 Floors	12	1	1	1	1	1	1	1	1	1	2	1	1	2	2	2
	16	1	1	1	1	1	1	1	2	2	2	2	2	2	3	3
	20	1	1	1	2	2	1	2	2	3	3	2	2	3	4	4
	24	1	1	2	2	2	2	2	3	3	4	2	3	4	5	5
	28	1	2	2	2	3	2	3	3	4	4	3	4	5	6	6
	32	1	2	2	3 ⁷	-	2	3	4	5 ⁷	-	3	5	6	7 ⁷	-
	36	2	2	3	3 ⁷	-	3	4	5	5 ⁷	-	4	6	7	8 ⁷	-
Roof, Ceiling & 3 Floors	12	1	1	1	1	1	1	1	2	2	2	1	2	2	3	3
	16	1	1	1	2	2	1	2	2	3	3	2	3	3	4	4
	20	1	1	2	2	2	2	2	3	3	4	3	3	4	5	6
	24	1	2	2	2	3	2	3	4	4	5	3	4	5	6	7
	28	2	2	3	3	3	3	4	5	5	6	4	5	7	8	9
	32	2	3	3	4 ⁷	-	3	4	6	7 ⁷	-	5	6	8	10 ⁷	-
	36	2	3	4	4 ⁷	-	4	5	7	7 ⁷	-	6	8	10	11 ⁷	-

Foundation Supporting	Minimum Building Dimension, W (ft)	SDC D ₀					SDC D ₁					SDC D ₂				
		L/W					L/W					L/W				
		1	1.5	2	2.5	3	1	1.5	2	2.5	3	1	1.5	2	2.5	3
		Number of Bolts Required ^{1,2,3,4,5,6}														
Roof, Ceiling, & 1 Floor	12	1	1	1	2	2	1	1	2	2	2	1	2	2	3	3
	16	1	2	2	2	3	2	2	2	3	3	2	2	3	4	4
	20	2	2	3	3	3	2	2	3	4	4	2	3	4	5	6
	24	2	3	3	4	5	2	3	4	5	5	3	4	5	6	7
	28	2	3	4	5	5	3	4	5	6	7	4	5	7	8	9
	32	3	4	5	6 ⁷	-	3	5	6	7 ⁷	-	5	6	8	10 ⁷	-
36	3	5	6	6 ⁷	-	4	6	7	8 ⁷	-	6	8	10	11 ⁷	-	
Roof, Ceiling, & 2 Floors	12	1	2	2	2	3	2	2	2	3	3	2	3	3	4	4
	16	2	2	3	3	4	2	3	3	4	5	3	4	5	6	6
	20	2	3	4	5	5	3	4	5	6	6	4	5	6	8	9
	24	3	4	5	6	7	4	5	6	7	8	5	7	8	10	12
	28	4	5	6	8	8	4	6	8	9	10	6	8	10	13	14
	32	4	6	8	9 ⁷	-	5	7	9	11 ⁷	-	7	10	13	16 ⁷	-
36	5	7	9	10 ⁷	-	6	9	11	12 ⁷	-	9	12	16	17 ⁷	-	
Roof, Ceiling & 3 Floors	12	2	2	3	3	4	2	3	3	4	4	3	4	4	5	6
	16	2	3	4	5	5	3	4	5	6	7	4	5	6	8	9
	20	3	4	5	6	7	4	5	6	8	9	5	7	9	11	13
	24	4	5	7	8	10	5	7	8	10	12	7	9	12	14	17
	28	5	7	9	11	12	6	8	11	13	15	8	12	15	18	20
	32	6	8	11	13 ⁷	-	7	10	13	16 ⁷	-	10	14	18	22 ⁷	-
36	7	10	13	14 ⁷	-	9	12	16	18 ⁷	-	12	17	22	25 ⁷	-	

See footnotes 1-7.

Table 3.3A3 1/2" Anchor Bolts - Foundation Sill Plate Connection
Resisting Shear Loads from Seismic (prescriptive
alternative to Table 3.3)

GSL = 70
 $\phi = 1/2"$

(Dead Load Assumptions: Roof/ceiling = 15 psf, Floor = 12 psf, Partition = 8 psf, Wall = 110 plf;
 Ground Snow Load = 70 psf; Lateral force resisting system: Wood structural panel shear walls)

Foundation Supporting	Minimum Building Dimension, W (ft)	SDC A					SDC B					SDC C				
		L/W					L/W					L/W				
		1	1.5	2	2.5	3	1	1.5	2	2.5	3	1	1.5	2	2.5	3
		Number of Bolts Required ^{1,2,3,4,5,6}														
Roof, Ceiling, & 1 Floor	12	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2
	16	1	1	1	1	1	1	1	1	1	2	1	1	2	2	2
	20	1	1	1	1	1	1	1	2	2	2	1	2	2	3	3
	24	1	1	1	1	2	1	2	2	2	3	2	2	3	3	4
	28	1	1	1	2	2	2	2	2	3	3	2	3	3	4	4
	32	1	1	2	2 ⁷	-	2	2	3	3 ⁷	-	2	3	4	5 ⁷	-
36	1	2	2	2 ⁷	-	2	3	3	4 ⁷	-	3	4	5	5 ⁷	-	
Roof, Ceiling, & 2 Floors	12	1	1	1	1	1	1	1	1	1	2	1	1	2	2	2
	16	1	1	1	1	1	1	1	2	2	2	2	2	2	3	3
	20	1	1	1	2	2	1	2	2	3	3	2	3	3	4	4
	24	1	1	2	2	2	2	2	3	3	4	2	3	4	5	6
	28	1	2	2	2	3	2	3	3	4	5	3	4	5	6	7
	32	2	2	2	3 ⁷	-	3	3	4	5 ⁷	-	4	5	6	7 ⁷	-
36	2	2	3	3 ⁷	-	3	4	5	5 ⁷	-	4	6	7	8 ⁷	-	
Roof, Ceiling & 3 Floors	12	1	1	1	1	1	1	1	2	2	2	2	2	2	3	3
	16	1	1	1	2	2	1	2	2	3	3	2	3	3	4	4
	20	1	1	2	2	2	2	2	3	3	4	3	3	4	5	6
	24	1	2	2	3	3	2	3	4	4	5	3	4	5	7	8
	28	2	2	3	3	3	3	4	5	6	6	4	5	7	8	9
	32	2	3	3	4 ⁷	-	3	5	6	7 ⁷	-	5	7	8	10 ⁷	-
36	2	3	4	4 ⁷	-	4	5	7	8 ⁷	-	6	8	10	11 ⁷	-	

Foundation Supporting	Minimum Building Dimension, W (ft)	SDC D ₀					SDC D ₁					SDC D ₂				
		L/W					L/W					L/W				
		1	1.5	2	2.5	3	1	1.5	2	2.5	3	1	1.5	2	2.5	3
		Number of Bolts Required ^{1,2,3,4,5,6}														
Roof, Ceiling, & 1 Floor	12	1	1	2	2	2	1	1	2	2	2	2	2	2	3	3
	16	1	2	2	2	3	2	2	2	3	3	2	3	3	4	4
	20	2	2	3	3	4	2	3	3	4	4	3	3	4	5	6
	24	2	3	3	4	5	3	3	4	5	6	3	4	6	7	8
	28	3	3	4	5	6	3	4	5	6	7	4	6	7	9	10
	32	3	4	5	6 ⁷	-	4	5	6	8 ⁷	-	5	7	9	11 ⁷	-
36	4	5	6	7 ⁷	-	4	6	8	8 ⁷	-	6	8	11	12 ⁷	-	
Roof, Ceiling, & 2 Floors	12	1	2	2	2	3	2	2	3	3	3	2	3	3	4	5
	16	2	2	3	4	4	2	3	4	4	5	3	4	5	6	7
	20	2	3	4	5	6	3	4	5	6	7	4	5	7	8	9
	24	3	4	5	6	7	4	5	6	8	9	5	7	9	10	12
	28	4	5	7	8	9	5	6	8	10	11	6	9	11	13	15
	32	5	6	8	10 ⁷	-	6	8	10	12 ⁷	-	8	11	14	17 ⁷	-
36	5	8	10	11 ⁷	-	7	9	12	13 ⁷	-	9	13	17	18 ⁷	-	
Roof, Ceiling & 3 Floors	12	2	2	3	3	4	2	3	3	4	5	3	4	5	5	6
	16	3	3	4	5	6	3	4	5	6	7	4	5	7	8	9
	20	3	4	5	7	8	4	5	7	8	9	5	7	9	11	13
	24	4	6	7	9	10	5	7	9	11	12	7	10	12	15	17
	28	5	7	9	11	12	6	9	11	13	15	9	12	15	19	21
	32	6	9	11	14 ⁷	-	8	11	14	17 ⁷	-	11	15	19	23 ⁷	-
36	8	11	14	15 ⁷	-	9	13	17	18 ⁷	-	13	18	23	26 ⁷	-	

See footnotes 1-7.

Table 3.3A4 5/8" Anchor Bolts - Foundation Sill Plate Connection
Resisting Shear Loads from Seismic (prescriptive
alternative to Table 3.3)

GSL = 30
 $\phi = 5/8"$

(Dead Load Assumptions: Roof/ceiling = 15 psf, Floor = 12 psf, Partition = 8 psf, Wall = 110 plf;
 Ground Snow Load = 30 psf; Lateral force resisting system: Wood structural panel shear walls)

Foundation Supporting	Minimum Building Dimension, W (ft)	SDC A					SDC B					SDC C				
		L/W					L/W					L/W				
		1	1.5	2	2.5	3	1	1.5	2	2.5	3	1	1.5	2	2.5	3
		Number of Bolts Required ^{1,2,3,4,5,6}														
Roof, Ceiling, & 1 Floor	12	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
	16	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
	20	1	1	1	1	1	1	1	1	1	1	1	1	2	2	
	24	1	1	1	1	1	1	1	1	2	1	1	2	2	2	
	28	1	1	1	1	1	1	1	2	2	2	1	2	2	3	
	32	1	1	1	1 ⁷	-	1	1	2	2 ⁷	-	2	2	2	3 ⁷	-
36	1	1	1	1 ⁷	-	1	2	2	2 ⁷	-	2	2	3	3 ⁷	-	
Roof, Ceiling, & 2 Floors	12	1	1	1	1	1	1	1	1	1	1	1	1	1	2	
	16	1	1	1	1	1	1	1	1	2	1	1	2	2	2	
	20	1	1	1	1	1	1	1	2	2	2	1	2	2	3	
	24	1	1	1	1	2	1	2	2	2	2	2	2	3	3	
	28	1	1	1	2	2	1	2	2	3	3	2	3	3	4	
	32	1	1	2	2 ⁷	-	2	2	3	3 ⁷	-	2	3	4	5 ⁷	-
36	1	2	2	2 ⁷	-	2	3	3	3 ⁷	-	3	4	4	5 ⁷	-	
Roof, Ceiling & 3 Floors	12	1	1	1	1	1	1	1	1	2	1	1	2	2	2	
	16	1	1	1	1	1	1	1	2	2	1	2	2	2	3	
	20	1	1	1	1	2	1	2	2	3	2	2	3	3	4	
	24	1	1	2	2	2	2	2	3	3	2	3	4	4	5	
	28	1	2	2	2	2	2	3	3	4	3	4	4	5	6	
	32	1	2	2	3 ⁷	-	2	3	4	4 ⁷	-	3	4	5	6 ⁷	-
36	2	2	3	3 ⁷	-	3	4	4	5 ⁷	-	4	5	6	7 ⁷	-	

Foundation Supporting	Minimum Building Dimension, W (ft)	SDC D ₀					SDC D ₁					SDC D ₂				
		L/W					L/W					L/W				
		1	1.5	2	2.5	3	1	1.5	2	2.5	3	1	1.5	2	2.5	3
		Number of Bolts Required ^{1,2,3,4,5,6}														
Roof, Ceiling, & 1 Floor	12	1	1	1	1	1	1	1	1	2	1	1	1	2	2	
	16	1	1	1	2	2	1	1	2	2	2	1	2	2	3	
	20	1	1	2	2	2	1	2	2	2	3	2	2	3	4	
	24	1	2	2	2	3	2	2	2	3	3	2	3	3	5	
	28	2	2	3	3	3	2	2	3	4	4	2	3	4	5	
	32	2	2	3	4 ⁷	-	2	3	4	4 ⁷	-	3	4	5	6 ⁷	-
36	2	3	4	4 ⁷	-	3	3	4	5 ⁷	-	3	5	6	6 ⁷	-	
Roof, Ceiling, & 2 Floors	12	1	1	1	2	2	1	1	2	2	2	1	2	2	3	3
	16	1	2	2	2	3	2	2	2	3	3	2	3	3	4	4
	20	2	2	3	3	3	2	3	3	4	4	3	3	4	5	6
	24	2	3	3	4	4	2	3	4	5	5	3	4	5	6	7
	28	2	3	4	5	5	3	4	5	6	7	4	5	7	8	9
	32	3	4	5	6 ⁷	-	3	5	6	7 ⁷	-	5	6	8	10 ⁷	-
36	3	5	6	6 ⁷	-	4	6	7	8 ⁷	-	6	8	10	11 ⁷	-	
Roof, Ceiling & 3 Floors	12	1	2	2	2	3	2	2	2	3	3	2	2	3	4	4
	16	2	2	3	3	4	2	3	3	4	4	3	4	4	5	6
	20	2	3	4	4	5	3	3	4	5	6	4	5	6	7	8
	24	3	4	5	5	6	3	4	6	7	8	4	6	8	9	11
	28	3	5	6	7	8	4	6	7	8	9	6	8	10	12	13
	32	4	6	7	8 ⁷	-	5	7	9	10 ⁷	-	7	9	12	14 ⁷	-
36	5	7	8	9 ⁷	-	6	8	10	11 ⁷	-	8	11	14	16 ⁷	-	

See footnotes 1-7.

Table 3.3A5 5/8" Anchor Bolts - Foundation Sill Plate Connection
Resisting Shear Loads from Seismic (prescriptive
alternative to Table 3.3)

GSL = 50
 $\phi = 5/8"$

(Dead Load Assumptions: Roof/ceiling = 15 psf, Floor = 12 psf, Partition = 8 psf, Wall = 110 plf;
 Ground Snow Load = 50 psf; Lateral force resisting system: Wood structural panel shear walls)

Foundation Supporting	Minimum Building Dimension, W (ft)	SDC A					SDC B					SDC C				
		L/W					L/W					L/W				
		1	1.5	2	2.5	3	1	1.5	2	2.5	3	1	1.5	2	2.5	3
		Number of Bolts Required ^{1,2,3,4,5,6}														
Roof, Ceiling, & 1 Floor	12	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
	16	1	1	1	1	1	1	1	1	1	1	1	1	1	2	
	20	1	1	1	1	1	1	1	1	1	2	1	1	2	2	
	24	1	1	1	1	1	1	1	1	2	2	1	2	2	2	
	28	1	1	1	1	1	1	1	2	2	2	2	2	2	3	
	32	1	1	1	1 ⁷	-	1	2	2	2 ⁷	-	2	2	3	3 ⁷	-
36	1	1	1	2 ⁷	-	2	2	2	3 ⁷	-	2	3	3	4 ⁷	-	
Roof, Ceiling, & 2 Floors	12	1	1	1	1	1	1	1	1	1	1	1	1	1	2	
	16	1	1	1	1	1	1	1	1	1	2	1	1	2	2	
	20	1	1	1	1	1	1	1	2	2	2	1	2	2	3	
	24	1	1	1	1	2	1	2	2	2	3	2	2	3	3	
	28	1	1	2	2	2	2	2	2	3	3	2	3	3	4	
	32	1	1	2	2 ⁷	-	2	2	3	4 ⁷	-	3	3	4	5 ⁷	-
36	1	2	2	2 ⁷	-	2	3	4	4 ⁷	-	3	4	5	6 ⁷	-	
Roof, Ceiling & 3 Floors	12	1	1	1	1	1	1	1	1	1	2	1	1	2	2	
	16	1	1	1	1	1	1	1	2	2	2	2	2	2	3	
	20	1	1	1	2	2	1	2	2	3	3	2	2	3	4	
	24	1	1	2	2	2	2	2	3	3	4	2	3	4	5	
	28	1	2	2	2	3	2	3	3	4	4	3	4	5	6	
	32	2	2	2	3 ⁷	-	2	3	4	5 ⁷	-	3	5	6	7 ⁷	-
36	2	2	3	3 ⁷	-	3	4	5	5 ⁷	-	4	6	7	8 ⁷	-	

Foundation Supporting	Minimum Building Dimension, W (ft)	SDC D ₀					SDC D ₁					SDC D ₂				
		L/W					L/W					L/W				
		1	1.5	2	2.5	3	1	1.5	2	2.5	3	1	1.5	2	2.5	3
		Number of Bolts Required ^{1,2,3,4,5,6}														
Roof, Ceiling, & 1 Floor	12	1	1	1	1	1	1	1	1	2	2	1	1	2	2	2
	16	1	1	2	2	2	1	1	2	2	2	2	2	2	3	3
	20	1	2	2	2	3	1	2	2	3	3	2	2	3	4	4
	24	2	2	2	3	3	2	2	3	3	4	2	3	4	5	5
	28	2	2	3	4	4	2	3	4	4	5	3	4	5	6	7
	32	2	3	4	4 ⁷	-	3	3	4	5 ⁷	-	3	5	6	7 ⁷	-
36	3	3	4	5 ⁷	-	3	4	5	6 ⁷	-	4	6	7	8 ⁷	-	
Roof, Ceiling, & 2 Floors	12	1	1	2	2	2	1	2	2	2	2	2	2	2	3	3
	16	1	2	2	3	3	2	2	3	3	3	2	3	3	4	5
	20	2	2	3	3	4	2	3	3	4	5	3	4	5	5	6
	24	2	3	4	4	5	3	4	4	5	6	4	5	6	7	8
	28	3	4	5	5	6	3	4	5	7	7	4	6	8	9	10
	32	3	4	6	7 ⁷	-	4	5	7	8 ⁷	-	5	7	9	11 ⁷	-
36	4	5	7	7 ⁷	-	5	6	8	9 ⁷	-	6	9	11	12 ⁷	-	
Roof, Ceiling & 3 Floors	12	1	2	2	2	3	2	2	2	3	3	2	3	3	4	4
	16	2	2	3	3	4	2	3	3	4	5	3	4	5	6	6
	20	2	3	4	5	5	3	4	5	6	6	4	5	6	8	9
	24	3	4	5	6	7	4	5	6	7	9	5	7	8	10	12
	28	4	5	6	8	8	4	6	8	9	10	6	8	11	13	14
	32	4	6	8	9 ⁷	-	5	7	9	11 ⁷	-	7	10	13	16 ⁷	-
36	5	7	9	10 ⁷	-	6	9	11	12 ⁷	-	9	12	16	17 ⁷	-	

See footnotes 1-7.

Table 3.3A6 5/8" Anchor Bolts - Foundation Sill Plate Connection
Resisting Shear Loads from Seismic (prescriptive
alternative to Table 3.3)

GSL = 70
 $\phi = 5/8"$

(Dead Load Assumptions: Roof/ceiling = 15 psf, Floor = 12 psf, Partition = 8 psf, Wall = 110 plf;
 Ground Snow Load = 70 psf; Lateral force resisting system: Wood structural panel shear walls)

Foundation Supporting	Minimum Building Dimension, W (ft)	SDC A					SDC B					SDC C				
		L/W					L/W					L/W				
		1	1.5	2	2.5	3	1	1.5	2	2.5	3	1	1.5	2	2.5	3
		Number of Bolts Required ^{1,2,3,4,5,6}														
Roof, Ceiling, & 1 Floor	12	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
	16	1	1	1	1	1	1	1	1	1	1	1	1	1	2	
	20	1	1	1	1	1	1	1	1	1	2	1	1	2	2	
	24	1	1	1	1	1	1	1	2	2	2	1	2	2	3	
	28	1	1	1	1	1	1	2	2	2	2	2	2	3	3	
	32	1	1	1	2 ⁷	-	1	2	2	3 ⁷	-	2	2	3	4 ⁷	-
36	1	1	2	2 ⁷	-	2	2	3	3 ⁷	-	2	3	4	4 ⁷	-	
Roof, Ceiling, & 2 Floors	12	1	1	1	1	1	1	1	1	1	1	1	1	1	2	
	16	1	1	1	1	1	1	1	1	2	2	1	2	2	2	
	20	1	1	1	1	1	1	1	2	2	2	2	2	2	3	
	24	1	1	1	2	2	1	2	2	2	3	2	2	3	4	
	28	1	1	2	2	2	2	2	3	3	3	2	3	4	5	
	32	1	2	2	2 ⁷	-	2	3	3	4 ⁷	-	3	4	4	5 ⁷	-
36	1	2	2	2 ⁷	-	2	3	4	4 ⁷	-	3	4	5	6 ⁷	-	
Roof, Ceiling & 3 Floors	12	1	1	1	1	1	1	1	1	1	2	1	1	2	2	
	16	1	1	1	1	1	1	1	2	2	2	2	2	2	3	
	20	1	1	1	2	2	1	2	2	3	3	2	3	3	4	
	24	1	1	2	2	2	2	2	3	3	4	2	3	4	5	
	28	1	2	2	2	3	2	3	3	4	5	3	4	5	6	
	32	2	2	2	3 ⁷	-	3	3	4	5 ⁷	-	4	5	6	7 ⁷	-
36	2	2	3	3 ⁷	-	3	4	5	5 ⁷	-	4	6	7	8 ⁷	-	

Foundation Supporting	Minimum Building Dimension, W (ft)	SDC D ₀					SDC D ₁					SDC D ₂				
		L/W					L/W					L/W				
		1	1.5	2	2.5	3	1	1.5	2	2.5	3	1	1.5	2	2.5	3
		Number of Bolts Required ^{1,2,3,4,5,6}														
Roof, Ceiling, & 1 Floor	12	1	1	1	1	2	1	1	1	2	2	1	1	2	2	2
	16	1	1	2	2	2	1	2	2	2	2	2	2	2	3	3
	20	1	2	2	2	3	2	2	2	3	3	2	3	3	4	4
	24	2	2	3	3	4	2	2	3	4	4	2	3	4	5	6
	28	2	3	3	4	4	2	3	4	5	5	3	4	5	6	7
	32	2	3	4	5 ⁷	-	3	4	5	6 ⁷	-	4	5	6	8 ⁷	-
36	3	4	5	5 ⁷	-	3	4	6	6 ⁷	-	4	6	8	8 ⁷	-	
Roof, Ceiling, & 2 Floors	12	1	1	2	2	2	1	2	2	2	2	2	2	2	3	3
	16	1	2	2	3	3	2	2	3	3	4	2	3	4	4	5
	20	2	2	3	3	4	2	3	4	4	5	3	4	5	6	7
	24	2	3	4	4	5	3	4	5	5	6	4	5	6	7	9
	28	3	4	5	6	6	3	5	6	7	8	5	6	8	10	11
	32	3	5	6	7 ⁷	-	4	6	7	9 ⁷	-	6	8	10	12 ⁷	-
36	4	5	7	8 ⁷	-	5	7	8	9 ⁷	-	7	9	12	13 ⁷	-	
Roof, Ceiling & 3 Floors	12	1	2	2	2	3	2	2	3	3	3	2	3	3	4	4
	16	2	2	3	3	4	2	3	4	4	5	3	4	5	6	7
	20	2	3	4	5	5	3	4	5	6	7	4	5	7	8	9
	24	3	4	5	6	7	4	5	6	8	9	5	7	9	10	12
	28	4	5	6	8	9	5	6	8	10	11	6	9	11	13	15
	32	5	6	8	10 ⁷	-	6	8	10	12 ⁷	-	8	11	14	16 ⁷	-
36	5	8	10	11 ⁷	-	7	9	12	13 ⁷	-	9	13	16	18 ⁷	-	

See footnotes 1-7.

Footnotes to Table 3.3A

¹ Prescriptive limits are based on assumptions in Table 3.3.

² Anchor bolts shall be uniformly distributed along the length of the sill plate. See Section 3.2.1.7 for anchor bolt limitations.

³ Sill plates are assumed to be treated Southern Pine.

⁴ Where the lateral force resisting system is other than wood structural panel shear walls the number of anchor bolts required shall be increased by multiplying by 3.25.

⁵ The number of foundation sill plate anchor bolts can be determined for other load cases by multiplying by the appropriate adjustment factor given in the following table:

Foundation Supporting	Minimum Building Dimension, W (ft.)	Roof/Ceiling Assembly = 15 psf				Roof/Ceiling Assembly = 25 psf			
		Floor = 12 psf Partition = 8 psf Wall = 180 plf	Floor = 20 psf Partition = 8 psf Wall = 180 plf	Floor = 12 psf Partition = 8 psf Wall = 110 plf	Floor = 20 psf Partition = 8 psf Wall = 110 plf	Floor = 12 psf Partition = 8 psf Wall = 180 plf	Floor = 20 psf Partition = 8 psf Wall = 180 plf	Floor = 12 psf Partition = 8 psf Wall = 110 plf	Floor = 20 psf Partition = 8 psf Wall = 110 plf
		Foundation sill plate connection shear load adjustment factors							
Roof, Ceiling & 1 Floor	12	1.33	1.41	1.00	1.10	1.51	1.60	1.18	1.28
	16	1.30	1.39	1.00	1.12	1.49	1.59	1.20	1.31
	20	1.27	1.38	1.00	1.13	1.47	1.58	1.21	1.33
	24	1.24	1.37	1.00	1.14	1.45	1.57	1.21	1.35
	28	1.22	1.36	1.00	1.15	1.44	1.57	1.22	1.37
	32	1.21	1.35	1.00	1.15	1.43	1.56	1.23	1.38
Roof, Ceiling & 2 Floors	36	1.19	1.34	1.00	1.16	1.42	1.56	1.23	1.39
	12	1.36	1.46	1.00	1.13	1.48	1.58	1.12	1.25
	16	1.32	1.45	1.00	1.15	1.44	1.57	1.13	1.28
	20	1.29	1.43	1.00	1.17	1.42	1.56	1.13	1.30
	24	1.27	1.42	1.00	1.18	1.40	1.55	1.14	1.32
	28	1.25	1.41	1.00	1.19	1.38	1.54	1.14	1.33
Roof, Ceiling & 3 Floors	32	1.23	1.40	1.00	1.19	1.36	1.54	1.14	1.34
	36	1.21	1.39	1.00	1.20	1.35	1.53	1.15	1.35
	12	1.37	1.49	1.00	1.14	1.46	1.57	1.09	1.23
	16	1.34	1.47	1.00	1.16	1.42	1.56	1.09	1.26
	20	1.30	1.46	1.00	1.18	1.40	1.55	1.10	1.28
	24	1.28	1.45	1.00	1.20	1.37	1.54	1.10	1.30
	28	1.25	1.44	1.00	1.21	1.35	1.53	1.10	1.31
	32	1.24	1.43	1.00	1.21	1.34	1.53	1.11	1.32
	36	1.22	1.42	1.00	1.22	1.32	1.52	1.11	1.33

⁶ Effective seismic weight used to determine foundation sill plate anchorage load includes 20% of ground snow load where the ground snow load exceeds 30 psf. S_{DS} used for SDC A, B, C, D₀, D₁ and D₂ are as follows: S_{DS} =0.17 for SDC A; S_{DS} =0.33 for SDC B; S_{DS} =0.50 for SDC C; S_{DS} =0.67 for SDC D₀; S_{DS} =0.83 for SDC D₁; S_{DS} =1.17 for SDC D₂.

⁷ The number of foundation sill plate anchor bolts is based on a building length, L, equal to 80 ft.

Table 3.3B Bottom Plate to Foundation Connections (Anchor Bolts) Resisting Shear from Seismic

For Seismic Design Categories A, B, C, D ₀ , D ₁ , and D ₂	
Anchor Bolt Diameter (in.)	Maximum Anchor Bolt Spacing (in.) ^{1,2}
1/2"	67
5/8"	72

¹ Tabulated anchor bolt spacings assume shear walls are sheathed in accordance with Section 3.4.4.2. For other wall sheathing types the tabulated anchor bolt spacings shall be multiplied by the appropriate sheathing type adjustment factor in Table 3.17D. For anchor bolt limitations see Section 3.2.1.7.

² Wall bottom plates are assumed to be treated Southern Pine.

Table 3.4 Rafter/Truss Framing to Wall Connection Requirements for Wind Loads**Exposure B**

(Dead Load Assumptions: Roof/Ceiling Assembly DL = 15 psf)

Wind Speed 3-second gust (mph) (See Figure 1.1)		90			95			100			105		
Rafter/ Truss Spacing (in.)	Roof Span (ft)	Required Capacity of Connection (lbs.) ¹											
		U ^{2,3,5}	L	S ⁴	U ^{2,3,5}	L	S ⁴	U ^{2,3,5}	L	S ⁴	U ^{2,3,5}	L	S ⁴
12	12	8	53	48R	18	59	48R	27	66	48R	37	72	48R
	16	8			19			30			43		
	20	7			20			34			48		
	24	6			21			37			54		
	28	5			22			40			59		
	32	5			24			44			65		
	36	4			25			47			70		
16	12	11	71	64R	24	79	64R	36	87	64R	50	96	64R
	16	10			25			41			57		
	20	9			26			45			64		
	24	8			28			49			72		
	28	7			30			54			79		
	32	6			32			58			86		
	36	5			33			63			94		
19.2	12	14	85	77R	28	95	77R	44	105	77R	60	116	77R
	16	12			30			49			68		
	20	11			32			54			77		
	24	10			34			59			86		
	28	8			36			64			95		
	32	7			38			70			104		
	36	6			40			75			113		
24	12	17	106	96R	35	118	96R	55	131	96R	75	145	96R
	16	15			37			61			85		
	20	13			40			67			96		
	24	12			42			74			107		
	28	11			45			81			118		
	32	9			47			87			130		
	36	8			50			94			141		

U = Connector uplift load.

L = Connector lateral load (Perpendicular to the wall).

S = Connector shear load (Parallel to the wall).

R = L/W for wind perpendicular to the ridge and W/L for wind parallel to the ridge, where W is the building width and L is the building length.

1 Tabulated uplift and lateral loads shall be permitted to be multiplied by 0.75 and 0.92, respectively, for framing not located within 8 feet of building corners.

2 Tabulated uplift loads assume a reduced roof and ceiling assembly dead load of 9 psf (0.6 x 15 psf = 9 psf).

3 Tabulated uplift loads are specified for roof-to-wall connections. When calculating uplift loads for wall-to-wall or wall-to-foundation connections, tabulated uplift values shall be permitted to be reduced by 73 plf (0.60 x 121 plf)

4 Shear connection values shall be multiplied by the following adjustments:

Roof Pitch	Wall Height	8'	10'
	Top Plate to Ridge Height	Adjustment Factor	
≤6:12	0' (flat)	0.40	0.50
	5'	0.65	0.75
	10'	0.90	1.00
>6:12	5'	0.65	0.75
	10'	0.90	1.00
	15'	1.15	1.25
	20'	1.40	1.50

5 For jack rafter uplift connections, use a roof span equal to twice the jack rafter length. The jack rafter length includes the overhang length and the jack span.

Table 3.4 Rafter/Truss Framing to Wall Connection Requirements for Wind Loads (Cont.)**Exposure B**

(Dead Load Assumptions: Roof/Ceiling Assembly DL = 15 psf)

Wind Speed 3-second gust (mph) (See Figure 1.1)		110			115			120			130			140		
Rafter/ Truss Spacing (in.)	Roof Span (ft)	Required Capacity of Connection (lbs.) ¹														
		U ^{2,3,5}	L	S ⁴	U ^{2,3,5}	L	S ⁴	U ^{2,3,5}	L	S ⁴	U ^{2,3,5}	L	S ⁴	U ^{2,3,5}	L	S ⁴
12	12	48	79	48R	59	87	48R	71	94	50R	96	111	58R	123	129	68R
	16	56			69			83			113			146		
	20	63			79			96			131			170		
	24	71			89			109			149			193		
	28	79			100			121			167			217		
	32	87			110			134			186			241		
	36	95			120			147			204			265		
16	12	64	106	64R	79	116	64R	95	126	66R	128	148	78R	164	171	90R
	16	74			92			111			151			195		
	20	84			106			128			175			226		
	24	95			119			145			199			258		
	28	105			133			162			223			290		
	32	116			147			179			248			322		
	36	126			160			196			272			354		
19.2	12	77	127	77R	95	139	77R	114	151	79R	153	177	93R	196	206	108R
	16	89			111			133			182			234		
	20	101			127			154			210			271		
	24	114			143			174			239			309		
	28	126			160			194			268			348		
	32	139			176			215			297			386		
	36	152			193			235			326			424		
24	12	96	159	96R	119	173	96R	142	189	99R	192	222	117R	245	257	135R
	16	111			138			167			227			292		
	20	127			159			192			263			339		
	24	142			179			217			299			387		
	28	158			199			243			335			434		
	32	174			220			268			371			482		
	36	190			241			294			408			530		

U = Connector uplift load.

L = Connector lateral load (Perpendicular to the wall).

S = Connector shear load (Parallel to the wall).

R = L/W for wind perpendicular to the ridge and W/L for wind parallel to the ridge, where W is the building width and L is the building length.

- 1 Tabulated uplift and lateral loads shall be permitted to be multiplied by 0.75 and 0.92, respectively, for framing not located within 8 feet of building corners.
- 2 Tabulated uplift loads assume a reduced roof and ceiling assembly dead load of 9 psf (0.6 x 15 psf = 9 psf).
- 3 Tabulated uplift loads are specified for roof-to-wall connections. When calculating uplift loads for wall-to-wall or wall-to-foundation connections, tabulated uplift values shall be permitted to be reduced by 73 plf (0.60 x 121 plf) for each full wall above.
- 4 Shear connection values shall be multiplied by the following adjustments:

Roof Pitch	Wall Height	8'	10'
	Top Plate to Ridge Height	Adjustment Factor	
≤6:12	0' (flat)	0.40	0.50
	5'	0.65	0.75
	10'	0.90	1.00
>6:12	5'	0.65	0.75
	10'	0.90	1.00
	15'	1.15	1.25
	20'	1.40	1.50

- 5 For jack rafter uplift connections, use a roof span equal to twice the jack rafter length. The jack rafter length includes the overhang length and the jack span.

Table 3.4 Rafter/Truss Framing to Wall Connection Requirements for Wind Loads (Cont.)**Exposure B**

(Dead Load Assumptions: Roof/Ceiling Assembly DL = 15 psf)

Wind Speed 3-second gust (mph) (See Figure 1.1)		150			160			170			180			195		
Rafter/ Truss Spacing (in.)	Roof Span (ft)	Required Capacity of Connection (lbs.) ¹														
		U ^{2,3,5}	L	S ⁴	U ^{2,3,5}	L	S ⁴	U ^{2,3,5}	L	S ⁴	U ^{2,3,5}	L	S ⁴	U ^{2,3,5}	L	S ⁴
12	12	151	148	78R	182	168	88R	215	190	100R	250	212	112R	306	249	131R
	16	181			218			258			300			368		
	20	211			255			301			351			431		
	24	241			291			345			402			494		
	28	271			328			389			453			557		
	32	301			365			432			504			620		
	36	331			401			476			556			684		
16	12	202	197	103R	243	224	118R	287	253	133R	333	283	149R	407	333	175R
	16	241			291			344			400			490		
	20	281			339			402			468			574		
	24	321			388			460			536			658		
	28	361			437			518			604			742		
	32	401			486			577			673			827		
	36	441			535			635			741			911		
19.2	12	242	236	124R	292	269	141R	344	303	159R	400	340	179R	489	399	210R
	16	289			349			413			480			588		
	20	337			407			482			561			689		
	24	385			466			552			643			790		
	28	433			525			622			725			891		
	32	481			583			692			807			992		
	36	530			642			762			889			1094		
24	12	303	295	155R	364	336	177R	430	379	199R	500	425	223R	611	499	262R
	16	362			436			516			600			736		
	20	421			509			603			702			861		
	24	481			582			690			804			987		
	28	541			656			777			906			1114		
	32	602			729			865			1009			1240		
	36	662			803			953			1112			1367		

U = Connector uplift load.

L = Connector lateral load (Perpendicular to the wall).

S = Connector shear load (Parallel to the wall).

R = L/W for wind perpendicular to the ridge and W/L for wind parallel to the ridge, where W is the building width and L is the building length.

- 1 Tabulated uplift and lateral loads shall be permitted to be multiplied by 0.75 and 0.92, respectively, for framing not located within 8 feet of building corners.
- 2 Tabulated uplift loads assume a reduced roof and ceiling assembly dead load of 9 psf (0.6 x 15 psf = 9 psf).
- 3 Tabulated uplift loads are specified for roof-to-wall connections. When calculating uplift loads for wall-to-wall or wall-to-foundation connections, tabulated uplift values shall be permitted to be reduced by 73 plf (0.60 x 121 plf) for each full wall above.
- 4 Shear connection values shall be multiplied by the following adjustments:

Roof Pitch	Wall Height	8'	10'
	Top Plate to Ridge Height	Adjustment Factor	
≤6:12	0' (flat)	0.40	0.50
	5'	0.65	0.75
	10'	0.90	1.00
>6:12	5'	0.65	0.75
	10'	0.90	1.00
	15'	1.15	1.25
	20'	1.40	1.50

- 5 For jack rafter uplift connections, use a roof span equal to twice the jack rafter length. The jack rafter length includes the overhang length and the jack span.

Table 3.4 Rafter/Truss Framing to Wall Connection Requirements for Wind Loads**Exposure C**

(Dead Load Assumptions: Roof/Ceiling Assembly DL = 15 psf)

Wind Speed 3-second gust (mph) (See Figure 1.1)		90			95			100			105		
Rafter/ Truss Spacing (in.)	Roof Span (ft)	Required Capacity of Connection (lbs.) ¹											
		U ^{2,3,5}	L	S ⁴	U ^{2,3,5}	L	S ⁴	U ^{2,3,5}	L	S ⁴	U ^{2,3,5}	L	S ⁴
12	12	40	74	48R	52	82	48R	66	91	48R	80	100	53R
	16	45			61			77			94		
	20	51			70			89			109		
	24	57			78			100			124		
	28	63			87			112			138		
	32	69			96			124			153		
	36	76			105			135			168		
16	12	53	98	64R	70	110	64R	88	121	64R	107	134	70R
	16	61			81			103			126		
	20	68			93			118			145		
	24	76			104			134			165		
	28	84			116			149			184		
	32	93			128			165			204		
	36	101			140			181			224		
19.2	12	64	118	77R	84	132	77R	105	146	77R	128	161	84R
	16	73			97			124			151		
	20	82			111			142			174		
	24	92			125			160			198		
	28	101			139			179			221		
	32	111			153			198			245		
	36	121			167			217			268		
24	12	79	148	96R	105	164	96R	132	182	96R	160	201	106R
	16	91			122			154			189		
	20	103			139			177			218		
	24	115			156			201			247		
	28	127			174			224			276		
	32	139			192			247			306		
	36	151			209			271			336		

U = Connector uplift load.

L = Connector lateral load (Perpendicular to the wall).

S = Connector shear load (Parallel to the wall).

R = L/W for wind perpendicular to the ridge and W/L for wind parallel to the ridge, where W is the building width and L is the building length.

1 Tabulated uplift and lateral loads shall be permitted to be multiplied by 0.75 and 0.92, respectively, for framing not located within 8 feet of building corners.

2 Tabulated uplift loads assume a reduced roof and ceiling assembly dead load of 9 psf (0.6 x 15 psf = 9 psf).

3 Tabulated uplift loads are specified for roof-to-wall connections. When calculating uplift loads for wall-to-wall or wall-to-foundation connections, tabulated uplift values shall be permitted to be reduced by 73 plf (0.60 x 121 plf)

4 Shear connection values shall be multiplied by the following adjustments:

Roof Pitch	Wall Height	8' 10'	
	Top Plate to Ridge Height	Adjustment Factor	
≤6:12	0' (flat)	0.40	0.50
	5'	0.65	0.75
	10'	0.90	1.00
>6:12	5'	0.65	0.75
	10'	0.90	1.00
	15'	1.15	1.25
	20'	1.40	1.50

5 For jack rafter uplift connections, use a roof span equal to twice the jack rafter length. The jack rafter length includes the overhang length and the jack span.

Table 3.4 Rafter/Truss Framing to Wall Connection Requirements for Wind Loads (Cont.)**Exposure C**

(Dead Load Assumptions: Roof/Ceiling Assembly DL = 15 psf)

Wind Speed 3-second gust (mph) (See Figure 1.1)		110			115			120			130			140		
Rafter/ Truss Spacing (in.)	Roof Span (ft)	Required Capacity of Connection (lbs.) ¹														
		U ^{2,3,5}	L	S ⁴	U ^{2,3,5}	L	S ⁴	U ^{2,3,5}	L	S ⁴	U ^{2,3,5}	L	S ⁴	U ^{2,3,5}	L	S ⁴
12	12	95	110	58R	110	120	63R	127	131	69R	161	154	81R	198	179	94R
	16	112			131			151			193			238		
	20	130			152			175			224			278		
	24	148			173			200			256			318		
	28	166			195			225			289			358		
	32	184			216			249			321			398		
	36	202			237			274			353			438		
16	12	127	147	77R	147	161	84R	169	175	92R	215	205	108R	264	238	125R
	16	150			175			201			257			317		
	20	173			203			234			299			370		
	24	197			231			267			342			423		
	28	221			259			299			385			477		
	32	245			288			333			428			531		
	36	269			316			366			471			584		
19.2	12	152	176	93R	177	193	101R	203	210	110R	258	246	130R	317	286	150R
	16	180			210			241			308			380		
	20	208			243			280			359			444		
	24	237			277			320			410			508		
	28	265			311			359			462			572		
	32	294			345			399			513			637		
	36	323			379			439			565			701		
24	12	190	220	116R	221	241	127R	253	262	138R	322	308	162R	397	357	188R
	16	225			262			302			385			475		
	20	260			304			351			449			555		
	24	296			347			400			513			635		
	28	331			389			449			577			715		
	32	367			432			499			642			796		
	36	403			474			548			706			877		

U = Connector uplift load.

L = Connector lateral load (Perpendicular to the wall).

S = Connector shear load (Parallel to the wall).

R = L/W for wind perpendicular to the ridge and W/L for wind parallel to the ridge, where W is the building width and L is the building length.

- 1 Tabulated uplift and lateral loads shall be permitted to be multiplied by 0.75 and 0.92, respectively, for framing not located within 8 feet of building corners.
- 2 Tabulated uplift loads assume a reduced roof and ceiling assembly dead load of 9 psf (0.6 x 15 psf = 9 psf).
- 3 Tabulated uplift loads are specified for roof-to-wall connections. When calculating uplift loads for wall-to-wall or wall-to-foundation connections, tabulated uplift values shall be permitted to be reduced by 73 plf (0.60 x 121 plf) for each full wall above.
- 4 Shear connection values shall be multiplied by the following adjustments:

Roof Pitch	Wall Height	8'	10'
	Top Plate to Ridge Height	Adjustment Factor	
≤6:12	0' (flat)	0.40	0.50
	5'	0.65	0.75
	10'	0.90	1.00
>6:12	5'	0.65	0.75
	10'	0.90	1.00
	15'	1.15	1.25
	20'	1.40	1.50

- 5 For jack rafter uplift connections, use a roof span equal to twice the jack rafter length. The jack rafter length includes the overhang length and the jack span.

Table 3.4 Rafter/Truss Framing to Wall Connection Requirements for Wind Loads (Cont.) **Exposure C**
(Dead Load Assumptions: Roof/Ceiling Assembly DL = 15 psf)

Wind Speed 3-second gust (mph) (See Figure 1.1)		150			160			170			180			195		
Rafter/ Truss Spacing (in.)	Roof Span (ft)	Required Capacity of Connection (lbs.) ¹														
		U ^{2,3,5}	L	S ⁴	U ^{2,3,5}	L	S ⁴	U ^{2,3,5}	L	S ⁴	U ^{2,3,5}	L	S ⁴	U ^{2,3,5}	L	S ⁴
12	12	238	205	108R	281	233	123R	327	263	138R	375	295	155R	452	346	182R
	16	286			338			393			452			546		
	20	335			396			460			529			640		
	24	383			453			528			607			735		
	28	432			511			596			685			829		
	32	481			569			664			764			924		
	36	530			628			732			842			1019		
16	12	318	273	144R	375	311	163R	435	351	185R	500	394	207R	603	462	243R
	16	382			451			524			602			728		
	20	446			527			614			706			853		
	24	511			604			704			810			979		
	28	576			682			794			914			1106		
	32	641			759			885			1018			1232		
	36	706			837			975			1123			1359		
19.2	12	381	328	172R	450	373	196R	523	421	221R	600	472	248R	724	554	291R
	16	458			541			629			723			873		
	20	535			633			737			847			1024		
	24	613			725			845			972			1175		
	28	691			818			953			1097			1327		
	32	769			911			1062			1222			1479		
	36	848			1004			1171			1347			1631		
24	12	477	410	216R	562	466	245R	653	526	277R	750	590	310R	905	693	364R
	16	572			676			786			903			1092		
	20	669			791			921			1059			1280		
	24	766			907			1056			1214			1469		
	28	864			1023			1192			1371			1659		
	32	962			1139			1327			1527			1849		
	36	1059			1255			1463			1684			2039		

U = Connector uplift load.

L = Connector lateral load (Perpendicular to the wall).

S = Connector shear load (Parallel to the wall).

R = L/W for wind perpendicular to the ridge and W/L for wind parallel to the ridge, where W is the building width and L is the building length.

- 1 Tabulated uplift and lateral loads shall be permitted to be multiplied by 0.75 and 0.92, respectively, for framing not located within 8 feet of building corners.
- 2 Tabulated uplift loads assume a reduced roof and ceiling assembly dead load of 9 psf (0.6 x 15 psf = 9 psf).
- 3 Tabulated uplift loads are specified for roof-to-wall connections. When calculating uplift loads for wall-to-wall or wall-to-foundation connections, tabulated uplift values shall be permitted to be reduced by 73 plf (0.60 x 121 plf) for each full wall above.
- 4 Shear connection values shall be multiplied by the following adjustments:

Roof Pitch	Wall Height	8' 10'	
	Top Plate to Ridge Height	Adjustment Factor	
≤6:12	0' (flat)	0.40	0.50
	5'	0.65	0.75
	10'	0.90	1.00
>6:12	5'	0.65	0.75
	10'	0.90	1.00
	15'	1.15	1.25
	20'	1.40	1.50

- 5 For jack rafter uplift connections, use a roof span equal to twice the jack rafter length. The jack rafter length includes the overhang length and the jack span.

Table 3.4A Rafter and/or Ceiling Joist to Top Plate Lateral and Shear Connection Requirements

(Prescriptive Alternative to Table 3.4)

Exposure B

Wind Speed 3-second gust (mph) (See Figure 1.1)		90	95	100	105	110	115	120	130	140	150	160	170	180	195
Rafter/Ceiling Joist Spacing (in.)	Wall Height (ft.)	Number of 8d Common Nails or 10d Box Nails (Toenailed) Required in Each Rafter and/or Ceiling Joist to Top Plate Connection ^{1,2,3,4}													
		8	10	12	14	16	18	20	22	24	26	28	30	32	34
12	8	2	2	2	2	2	2	2	2	3	3	3	3	3	3
	10	2	2	2	2	2	2	2	2	3	3	3	3	3	3
16	8	2	2	2	2	2	2	3	3	3	3	3	3	3	3
	10	2	2	2	2	2	2	3	3	3	3	3	3	3	4
24	8	3	3	3	3	3	3	4	4	5	5	5	5	5	5
	10	3	3	3	3	3	3	4	4	5	5	5	5	5	6

¹ Prescriptive limits are based on assumptions in Table 3.4.² When ceiling joists are installed parallel to rafters, the sum of the toenails in the rafter and ceiling joist shall equal or exceed the tabulated number of nails required.³ To avoid splitting, no more than 2 toenails shall be installed in each side of a rafter or ceiling joist when fastened to a 2x4 top plate or 3 toenails in each side when fastened to a 2x6 top plate.⁴ Where top plate-to-ridge heights exceed 10', they shall be adjusted as follows:

Wall Height	8'	10'
Top Plate to Ridge Height (ft)	Adjustment Factor	
10'	1.00	1.00
15'	1.15	1.25
20'	1.40	1.50

Table 3.4A Rafter and/or Ceiling Joist to Top Plate Lateral and Shear Connection Requirements

(Prescriptive Alternative to Table 3.4)

Exposure C

Wind Speed 3-second gust (mph) (See Figure 1.1)		90	95	100	105	110	115	120	130	140	150	160	170	180	195
Rafter/Ceiling Joist Spacing (in.)	Wall Height (ft.)	Number of 8d Common Nails or 10d Box Nails (Toenailed) Required in Each Rafter and/or Ceiling Joist to Top Plate Connection ^{1,2,3,4}													
		8	10	12	14	16	18	20	22	24	26	28	30	32	34
12	8	2	2	2	2	2	2	3	3	3	3	3	3	3	3
	10	2	2	2	2	2	2	3	3	3	3	3	3	3	4
16	8	2	2	2	3	3	3	3	3	3	3	3	3	4	4
	10	2	2	2	3	3	3	3	3	3	3	4	4	4	5
24	8	3	3	3	4	4	4	5	5	5	5	5	5	6	6
	10	3	3	3	4	4	4	5	5	5	5	5	6	6	8

¹ Prescriptive limits are based on assumptions in Table 3.4.² When ceiling joists are installed parallel to rafters, the sum of the toenails in the rafter and ceiling joist shall equal or exceed the tabulated number of nails required.³ To avoid splitting, no more than 2 toenails shall be installed in each side of a rafter or ceiling joist when fastened to a 2x4 top plate or 3 toenails in each side when fastened to a 2x6 top plate.⁴ Where top plate-to-ridge heights exceed 10', they shall be adjusted as follows:

Wall Height	8'	10'
Top Plate to Ridge Height (ft)	Adjustment Factor	
10'	1.00	1.00
15'	1.15	1.25
20'	1.40	1.50

Table 3.4B Shear Walls Resisting Uplift and Shear¹
(Prescriptive Alternative to Table 3.4)

Exposure B

Wind Speed 3-second gust (mph) (See Figure 1.1)				90	95	100	105	110	115	120	130	140	150	160	170	180	195
Wood Structural Panel Shear Wall Requirements		Top & Bottom of Panel Nailing Requirements		Maximum Roof Span (ft) ^{2,3}													
Sheathing Thickness	Shear Wall Nailing	Rows of Nails	Nail Spacing (in)														
7/16" OSB or 15/32" plywood with species of plies having $G \geq 0.49$	8d Common Nails @ 4" panel edge spacing and 12" field edge spacing	1 ⁴	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			3	36	36	36	36	36	28	20	12	-	-	-	-	-	-
		2 ⁵	6	36	36	36	36	36	28	20	12	-	-	-	-	-	-
			4	36	36	36	36	36	36	36	36	36	32	24	20	16	12
			3	36	36	36	36	36	36	36	36	36	36	36	36	32	24
			3	36	36	36	36	36	36	36	36	36	36	36	36	36	36
7/16" OSB or 15/32" plywood with species of plies having $G \geq 0.49$	8d Common Nails @ 6" panel edge spacing and 12" field edge spacing	1 ⁴	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			4	36	36	36	36	36	28	20	12	-	-	-	-	-	-
			3	36	36	36	36	36	36	36	36	24	20	12	12	-	-
		2 ⁵	6	36	36	36	36	36	36	36	36	36	24	20	12	12	-
			4	36	36	36	36	36	36	36	36	36	36	36	28	24	20
			3	36	36	36	36	36	36	36	36	36	36	36	36	36	32
15/32" OSB or plywood with species of plies having $G \geq 0.49$	10d Common Nails @ 6" panel edge spacing and 12" field edge spacing	1 ⁴	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			4	36	36	36	36	36	36	28	16	12	-	-	-	-	-
			3	36	36	36	36	36	36	36	36	32	24	20	16	12	-
		2 ⁵	6	36	36	36	36	36	36	36	36	32	24	20	16	12	-
			4	36	36	36	36	36	36	36	36	36	36	36	36	32	24
			3	36	36	36	36	36	36	36	36	36	36	36	36	36	36

¹ See AWC/ANSI *Special Design Provisions for Wind and Seismic (SDPWS)* for proper design and detailing of wood structural panels used to resist combined shear and uplift from wind.

² Where framing has a specific gravity of 0.49 or greater, tabulated maximum roof spans shall be permitted to be multiplied by 1.08, but in no case shall they exceed a span of 36 ft.

³ Tabulated values for plywood assume plywood with a species of plies having a specific gravity of 0.49 or greater. For plywood with other species, multiply the tabulated maximum roof spans by 0.90.

⁴ Wood structural panels shall overlap the top member of the double top plate and bottom plate by 1½" and a single row of fasteners shall be placed ¾" from the panel edge.

⁵ Wood structural panels shall overlap the top member of the double top plate and bottom plate by 1½". Rows of fasteners shall be ½" apart with a minimum edge distance of ½". Each row shall have nails at the specified spacing.

Table 3.4B Shear Walls Resisting Uplift and Shear¹

(Prescriptive Alternative to Table 3.4)

Exposure C

Wind Speed 3-second gust (mph) (See Figure 1.1)				90	95	100	105	110	115	120	130	140	150	160	170	180	195	
Wood Structural Panel Shear Wall Requirements		Top & Bottom of Panel Nailing Requirements		Maximum Roof Span (ft) ^{2, 3}														
Sheathing Thickness	Shear Wall Nailing	Rows of Nails	Nail Spacing (in)															
7/16" OSB or 15/32" plywood with species of plies having G≥0.49	8d Common Nails @ 4" panel edge spacing and 12" field edge spacing	1 ⁴	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			3	36	36	24	16	12	-	-	-	-	-	-	-	-	-	
		2 ⁵	6	36	36	24	16	12	-	-	-	-	-	-	-	-	-	
			4	36	36	36	36	36	36	36	36	32	24	16	12	-	-	-
			3	36	36	36	36	36	36	36	36	36	36	28	24	20	12	
7/16" OSB or 15/32" plywood with species of plies having G≥0.49	8d Common Nails @ 6" panel edge spacing and 12" field edge spacing	1 ⁴	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			4	36	36	24	16	12	-	-	-	-	-	-	-	-	-	
		2 ⁵	3	36	36	36	36	36	32	24	16	12	-	-	-	-	-	-
			6	36	36	36	36	36	32	24	16	12	-	-	-	-	-	-
			4	36	36	36	36	36	36	36	36	36	32	28	20	16	12	
			3	36	36	36	36	36	36	36	36	36	36	36	28	24	20	
15/32" OSB or plywood with species of plies having G≥0.49	10d Common Nails @ 6" panel edge spacing and 12" field edge spacing	1 ⁴	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			4	36	36	32	24	20	12	12	-	-	-	-	-	-	-	
		2 ⁵	3	36	36	36	36	36	36	32	24	16	12	-	-	-	-	-
			6	36	36	36	36	36	36	36	36	36	32	24	16	12	-	-
			4	36	36	36	36	36	36	36	36	36	36	32	28	20	16	
			3	36	36	36	36	36	36	36	36	36	36	36	36	32	24	

¹ See AWC/ANSI *Special Design Provisions for Wind and Seismic (SDPWS)* for proper design and detailing of wood structural panels used to resist combined shear and uplift from wind.

² Where framing has a specific gravity of 0.49 or greater, tabulated maximum roof spans shall be permitted to be multiplied by 1.08, but in no case shall they exceed a span of 36 ft.

³ Tabulated values for plywood assume plywood with a species of plies having a specific gravity of 0.49 or greater. For plywood with other species, multiply the tabulated maximum roof spans by 0.90.

⁴ Wood structural panels shall overlap the top member of the double top plate and bottom plate by 1½" and a single row of fasteners shall be placed ¾" from the panel edge.

⁵ Wood structural panels shall overlap the top member of the double top plate and bottom plate by 1½". Rows of fasteners shall be ½" apart with a minimum edge distance of ½". Each row shall have nails at the specified spacing.

Table 3.4C Rake Overhang Outlooker Uplift Connection Requirements**Exposure B**

Wind Speed 3-second gust (mph) (See Figure 1.1)		90	95	100	105	110	115	120	130	140	150	160	170	180	195
Overhang Span (in.)	Outlooker Spacing (in.)	Uplift Connection Load (lbs) ¹													
12	12	86	96	104	117	129	140	153	180	208	239	272	308	344	404
	16	115	128	139	156	172	187	204	240	278	319	363	411	459	539
	24	172	192	208	234	257	281	306	359	416	478	544	616	688	-
16	12	108	121	131	147	162	177	192	226	262	300	342	387	432	508
	16	144	161	175	196	216	235	256	301	349	401	456	516	576	677 ²
	24	216	241	262	295	323	353	385	452	523	601	683	774	-	-
19.2	12	128	142	155	174	191	208	227	266	309	354	403	456 ²	510 ²	599 ³
	16	170	190	207	231	254	278	302	355	411	472	537	608 ²	680 ²	798 ³
	24	255	284	310	347	381	416	453	533	617	708	806 ²	-	-	-
24	12	159	178	194	217	238	260	283	333	386 ²	443 ³	503 ⁴	570 ⁴	637 ⁴	748 ⁴
	16	213	237	259	289	318	347	378	444	514 ²	590 ³	671 ⁴	760 ⁴	849 ⁴	-
	24	319	355	389	434	476	520	567	665 ²	771 ²	-	-	-	-	-

- Uplift connection load based on connector located on inside face of 2x4 end wall and is not applicable for connector located on inside face of walls with framing members larger than 2x4. It shall be permitted to locate the connector on the outside face of walls with 2x4 and larger framing.
- Wood structural panel sheathing with minimum 24/16 span rating required (minimum 7/16" nominal thickness).
- Wood structural panel sheathing with minimum 32/16 span rating required (minimum 15/32" nominal thickness).
- Wood structural panel sheathing with minimum 40/20 span rating required (minimum 19/32" nominal thickness).

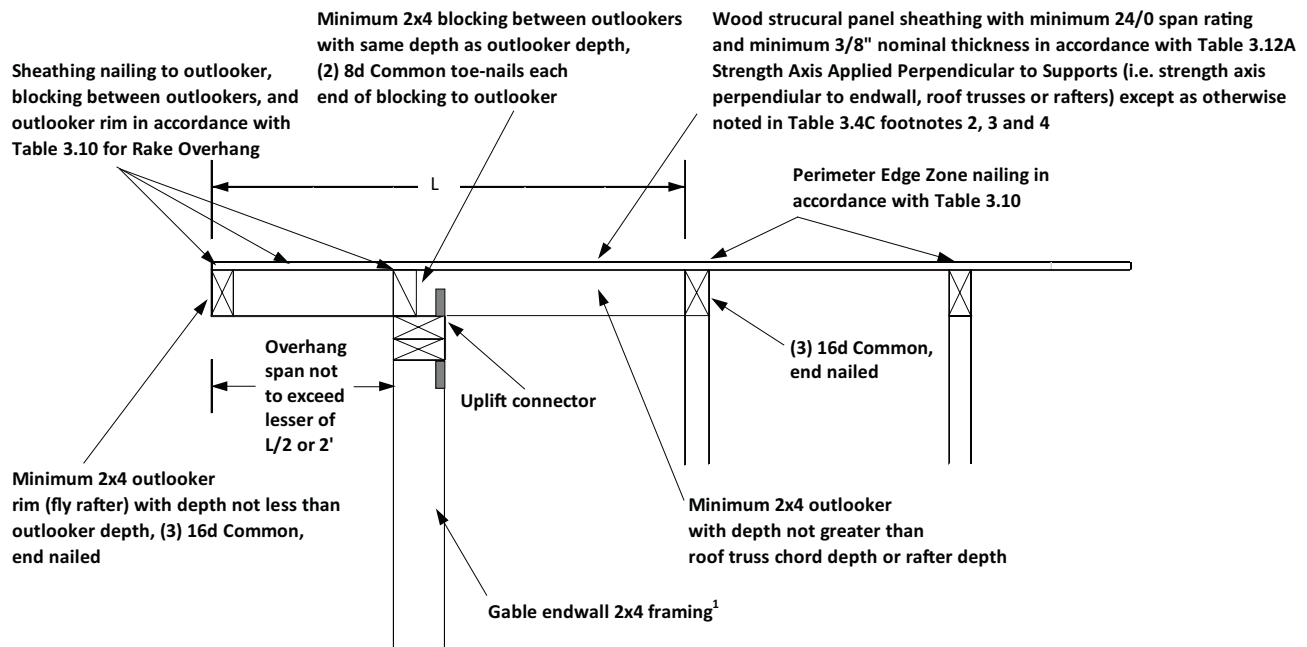
3**PRESCRIPTIVE DESIGN**

Table 3.4C Rake Overhang Outlooker Uplift Connection Requirements**Exposure C**

Wind Speed 3-second gust (mph) (See Figure 1.1)		90	95	100	105	110	115	120	130	140	150	160	170	180	195
Overhang Span (in.)	Outlooker Spacing (in.)	Uplift Connection Load (lbs) ¹													
12	12	120	133	144	163	179	195	213	250	289	332	378	428	478	561
	16	160	178	193	217	238	260	284	333	386	443	504	571	637	-
	24	239	267	289	326	358	391	425	500	579	664	-	-	-	-
16	12	150	168	182	205	225	245	267	314	364	418	475	538 ²	601 ²	706 ³
	16	201	224	243	273	300	327	356	419	485	557	633 ²	717 ²	801 ²	-
	24	301	335	365	409	450	491	535	628	728	-	-	-	-	-
19.2	12	177	198	216	241	265	289	315	370	429 ²	492 ²	560 ³	634 ⁴	708 ⁴	832 ⁴
	16	236	264	288	322	353	386	420	493	572 ²	656 ²	747 ³	846 ⁴	-	-
	24	355	395	431	483	530	579	630	740	858 ²	-	-	-	-	-
24	12	222	247	270	302	331	362 ²	394 ²	462 ³	536 ⁴	615 ⁴	700 ⁴	793 ⁴	-	-
	16	296	329	360	402	442	482 ²	525 ²	617 ³	715 ⁴	820 ⁴	-	-	-	-
	24	443	494	541	603	662 ²	723 ²	788 ²	-	-	-	-	-	-	-

¹ Uplift connection load based on connector located on inside face of 2x4 end wall and is not applicable for connector located on inside face of walls with framing members larger than 2x4. It shall be permitted to locate the connector on the outside face of walls with 2x4 and larger framing.

² Wood structural panel sheathing with minimum 24/16 span rating required (minimum 7/16" nominal thickness).

³ Wood structural panel sheathing with minimum 32/16 span rating required (minimum 15/32" nominal thickness).

⁴ Wood structural panel sheathing with minimum 40/20 span rating required (minimum 19/32" nominal thickness).

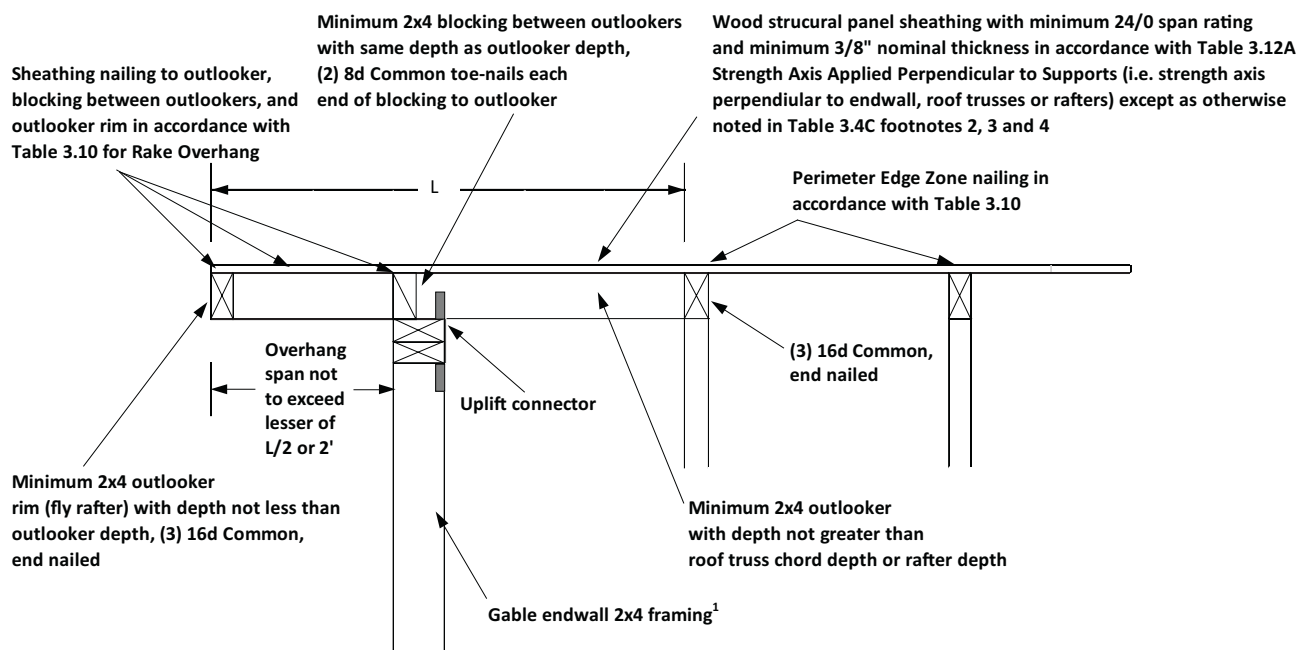


Table 3.5 Top and Bottom Plate to Stud Lateral Connection Requirements for Wind Loads**Exposure B**

Wind Speed 3-second gust (mph) (See Figure 1.1)	90	95	100	105	110	115	120	130	140	150	160	170	180	195
Wall Height (ft)	Unit Framing Loads (plf) ^{1,2}													
8	45	50	55	61	67	73	79	93	108	124	141	159	178	209
10	53	59	66	72	79	87	94	111	129	148	168	190	212	249
12	61	68	76	83	91	100	109	128	148	170	193	218	245	287
14	69	77	85	94	103	112	122	144	167	191	218	246	275	323
16	77	85	94	104	114	124	135	159	184	212	241	272	305	358
18	86	93	103	113	124	136	148	174	201	231	263	297	333	391
20	96	100	111	123	135	147	160	188	218	250	285	321	360	423

- 1 Tabulated framing loads and connection requirements shall be permitted to be multiplied by 0.92 for framing not located within 8 feet of corners.
- 2 Tabulated framing loads are specified in pounds per linear foot of wall. To determine connection requirements (lbs), multiply the tabulated unit lateral framing load by the multiplier from the table below corresponding to the spacing of the connection:

Connection Spacing (in.)	12	16	19.2	24	48
Multiplier	1.00	1.33	1.60	2.00	4.00

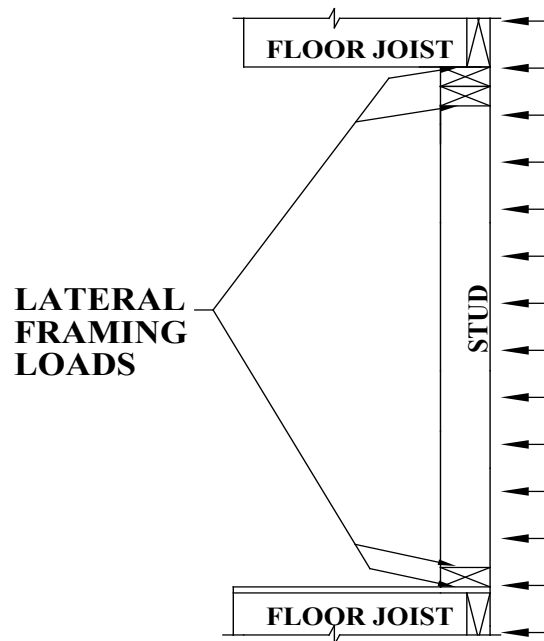


Table 3.5 Top and Bottom Plate to Stud Lateral Connection Requirements for Wind Loads

Exposure C

Wind Speed 3-second gust (mph) (See Figure 1.1)	90	95	100	105	110	115	120	130	140	150	160	170	180	195
Wall Height (ft)	Unit Framing Loads (plf) ^{1,2}													
8	62	69	76	84	92	101	110	129	150	172	196	221	248	291
10	74	82	91	100	110	120	131	154	179	205	233	263	295	346
12	85	95	105	116	127	139	151	177	206	236	269	303	340	399
14	96	107	118	130	143	156	170	200	231	266	302	341	383	449
16	106	118	131	144	158	173	188	221	256	294	335	378	423	497
18	116	129	143	157	173	189	206	241	280	321	365	413	463	543
20	125	139	154	170	187	204	222	261	303	347	395	446	500	587

- 1 Tabulated framing loads and connection requirements shall be permitted to be multiplied by 0.92 for framing not located within 8 feet of corners.
- 2 Tabulated framing loads are specified in pounds per linear foot of wall. To determine connection requirements (lbs), multiply the tabulated unit lateral framing load by the multiplier from the table below corresponding to the spacing of the connection:

Connection Spacing (in.)	12	16	19.2	24	48
Multiplier	1.00	1.33	1.60	2.00	4.00

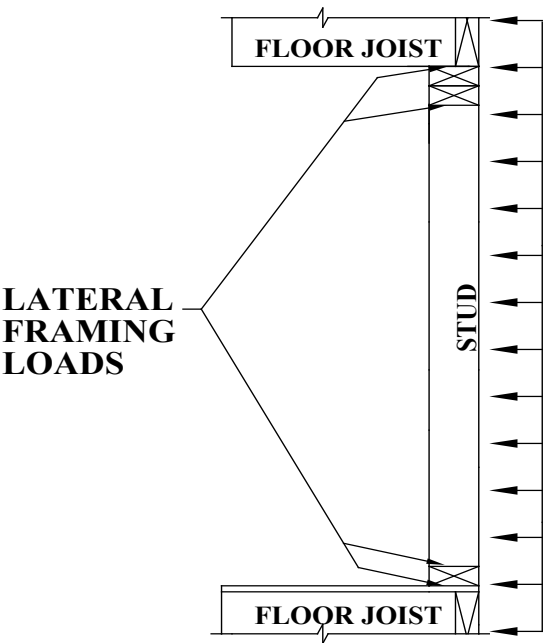


Table 3.5A Top and Bottom Plate to Stud Lateral Connections for Wind Loads**Exposure B**

(Prescriptive Alternative to Table 3.5)

Wind Speed 3-second gust (mph) (See Figure 1.1)		90	95	100	105	110	115	120	130	140	150	160	170	180	195
Stud Spacing (in.)	Wall Height (ft)	Required Number of 16d Common Nails or 40d Box Nails per Stud to Plate Connection (plf) ¹													
12	8	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	10	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	12	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	14	2	2	2	2	2	2	2	2	2	2	2	2	2	3
	16	2	2	2	2	2	2	2	2	2	2	2	2	2	3
	18	2	2	2	2	2	2	2	2	2	2	2	2	3	3
	20	2	2	2	2	2	2	2	2	2	2	2	3	3	3
16	8	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	10	2	2	2	2	2	2	2	2	2	2	2	2	2	3
	12	2	2	2	2	2	2	2	2	2	2	2	2	3	3
	14	2	2	2	2	2	2	2	2	2	2	2	3	3	3
	16	2	2	2	2	2	2	2	2	2	2	3	3	3	4
	18	2	2	2	2	2	2	2	2	2	3	3	3	4	4
	20	2	2	2	2	2	2	2	2	2	3	3	3	4	5
24	8	2	2	2	2	2	2	2	2	2	2	2	3	3	3
	10	2	2	2	2	2	2	2	2	2	2	3	3	3	4
	12	2	2	2	2	2	2	2	2	2	3	3	4	4	5
	14	2	2	2	2	2	2	2	2	3	3	4	4	4	5
	16	2	2	2	2	2	2	2	3	3	3	4	4	5	6
	18	2	2	2	2	2	2	2	3	3	4	4	5	5	6
	20	2	2	2	2	2	2	3	3	4	4	5	5	6	7

¹ Prescriptive limits are based on assumptions in Table 3.5.

Table 3.5A Top and Bottom Plate to Stud Lateral Connections for Wind Loads**Exposure C**

(Prescriptive Alternative to Table 3.5)

Wind Speed 3-second gust (mph) (See Figure 1.1)		90	95	100	105	110	115	120	130	140	150	160	170	180	195
Stud Spacing (in.)	Wall Height (ft)	Required Number of 16d Common Nails or 40d Box Nails per Stud to Plate Connection (plf) ¹													
12	8	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	10	2	2	2	2	2	2	2	2	2	2	2	2	2	3
	12	2	2	2	2	2	2	2	2	2	2	2	2	3	3
	14	2	2	2	2	2	2	2	2	2	2	2	3	3	4
	16	2	2	2	2	2	2	2	2	2	2	3	3	3	4
	18	2	2	2	2	2	2	2	2	2	3	3	3	4	4
16	20	2	2	2	2	2	2	2	2	2	3	3	4	4	5
	8	2	2	2	2	2	2	2	2	2	2	2	2	3	3
	10	2	2	2	2	2	2	2	2	2	2	3	3	3	4
	12	2	2	2	2	2	2	2	2	2	3	3	3	4	4
	14	2	2	2	2	2	2	2	2	3	3	3	4	4	5
	16	2	2	2	2	2	2	2	2	3	3	4	4	5	5
24	18	2	2	2	2	2	2	2	3	3	3	4	4	5	6
	20	2	2	2	2	2	2	2	3	3	4	4	5	5	6
	8	2	2	2	2	2	2	2	2	2	3	3	4	4	5
	10	2	2	2	2	2	2	2	3	3	3	4	4	5	6
	12	2	2	2	2	2	2	2	3	3	4	4	5	5	6
	14	2	2	2	2	2	3	3	3	4	4	5	5	6	7
	16	2	2	2	2	3	3	3	4	4	5	5	6	7	8
	18	2	2	2	3	3	3	3	4	4	5	6	7	7	9
	20	2	2	3	3	3	3	4	4	5	6	6	7	8	9

¹ Prescriptive limits are based on assumptions in Table 3.5.

Table 3.6 Ridge Connection Requirements for Wind

(Dead Load Assumptions: Roof Assembly DL = 10 psf)

Exposure B

Wind Speed 3-second gust (mph) (See Figure 1.1)		90	95	100	105	110	115	120	130	140	150	160	170	180	195
Roof Pitch	Roof Span (ft)	Required Capacity of Ridge Connection (plf) ^{1,2,3,4}													
3:12	12	28	39	51	64	77	91	105	136	169	205	243	284	327	397
	16	37	52	68	85	103	121	141	182	226	274	325	379	436	529
	20	46	65	85	106	128	152	176	227	282	342	406	473	545	661
	24	56	78	102	128	154	182	211	272	339	410	487	568	654	793
	28	65	91	119	149	180	212	246	318	395	479	568	663	763	925
	32	74	105	137	170	206	243	281	363	452	547	649	758	873	1057
4:12	12	26	35	45	55	65	77	88	113	139	168	199	231	266	321
	16	35	47	60	73	87	102	118	150	186	224	265	308	354	428
	20	43	58	75	91	109	128	147	188	232	280	331	385	443	536
	24	52	70	89	110	131	153	176	226	279	336	397	463	532	643
	28	61	82	104	128	153	179	206	263	325	392	464	540	620	750
	32	69	94	119	146	174	204	235	301	372	448	530	617	709	857
5:12	12	20	27	35	43	51	60	69	88	109	132	156	182	209	253
	16	26	36	46	57	68	80	92	118	146	176	208	242	279	337
	20	33	45	58	71	85	100	115	147	182	220	260	303	348	421
	24	40	54	69	85	102	119	138	177	219	264	312	364	418	506
	28	46	63	81	99	119	139	161	206	255	308	364	424	488	590
	32	53	72	92	114	136	159	184	236	292	352	416	485	557	674
6:12	12	20	26	33	40	48	55	63	81	99	119	141	164	188	227
	16	27	35	44	54	63	74	85	108	133	159	188	218	250	302
	20	33	44	55	67	79	92	106	135	166	199	235	273	313	378
	24	40	53	66	80	95	111	127	162	199	239	282	327	376	453
	28	47	61	77	94	111	129	148	188	232	279	329	382	438	529
	32	53	70	88	107	127	148	169	215	265	319	376	436	501	605
7:12-12:12	12	27	32	37	43	49	55	62	76	94	112	132	153	175	211
	16	36	43	50	57	65	73	82	102	125	149	176	204	233	281
	20	45	53	62	72	81	92	103	127	156	187	220	254	291	351
	24	54	64	75	86	98	110	123	153	187	224	263	305	350	421
	28	62	74	87	100	114	129	144	178	218	261	307	356	408	491
	32	71	85	99	115	130	147	164	204	250	299	351	407	466	562
	36	80	96	112	129	147	165	185	229	281	336	395	458	525	632

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PRESCRIPTIVE DESIGN

1 Tabulated connection requirements shall be permitted to be multiplied by 0.70 for framing not located within 8 feet of building corners.

2 Tabulated connection requirements are based on total uplift minus the roof assembly dead load of 6 psf (0.6 x 10 psf = 6 psf).

3 Tabulated connection requirements are based on a 12 inch ridge connection spacing, for different ridge connection spacing, multiply the tabulated values by the appropriate multiplier below:

Ridge Connection Spacing (in.)	12	16	19.2	24	48
Multiplier	1.00	1.33	1.60	2.00	4.00

4 For jack rafter uplift connections, use a roof span equal to twice the jack rafter length. The jack rafter length includes the overhang length and the jack span.

Table 3.6 Ridge Connection Requirements for Wind
(Dead Load Assumptions: Roof Assembly DL = 10 psf)

Exposure C

Wind Speed 3-second gust (mph) (See Figure 1.1)		90	95	100	105	110	115	120	130	140	150	160	170	180	195
Roof Pitch	Roof Span (ft)	Required Capacity of Ridge Connection (plf) ^{1,2,3,4}													
3:12	12	67	82	99	117	135	154	174	217	263	313	366	423	482	579
	16	89	110	132	156	180	206	233	290	351	417	488	563	643	772
	20	111	137	165	194	225	257	291	362	439	522	610	704	804	965
	24	133	165	198	233	270	309	349	434	527	626	732	845	965	1157
	28	155	192	231	272	315	360	407	507	615	730	854	986	1126	1350
	32	178	220	264	311	360	412	465	579	702	835	976	1127	1287	1543
4:12	12	57	70	83	97	112	127	143	178	215	254	297	342	390	467
	16	76	93	111	130	149	170	191	237	286	339	396	456	520	623
	20	95	116	138	162	186	212	239	296	358	424	495	570	650	779
	24	114	139	166	194	224	255	287	355	429	509	594	684	780	935
	28	133	163	194	227	261	297	335	415	501	594	693	798	910	1090
	32	152	186	222	259	298	339	382	474	573	679	792	912	1040	1246
5:12	12	44	54	65	76	88	100	112	140	169	200	234	269	307	368
	16	59	73	87	101	117	133	150	186	225	267	311	359	409	491
	20	74	91	108	127	146	166	187	233	281	333	389	449	512	613
	24	89	109	130	152	175	200	225	279	337	400	467	539	614	736
	28	104	127	151	177	204	233	262	326	394	467	545	628	717	858
	32	118	145	173	203	234	266	300	372	450	534	623	718	819	981
6:12	12	42	51	60	70	80	91	102	126	152	180	210	241	275	329
	16	56	67	80	93	107	121	136	168	203	240	280	322	367	439
	20	70	84	100	116	134	152	170	210	253	300	349	402	458	548
	24	83	101	120	140	160	182	204	252	304	360	419	483	550	658
	28	97	118	140	163	187	212	238	294	355	420	489	563	641	767
	32	111	135	160	186	214	242	272	336	406	480	559	644	733	877
7:12-12:12	12	44	51	59	67	76	86	96	118	142	168	195	224	255	304
	16	59	68	78	89	101	114	128	158	189	223	260	299	340	406
	20	74	85	98	111	126	143	160	197	237	279	325	373	425	507
	24	88	103	118	133	152	172	192	236	284	335	390	448	510	609
	28	103	120	137	155	177	200	224	276	331	391	455	523	595	710
	32	118	137	157	178	202	229	256	315	379	447	520	597	680	812
	36	133	154	176	200	228	257	288	355	426	503	585	672	765	913

1 Tabulated connection requirements shall be permitted to be multiplied by 0.70 for framing not located within 8 feet of building corners.

2 Tabulated connection requirements are based on total uplift minus the roof assembly dead load of 6 psf (0.6 x 10 psf = 6 psf).

3 Tabulated connection requirements are based on a 12 inch ridge connection spacing, for different ridge connection spacing, multiply the tabulated values by the appropriate multiplier below:

Ridge Connection Spacing (in.)	12	16	19.2	24	48
Multiplier	1.00	1.33	1.60	2.00	4.00

4 For jack rafter uplift connections, use a roof span equal to twice the jack rafter length. The jack rafter length includes the overhang length and the jack span.

Table 3.7 Header Connection Requirements for Wind
(Dead Load Assumptions: Roof Assembly DL = 15 psf)

Exposure B

Wind Speed 3- second gust (mph) (See Figure 1.1)		90		95		100		105		110		115		120		130		140		150		160		170		180		195	
Roof Span (ft)	Header Span (ft)	Required Capacity of Connection at Each End of Header (lbs) ¹																											
		U ^{2,3,4}	L	U ^{2,3,4}	L	U ^{2,3,4}	L	U ^{2,3,4}	L	U ^{2,3,4}	L	U ^{2,3,4}	L	U ^{2,3,4}	L	U ^{2,3,4}	L	U ^{2,3,4}	L	U ^{2,3,4}	L	U ^{2,3,4}	L	U ^{2,3,4}	L	U ^{2,3,4}	L	U ^{2,3,4}	L
12	2	8	53	18	59	27	66	37	72	48	79	59	87	71	94	96	111	123	129	151	148	182	168	215	190	250	212	306	249
	4	17	106	35	118	55	131	75	145	96	159	119	173	142	189	192	222	245	257	303	295	364	336	430	379	500	425	611	499
	6	25	159	53	178	82	197	112	217	144	238	178	260	213	283	287	333	368	386	454	443	547	504	645	569	749	637	917	748
	8	34	212	71	237	109	262	150	289	193	317	237	347	284	378	383	443	491	514	606	590	729	672	860	758	999	850	1222	998
	10	42	266	88	296	137	328	187	362	241	397	297	434	355	472	479	554	613	643	757	738	911	839	1075	948	1249	1062	1528	1247
	12	51	319	106	355	164	394	225	434	289	476	356	520	426	567	575	665	736	771	909	885	1093	1007	1290	1137	1499	1275	1834	1496
	14	59	372	123	414	191	459	262	506	337	555	415	607	497	661	671	776	859	900	1060	1033	1276	1175	1505	1327	1748	1487	2139	1746
	16	68	425	141	474	218	525	300	578	385	635	475	694	568	756	767	887	981	1028	1212	1181	1458	1343	1720	1516	1998	1700	2445	1995
	18	76	478	159	533	246	590	337	651	433	714	534	781	639	850	862	998	1104	1157	1363	1328	1640	1511	1935	1706	2248	1912	2751	2244
	20	84	531	176	592	273	656	375	723	482	794	593	867	710	944	958	1108	1226	1285	1514	1476	1822	1679	2150	1895	2498	2125	3056	2494
24	2	6	53	21	59	37	66	54	72	71	79	89	87	109	94	149	111	193	129	241	148	291	168	345	190	402	212	494	249
	4	12	106	42	118	74	131	107	145	142	159	179	173	217	189	299	222	387	257	481	295	582	336	690	379	804	425	987	499
	6	18	159	63	178	111	197	161	217	213	238	268	260	326	283	448	333	580	386	722	443	873	504	1035	569	1206	637	1481	748
	8	24	212	84	237	148	262	215	289	285	317	358	347	435	378	598	443	773	514	962	590	1165	672	1380	758	1608	850	1974	998
	10	30	266	105	296	185	328	268	362	356	397	447	434	543	472	747	554	967	643	1203	738	1456	839	1725	948	2010	1062	2468	1247
	12	36	319	126	355	222	394	322	434	427	476	537	520	652	567	896	665	1160	771	1444	885	1747	1007	2069	1137	2412	1275	2962	1496
	14	42	372	147	414	259	459	376	506	498	555	626	607	760	661	1046	776	1354	900	1684	1033	2038	1175	2414	1327	2814	1487	3455	1746
	16	48	425	168	474	296	525	429	578	569	635	716	694	869	756	1195	887	1547	1028	1925	1181	2329	1343	2759	1516	3216	1700	3949	1995
	18	54	478	190	533	332	590	483	651	640	714	805	781	978	850	1344	998	1740	1157	2166	1328	2620	1511	3104	1706	3617	1912	4442	2244
	20	60	531	211	592	369	656	536	723	712	794	895	867	1086	944	1494	1108	1934	1285	2406	1476	2911	1679	3449	1895	4019	2125	4936	2494
36	2	4	53	25	59	47	66	70	72	95	79	120	87	147	94	204	111	265	129	331	148	401	168	476	190	556	212	684	249
	4	8	106	50	118	94	131	141	145	190	159	241	173	294	189	408	222	530	257	662	295	803	336	953	379	1112	425	1367	499
	6	12	159	75	178	141	197	211	217	284	238	361	260	441	283	611	333	795	386	993	443	1204	504	1429	569	1668	637	2051	748
	8	16	212	100	237	188	262	282	289	379	317	481	347	588	378	815	443	1061	514	1324	590	1606	672	1905	758	2223	850	2734	998
	10	20	266	125	296	236	328	352	362	474	397	602	434	735	472	1019	554	1326	643	1655	738	2007	839	2382	948	2779	1062	3418	1247
	12	24	319	150	355	283	394	422	434	569	476	722	520	882	567	1223	665	1591	771	1986	885	2408	1007	2858	1137	3335	1275	4102	1496
	14	28	372	175	414	330	459	493	506	664	555	842	607	1029	661	1427	776	1856	900	2317	1033	2810	1175	3334	1327	3891	1487	4785	1746
	16	32	425	200	474	377	525	563	578	758	635	963	694	1176	756	1631	887	2121	1028	2648	1181	3211	1343	3811	1516	4447	1700	5469	1995
	18	36	478	225	533	424	590	634	651	853	714	1083	781	1323	850	1834	998	2386	1157	2979	1328	3613	1511	4287	1706	5003	1912	6152	2244
	20	40	531	250	592	471	656	704	723	948	794	1204	867	1470	944	2038	1108	2651	1285	3310	1476	4014	1679	4764	1895	5558	2125	6836	2494

U = Connector uplift load.

L = Connector lateral load (perpendicular to the wall).

- 1 Tabulated uplift and lateral connection requirements shall be permitted to be multiplied by 0.75 and 0.92, respectively, for framing not located within 8 feet of building corners.
- 2 Tabulated connection requirements assume a roof assembly dead load of 9 psf (0.6 x 15 psf = 9 psf).
- 3 Tabulated uplift loads are specified for headers supporting a roof assembly. When calculating uplift loads for headers supporting floor loads, the tabulated uplift loads shall be permitted to be reduced by 36 plf times the header span for each full wall above.
- 4 For jack rafter uplift connections, use a roof span equal to twice the jack rafter length. The jack rafter length includes the overhang length and the jack span.

Table 3.7 Header Connection Requirements for Wind
(Dead Load Assumptions: Roof Assembly DL = 15 psf)

Exposure C

Wind Speed 3- second gust (mph) (See Figure 1.1)		90		95		100		105		110		115		120		130		140		150		160		170		180		195	
Roof Span (ft)	Header Span (ft)	Required Capacity of Connection at Each End of Header (lbs) ¹																											
		U ^{2,3,4}	L	U ^{2,3,4}	L	U ^{2,3,4}	L	U ^{2,3,4}	L	U ^{2,3,4}	L	U ^{2,3,4}	L	U ^{2,3,4}	L	U ^{2,3,4}	L	U ^{2,3,4}	L	U ^{2,3,4}	L	U ^{2,3,4}	L	U ^{2,3,4}	L	U ^{2,3,4}	L	U ^{2,3,4}	L
12	2	40	74	52	82	66	91	80	100	95	110	110	120	127	131	161	154	198	179	238	205	281	233	327	263	375	295	452	346
	4	79	148	105	164	132	182	160	201	190	220	221	241	253	262	322	308	397	357	477	410	562	466	653	526	750	590	905	693
	6	119	221	157	247	198	273	240	301	285	331	331	361	380	394	483	462	595	536	715	615	843	700	980	790	1125	885	1357	1039
	8	159	295	210	329	264	364	320	402	380	441	442	482	506	525	644	616	793	714	953	820	1124	933	1306	1053	1500	1181	1810	1385
	10	199	369	262	411	330	455	400	502	474	551	552	602	633	656	805	770	992	893	1192	1025	1405	1166	1633	1316	1874	1476	2262	1732
	12	238	443	315	493	396	547	480	603	569	661	662	723	760	787	967	924	1190	1071	1430	1230	1687	1399	1960	1579	2249	1771	2715	2078
	14	278	516	367	575	461	638	560	703	664	772	773	843	886	918	1128	1078	1388	1250	1668	1435	1968	1632	2286	1843	2624	2066	3167	2425
	16	318	590	420	658	527	729	641	803	759	882	883	964	1013	1049	1289	1232	1587	1428	1907	1640	2249	1865	2613	2106	2999	2361	3620	2771
	18	357	664	472	740	593	820	721	904	854	992	994	1084	1140	1181	1450	1385	1785	1607	2145	1845	2530	2099	2940	2369	3374	2656	4072	3117
20	397	738	525	822	659	911	801	1004	949	1102	1104	1205	1266	1312	1611	1539	1983	1785	2383	2049	2811	2332	3266	2632	3749	2951	4525	3464	
24	2	57	74	78	82	100	91	124	100	148	110	173	120	200	131	256	154	318	179	383	205	453	233	528	263	607	295	735	346
	4	115	148	156	164	201	182	247	201	296	220	347	241	400	262	513	308	635	357	766	410	907	466	1056	526	1214	590	1469	693
	6	172	221	235	247	301	273	371	301	444	331	520	361	600	394	769	462	953	536	1150	615	1360	700	1584	790	1822	885	2204	1039
	8	229	295	313	329	401	364	494	402	591	441	693	482	800	525	1026	616	1270	714	1533	820	1813	933	2112	1053	2429	1181	2938	1385
	10	287	369	391	411	502	455	618	502	739	551	866	602	999	656	1282	770	1588	893	1916	1025	2267	1166	2640	1316	3036	1476	3673	1732
	12	344	443	469	493	602	547	741	603	887	661	1040	723	1199	787	1539	924	1905	1071	2299	1230	2720	1399	3168	1579	3643	1771	4407	2078
	14	401	516	548	575	702	638	865	703	1035	772	1213	843	1399	918	1795	1078	2223	1250	2682	1435	3174	1632	3696	1843	4251	2066	5142	2425
	16	458	590	626	658	802	729	988	803	1183	882	1386	964	1599	1049	2052	1232	2541	1428	3066	1640	3627	1865	4224	2106	4858	2361	5876	2771
	18	516	664	704	740	903	820	1112	904	1331	992	1560	1084	1799	1181	2308	1385	2858	1607	3449	1845	4080	2099	4752	2369	5465	2656	6611	3117
20	573	738	782	822	1003	911	1235	1004	1478	1102	1733	1205	1999	1312	2565	1539	3176	1785	3832	2049	4534	2332	5280	2632	6072	2951	7345	3464	
36	2	76	74	105	82	135	91	168	100	202	110	237	120	274	131	353	154	438	179	530	205	628	233	732	263	842	295	1019	346
	4	151	148	209	164	271	182	336	201	403	220	474	241	548	262	706	308	877	357	1059	410	1255	466	1463	526	1684	590	2039	693
	6	227	221	314	247	406	273	503	301	605	331	711	361	823	394	1059	462	1315	536	1589	615	1883	700	2195	790	2526	885	3058	1039
	8	302	295	419	329	542	364	671	402	807	441	949	482	1097	525	1412	616	1753	714	2119	820	2510	933	2926	1053	3368	1181	4078	1385
	10	378	369	523	411	677	455	839	502	1008	551	1186	602	1371	656	1765	770	2191	893	2649	1025	3138	1166	3658	1316	4210	1476	5097	1732
	12	453	443	628	493	813	547	1007	603	1210	661	1423	723	1645	787	2119	924	2630	1071	3178	1230	3765	1399	4390	1579	5052	1771	6117	2078
	14	529	516	733	575	948	638	1174	703	1412	772	1660	843	1920	918	2472	1078	3068	1250	3708	1435	4393	1632	5121	1843	5894	2066	7136	2425
	16	604	590	837	658	1083	729	1342	803	1613	882	1897	964	2194	1049	2825	1232	3506	1428	4238	1640	5020	1865	5853	2106	6736	2361	8156	2771
	18	680	664	942	740	1219	820	1510	904	1815	992	2134	1084	2468	1181	3178	1385	3944	1607	4768	1845	5648	2099	6584	2369	7578	2656	9175	3117
20	755	738	1047	822	1354	911	1678	1004	2017	1102	2372	1205	2742	1312	3531	1539	4383	1785	5297	2049	6275	2332	7316	2632	8420	2951	10194	3464	

U = Connector uplift load.

L = Connector lateral load (perpendicular to the wall).

- 1 Tabulated uplift and lateral connection requirements shall be permitted to be multiplied by 0.75 and 0.92, respectively, for framing not located within 8 feet of building corners.
- 2 Tabulated connection requirements assume a roof assembly dead load of 9 psf (0.6 x 15 psf = 9 psf).
- 3 Tabulated uplift loads are specified for headers supporting a roof assembly. When calculating uplift loads for headers supporting floor loads, the tabulated uplift loads shall be permitted to be reduced by 36 plf times the header span for each full wall above.
- 4 For jack rafter uplift connections, use a roof span equal to twice the jack rafter length. The jack rafter length includes the overhang length and the jack span.

Table 3.8 Window Sill Plate Connection Requirements for Wind Exposure B

Wind Speed 3-second gust (mph) (See Figure 1.1)	90	95	100	105	110	115	120	130	140	150	160	170	180	195
Window Sill Span (ft)	Required Lateral Capacity of Connection at Each End of Window Sill Plate (lbs) ¹													
2	53	59	66	72	79	87	94	111	129	148	168	190	212	249
4	106	118	131	145	159	173	189	222	257	295	336	379	425	499
6	159	178	197	217	238	260	283	333	386	443	504	569	637	748
8	212	237	262	289	317	347	378	443	514	590	672	758	850	998
10	266	296	328	362	397	434	472	554	643	738	839	948	1062	1247
12	319	355	394	434	476	520	567	665	771	885	1007	1137	1275	1496
14	372	414	459	506	555	607	661	776	900	1033	1175	1327	1487	1746
16	425	474	525	578	635	694	756	887	1028	1181	1343	1516	1700	1995
18	478	533	590	651	714	781	850	998	1157	1328	1511	1706	1912	2244
20	531	592	656	723	794	867	944	1108	1285	1476	1679	1895	2125	2494

- 1 Tabulated lateral connection requirements shall be permitted to be multiplied by 0.92 for framing not located within 8 feet of building corners.

Table 3.8 Window Sill Plate Connection Requirements for Wind**Exposure C**

Wind Speed 3-second gust (mph) (See Figure 1.1)	90	95	100	105	110	115	120	130	140	150	160	170	180	195
Window Sill Span (ft)	Required Lateral Capacity of Connection at Each End of Window Sill Plate (lbs) ¹													
2	74	82	91	100	110	120	131	154	179	205	233	263	295	346
4	148	164	182	201	220	241	262	308	357	410	466	526	590	693
6	221	247	273	301	331	361	394	462	536	615	700	790	885	1039
8	295	329	364	402	441	482	525	616	714	820	933	1053	1181	1385
10	369	411	455	502	551	602	656	770	893	1025	1166	1316	1476	1732
12	443	493	547	603	661	723	787	924	1071	1230	1399	1579	1771	2078
14	516	575	638	703	772	843	918	1078	1250	1435	1632	1843	2066	2425
16	590	658	729	803	882	964	1049	1232	1428	1640	1865	2106	2361	2771
18	664	740	820	904	992	1084	1181	1385	1607	1845	2099	2369	2656	3117
20	738	822	911	1004	1102	1205	1312	1539	1785	2049	2332	2632	2951	3464

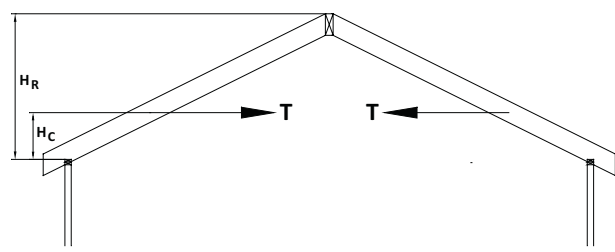
- 1 Tabulated lateral connection requirements shall be permitted to be multiplied by 0.92 for framing not located within 8 feet of building corners.

Table 3.9 Rafter/Ceiling Joist Heel Joint Connection Requirements

(Dead Load Assumptions: Roof Assembly DL = 10 psf)

		Roof Live Load			Ground Snow Load								
		20 psf			30 psf			50 psf			70 psf		
		Roof Span (ft)											
		12	24	36	12	24	36	12	24	36	12	24	36
		Required Capacity of Heel Joint Connection (lbs) ^{1,2,3,4,5}											
Rafter Slope	Rafter Spacing (in.)												
3:12	12	360	720	1080	397	794	1192	582	1164	1746	767	1534	2300
	16	480	960	1440	530	1059	1589	776	1552	2328	1022	2045	3067
	19.2	576	1152	1728	636	1271	1907	931	1862	2794	1227	2454	3681
	24	720	1440	2160	794	1589	2383	1164	2328	3492	1534	3067	4601
4:12	12	270	540	810	298	596	894	437	873	1310	575	1150	1725
	16	360	720	1080	397	794	1192	582	1164	1746	767	1534	2300
	19.2	432	864	1296	477	953	1430	698	1397	2095	920	1840	2760
	24	540	1080	1620	596	1192	1787	873	1746	2619	1150	2300	3451
5:12	12	216	432	648	238	477	715	349	698	1048	460	920	1380
	16	288	576	864	318	636	953	466	931	1397	613	1227	1840
	19.2	346	691	1037	381	763	1144	559	1117	1676	736	1472	2208
	24	432	864	1296	477	953	1430	698	1397	2095	920	1840	2760
7:12	12	154	309	463	170	340	511	249	499	748	329	657	986
	16	206	411	617	227	454	681	333	665	998	438	876	1315
	19.2	247	494	741	272	545	817	399	798	1197	526	1052	1577
	24	309	617	926	340	681	1021	499	998	1497	657	1315	1972
9:12	12	120	240	360	132	265	397	194	388	582	256	511	767
	16	160	320	480	177	353	530	259	517	776	341	682	1022
	19.2	192	384	576	212	424	636	310	621	931	409	818	1227
	24	240	480	720	265	530	794	388	776	1164	511	1022	1534
12:12	12	90	180	270	99	199	298	146	291	437	192	383	575
	16	120	240	360	132	265	397	194	388	582	256	511	767
	19.2	144	288	432	159	318	477	233	466	698	307	613	920
	24	180	360	540	199	397	596	291	582	873	383	767	1150

- Heel joint connections are not required when the ridge is supported by a loadbearing wall, header, or ridge beam designed to resist the applied loads.
- When intermediate support of the rafter is provided by vertical struts or purlins to a loadbearing wall, the tabulated heel joint connection requirements shall be permitted to be reduced proportionally to the reduction in span.
- Equivalent connections are required for ceiling joist to ceiling joist lap splices.
- Tabulated heel joint connection requirements do not include the additional weight of the ceiling assembly.
- Tabulated heel joint connection requirements assume ceiling joists or rafter ties are located at the bottom of the attic space. When ceiling joists or rafter ties are located higher in the attic space, no attic storage is assumed, and the tabulated heel joint connection requirements shall be increased by the following factors:

	Ceiling Height/ Top Plate-to-Roof Ridge Height (H_C/H_R)	Heel Joint Connection Adjustment Factors
	1/2	2.00
	1/3	1.50
	1/4	1.33
	1/5	1.25
	1/6	1.20
	1/10	1.11

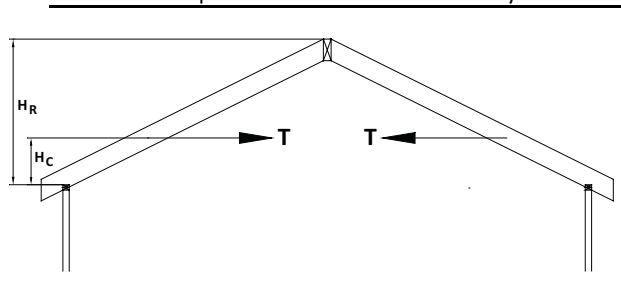
Note: Lateral deflection of the rafter below the rafter ties may exceed 3/4 inch when rafter ties are located above one-third of the top plate-to-roof ridge height, H_R , or when H_C is greater than 2 feet and may require additional consideration.

Table 3.9A Rafter/Ceiling Joist Heel Joint Connection Requirements

(Prescriptive Alternative to Table 3.9)

		Roof Live Load			Ground Snow Load								
		20 psf			30 psf			50 psf			70 psf		
		Roof Span (ft)											
		12	24	36	12	24	36	12	24	36	12	24	36
Rafter Slope	Rafter Spacing (in.)	Required Number of 16d Common or 40d Box Nails per Heel Joint Connection ^{1,2,3,4,5}											
3:12	12	3	5	8	3	6	9	5	9	13	6	12	17
	16	4	7	10	4	8	12	6	12	17	8	15	23
	19.2	4	8	12	5	10	14	7	14	21	9	18	27
	24	5	10	15	6	12	18	9	17	26	12	23	34
4:12	12	3	4	6	3	5	7	4	7	10	5	9	13
	16	3	5	8	3	6	9	5	9	13	6	12	17
	19.2	3	6	9	4	7	11	6	11	16	7	14	21
	24	4	8	11	5	9	13	7	13	19	9	17	26
5:12	12	3	3	5	3	4	6	3	6	8	4	7	11
	16	3	4	6	3	5	7	4	7	11	5	9	14
	19.2	3	5	7	3	6	9	5	9	13	6	11	17
	24	3	6	9	4	7	11	6	11	16	7	14	21
7:12	12	3	3	4	3	3	4	3	4	6	3	5	8
	16	3	3	5	3	4	5	3	5	8	4	7	10
	19.2	3	4	5	3	4	6	3	6	9	4	8	12
	24	3	5	7	3	5	8	4	8	11	5	10	15
9:12	12	3	3	3	3	3	3	3	3	5	3	4	6
	16	3	3	4	3	3	4	3	4	6	3	5	8
	19.2	3	3	4	3	4	5	3	5	7	3	6	9
	24	3	4	5	3	4	6	3	6	9	4	8	12
12:12	12	3	3	3	3	3	3	3	3	4	3	3	5
	16	3	3	3	3	3	3	3	3	5	3	4	6
	19.2	3	3	3	3	3	4	3	4	6	3	5	7
	24	3	3	4	3	3	5	3	5	7	3	6	9

- Heel joint connections are not required when the ridge is supported by a loadbearing wall, header or ridge beam designed to resist the applied loads.
- When intermediate support of the rafter is provided by vertical struts or purlins to a loadbearing wall, the tabulated heel joint connection requirements shall be permitted to be reduced proportionally to the reduction in span.
- Equivalent connections are required for ceiling joist to ceiling joist lap splices.
- Tabulated heel joint connection requirements do not include the additional weight of the ceiling assembly.
- Tabulated heel joint connection requirements assume ceiling joists or rafter ties are located at the bottom of the attic space. When ceiling joists or rafter ties are located higher in the attic space, no attic storage is assumed, and the tabulated heel joint connection requirements shall be increased by the following factors:

	Ceiling Height/ Top Plate-to-Roof Ridge Height (H_C/H_R)	Heel Joint Connection Adjustment Factors
	1/2	2.00
	1/3	1.50
	1/4	1.33
	1/5	1.25
	1/6	1.20
	1/10	1.11

Note: Lateral deflection of the rafter below the rafter ties may exceed 3/4 inch when rafter ties are located above one-third of the top plate-to-roof ridge height, H_R , or when H_C is greater than 2 feet and may require additional consideration.

Table 3.10 Roof Sheathing Attachment Requirements for Wind Loads**Exposure B**

Wind Speed 3-second gust (mph) (See Figure 1.1)				90	95	100	105	110	115	120	130	140	150	160	170	180	195
Sheathing Location ¹	Rafter /Truss Spacing (in.)	Fastener Spacing		Uplift Load per Nail (lbs)													
		Panel Edges (in.)	Interm. Supports (in.)														
Interior Zone	12	6	12	17	19	21	23	25	28	30	35	41	47	53	60	67	78
		6	6	9	10	11	12	13	14	15	18	21	24	27	30	34	39
		4	4	6	7	7	8	9	9	10	12	14	16	18	20	23	26
		3	3	5	5	6	6	7	7	8	9	10	12	14	15	17	20
	16	6	12	23	25	28	31	34	37	40	47	54	62	70	79	89	104
		6	6	12	13	14	16	17	19	20	24	27	31	35	40	45	52
		4	4	8	9	10	10	11	12	14	16	18	21	24	27	30	35
		3	3	6	7	7	8	9	9	10	12	14	16	18	20	23	26
	19.2	6	12	27	30	33	37	40	44	48	56	65	74	84	95	107	125
		6	6	14	15	17	19	20	22	24	28	33	37	42	48	54	63
		4	4	9	10	11	12	14	15	16	19	22	25	28	32	36	42
		3	3	7	8	9	9	10	11	12	14	17	19	21	24	27	32
	24	6	12	34	37	41	46	50	55	59	70	81	93	105	119	133	156
		6	6	17	19	21	23	25	28	30	35	41	47	53	60	67	78
		4	4	12	13	14	16	17	19	20	24	27	31	35	40	45	52
		3	3	9	10	11	12	13	14	15	18	21	24	27	30	34	39
Perimeter Edge Zone	12	6	12	32	35	39	43	47	51	56	66	76	87	99	112	125	147
		6	6	16	18	20	22	24	26	28	33	38	44	50	56	63	74
		4	4	11	12	13	15	16	17	19	22	26	29	33	38	42	49
		3	3	8	9	10	11	12	13	14	17	19	22	25	28	32	37
	16	6	12	42	47	52	57	63	68	74	87	101	116	132	149	167	196
		6	6	21	24	26	29	32	34	37	44	51	58	66	75	84	98
		4	4	14	16	18	19	21	23	25	29	34	39	44	50	56	66
		3	3	11	12	13	15	16	17	19	22	26	29	33	38	42	49
	19.2	6	12	50	56	62	68	75	82	89	105	121	139	158	179	200	235
		6	6	25	28	31	34	38	41	45	53	61	70	79	90	100	118
		4	4	17	19	21	23	25	28	30	35	41	47	53	60	67	79
		3	3	13	14	16	17	19	21	23	27	31	35	40	45	50	59
	24	6	12	63	70	78	85	94	102	111	131	152	174	198	223	250	294
		6	6	32	35	39	43	47	51	56	66	76	87	99	112	125	147
		4	4	21	24	26	29	32	34	37	44	51	58	66	75	84	98
		3	3	16	18	20	22	24	26	28	33	38	44	50	56	63	74
Gable Endwall Rake or Rake Truss with up to 9" Rake Overhang	Fastener Spacing (in.)			Uplift Load per Nail (lbs)													
	6			28	31	35	38	42	46	50	59	68	78	88	100	112	131
	4			19	21	23	26	28	31	33	39	45	52	59	67	75	88
	3			14	16	18	19	21	23	25	30	34	39	44	50	56	66

Sheathing Thickness (in.)	Fastener Uplift Capacity ^{2,3} (lbs)									
	3/8	7/16	15/32	19/32	23/32					
Framing Member G	0.42	0.49	0.42	0.49	0.42	0.49	0.42	0.49	0.42	0.49
8d common ⁴	70	91	68	100	67	98	63	92	58	86
10d box ⁴	84	101	82	118	81	120	77	114	73	108
RSRS-03 ⁵	91	91	99	106	99	114	99	135	99	135

- For roof sheathing within 4 feet of the perimeter edge of the roof, including 4 feet on each side of the roof peak, the 4-foot perimeter edge zone attachment requirements shall be used.
- Minimum capacity of withdrawal and fastener head pull-through is tabulated.
- Tabulated values include a load duration factor adjustment, $C_D=1.6$.
- Tabulated values for 8d common nails and 10d box nails are applicable to carbon steel nails (bright or galvanized).
- Tabulated values for RSRS-03 nails are applicable to carbon steel (bright or galvanized) or stainless steel nails.

Table 3.10 Roof Sheathing Attachment Requirements for Wind Loads**Exposure C**

Wind Speed 3-second gust (mph) (See Figure 1.1)				90	95	100	105	110	115	120	130	140	150	160	170	180	195
Sheathing Location ¹	Rafter /Truss Spacing (in.)	Fastener Spacing		Uplift Load per Nail (lbs)													
		Panel Edges (in.)	Interm. Supports (in.)														
Interior Zone	12	6	12	24	26	29	32	35	38	41	49	56	64	73	83	93	109
		6	6	12	13	15	16	18	19	21	25	28	32	37	42	47	55
		4	4	8	9	10	11	12	13	14	16	19	22	25	28	31	37
		3	3	6	7	8	8	9	10	11	12	14	16	19	21	24	28
	16	6	12	31	35	38	42	46	51	55	65	75	86	98	110	123	145
		6	6	16	18	19	21	23	26	28	33	38	43	49	55	62	73
		4	4	11	12	13	14	16	17	19	22	25	29	33	37	41	49
		3	3	8	9	10	11	12	13	14	16	19	22	25	28	31	37
	19.2	6	12	37	42	46	51	56	61	66	77	90	103	117	132	148	174
		6	6	19	21	23	26	28	31	33	39	45	52	59	66	74	87
		4	4	13	14	16	17	19	21	22	26	30	35	39	44	50	58
		3	3	10	11	12	13	14	16	17	20	23	26	30	33	37	44
	24	6	12	47	52	57	63	69	76	82	97	112	129	146	165	185	217
		6	6	24	26	29	32	35	38	41	49	56	64	73	83	93	109
		4	4	16	18	19	21	23	26	28	33	38	43	49	55	62	73
		3	3	12	13	15	16	18	19	21	25	28	32	37	42	47	55
Perimeter Edge Zone	12	6	12	44	49	54	59	65	71	78	91	105	121	137	155	174	204
		6	6	22	25	27	30	33	36	39	46	53	61	69	78	87	102
		4	4	15	17	18	20	22	24	26	31	35	41	46	52	58	68
		3	3	11	13	14	15	17	18	20	23	27	31	35	39	44	51
	16	6	12	58	65	72	79	87	95	103	121	140	161	183	207	232	272
		6	6	29	33	36	40	44	48	52	61	70	81	92	104	116	136
		4	4	20	22	24	27	29	32	35	41	47	54	61	69	78	91
		3	3	15	17	18	20	22	24	26	31	35	41	46	52	58	68
	19.2	6	12	70	78	86	95	104	114	124	145	168	193	220	248	278	326
		6	6	35	39	43	48	52	57	62	73	84	97	110	124	139	163
		4	4	24	26	29	32	35	38	42	49	56	65	74	83	93	109
		3	3	18	20	22	24	26	29	31	37	42	49	55	62	70	82
	24	6	12	87	97	108	118	130	142	155	181	210	241	275	310	347	408
		6	6	44	49	54	59	65	71	78	91	105	121	137	155	174	204
		4	4	29	33	36	40	44	48	52	61	70	81	92	104	116	136
		3	3	22	25	27	30	33	36	39	46	53	61	69	78	87	102
Gable Endwall Rake or Rake Truss with up to 9" Rake Overhang	Fastener Spacing (in.)			Uplift Load per Nail (lbs)													
	6			39	44	48	53	58	64	69	81	94	108	123	138	155	182
	4			26	29	32	36	39	43	46	54	63	72	82	92	104	121
	3			20	22	24	27	29	32	35	41	47	54	62	69	78	91

Sheathing Thickness (in.)	Fastener Uplift Capacity ^{2,3} (lbs)									
	3/8	7/16	15/32	19/32	23/32	23/32	23/32	23/32	23/32	23/32
Framing Member G	0.42	0.49	0.42	0.49	0.42	0.49	0.42	0.49	0.42	0.49
8d common ⁴	70	91	68	100	67	98	63	92	58	86
10d box ⁴	84	101	82	118	81	120	77	114	73	108
RSRS-03 ⁵	91	91	99	106	99	114	99	135	99	135

- For roof sheathing within 4 feet of the perimeter edge of the roof, including 4 feet on each side of the roof peak, the 4-foot perimeter edge zone attachment requirements shall be used.
- Minimum capacity of withdrawal and fastener head pull-through is tabulated.
- Tabulated values include a load duration factor adjustment, $C_D=1.6$.
- Tabulated values for 8d common nails and 10d box nails are applicable to carbon steel nails (bright or galvanized).
- Tabulated values for RSRS-03 nails are applicable to carbon steel (bright or galvanized) or stainless steel nails.

Table 3.10A Roof Sheathing Attachment Requirements for Wind Loads (7/16", PANEL G=0.50)**Exposure B**

(Prescriptive Alternative to Table 3.10)

Wind Speed 3-second gust (mph) (See Figure 1.1)			90	95	100	105	110	115	120	130	140	150	160	170	180	195
STRUCTURAL SHEATHING																
Sheathing Location ¹	Rafter/Truss Framing Specific Gravity, G	Rafter/Truss Spacing (in.)	E	F	E	F	E	F	E	F	E	F	E	F	E	F
			Maximum Nail Spacing for 8d Common Nails, or 10d Box Nails (inches, o.c.) ^{2,4}													
Interior Zone	0.49	12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12
		16	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 6
		19.2	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 6	6 6
		24	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 6	6 6	6 6	6 6
	0.42	12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 6
		16	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 6	6 6	6 6	6 6
19.2		6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 6	6 6	6 6	6 6	
24		6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 6	6 6	6 6	6 6	6 6	4 4	
Perimeter Edge Zone	0.49	12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 6	6 6
		16	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 6	6 6	6 6	6 6	6 6
		19.2	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 6	6 6	6 6	6 6	6 6	6 6
		24	6 12	6 12	6 12	6 12	6 12	6 12	6 6	6 6	6 6	Exceeds capacity of 7/16" sheathing ³				
	0.42	12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 6	6 6	6 6	4 4	4 4
		16	6 12	6 12	6 12	6 12	6 12	6 12	6 6	6 6	6 6	6 6	6 6	4 4	4 4	4 4
19.2		6 12	6 12	6 12	6 12	6 12	6 6	6 6	6 6	6 6	6 6	4 4	4 4	4 4	4 4	
24		6 12	6 6	6 6	6 6	6 6	6 6	6 6	6 6	4 4	Exceeds capacity of 7/16" sheathing ³					
Gable Endwall Rake or Rake Truss with up to 9" Rake Overhang	0.49	-	6	6	6	6	6	6	6	6	6	6	6	4	4	
	0.42	-	6	6	6	6	6	6	6	6	6	4	4	4	3	3
BOARD SHEATHING																
Sheathing Size		Rafter/Truss Spacing (in.)	Minimum Number of 8d Common Nails Per Support ⁴													
1x6 or 1x8 Sheathing		12-19.2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
1x10 or Larger Sheathing		12-19.2	3	3	3	3	3	3	3	3	3	3	3	3	3	3

BOARD SHEATHING

Sheathing Size	Rafter/Truss Spacing (in.)	Minimum Number of 8d Common Nails Per Support ⁴														
1x6 or 1x8 Sheathing	12-19.2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
1x10 or Larger Sheathing	12-19.2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3

E - Nail spacing at panel edges (in.)

F - Nail spacing at intermediate supports in the panel field (in.)

1 For roof sheathing within 4 feet of the perimeter edge of the roof, including 4 feet on each side of the roof peak, the 4 foot perimeter edge zone attachment requirements shall be used.

2 For wind speeds greater than 130 mph, blocking is required which transfers lateral load to two additional joists (3 joists total).

3 See Table 3.10 for other fastener and sheathing combinations.

4 Tabulated values for 8d common and 10d box nails are applicable to carbon steel nails (bright or galvanized).

Table 3.10A Roof Sheathing Attachment Requirements for Wind Loads (7/16", PANEL G=0.50)
Exposure C

(Prescriptive Alternative to Table 3.10)

Wind Speed 3-second gust (mph) (See Figure 1.1)			90	95	100	105	110	115	120	130	140	150	160	170	180	195
STRUCTURAL SHEATHING																
Sheathing Location ¹	Rafter/Truss Framing Specific Gravity, G	Rafter/Truss Spacing (in.)	E	F	E	F	E	F	E	F	E	F	E	F	E	F
			Maximum Nail Spacing for 8d Common Nails, or 10d Box Nails (inches, o.c.) ^{2,4}													
Interior Zone	0.49	12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 6
		16	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 6	6 6
		19.2	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 6	6 6	6 6	6 6
		24	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 6	6 6	6 6	6 6	Exceeds 7/16" ³	
	0.42	12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 6	6 6	6 6	6 6
		16	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 6	6 6	6 6	6 6	4 4
		19.2	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 6	6 6	6 6	6 6	6 6	4 4	4 4
		24	6 12	6 12	6 12	6 12	6 6	6 6	6 6	6 6	6 6	6 6	4 4	4 4	Exceeds 7/16" ³	
Perimeter Edge Zone	0.49	12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 6	6 6	6 6	6 6	4 4
		16	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 12	6 6	6 6	6 6	6 6	4 4	Exceeds capacity of 7/16" sheathing ³
		19.2	6 12	6 12	6 12	6 12	6 6	6 6	6 6	6 6	6 6	6 6	6 6	4 4	4 4	
		24	6 12	6 12	6 6	6 6	6 6	6 6	6 6	6 6	6 6	6 6	6 6	4 4	4 4	4 4
	0.42	12	6 12	6 12	6 12	6 12	6 12	6 12	6 6	6 6	6 6	6 6	4 4	4 4	4 4	4 4
		16	6 12	6 12	6 6	6 6	6 6	6 6	6 6	6 6	6 6	4 4	4 4	3 3	3 3	Exceeds capacity of 7/16" sheathing ³
		19.2	6 6	6 6	6 6	6 6	6 6	6 6	6 6	4 4	4 4	4 4	4 4	3 3	3 3	
		24	6 6	6 6	6 6	6 6	6 6	4 4	4 4	4 4	4 4	4 4	4 4	3 3	3 3	3 3
Gable Endwall Rake or Rake Truss with up to 9" Rake Overhang	0.49	-	6	6	6	6	6	6	6	6	6	4	4	4	3	3
	0.42	-	6	6	6	6	6	6	4	4	4	3	3	3	-	-
BOARD SHEATHING																
Sheathing Size		Rafter/Truss Spacing (in.)	Minimum Number of 8d Common Nails Per Support ⁴													
1x6 or 1x8 Sheathing		12-19.2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
1x10 or Larger Sheathing		12-19.2	3	3	3	3	3	3	3	3	3	3	3	3	3	3

E - Nail spacing at panel edges (in.)

F - Nail spacing at intermediate supports in the panel field (in.)

1 For roof sheathing within 4 feet of the perimeter edge of the roof, including 4 feet on each side of the roof peak, the 4 foot perimeter edge zone attachment requirements shall be used.

2 For wind speeds greater than 130 mph, blocking is required which transfers lateral load to two additional joists (3 joists total).

3 See Table 3.10 for other fastener and sheathing combinations.

4 Tabulated values for 8d common and 10d box nails are applicable to carbon steel nails (bright or galvanized).

Table 3.11 Wall Sheathing and Cladding Attachment Requirements for Wind Loads**Exposure B**

Wind Speed 3-second gust (mph) (See Figure 1.1)		90	95	100	105	110	115	120	130	140	150	160	170	180	195
STRUCTURAL SHEATHING															
Sheathing Location ¹	Stud Spacing (inches, o.c.)	E	F	E	F	E	F	E	F	E	F	E	F	E	F
		Maximum Nail Spacing for 8d Common Nails or 10d Box Nails (inches, o.c.) ^{2,3}													
Interior Zone	12	6	12	6	12	6	12	6	12	6	12	6	12	6	12
	16	6	12	6	12	6	12	6	12	6	12	6	12	6	12
	24	6	12	6	12	6	12	6	12	6	12	6	12	6	12
Perimeter Edge Zone	12	6	12	6	12	6	12	6	12	6	12	6	12	6	12
	16	6	12	6	12	6	12	6	12	6	12	6	12	6	12
	24	6	12	6	12	6	12	6	12	6	12	6	12	6	12
BOARD SHEATHING or LAP SIDING															
Sheathing Size	Rafter/Truss Spacing (inches, o.c.)	Minimum Number of 8d Common Nails or 10d Box Nails Per Support													
1x6 or 1x8 Sheathing	12-24	2	2	2	2	2	2	2	2	2	2	2	2	2	2
1x10 or Larger Sheathing	12-24	3	3	3	3	3	3	3	3	3	3	3	3	3	3

E - Nail spacing at panel edges (in.)

F - Nail spacing at intermediate supports in the panel field (in.)

- For wall sheathing within 4 feet of the corners, the 4 foot edge zone attachment requirements shall be used.
- Tabulated nail spacing assumes sheathing attached to stud framing members with $0.42 \leq G < 0.49$.
- For exterior panel siding, galvanized box nails shall be permitted to be substituted for common nails.

Table 3.11 Wall Sheathing and Cladding Attachment Requirements for Wind Loads**Exposure C**

Wind Speed 3-second gust (mph) (See Figure 1.1)		90	95	100	105	110	115	120	130	140	150	160	170	180	195
STRUCTURAL SHEATHING															
Sheathing Location ¹	Stud Spacing (inches, o.c.)	E	F	E	F	E	F	E	F	E	F	E	F	E	F
		Maximum Nail Spacing for 8d Common Nails or 10d Box Nails (inches, o.c.) ^{2,3}													
Interior Zone	12	6	12	6	12	6	12	6	12	6	12	6	12	6	12
	16	6	12	6	12	6	12	6	12	6	12	6	12	6	12
	24	6	12	6	12	6	12	6	12	6	12	6	12	6	12
Perimeter Edge Zone	12	6	12	6	12	6	12	6	12	6	12	6	12	6	12
	16	6	12	6	12	6	12	6	12	6	12	6	12	6	12
	24	6	12	6	12	6	12	6	12	6	12	6	12	6	12
BOARD SHEATHING or LAP SIDING															
Sheathing Size	Rafter/Truss Spacing (inches, o.c.)	Minimum Number of 8d Common Nails or 10d Box Nails Per Support													
1x6 or 1x8 Sheathing	12-24	2	2	2	2	2	2	2	2	2	2	2	2	2	2
1x10 or Larger Sheathing	12-24	3	3	3	3	3	3	3	3	3	3	3	3	3	3

E - Nail spacing at panel edges (in.)

F - Nail spacing at intermediate supports in the panel field (in.)

- For wall sheathing within 4 feet of the corners, the 4 foot edge zone attachment requirements shall be used.
- Tabulated nail spacing assumes sheathing attached to stud framing members with $0.42 \leq G < 0.49$.
- For exterior panel siding, galvanized box nails shall be permitted to be substituted for common nails.

Table 3.12A Roof Sheathing Requirements for Wind Loads**Exposure B**

Wind Speed 3-second gust (mph) (See Figure 1.1)	90	95	100	105	110	115	120	130	140	150	160	170	180	195
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WOOD STRUCTURAL PANELS(Strength Axis² Applied Perpendicular to Supports)¹

Rafter/Truss Spacing (inches, o.c.)	Minimum Panel Span Rating ³ (Minimum Nominal Panel Thickness, in.)													
	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)
12	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)
16	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)
19.2	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/16 (7/16)	24/16 (7/16)	32/16 (15/32)
24	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/16 (7/16)	32/16 (15/32)	40/20 (19/32)	40/20 (19/32)	40/20 (19/32)	40/20 (19/32)

BOARD SHEATHING

(diagonally across 3 or more supports)

Rafter/Truss Spacing (inches, o.c.)	Minimum Board Thickness (in.)													
	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8
12	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8
16	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	3/4	3/4	3/4	3/4	3/4
19.2	5/8	5/8	5/8	5/8	5/8	5/8	5/8	3/4	3/4	3/4	-	-	-	-
24	3/4	3/4	3/4	3/4	3/4	3/4	3/4	-	-	-	-	-	-	-

1 Tabulated values assume a two-span continuous condition.

2 Strength axis is defined as the axis parallel to the face and back orientation of the flakes or the grain (veneer), which is generally the long panel direction, unless otherwise marked.

3 Minimum PS 1 or PS 2 panel span rating. Minimum nominal panel thickness for a given span rating is shown in parentheses.

Table 3.12A Roof Sheathing Requirements for Wind Loads**Exposure C**

Wind Speed 3-second gust (mph) (See Figure 1.1)	90	95	100	105	110	115	120	130	140	150	160	170	180	195
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WOOD STRUCTURAL PANELS(Strength Axis² Applied Perpendicular to Supports)¹

Rafter/Truss Spacing (inches, o.c.)	Minimum Panel Span Rating ³ (Minimum Nominal Panel Thickness, in.)													
	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)
12	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)
16	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/16 (7/16)	24/16 (7/16)	32/16 (15/32)
19.2	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/16 (7/16)	24/16 (7/16)	32/16 (15/32)	40/20 (19/32)	40/20 (19/32)	40/20 (19/32)
24	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/16 (7/16)	24/16 (7/16)	32/16 (15/32)	40/20 (19/32)	40/20 (19/32)	40/20 (19/32)	40/20 (19/32)	48/24 (23/32)	48/24 (23/32)

BOARD SHEATHING

(diagonally across 3 or more supports)

Rafter/Truss Spacing (inches, o.c.)	Minimum Board Thickness (in.)													
	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	3/4
12	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	3/4
16	5/8	5/8	5/8	5/8	5/8	5/8	5/8	3/4	3/4	3/4	3/4	-	-	-
19.2	5/8	5/8	5/8	3/4	3/4	3/4	3/4	3/4	-	-	-	-	-	-
24	3/4	3/4	3/4	-	-	-	-	-	-	-	-	-	-	-

1 Tabulated values assume a two-span continuous condition.

2 Strength axis is defined as the axis parallel to the face and back orientation of the flakes or the grain (veneer), which is generally the long panel direction, unless otherwise marked.

3 Minimum PS 1 or PS 2 panel span rating. Minimum nominal panel thickness for a given span rating is shown in parentheses.

Table 3.12B Maximum Roof Sheathing Spans for Roof Live and Snow Loads

(Dead Load Assumptions: Roof Assembly DL = 10 psf)

			Roof Live Load	Ground Snow Load		
			20 psf	30 psf	50 psf	70 psf
Sheathing Type	Span Rating or Grade	Minimum Thickness (in.)	Rafter/Truss Spacing (in.)			
Wood Structural Panels (Sheathing Grades, C-C, C-D, OSB) ¹	24/0	3/8	24	24	19.2	19.2
	24/16	7/16	24	24	24	19.2
	32/16	15/32	24	24	24	24
	40/20	19/32	24	24	24	24
	48/24	23/32	24	24	24	24
Wood Structural Panels (Single Floor Grades, Underlayment, C-C Plugged) ¹	16 o.c.	19/32	24	24	24	24
	20 o.c.	19/32	24	24	24	24
	24 o.c.	23/32	24	24	24	24
	32 o.c.	7/8	24	24	24	24
Lumber Board Sheathing	#4 Common or Utility	5/8	19.2	16	12	12
	#4 Common or Utility	3/4	24	19.2	19.2	16

¹ Tabulated values assume a two-span continuous condition.

Table 3.13A Wall Sheathing Requirements for Wind Loads**Exposure B**

Wind Speed 3-second gust (mph)	90	95	100	105	110	115	120	130	140	150	160	170	180	195
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WOOD STRUCTURAL PANEL³(Strength Axis¹ Perpendicular to Supports)

Stud Spacing (inches, o.c.)	Minimum Panel Span Rating ⁴ (Minimum Nominal Panel Thickness, in.)													
12-24	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)

WOOD STRUCTURAL PANEL³(Strength Axis¹ Parallel to Supports)

Stud Spacing (inches, o.c.)	Minimum Panel Span Rating ^{4,5} (Minimum Nominal Panel Thickness, in.)													
12	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/16 (7/16)
16	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/16 (7/16)	32/16 (15/32)	32/16 (15/32)	32/16 (15/32)	40/20 (19/32)
24 ²	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/16 (7/16)	24/16 (7/16)	32/16 (15/32)	40/20 (19/32)	40/20 (19/32)	40/20 (19/32)	40/20 (19/32)	48/24 (23/32)	48/24 (23/32)

CELLULOSIC FIBERBOARD SHEATHING

(short dimension across studs)

Stud Spacing (inches, o.c.)	Minimum Panel Thickness (in.)													
12	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
16	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	25/32	-

BOARD SHEATHING

(diagonally across 3 or more supports)

Stud Spacing (inches, o.c.)	Minimum Board Thickness (in.)													
12	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8
16	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8
24	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	3/4	3/4	-

- 1 Strength axis is defined as the axis parallel to the face and back orientation of the flakes or the grain (veneer), which is generally the long panel direction, unless otherwise marked.
- 2 Sheathing shall be plywood with 4 or more plies or OSB.
- 3 Tabulated values assume a two-span continuous condition.
- 4 Minimum PS 1 or PS 2 panel span rating. Minimum nominal panel thickness for a given span rating is shown in parentheses.
- 5 Minimum panel span rating is based on calculation without use of increased values of cross-panel strength associated with Structural I sheathing. For Structural I sheathing, a smaller required span rating and smaller nominal panel thickness may be determined by calculations that account for increased cross-panel strength.

Table 3.13A Wall Sheathing Requirements for Wind Loads**Exposure C**

Wind Speed 3-second gust (mph) (See Figure 1.1)	90	95	100	105	110	115	120	130	140	150	160	170	180	195
WOOD STRUCTURAL PANEL³ (Strength Axis ¹ Perpendicular to Supports)														
Stud Spacing (inches, o.c.)	Minimum Panel Span Rating⁴ (Minimum Nominal Panel Thickness, in.)													
12-24	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/16 (7/16)	24/16 (7/16)
WOOD STRUCTURAL PANEL³ (Strength Axis ¹ Parallel to Supports)														
Stud Spacing (inches, o.c.)	Minimum Panel Span Rating^{4,5} (Minimum Nominal Panel Thickness, in.)													
12	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/16 (7/16)	24/16 (7/16)	32/16 (15/32)
16	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/0 (3/8)	24/16 (7/16)	32/16 (15/32)	32/16 (15/32)	32/16 (15/32)	40/20 (19/32)	40/20 (19/32)	40/20 (19/32)
24²	24/0 (3/8)	24/0 (3/8)	24/16 (7/16)	32/16 (15/32)	32/16 (15/32)	32/16 (15/32)	40/20 (19/32)	40/20 (19/32)	40/20 (19/32)	40/20 (19/32)	48/24 (23/32)	48/24 (23/32)	48/24 (23/32)	-
CELLULOSIC FIBERBOARD SHEATHING (short dimension across studs)														
Stud Spacing (inches, o.c.)	Minimum Panel Thickness (in.)													
12	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
16	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	25/32	-	-	-
BOARD SHEATHING (diagonally across 3 or more supports)														
Stud Spacing (inches, o.c.)	Minimum Board Thickness (in.)													
12	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8
16	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8
24	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8	3/4	3/4	-	-	-

- 1 Strength axis is defined as the axis parallel to the face and back orientation of the flakes or the grain (veneer), which is generally the long panel direction, unless otherwise marked.
- 2 Sheathing shall be plywood with 4 or more plies or OSB.
- 3 Tabulated values assume a two-span continuous condition.
- 4 Minimum PS 1 or PS 2 panel span rating. Minimum nominal panel thickness for a given span rating is shown in parentheses.
- 5 Minimum panel span rating is based on calculation without use of increased values of cross-panel strength associated with Structural I sheathing. For Structural I sheathing, a smaller required span rating and smaller nominal panel thickness may be determined by calculations that account for increased cross-panel strength.

Table 3.13B Wall Cladding Requirements for Wind Loads**Exposure B**

Wind Speed 3-second gust (mph) (See Figure 1.1)	90	95	100	105	110	115	120	130	140	150	160	170	180	195
WOOD STRUCTURAL PANEL AND HARDBOARD PANEL SIDING (Strength Axis ^{1,2,3} Parallel to Supports)														
Stud Spacing (inches, o.c.)	Minimum Panel Thickness (in.)													
12	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	7/16
16	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	7/16	15/32	15/32	15/32	19/32
24 ³	3/8	3/8	3/8	3/8	3/8	7/16	7/16	15/32	19/32	19/32	19/32	19/32	23/32	23/32
HARDBOARD LAP SIDING (Strength Axis ² Perpendicular to Supports)														
Stud Spacing (inches, o.c.)	Minimum Board Thickness (in.)													
12-16	7/16	7/16	7/16	7/16	7/16	7/16	7/16	7/16	7/16	7/16	7/16	7/16	7/16	7/16

- 1 Strength axis is defined as the axis parallel to the face and back orientation of the flakes or the grain (veneer), which is generally the long panel direction, unless otherwise marked.
- 2 Sheathing shall be plywood with 4 or more plies or OSB.
- 3 Tabulated values assume a two-span continuous condition.

Table 3.13B Wall Cladding Requirements for Wind Loads**Exposure C**

Wind Speed 3-second gust (mph) (See Figure 1.1)	90	95	100	105	110	115	120	130	140	150	160	170	180	195
WOOD STRUCTURAL PANEL AND HARDBOARD PANEL SIDING (Strength Axis ^{1,2,3} Parallel to Supports)														
Stud Spacing (inches, o.c.)	Minimum Panel Thickness (in.)													
12	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	7/16	7/16	15/32
16	3/8	3/8	3/8	3/8	3/8	3/8	3/8	7/16	15/32	15/32	15/32	19/32	19/32	19/32
24 ³	3/8	3/8	7/16	15/32	15/32	15/32	19/32	19/32	19/32	19/32	23/32	23/32	23/32	-
HARDBOARD LAP SIDING (Strength Axis ² Perpendicular to Supports)														
Stud Spacing (inches, o.c.)	Minimum Board Thickness (in.)													
12-16	7/16	7/16	7/16	7/16	7/16	7/16	7/16	7/16	7/16	7/16	7/16	7/16	7/16	7/16

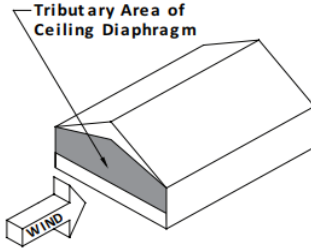
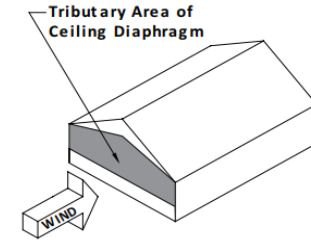
- 1 Strength axis is defined as the axis parallel to the face and back orientation of the flakes or the grain (veneer), which is generally the long panel direction, unless otherwise marked.
- 2 Sheathing shall be plywood with 4 or more plies or OSB.
- 3 Tabulated values assume a two-span continuous condition.

Table 3.14 Maximum Floor Sheathing Spans for Live Loads

Sheathing Type	Span Rating or Grade	Minimum Panel Performance Category (in.)	Maximum Floor Joist Spacing (in.)
Wood Structural Panels (Sheathing Grade, C-C, C-D, OSB)	24/16	7/16	16
	32/16	15/32	16
	40/20	19/32	19.2
	48/24	23/32	24
Wood Structural Panels (Single Floor Grades, Underlayment, C-C Plugged)	16 o.c.	19/32	16
	20 o.c.	19/32	19.2
	24 o.c.	23/32	24
	32 o.c.	7/8	24
	48 o.c.	1-3/32	24
Lumber Board Subflooring¹	#4 Common or Utility	5/8	16
	#4 Common or Utility	3/4	24

1 Lumber Board Subflooring shall be limited to use with live loads of 40 psf or less.

Table 3.15 Minimum Attic Floor/Ceiling Length When Bracing Gable Endwall for Wind Loads**Exposure B**

Wind Speed 3-second gust (mph) (See Figure 1.1)			90	95	100	105	110	115	120	130	140	150	160	170	180	195
Assemblies	Roof Pitch	Roof Span (ft)	Length of Ceiling Diaphragm (ft) ^{1,2,3} (measured perpendicular to gable endwall)													
			12	24	36	48	60	72	84	96	108	120	132	144	156	168
Sheathing Grade: Sheathing and Single-Floor Attic Floor or Ceiling Diaphragm Bracing Gable Endwall (Wind Parallel to Ridge) 	1.5:12 -3:12	12	4	4	4	4	4	4	4	4	4	4	4	4	4	4
		24	8	8	8	8	8	8	8	8	8	8	8	8	8	8
		36	12	12	12	12	12	12	12	12	12	12	12	12	12	13
	4:12	12	4	4	4	4	4	4	4	4	4	4	4	4	4	4
		24	8	8	8	8	8	8	8	8	8	8	8	8	8	9
		36	12	12	12	12	12	12	12	12	12	12	12	12	12	14
	5:12	12	4	4	4	4	4	4	4	4	4	4	4	4	4	5
		24	8	8	8	8	8	8	8	8	8	8	8	8	8	9
		36	12	12	12	12	12	12	12	12	12	12	12	12	12	14
	6:12	12	4	4	4	4	4	4	4	4	4	4	4	4	4	5
		24	8	8	8	8	8	8	8	8	8	8	8	8	8	9
		36	12	12	12	12	12	12	12	12	12	12	12	12	13	15
	7:12	12	4	4	4	4	4	4	4	4	4	4	4	4	4	5
		24	8	8	8	8	8	8	8	8	8	8	8	8	8	10
		36	12	12	12	12	12	12	12	12	12	12	12	12	14	16
	8:12	12	4	4	4	4	4	4	4	4	4	4	4	4	4	5
		24	8	8	8	8	8	8	8	8	8	8	8	8	9	10
		36	12	12	12	12	12	12	12	12	12	12	12	13	14	17
	9:12	12	4	4	4	4	4	4	4	4	4	4	4	4	4	5
		24	8	8	8	8	8	8	8	8	8	8	8	8	9	10
		36	12	12	12	12	12	12	12	12	12	12	12	13	15	17
	10:12	12	4	4	4	4	4	4	4	4	4	4	4	4	4	5
		24	8	8	8	8	8	8	8	8	8	8	8	8	9	11
		36	12	12	12	12	12	12	12	12	12	12	12	14	15	18
	11:12	12	4	4	4	4	4	4	4	4	4	4	4	4	4	5
		24	8	8	8	8	8	8	8	8	8	8	8	8	9	11
		36	12	12	12	12	12	12	12	12	12	12	13	14	16	19
	12:12	12	4	4	4	4	4	4	4	4	4	4	4	4	4	5
		24	8	8	8	8	8	8	8	8	8	8	8	9	10	11
		36	12	12	12	12	12	12	12	12	12	12	13	15	17	20
Gypsum Ceiling Diaphragm Bracing Gable Endwall (Wind Parallel to Ridge) ⁴ 	1.5:12-3:12	12	4	4	4	4	5	5	5	6	7	8	9	10	11	13
		24	8	8	8	8	9	9	10	12	14	16	18	20	23	26
		36	12	12	12	12	13	15	16	19	22	25	28	32	35	41
	4:12	12	4	4	4	4	5	5	5	6	7	8	9	10	12	14
		24	8	8	8	8	9	10	11	12	14	16	19	21	23	27
		36	12	12	12	13	14	16	17	20	23	26	30	33	37	44
	5:12	12	4	4	4	4	5	5	6	6	7	8	10	11	12	14
		24	8	8	8	9	9	10	11	13	15	17	19	22	24	29
		36	12	12	13	14	15	16	18	21	24	28	31	35	40	46
	6:12	12	4	4	4	4	5	5	6	7	8	9	10	11	12	14
		24	8	8	8	9	10	11	12	13	16	18	20	23	25	30
		36	12	12	13	15	16	17	19	22	25	29	33	37	42	49
	7:12	12	4	4	4	5	5	5	6	7	8	9	10	11	12	14
		24	8	8	8	9	10	11	12	14	16	18	21	24	26	31
		36	12	13	14	15	17	18	20	23	27	31	35	39	44	51
	8:12	12	4	4	4	5	5	5	6	7	8	9	10	11	13	15
		24	8	8	9	10	11	11	12	14	17	19	22	24	27	32
		36	12	13	15	16	17	19	21	24	28	32	36	41	46	54
	9:12	12	4	4	4	5	5	6	6	7	8	9	10	12	13	15
		24	8	8	9	10	11	12	13	15	17	20	22	25	28	33
		36	12	14	15	17	18	20	22	25	29	34	38	43	48	56
	10:12	12	4	4	4	5	5	6	6	7	8	9	11	12	13	15
		24	8	9	9	10	11	12	13	15	18	20	23	26	29	34
		36	13	14	16	17	19	21	23	26	31	35	40	45	50	59
	11:12	12	4	4	4	5	5	6	6	7	8	9	11	12	13	16
		24	8	9	10	11	12	13	14	16	18	21	24	27	30	35
		36	13	15	16	18	20	22	24	28	32	36	41	47	52	61
	12:12	12	4	4	5	5	5	6	6	7	8	10	11	12	14	16
		24	8	9	10	11	12	13	14	16	19	22	25	28	31	36
		36	14	16	17	19	21	23	24	29	33	38	43	49	54	64

See footnotes 1-4.

Table 3.15 Minimum Attic Floor/Ceiling Length When Bracing Gable Endwall for Wind Loads**Exposure C****3****PRESCRIPTIVE DESIGN**

			Wind Speed 3-second gust (mph) (See Figure 1.1)														90	95	100	105	110	115	120	130	140	150	160	170	180	195
Assemblies	Roof Pitch	Roof Span (ft)	Length of Ceiling Diaphragm (ft) ^{1,2,3} (measured perpendicular to gable endwall)																											
Sheathing Grade: Sheathing and Single-Floor Attic Floor or Ceiling Diaphragm Bracing Gable Endwall (Wind Parallel to Ridge)	1.5:12 -3:12	12	4	4	4	4	4	4	4	4	4	4	4	4	5	5	6													
		24	8	8	8	8	8	8	8	8	8	8	8	8	9	10	11													
		36	12	12	12	12	12	12	12	12	12	12	12	12	13	15	18													
	4:12	12	4	4	4	4	4	4	4	4	4	4	4	4	5	5	6													
		24	8	8	8	8	8	8	8	8	8	8	8	8	9	10	12													
		36	12	12	12	12	12	12	12	12	12	12	12	12	13	14	16	19												
	5:12	12	4	4	4	4	4	4	4	4	4	4	4	4	5	5	6													
		24	8	8	8	8	8	8	8	8	8	8	8	8	9	11	12													
		36	12	12	12	12	12	12	12	12	12	12	12	12	13	15	17	20												
	6:12	12	4	4	4	4	4	4	4	4	4	4	4	4	5	5	6													
		24	8	8	8	8	8	8	8	8	8	8	8	9	10	11	13													
		36	12	12	12	12	12	12	12	12	12	12	12	14	16	18	21													
7:12	12	4	4	4	4	4	4	4	4	4	4	4	4	5	5	6														
	24	8	8	8	8	8	8	8	8	8	8	8	9	10	11	13														
	36	12	12	12	12	12	12	12	12	12	12	12	13	15	17	19	22													
8:12	12	4	4	4	4	4	4	4	4	4	4	4	4	5	5	6														
	24	8	8	8	8	8	8	8	8	8	8	8	9	11	12	14														
	36	12	12	12	12	12	12	12	12	12	12	12	14	16	17	20	23													
9:12	12	4	4	4	4	4	4	4	4	4	4	4	5	5	6	7														
	24	8	8	8	8	8	8	8	8	8	8	9	10	11	12	14														
	36	12	12	12	12	12	12	12	12	12	12	13	14	16	18	20	24													
10:12	12	4	4	4	4	4	4	4	4	4	4	4	5	5	6	7														
	24	8	8	8	8	8	8	8	8	8	8	9	10	11	13	15														
	36	12	12	12	12	12	12	12	12	12	12	13	15	17	19	21	25													
11:12	12	4	4	4	4	4	4	4	4	4	4	4	5	5	6	7														
	24	8	8	8	8	8	8	8	8	8	8	9	10	12	13	15														
	36	12	12	12	12	12	12	12	12	12	12	14	16	18	20	22	26													
12:12	12	4	4	4	4	4	4	4	4	4	4	4	5	5	6	7														
	24	8	8	8	8	8	8	8	8	8	8	9	11	12	13	16														
	36	12	12	12	12	12	12	12	12	12	12	14	16	18	21	23	27													
Gypsum Ceiling Diaphragm Bracing Gable Endwall (Wind Parallel to Ridge) ⁴	1.5:12 -3:12	12	4	5	5	6	6	7	7	8	10	11	12	14	16	18														
		24	8	9	10	11	12	13	14	16	19	22	25	28	31	36														
		36	13	14	15	17	19	20	22	26	30	34	39	44	49	57														
	4:12	12	4	5	5	6	6	7	7	9	10	11	13	14	16	19														
		24	8	9	10	11	12	14	15	17	20	23	26	29	32	38														
		36	13	15	16	18	20	21	23	27	32	36	41	46	52	61														
	5:12	12	4	5	5	6	6	7	8	9	10	12	13	15	16	19														
		24	9	10	11	12	13	14	15	18	21	24	27	30	34	40														
		36	14	16	17	19	21	23	25	29	33	38	43	49	55	64														
	6:12	12	5	5	6	6	7	7	8	9	10	12	13	15	17	20														
		24	9	10	11	12	13	15	16	19	21	25	28	31	35	41														
		36	15	16	18	20	22	24	26	30	35	40	46	51	58	68														
7:12	12	5	5	6	6	7	7	8	9	11	12	14	15	17	20															
	24	9	11	12	13	14	15	16	19	22	25	29	33	36	43															
	36	16	17	19	21	23	25	27	32	37	42	48	54	61	71															
8:12	12	5	5	6	6	7	7	8	9	11	12	14	16	17	20															
	24	10	11	12	13	14	16	17	20	23	26	30	34	38	44															
	36	16	18	20	22	24	26	29	33	39	44	50	57	64	75															
9:12	12	5	5	6	6	7	8	8	10	11	12	14	16	18	21															
	24	10	11	12	14	15	16	18	21	24	27	31	35	39	46															
	36	17	19	21	23	25	27	30	35	40	46	53	59	67	78															
10:12	12	5	5	6	6	7	8	8	10	11	13	14	16	18	21															
	24	10	12	13	14	15	17	18	21	25	28	32	36	40	47															
	36	18	20	22	24	26	29	31	36	42	48	55	62	70	81															
11:12	12	5	6	6	7	7	8	8	10	11	13	15	17	18	22															
	24	11	12	13	15	16	17	19	22	25	29	33	37	42	49															
	36	18	21	23	25	27	30	32	38	44	50	57	65	72	85															
12:12	12	5	6	6	7	7	8	9	10	12	13	15	17	19	22															
	24	11	12	14	15	16	18	19	23	26	30	34	38	43	50															
	36	19	21	24	26	28	31	34	40	46	53	60	67	75	88															

See footnotes 1-4.

Footnotes to Table 3.15

- 1 Tabulated attic floor or ceiling length requirements assume sheathing continuous from gable-end to gable-end. For an attic floor or ceiling bracing only one gable-end, the tabulated length requirement shall be permitted to be multiplied by 0.84. In no case shall the length requirement be less than one-third of the distance between bracing walls for gypsum ceilings or one-third of the distance for attic floors or ceilings sheathed with structural sheathing.
- 2 Tabulated length requirements are based on 10 foot wall heights. For other wall heights, H, the tabulated length requirements shall be multiplied by $(H+1)/10$.
- 3 Attic floor or ceiling diaphragms are not required for hip roof systems.
- 4 Tabulated gypsum ceiling requirements shall be permitted to be multiplied by 0.78 when ceiling framing is spaced at 16 inches o.c. or less.

Table 3.16A1 Roof Diaphragm Limits for Wind ¹

(Applicable to All Roof Slopes with and without Roof Irregularities)

**Exposure B
All Slopes**

Wind Speed 3-second gust (mph) (See Figure 1.1)		90		95		100		105		110		115		120		130		140		150		160		170		180		195			
Maximum Top Plate to Ridge Height (ft)	Roof Diaphragm Width (ft) ²	Roof Diaphragm Length (ft) ³																													
		Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max		
5	12	4	36	4	36	4	36	4	36	4	36	4	36	4	36	4	36	4	36	4	36	4	35	4	31	5	28	6	24		
	16	6	48	6	48	6	48	6	48	6	48	6	48	6	48	6	48	6	48	6	48	6	47	6	42	6	37	7	32		
	20	7	60	7	60	7	60	7	60	7	60	7	60	7	60	7	60	7	60	7	60	7	59	7	52	8	47	9	40		
	24	8	72	8	72	8	72	8	72	8	72	8	72	8	72	8	72	8	72	8	72	8	71	8	63	9	56	11	48		
	28	10	80	10	80	10	80	10	80	10	80	10	80	10	80	10	80	10	80	10	80	10	80	10	74	11	66	13	56		
	32	11	80	11	80	11	80	11	80	11	80	11	80	11	80	11	80	11	80	11	80	11	80	11	80	11	80	12	75	14	64
10	36	12	80	12	80	12	80	12	80	12	80	12	80	12	80	12	80	12	80	12	80	12	80	12	80	12	80	14	80	16	72
	12	4	36	4	36	4	36	4	36	4	36	4	36	4	36	4	36	4	33	5	28	5	25	6	22	6	20	7	17		
	16	6	48	6	48	6	48	6	48	6	48	6	48	6	48	6	48	6	44	6	38	7	33	8	30	8	26	10	22		
	20	7	60	7	60	7	60	7	60	7	60	7	60	7	60	7	60	7	55	7	48	8	42	9	37	10	33	12	28		
	24	8	72	8	72	8	72	8	72	8	72	8	72	8	72	8	72	8	66	9	57	10	50	11	45	12	40	14	34		
	28	10	80	10	80	10	80	10	80	10	80	10	80	10	80	10	80	10	77	10	67	11	59	13	52	14	46	17	39		
15	32	11	80	11	80	11	80	11	80	11	80	11	80	11	80	11	80	11	80	12	77	13	67	15	60	16	53	19	45		
	36	12	80	12	80	12	80	12	80	12	80	12	80	12	80	12	80	12	80	13	80	15	76	16	67	18	60	21	51		
	12	4	36	4	36	4	36	4	36	4	36	4	36	4	35	4	29	5	25	6	22	6	19	7	17	8	15	9	13		
	16	6	48	6	48	6	48	6	48	6	48	6	48	6	46	6	39	7	34	7	29	8	26	9	23	10	20	12	17		
	20	7	60	7	60	7	60	7	60	7	60	7	60	7	58	7	49	8	42	9	37	10	32	12	29	13	26	15	22		
	24	8	72	8	72	8	72	8	72	8	72	8	72	8	70	8	59	10	51	11	44	12	39	14	34	15	31	18	26		
20	28	10	80	10	80	10	80	10	80	10	80	10	80	10	80	10	69	11	60	13	52	14	46	16	40	18	36	21	31		
	32	11	80	11	80	11	80	11	80	11	80	11	80	11	80	11	79	13	68	14	59	16	52	18	46	20	41	24	35		
	36	12	80	12	80	12	80	12	80	12	80	12	80	12	80	12	80	14	77	16	67	18	59	20	52	23	46	27	39		
	12	4	36	4	36	4	36	4	36	4	34	4	31	4	28	5	24	6	21	7	18	8	16	8	14	9	12				
	16	6	48	6	48	6	48	6	48	6	45	6	41	6	38	7	32	8	28	9	24	10	21	11	19	12	16				
	20	7	60	7	60	7	60	7	60	7	56	7	52	7	47	8	40	10	35	11	30	12	26	14	23	15	21				
20	24	8	72	8	72	8	72	8	72	8	68	8	62	8	57	10	48	11	42	13	36	15	32	16	28	18	25				
	28	10	80	10	80	10	80	10	80	10	79	10	72	10	66	11	57	13	49	15	42	17	37	19	33	21	29				
	32	11	80	11	80	11	80	11	80	11	80	11	80	11	76	13	65	15	56	17	48	19	43	22	38	24	33				
	36	12	80	12	80	12	80	12	80	12	80	12	80	12	80	14	73	17	63	19	55	22	48	24	42	27	38				

¹ Roof sheathing applied with long dimension perpendicular to roof framing and staggered.² Roof diaphragm width dimension measured parallel to direction of framing span.³ Roof diaphragm length dimension measured perpendicular to direction of framing span.

Table 3.16A2 Roof Diaphragm Limits for Wind ¹

(Applicable to Simple Gable and Hip Roofs with Roof Slopes $\leq 6:12$
without Roof Irregularities—dormers, accent panels, etc)

Exposure B Low Slopes

Wind Speed 3-second gust (mph) (See Figure 1.1)		90		95		100		105		110		115		120		130		140		150		160		170		180		195	
Maximum Top Plate to Ridge Height (ft)	Roof Diaphragm Width (ft) ²	Roof Diaphragm Length (ft) ³																											
		Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
0 ⁴ (flat roof)	12	4	36	4	36	4	36	4	36	4	36	4	36	4	36	4	36	4	36	4	36	4	36	4	36	4	36	4	36
	16	6	48	6	48	6	48	6	48	6	48	6	48	6	48	6	48	6	48	6	48	6	48	6	48	6	48	6	48
	20	7	60	7	60	7	60	7	60	7	60	7	60	7	60	7	60	7	60	7	60	7	60	7	60	7	60	7	60
	24	8	72	8	72	8	72	8	72	8	72	8	72	8	72	8	72	8	72	8	72	8	72	8	72	8	72	8	72
	28	10	80	10	80	10	80	10	80	10	80	10	80	10	80	10	80	10	80	10	80	10	80	10	80	10	80	10	80
	32	11	80	11	80	11	80	11	80	11	80	11	80	11	80	11	80	11	80	11	80	11	80	11	80	11	80	11	80
	36	12	80	12	80	12	80	12	80	12	80	12	80	12	80	12	80	12	80	12	80	12	80	12	80	12	80	12	80
5	12	4	36	4	36	4	36	4	36	4	36	4	36	4	36	4	36	4	36	4	36	4	36	4	36	5	34	6	29
	16	6	48	6	48	6	48	6	48	6	48	6	48	6	48	6	48	6	48	6	48	6	48	6	48	6	45	7	38
	20	7	60	7	60	7	60	7	60	7	60	7	60	7	60	7	60	7	60	7	60	7	60	7	60	8	57	9	48
	24	8	72	8	72	8	72	8	72	8	72	8	72	8	72	8	72	8	72	8	72	8	72	8	72	9	68	11	58
	28	10	80	10	80	10	80	10	80	10	80	10	80	10	80	10	80	10	80	10	80	10	80	10	80	11	79	13	68
	32	11	80	11	80	11	80	11	80	11	80	11	80	11	80	11	80	11	80	11	80	11	80	11	80	12	80	14	77
	36	12	80	12	80	12	80	12	80	12	80	12	80	12	80	12	80	12	80	12	80	12	80	12	80	14	80	16	80
10	12	4	36	4	36	4	36	4	36	4	36	4	36	4	36	4	36	5	36	5	34	6	30	6	27	7	23		
	16	6	48	6	48	6	48	6	48	6	48	6	48	6	48	6	48	6	48	7	45	8	40	8	36	10	30		
	20	7	60	7	60	7	60	7	60	7	60	7	60	7	60	7	60	7	60	8	57	9	50	10	45	12	38		
	24	8	72	8	72	8	72	8	72	8	72	8	72	8	72	8	72	8	72	9	72	10	68	11	60	12	54	14	46
	28	10	80	10	80	10	80	10	80	10	80	10	80	10	80	10	80	10	80	10	80	11	80	13	71	14	63	17	54
	32	11	80	11	80	11	80	11	80	11	80	11	80	11	80	11	80	11	80	12	80	13	80	15	80	16	72	19	61
	36	12	80	12	80	12	80	12	80	12	80	12	80	12	80	12	80	12	80	13	80	15	80	16	80	18	80	21	69

¹ Roof sheathing applied with long dimension perpendicular to roof framing and staggered.

² Roof diaphragm width dimension measured parallel to direction of framing span.

³ Roof diaphragm length dimension measured perpendicular to direction of framing span.

⁴ Tabulated values for flat roof case are included for interpolation.

Table 3.16A3 Roof Diaphragm Limits for Wind ¹

(Applicable to All Roof Slopes with and without Roof Irregularities)

**Exposure C
All Slopes**

Wind Speed 3-second gust (mph) (See Figure 1.1)		90		95		100		105		110		115		120		130		140		150		160		170		180		195	
Maximum Top Plate to Ridge Height (ft)	Roof Diaphragm Width (ft) ²	Roof Diaphragm Length (ft) ³																											
		Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
5	12	4	36	4	36	4	36	4	36	4	36	4	36	4	36	4	33	5	29	5	25	6	22	7	20	8	17		
	16	6	48	6	48	6	48	6	48	6	48	6	48	6	48	6	44	6	39	7	34	8	30	9	27	10	23		
	20	7	60	7	60	7	60	7	60	7	60	7	60	7	60	7	56	8	48	9	42	10	38	11	33	13	28		
	24	8	72	8	72	8	72	8	72	8	72	8	72	8	72	8	67	9	58	10	51	12	45	13	40	15	34		
	28	10	80	10	80	10	80	10	80	10	80	10	80	10	80	10	78	11	68	12	60	13	53	15	47	17	40		
	32	11	80	11	80	11	80	11	80	11	80	11	80	11	80	11	80	12	78	14	68	15	60	17	54	20	46		
	36	12	80	12	80	12	80	12	80	12	80	12	80	12	80	12	80	13	80	15	77	17	68	19	61	22	52		
10	12	4	36	4	36	4	36	4	36	4	36	4	35	4	32	5	27	6	23	6	20	7	18	8	16	9	14	10	12
	16	6	48	6	48	6	48	6	48	6	48	6	47	6	43	6	37	7	31	8	27	9	24	10	21	12	19	13	16
	20	7	60	7	60	7	60	7	60	7	60	7	59	7	54	8	46	9	39	10	34	11	30	13	27	14	24	17	20
	24	8	72	8	72	8	72	8	72	8	72	8	70	8	65	9	55	11	47	12	41	14	36	15	32	17	28	20	24
	28	10	80	10	80	10	80	10	80	10	80	10	80	10	76	11	64	12	55	14	48	16	42	18	37	20	33	23	28
	32	11	80	11	80	11	80	11	80	11	80	11	80	11	80	12	74	14	63	16	55	18	48	20	43	23	38	26	32
	36	12	80	12	80	12	80	12	80	12	80	12	80	12	80	13	80	16	71	18	62	20	55	23	48	25	43	30	37
15	12	4	36	4	36	4	36	4	33	4	30	5	27	5	25	6	21	7	18	8	16	9	14	10	12				
	16	6	48	6	48	6	48	6	44	6	40	6	36	7	33	8	28	9	24	10	21	11	18	13	16				
	20	7	60	7	60	7	60	7	55	7	50	8	45	8	42	9	35	11	30	12	26	14	23	16	20				
	24	8	72	8	72	8	72	8	66	8	60	9	55	10	50	11	43	13	37	15	32	17	28	19	25				
	28	10	80	10	80	10	80	10	77	10	70	10	64	11	58	13	50	15	43	17	37	20	33	22	29				
	32	11	80	11	80	11	80	11	80	11	80	12	73	13	67	15	57	17	49	20	43	22	37	25	33				
	36	12	80	12	80	12	80	12	80	12	80	13	80	14	75	17	64	19	55	22	48	25	42	28	37				
20	12	4	36	4	32	4	29	5	26	5	24	6	22	6	20	7	17	8	15	9	13								
	16	6	48	6	43	6	39	6	35	7	32	7	29	8	27	9	23	11	20	12	17								
	20	7	60	7	54	7	49	8	44	8	40	9	37	10	34	11	29	13	25	15	22								
	24	8	72	8	65	8	59	9	53	10	49	11	44	12	41	13	35	16	30	18	26								
	28	10	80	10	76	10	69	10	62	11	57	12	52	13	48	16	41	18	35	21	30								
	32	11	80	11	80	11	79	12	71	13	65	14	59	15	55	18	46	21	40	23	35								
	36	12	80	12	80	12	80	13	80	14	73	16	67	17	61	20	52	23	45	26	39								

¹ Roof sheathing applied with long dimension perpendicular to roof framing and staggered.² Roof diaphragm width dimension measured parallel to direction of framing span.³ Roof diaphragm length dimension measured perpendicular to direction of framing span.

Table 3.16A4 Roof Diaphragm Limits for Wind¹

(Applicable to Simple Gable and Hip Roofs with Roof Slopes $\leq 6:12$
without Roof Irregularities—dormers, accent panels, etc)

Exposure C Low Slopes

Wind Speed 3-second gust (mph) (See Figure 1.1)		90	95	100	105	110	115	120	130	140	150	160	170	180	195												
Maximum Top Plate to Ridge Height (ft)	Roof Diaphragm Width (ft) ²	Roof Diaphragm Length (ft) ³																									
		Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max		
0 ⁴ (flat roof)	12	4	36	4	36	4	36	4	36	4	36	4	36	4	36	4	36	4	36	4	36	5	33	5	28		
	16	6	48	6	48	6	48	6	48	6	48	6	48	6	48	6	48	6	48	6	48	6	44	7	37		
	20	7	60	7	60	7	60	7	60	7	60	7	60	7	60	7	60	7	60	7	60	7	55	9	47		
	24	8	72	8	72	8	72	8	72	8	72	8	72	8	72	8	72	8	72	8	72	9	66	10	56		
	28	10	80	10	80	10	80	10	80	10	80	10	80	10	80	10	80	10	80	10	80	10	77	12	66		
	32	11	80	11	80	11	80	11	80	11	80	11	80	11	80	11	80	11	80	11	80	11	80	12	80	13	75
	36	12	80	12	80	12	80	12	80	12	80	12	80	12	80	12	80	12	80	12	80	12	80	13	80	15	80
5	12	4	36	4	36	4	36	4	36	4	36	4	36	4	36	4	36	5	35	5	31	6	27	7	24	8	21
	16	6	48	6	48	6	48	6	48	6	48	6	48	6	48	6	48	6	47	7	41	8	36	9	32	10	28
	20	7	60	7	60	7	60	7	60	7	60	7	60	7	60	7	60	8	59	9	52	10	46	11	41	13	35
	24	8	72	8	72	8	72	8	72	8	72	8	72	8	72	8	72	9	71	10	62	12	55	13	49	15	42
	28	10	80	10	80	10	80	10	80	10	80	10	80	10	80	10	80	11	80	12	72	13	64	15	57	17	49
	32	11	80	11	80	11	80	11	80	11	80	11	80	11	80	11	80	12	80	14	80	15	73	17	65	20	56
	36	12	80	12	80	12	80	12	80	12	80	12	80	12	80	12	80	13	80	15	80	17	80	19	73	22	63
10	12	4	36	4	36	4	36	4	36	4	36	4	36	5	36	6	32	6	28	7	24	8	21	9	19	10	16
	16	6	48	6	48	6	48	6	48	6	48	6	48	6	48	7	43	8	37	9	33	10	29	12	26	13	22
	20	7	60	7	60	7	60	7	60	7	60	7	60	8	60	9	53	10	46	11	41	13	36	14	32	17	27
	24	8	72	8	72	8	72	8	72	8	72	8	72	9	72	11	64	12	56	14	49	15	43	17	39	20	33
	28	10	80	10	80	10	80	10	80	10	80	10	80	11	80	12	75	14	65	16	57	18	51	20	45	23	38
	32	11	80	11	80	11	80	11	80	11	80	11	80	12	80	14	80	16	75	18	66	20	58	23	52	26	44
	36	12	80	12	80	12	80	12	80	12	80	12	80	13	80	16	80	18	80	20	74	23	65	25	58	30	50

¹ Roof sheathing applied with long dimension perpendicular to roof framing and staggered.

² Roof diaphragm width dimension measured parallel to direction of framing span.

³ Roof diaphragm length dimension measured perpendicular to direction of framing span.

⁴ Tabulated values for flat roof case are included for interpolation.

Table 3.16B Floor Diaphragm Limits for Wind ¹**Exposure B**

Wind Speed 3-second gust (mph) (See Figure 1.1)		90	95	100	105	110	115	120	130	140	150	160	170	180	195						
Wall Height (ft)	Floor Diaphragm Width (ft) ²	Floor Diaphragm Length (ft) ³																			
		Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
8	12	4	36	4	36	4	36	4	36	4	36	4	36	4	35	5	31	5	27	6	24
	16	6	48	6	48	6	48	6	48	6	48	6	48	6	47	6	42	7	37	7	33
	20	7	60	7	60	7	60	7	60	7	60	7	60	7	59	7	52	8	46	9	41
	24	8	72	8	72	8	72	8	72	8	72	8	72	8	71	9	63	10	55	11	49
	28	10	80	10	80	10	80	10	80	10	80	10	80	10	80	10	73	11	65	13	58
	32	11	80	11	80	11	80	11	80	11	80	11	80	11	80	11	80	13	74	14	66
	36	12	80	12	80	12	80	12	80	12	80	12	80	12	80	13	80	14	80	16	74
10	12	4	36	4	36	4	36	4	36	4	36	4	36	4	33	5	29	6	25	7	20
	16	6	48	6	48	6	48	6	48	6	48	6	48	6	45	6	39	7	34	8	27
	20	7	60	7	60	7	60	7	60	7	60	7	60	7	56	8	49	9	43	10	38
	24	8	72	8	72	8	72	8	72	8	72	8	72	8	67	9	58	11	51	12	45
	28	10	80	10	80	10	80	10	80	10	80	10	80	10	78	11	68	12	60	14	53
	32	11	80	11	80	11	80	11	80	11	80	11	80	11	80	12	78	14	68	16	61
	36	12	80	12	80	12	80	12	80	12	80	12	80	12	80	14	80	16	77	18	68

¹ Floor sheathing applied with long dimension perpendicular to floor framing and staggered.² Floor diaphragm width dimension measured parallel to direction of framing span.³ Floor diaphragm length dimension measured perpendicular to direction of framing span.

Table 3.16B Floor Diaphragm Limits for Wind ¹**Exposure C**

Wind Speed 3-second gust (mph) (See Figure 1.1)		90	95	100	105	110	115	120	130	140	150	160	170	180	195				
Wall Height (ft)	Floor Diaphragm Width (ft) ²	Floor Diaphragm Length (ft) ³																	
		Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
8	12	4	36	4	36	4	36	4	36	4	36	4	34	5	29	6	25	6	22
	16	6	48	6	48	6	48	6	48	6	48	6	45	6	39	7	34	8	30
	20	7	60	7	60	7	60	7	60	7	60	7	57	8	49	9	43	10	37
	24	8	72	8	72	8	72	8	72	8	72	8	68	9	59	11	51	12	45
	28	10	80	10	80	10	80	10	80	10	80	10	80	11	69	12	60	14	53
	32	11	80	11	80	11	80	11	80	11	80	11	80	12	79	14	69	16	60
	36	12	80	12	80	12	80	12	80	12	80	12	80	14	80	16	77	18	68
10	12	4	36	4	36	4	36	4	36	4	33	5	28	6	24	7	21	7	18
	16	6	48	6	48	6	48	6	48	6	44	7	37	8	32	9	28	10	24
	20	7	60	7	60	7	60	7	60	7	55	8	46	9	40	11	35	12	31
	24	8	72	8	72	8	72	8	72	8	66	10	56	11	48	13	42	14	37
	28	10	80	10	80	10	80	10	80	10	77	11	65	13	56	15	49	17	43
	32	11	80	11	80	11	80	11	80	11	80	13	75	15	64	17	56	19	49
	36	12	80	12	80	12	80	12	80	12	80	14	80	17	72	19	63	21	55

¹ Floor sheathing applied with long dimension perpendicular to floor framing and staggered.² Floor diaphragm width dimension measured parallel to direction of framing span.³ Floor diaphragm length dimension measured perpendicular to direction of framing span.

Table 3.16C1 Diaphragm Limits for Seismic**GSL = 30**

(Dead Load Assumptions: Roof /ceiling = 15 psf, Floor = 12 psf, Partition = 8 psf, Wall = 110 plf;
Ground Snow Load = 30 psf; Lateral force resisting system: Wood structural panel shear walls)

Diaphragm	Minimum Diaphragm Dimension, W (ft)	SDC A		SDC B		SDC C	
		Diaphragm Load Ratio ³	Maximum Diaphragm Dimension, L ^{1,2,4} ft	Diaphragm Load Ratio ³	Maximum Diaphragm Dimension, L ^{1,2,4} ft	Diaphragm Load Ratio ³	Maximum Diaphragm Dimension, L ^{1,2,4} ft
Roof/Ceiling	12	0.07	36	0.14	36	0.22	36
	16	0.08	48	0.16	48	0.25	48
	20	0.10	60	0.19	60	0.28	60
	24	0.11	72	0.21	72	0.32	72
	28	0.11	80	0.22	80	0.34	80
	32	0.11	80	0.21	80	0.32	80
	36	0.11	80	0.21	80	0.31	80
Floor	12	0.07	36	0.14	36	0.22	36
	16	0.09	48	0.17	48	0.25	48
	20	0.10	60	0.19	60	0.29	60
	24	0.11	72	0.21	72	0.32	72
	28	0.12	80	0.23	80	0.34	80
	32	0.11	80	0.22	80	0.33	80
	36	0.11	80	0.21	80	0.32	80

Diaphragm	Minimum Diaphragm Dimension, W (ft)	SDC D ₀		SDC D ₁		SDC D ₂	
		Diaphragm Load Ratio ³	Maximum Diaphragm Dimension, L ^{1,2,4} ft	Diaphragm Load Ratio ³	Maximum Diaphragm Dimension, L ^{1,2,4} ft	Diaphragm Load Ratio ³	Maximum Diaphragm Dimension, L ^{1,2,4} ft
Roof/Ceiling	12	0.29	36	0.36	36	0.51	36
	16	0.33	48	0.41	48	0.58	48
	20	0.38	60	0.47	60	0.66	60
	24	0.43	72	0.53	72	0.74	72
	28	0.45	80	0.56	80	0.78	80
	32	0.43	80	0.54	80	0.76	80
	36	0.42	80	0.52	80	0.73	80
Floor	12	0.29	36	0.36	36	0.51	36
	16	0.34	48	0.42	48	0.59	48
	20	0.39	60	0.48	60	0.67	60
	24	0.43	72	0.54	72	0.76	72
	28	0.46	80	0.57	80	0.80	80
	32	0.44	80	0.55	80	0.77	80
	36	0.43	80	0.53	80	0.75	80

See footnotes 1-4.

Table 3.16C2 Diaphragm Limits for Seismic**GSL = 50**

(Dead Load Assumptions: Roof /ceiling = 15 psf, Floor = 12 psf, Partition = 8 psf, Wall = 110 plf;
Ground Snow Load = 50 psf; Lateral force resisting system: Wood structural panel shear walls)

Diaphragm	Minimum Diaphragm Dimension, W (ft)	SDC A		SDC B		SDC C	
		Diaphragm Load Ratio ³	Maximum Diaphragm Dimension, L ^{1,2,4} ft	Diaphragm Load Ratio ³	Maximum Diaphragm Dimension, L ^{1,2,4} ft	Diaphragm Load Ratio ³	Maximum Diaphragm Dimension, L ^{1,2,4} ft
Roof/Ceiling	12	0.10	36	0.20	36	0.30	36
	16	0.12	48	0.23	48	0.35	48
	20	0.14	60	0.26	60	0.40	60
	24	0.15	72	0.30	72	0.45	72
	28	0.16	80	0.32	80	0.48	80
	32	0.16	80	0.31	80	0.47	80
	36	0.15	80	0.30	80	0.45	80
Floor	12	0.07	36	0.14	36	0.22	36
	16	0.09	48	0.17	48	0.25	48
	20	0.10	60	0.19	60	0.29	60
	24	0.11	72	0.21	72	0.32	72
	28	0.12	80	0.23	80	0.34	80
	32	0.11	80	0.22	80	0.33	80
	36	0.11	80	0.21	80	0.32	80

Diaphragm	Minimum Diaphragm Dimension, W (ft)	SDC D ₀		SDC D ₁		SDC D ₂	
		Diaphragm Load Ratio ³	Maximum Diaphragm Dimension, L ^{1,2,4} ft	Diaphragm Load Ratio ³	Maximum Diaphragm Dimension, L ^{1,2,4} ft	Diaphragm Load Ratio ³	Maximum Diaphragm Dimension, L ^{1,2,4} ft
Roof/Ceiling	12	0.40	36	0.49	36	0.69	36
	16	0.47	48	0.58	48	0.81	48
	20	0.53	60	0.66	60	0.93	60
	24	0.60	72	0.75	72	1.00	68
	28	0.64	80	0.80	80	1.00	71
	32	0.62	80	0.77	80	1.00	74
	36	0.61	80	0.75	80	1.00	75
Floor	12	0.29	36	0.36	36	0.51	36
	16	0.34	48	0.42	48	0.59	48
	20	0.39	60	0.48	60	0.67	60
	24	0.43	72	0.54	72	0.76	72
	28	0.46	80	0.57	80	0.80	80
	32	0.44	80	0.55	80	0.77	80
	36	0.43	80	0.53	80	0.75	80

See footnotes 1-4.

Table 3.16C3 Diaphragm Limits for Seismic**GSL = 70**

(Dead Load Assumptions: Roof /ceiling = 15 psf, Floor = 12 psf, Partition = 8 psf, Wall = 110 plf;
Ground Snow Load = 70 psf; Lateral force resisting system: Wood structural panel shear walls)

Diaphragm	Minimum Diaphragm Dimension, W (ft)	SDC A		SDC B		SDC C	
		Diaphragm Load Ratio ³	Maximum Diaphragm Dimension, L ^{1,2,4}	Diaphragm Load Ratio ³	Maximum Diaphragm Dimension, L ^{1,2,4}	Diaphragm Load Ratio ³	Maximum Diaphragm Dimension, L ^{1,2,4}
		plf	ft	plf	ft	plf	ft
Roof/Ceiling	12	0.11	36	0.22	36	0.33	36
	16	0.13	48	0.26	48	0.39	48
	20	0.15	60	0.29	60	0.45	60
	24	0.17	72	0.33	72	0.50	72
	28	0.18	80	0.35	80	0.54	80
	32	0.18	80	0.34	80	0.52	80
	36	0.17	80	0.34	80	0.51	80
Floor	12	0.07	36	0.14	36	0.22	36
	16	0.09	48	0.17	48	0.25	48
	20	0.10	60	0.19	60	0.29	60
	24	0.11	72	0.21	72	0.32	72
	28	0.12	80	0.23	80	0.34	80
	32	0.11	80	0.22	80	0.33	80
	36	0.11	80	0.21	80	0.32	80

Diaphragm	Minimum Diaphragm Dimension, W (ft)	SDC D ₀		SDC D ₁		SDC D ₂	
		Diaphragm Load Ratio ³	Maximum Diaphragm Dimension, L ^{1,2,4}	Diaphragm Load Ratio ³	Maximum Diaphragm Dimension, L ^{1,2,4}	Diaphragm Load Ratio ³	Maximum Diaphragm Dimension, L ^{1,2,4}
		plf	ft	plf	ft	plf	ft
Roof/Ceiling	12	0.44	36	0.55	36	0.77	36
	16	0.52	48	0.64	48	0.90	48
	20	0.60	60	0.74	60	1.00	58
	24	0.68	72	0.84	72	1.00	61
	28	0.72	80	0.89	80	1.00	64
	32	0.70	80	0.87	80	1.00	66
	36	0.68	80	0.85	80	1.00	67
Floor	12	0.29	36	0.36	36	0.51	36
	16	0.34	48	0.42	48	0.59	48
	20	0.39	60	0.48	60	0.67	60
	24	0.43	72	0.54	72	0.76	72
	28	0.46	80	0.57	80	0.80	80
	32	0.44	80	0.55	80	0.77	80
	36	0.43	80	0.53	80	0.75	80

See footnotes 1-4.

Footnotes to Table 3.16C

- 1 Roof and floor diaphragm sheathing applied with long dimension perpendicular to framing members and staggered. Diaphragm length dimension measured perpendicular to direction of framing span.
- 2 Maximum diaphragm dimension, L, can be determined for buildings where the lateral force resisting system is other than wood structural panel shear walls, and for other load cases by use of the following equation. In no case shall L exceed the smaller of three times the minimum dimension, W, or 80 feet.

Maximum diaphragm dimension, L = (Tabulated maximum diaphragm dimension)/(The greater of 1.0 or the Diaphragm load ratio in accordance with footnote 3)

- 3 The diaphragm load ratio can be determined for buildings where the lateral force resisting system is other than wood structural panel shear walls, and for other load cases by use of the following equation for calculation of diaphragm load ratio.

Diaphragm load ratio = (Tabulated diaphragm load ratio) x (Number of stories factor) x (Lateral bracing system factor) x (Diaphragm shear adjustment factor)

where,

Number of stories factor = 1.00 for three-story above grade plane buildings
 = 0.92 for two-story above grade plane buildings
 = 0.83 for one-story above grade plane buildings

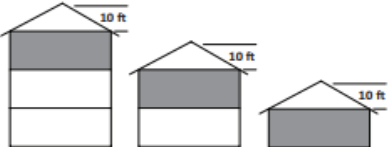
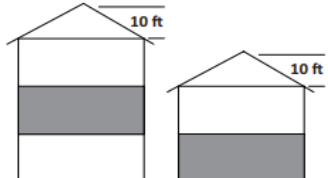
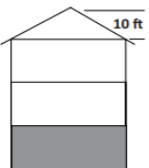
Lateral bracing system factor = 1.0 for wood structural panel shear walls
 = 3.25 for other than wood structural panel shear walls

Diaphragm shear adjustment factor:

Diaphragm	Minimum Building Dimension, W (ft.)	Roof/Ceiling Assembly = 15 psf				Roof/Ceiling Assembly = 25 psf			
		Floor = 12 psf Partition = 8 psf Wall = 180 plf	Floor = 20 psf Partition = 8 psf Wall = 180 plf	Floor = 12 psf Partition = 8 psf Wall = 110 plf	Floor = 20 psf Partition = 8 psf Wall = 110 plf	Floor = 12 psf Partition = 8 psf Wall = 180 plf	Floor = 20 psf Partition = 8 psf Wall = 180 plf	Floor = 12 psf Partition = 8 psf Wall = 110 plf	Floor = 20 psf Partition = 8 psf Wall = 110 plf
		Diaphragm shear adjustment factor							
Roof/Ceiling	12	1.22	1.22	1.00	1.00	1.60	1.60	1.40	1.40
	16	1.19	1.19	1.00	1.00	1.59	1.59	1.41	1.41
	20	1.17	1.17	1.00	1.00	1.58	1.58	1.43	1.43
	24	1.15	1.15	1.00	1.00	1.57	1.57	1.43	1.43
	28	1.13	1.13	1.00	1.00	1.57	1.57	1.44	1.44
	32	1.12	1.12	1.00	1.00	1.57	1.57	1.45	1.45
Floor	36	1.11	1.11	1.00	1.00	1.56	1.56	1.46	1.46
	12	1.37	1.54	1.00	1.19	1.37	1.54	1.00	1.19
	16	1.32	1.52	1.00	1.22	1.32	1.52	1.00	1.22
	20	1.29	1.51	1.00	1.24	1.29	1.51	1.00	1.24
	24	1.26	1.50	1.00	1.26	1.26	1.50	1.00	1.26
	28	1.24	1.49	1.00	1.27	1.24	1.49	1.00	1.27
	32	1.22	1.48	1.00	1.28	1.22	1.48	1.00	1.28
	36	1.20	1.47	1.00	1.29	1.20	1.47	1.00	1.29

- 4 Effective seismic weight used to determine diaphragm load includes 20% of ground snow load where the ground snow load exceeds 30 psf. S_{DS} used for SDC A, B, C, D_o , D_1 and D_2 are as follows: $S_{DS}=0.17$ for SDC A; $S_{DS}=0.33$ for SDC B; $S_{DS}=0.50$ for SDC C; $S_{DS}=0.67$ for SDC D_o ; $S_{DS}=0.83$ for SDC D_1 ; $S_{DS}=1.17$ for SDC D_2 .

Table 3.17A Segmented Shear Wall Sheathing Requirements for Wind**Exposure B**

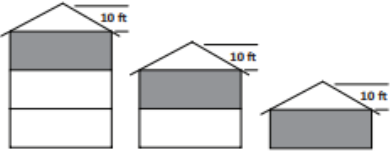
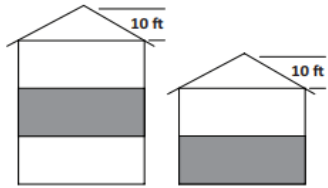
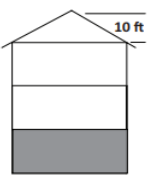
Wind Speed 3-second gust (mph) (See Figure 1.1)		90	95	100	105	110	115	120	130	140	150	160	170	180	195
Shear Wall Line Beneath	Building Dimension, L or W (ft)	Minimum Length of Full Height Sheathing on Exterior Shear Walls Perpendicular to Building Dimension, L or W (ft) ^{1,2,3,4,5}													
Roof & Ceiling 	12	1.3	1.4	1.5	1.7	1.8	2.0	2.2	2.5	2.9	3.4	3.8	4.3	4.9	5.7
	16	1.8	1.8	2.0	2.2	2.4	2.6	2.9	3.4	3.9	4.5	5.1	5.8	6.5	7.6
	20	2.2	2.3	2.5	2.8	3.0	3.3	3.6	4.2	4.9	5.6	6.4	7.2	8.1	9.5
	24	2.6	2.7	3.0	3.3	3.6	4.0	4.3	5.1	5.9	6.8	7.7	8.7	9.7	11.4
	28	3.1	3.2	3.5	3.9	4.2	4.6	5.0	5.9	6.9	7.9	9.0	10.1	11.4	13.3
	32	3.5	3.6	4.0	4.4	4.8	5.3	5.8	6.8	7.8	9.0	10.3	11.6	13.0	15.2
	36	4.0	4.1	4.5	5.0	5.5	6.0	6.5	7.6	8.8	10.1	11.5	13.0	14.6	17.1
	40	4.4	4.5	5.0	5.5	6.1	6.6	7.2	8.5	9.8	11.3	12.8	14.5	16.2	19.0
	50	5.5	5.6	6.3	6.9	7.6	8.3	9.0	10.6	12.3	14.1	16.0	18.1	20.3	23.8
	60	6.6	6.8	7.5	8.3	9.1	9.9	10.8	12.7	14.7	16.9	19.2	21.7	24.3	28.6
	70	7.7	7.9	8.8	9.7	10.6	11.6	12.6	14.8	17.2	19.7	22.4	25.3	28.4	33.3
	80	8.8	9.0	10.0	11.0	12.1	13.2	14.4	16.9	19.6	22.5	25.6	28.9	32.4	38.1
Roof, Ceiling, & 1 Floor 	20	4.6	4.7	5.1	5.6	6.1	6.7	7.3	8.6	9.9	11.4	13.0	14.6	16.4	19.3
	24	5.6	5.6	6.1	6.7	7.4	8.0	8.8	10.3	11.9	13.7	15.6	17.6	19.7	23.1
	28	6.5	6.6	7.1	7.8	8.6	9.4	10.2	12.0	13.9	16.0	18.2	20.5	23.0	27.0
	32	7.4	7.5	8.1	8.9	9.8	10.7	11.7	13.7	15.9	18.2	20.7	23.4	26.3	30.8
	36	8.3	8.4	9.1	10.1	11.0	12.1	13.1	15.4	17.9	20.5	23.3	26.3	29.5	34.7
	40	9.3	9.4	10.1	11.2	12.3	13.4	14.6	17.1	19.9	22.8	25.9	29.3	32.8	38.5
	50	11.6	11.7	12.7	14.0	15.3	16.7	18.2	21.4	24.8	28.5	32.4	36.6	41.0	48.1
	60	13.9	14.1	15.2	16.8	18.4	20.1	21.9	25.7	29.8	34.2	38.9	43.9	49.2	57.8
	70	16.2	16.4	17.7	19.5	21.4	23.4	25.5	30.0	34.7	39.9	45.4	51.2	57.4	67.4
Roof, Ceiling, & 2 Floors 	28	9.9	10.0	10.7	11.8	12.9	14.1	15.4	18.0	20.9	24.0	27.3	30.9	34.6	40.6
	32	11.3	11.4	12.2	13.5	14.8	16.1	17.6	20.6	23.9	27.5	31.2	35.3	39.5	46.4
	36	12.7	12.8	13.7	15.1	16.6	18.2	19.8	23.2	26.9	30.9	35.1	39.7	44.5	52.2
	40	14.1	14.2	15.3	16.8	18.5	20.2	22.0	25.8	29.9	34.3	39.0	44.1	49.4	58.0
	50	17.7	17.8	19.1	21.0	23.1	25.2	27.5	32.2	37.4	42.9	48.8	55.1	61.8	72.5
	60	21.2	21.4	22.9	25.2	27.7	30.3	32.9	38.7	44.8	51.5	58.6	66.1	74.1	87.0
	70	24.7	24.9	26.7	29.4	32.3	35.3	38.4	45.1	52.3	60.1	68.3	77.1	86.5	101.5
	80	28.3	28.5	30.5	33.6	36.9	40.3	43.9	51.6	59.8	68.6	78.1	88.2	98.8	116.0

See footnotes 1-5.

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PRESCRIPTIVE DESIGN

Table 3.17A Segmented Shear Wall Sheathing Requirements for Wind**Exposure C**

Wind Speed 3-second gust (mph) (See Figure 1.1)		90	95	100	105	110	115	120	130	140	150	160	170	180	195
Shear Wall Line Beneath	Building Dimension, L or W (ft)	Minimum Length of Full Height Sheathing on Exterior Shear Walls Perpendicular to Building Dimension, L or W (ft) ^{1,2,3,4,5}													
Roof & Ceiling 	12	1.7	1.9	2.1	2.3	2.5	2.8	3.0	3.5	4.1	4.7	5.3	6.0	6.8	7.9
	16	2.3	2.5	2.8	3.1	3.4	3.7	4.0	4.7	5.5	6.3	7.1	8.0	9.0	10.6
	20	2.8	3.1	3.5	3.8	4.2	4.6	5.0	5.9	6.8	7.8	8.9	10.0	11.3	13.2
	24	3.4	3.8	4.2	4.6	5.0	5.5	6.0	7.1	8.2	9.4	10.7	12.1	13.5	15.9
	28	3.9	4.4	4.9	5.4	5.9	6.4	7.0	8.2	9.5	11.0	12.5	14.1	15.8	18.5
	32	4.5	5.0	5.6	6.1	6.7	7.4	8.0	9.4	10.9	12.5	14.2	16.1	18.0	21.2
	36	5.1	5.6	6.3	6.9	7.6	8.3	9.0	10.6	12.3	14.1	16.0	18.1	20.3	23.8
	40	5.6	6.3	7.0	7.7	8.4	9.2	10.0	11.8	13.6	15.6	17.8	20.1	22.5	26.4
	50	7.0	7.8	8.7	9.6	10.5	11.5	12.5	14.7	17.0	19.6	22.3	25.1	28.2	33.0
	60	8.4	9.4	10.4	11.5	12.6	13.8	15.0	17.6	20.4	23.5	26.7	30.1	33.8	39.7
	70	9.9	11.0	12.2	13.4	14.7	16.1	17.5	20.6	23.8	27.4	31.2	35.2	39.4	46.3
	80	11.3	12.6	13.9	15.3	16.8	18.4	20.0	23.5	27.3	31.3	35.6	40.2	45.1	52.9
Roof, Ceiling, & 1 Floor 	20	5.7	6.3	7.0	7.8	8.5	9.3	10.1	11.9	13.8	15.8	18.0	20.3	22.8	26.7
	24	6.8	7.6	8.4	9.3	10.2	11.2	12.2	14.3	16.5	19.0	21.6	24.4	27.3	32.1
	28	8.0	8.9	9.8	10.9	11.9	13.0	14.2	16.6	19.3	22.2	25.2	28.5	31.9	37.4
	32	9.1	10.2	11.3	12.4	13.6	14.9	16.2	19.0	22.1	25.3	28.8	32.5	36.5	42.8
	36	10.3	11.4	12.7	14.0	15.3	16.7	18.2	21.4	24.8	28.5	32.4	36.6	41.0	48.1
	40	11.4	12.7	14.1	15.5	17.0	18.6	20.3	23.8	27.6	31.7	36.0	40.7	45.6	53.5
	50	14.2	15.9	17.6	19.4	21.3	23.3	25.3	29.7	34.5	39.6	45.0	50.8	57.0	66.9
	60	17.1	19.0	21.1	23.3	25.5	27.9	30.4	35.7	41.4	47.5	54.0	61.0	68.4	80.2
	70	19.9	22.2	24.6	27.1	29.8	32.6	35.5	41.6	48.3	55.4	63.0	71.1	79.8	93.6
	80	22.8	25.4	28.1	31.0	34.0	37.2	40.5	47.6	55.1	63.3	72.0	81.3	91.2	107.0
Roof, Ceiling, & 2 Floors 	28	12.0	13.4	14.8	16.3	17.9	19.6	21.4	25.1	29.1	33.4	38.0	42.9	48.0	56.4
	32	13.7	15.3	16.9	18.7	20.5	22.4	24.4	28.6	33.2	38.1	43.4	49.0	54.9	64.4
	36	15.4	17.2	19.1	21.0	23.1	25.2	27.5	32.2	37.4	42.9	48.8	55.1	61.8	72.5
	40	17.2	19.1	21.2	23.4	25.6	28.0	30.5	35.8	41.5	47.7	54.2	61.2	68.6	80.5
	50	21.4	23.9	26.5	29.2	32.0	35.0	38.1	44.7	51.9	59.6	67.8	76.5	85.8	100.7
	60	25.7	28.7	31.8	35.0	38.4	42.0	45.8	53.7	62.3	71.5	81.3	91.8	102.9	120.8
	80	34.3	38.2	42.4	46.7	51.3	56.0	61.0	71.6	83.0	95.3	108.5	122.4	137.3	161.1

See footnotes 1-5.

Footnotes to Table 3.17A

- 1 Tabulated sheathing lengths assume studs are spaced a maximum of 16 inches o.c. or exterior wood structural panels are applied with the long dimension across the studs, walls are sheathed with 3/8 inch wood structural panels on the exterior attached with 8d common nails at 6 inches o.c. at panel edges and 12 inches o.c. in the field, and 1/2 inch gypsum wallboard on the interior attached with 5d cooler nails at 7 inches o.c. at panel edges and 10 inches o.c. as specified in section 3.4.4.2. For other sheathing materials or sheathing configurations the tabulated lengths shall be multiplied by the appropriate sheathing type adjustment factor in Table 3.17D.
- 2 Minimum length of full height sheathing shall not be less than the minimum required to satisfy the maximum shear wall segment aspect ratio limitation in Table 3.17D.
- 3 Total roof span shall not exceed 36 feet based on 3.1.3.4a. Building dimensions up to 80 feet are shown in the second column for use with the inscribed building provisions of 3.1.3.3c.
- 4 Tabulated sheathing lengths are based on 10 foot walls and 10 foot top plate-to-ridge height. For other configurations, the value may be multiplied by the adjustment factor below:

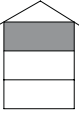
Roof Pitch	Wall Height Top Plate to Ridge Height (ft)	Roof Only		Roof + 1 Floor		Roof + 2 Floors	
		8'	10'	8'	10'	8'	10'
		Adjustment Factor					
≤6:12	0' (flat)	0.35	0.43	0.58	0.72	0.66	0.81
	5'	0.50	0.59	0.66	0.79	0.71	0.86
	10'	0.65	0.74	0.74	0.87	0.76	0.91
>6:12	5'	0.63	0.71	0.72	0.86	0.75	0.90
	10'	0.92	1.00	0.87	1.00	0.85	1.00
	15'	1.21	1.29	1.01	1.14	0.95	1.10
	20'	1.49	1.58	1.15	1.29	1.04	NP

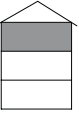
NP = not permitted

- 5 10d box nails or equivalent pneumatic nails with a nail diameter of at least 0.131 inch can be substituted for 8d common nails.

Table 3.17C1 Segmented Shear Wall Sheathing Requirements for Seismic**GSL = 30**

(Dead Load Assumptions: Roof/ceiling = 15 psf, Floor = 12 psf, Partition = 8 psf, Wall = 110 plf;
Ground Snow Load = 30 psf; Lateral force resisting system: Wood structural panel shear walls)

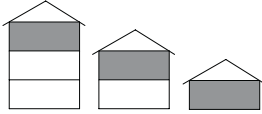
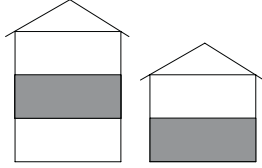
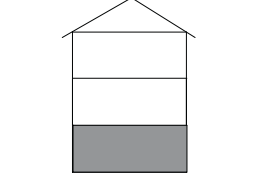
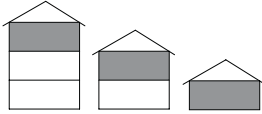
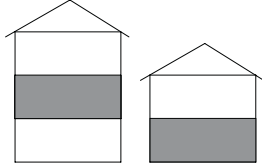
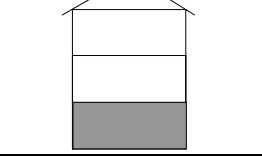
Shear Wall Line Beneath	Minimum Building Dimension, W (ft)	SDC A					SDC B					SDC C				
		L/W					L/W					L/W				
		1	1.5	2	2.5	3	1	1.5	2	2.5	3	1	1.5	2	2.5	3
		Full-height sheathing length, ft ^{1,2,3,4,5}														
 Roof & Ceiling	12	0.4	0.5	0.6	0.7	0.9	0.7	0.9	1.2	1.4	1.7	1.0	1.4	1.8	2.1	2.5
	16	0.5	0.7	0.9	1.1	1.3	1.0	1.4	1.8	2.2	2.5	1.5	2.1	2.7	3.3	3.8
	20	0.7	1.0	1.3	1.6	1.8	1.4	1.9	2.5	3.0	3.6	2.1	2.9	3.8	4.6	5.4
	24	0.9	1.3	1.7	2.1	2.5	1.8	2.6	3.3	4.0	4.8	2.8	3.9	5.0	6.1	7.2
	28	1.2	1.7	2.2	2.7	3.0	2.3	3.3	4.2	5.2	5.8	3.5	5.0	6.4	7.8	8.9
	32	1.5	2.1	2.7	3.3 ⁶	-	2.9	4.1	5.3	6.5 ⁶	-	4.4	6.2	8.0	9.8 ⁶	-
 Roof, Ceiling, & 1 Floor	36	1.8	2.5	3.3	3.6 ⁶	-	3.5	4.9	6.4	7.1 ⁶	-	5.3	7.5	9.7	10.7 ⁶	-
	12	0.7	1.0	1.2	1.5	1.7	1.4	1.9	2.4	2.9	3.4	2.1	2.9	3.6	4.4	5.1
	16	1.1	1.5	1.9	2.3	2.7	2.1	2.9	3.6	4.4	5.2	3.2	4.3	5.5	6.7	7.8
	20	1.5	2.1	2.6	3.2	3.7	2.9	4.0	5.1	6.2	7.3	4.4	6.1	7.7	9.4	11.0
	24	2.0	2.7	3.5	4.2	5.0	3.8	5.3	6.8	8.2	9.7	5.8	8.0	10.3	12.5	14.7
	28	2.5	3.5	4.5	5.5	6.2	4.8	6.8	8.7	10.6	12.0	7.3	10.2	13.1	16.1	18.1
 Roof, Ceiling & 2 Floors	32	3.1	4.3	5.6	6.8 ⁶	-	6.0	8.4	10.8	13.2 ⁶	-	9.0	12.7	16.4	20.0 ⁶	-
	36	3.7	5.2	6.8	7.5 ⁶	-	7.2	10.2	13.2	14.5 ⁶	-	10.9	15.4	19.9	21.9 ⁶	-
	12	1.1	1.5	1.9	2.2	2.6	2.1	2.9	3.6	4.3	5.1	3.2	4.4	5.5	6.6	7.7
	16	1.6	2.2	2.8	3.4	4.0	3.2	4.3	5.5	6.6	7.8	4.8	6.6	8.3	10.1	11.8
	20	2.3	3.1	4.0	4.8	5.7	4.4	6.0	7.7	9.3	11.0	6.7	9.2	11.7	14.2	16.6
	24	3.0	4.1	5.3	6.4	7.6	5.8	8.0	10.2	12.5	14.7	8.8	12.1	15.5	18.9	22.3
 Roof, Ceiling & 2 Floors	28	3.8	5.3	6.8	8.3	9.3	7.3	10.2	13.1	16.0	18.1	11.1	15.5	19.9	24.3	27.4
	32	4.7	6.5	8.4	10.3 ⁶	-	9.1	12.7	16.3	20.0 ⁶	-	13.7	19.2	24.8	30.3 ⁶	-
	36	5.6	7.9	10.2	11.3 ⁶	-	10.9	15.4	19.9	21.9 ⁶	-	16.6	23.4	30.1	33.2 ⁶	-

Shear Wall Line Beneath	Minimum Building Dimension, W (ft)	SDC D ₀					SDC D ₁					SDC D ₂				
		L/W					L/W					L/W				
		1	1.5	2	2.5	3	1	1.5	2	2.5	3	1	1.5	2	2.5	3
		Full-height sheathing length, ft ^{1,2,3,4,5}														
 Roof & Ceiling	12	1.4	1.9	2.4	2.9	3.4	1.7	2.3	3.0	3.6	4.2	2.4	3.3	4.2	5.0	5.9
	16	2.1	2.8	3.6	4.4	5.1	2.6	3.5	4.5	5.4	6.4	3.6	5.0	6.3	7.6	9.0
	20	2.9	3.9	5.0	6.1	7.2	3.5	4.9	6.2	7.6	9.0	5.0	6.9	8.8	10.7	12.6
	24	3.7	5.2	6.7	8.2	9.7	4.6	6.5	8.3	10.1	12.0	6.5	9.1	11.7	14.3	16.9
	28	4.7	6.7	8.6	10.5	11.9	5.9	8.3	10.6	13.0	14.7	8.3	11.6	15.0	18.3	20.7
	32	5.9	8.3	10.7	13.1 ⁶	-	7.3	10.2	13.2	16.2 ⁶	-	10.2	14.4	18.7	22.9 ⁶	-
 Roof, Ceiling, & 1 Floor	36	7.1	10.0	13.0	14.3 ⁶	-	8.8	12.4	16.1	17.7 ⁶	-	12.4	17.5	22.7	25.0 ⁶	-
	12	2.9	3.9	4.9	5.9	6.8	3.6	4.8	6.0	7.3	8.5	5.0	6.8	8.5	10.2	12.0
	16	4.3	5.8	7.4	8.9	10.5	5.3	7.2	9.1	11.0	13.0	7.5	10.2	12.9	15.6	18.3
	20	5.9	8.1	10.3	12.6	14.8	7.3	10.1	12.8	15.5	18.3	10.3	14.2	18.0	21.9	25.8
	24	7.7	10.7	13.7	16.7	19.7	9.6	13.3	17.0	20.7	24.5	13.5	18.8	24.0	29.2	34.5
	28	9.8	13.7	17.6	21.5	24.3	12.2	17.0	21.8	26.6	30.1	17.1	23.9	30.8	37.6	42.4
 Roof, Ceiling & 2 Floors	32	12.1	17.0	21.9	26.8 ⁶	-	15.0	21.1	27.2	33.2 ⁶	-	21.2	29.7	38.3	46.9 ⁶	-
	36	14.6	20.7	26.7	29.4 ⁶	-	18.1	25.6	33.1	36.4 ⁶	-	25.6	36.1	46.6	51.3 ⁶	-
	12	4.4	5.8	7.3	8.8	10.3	5.4	7.2	9.1	10.9	12.8	7.6	10.2	12.8	15.4	18.0
	16	6.5	8.8	11.1	13.5	15.8	8.0	10.9	13.8	16.7	19.6	11.3	15.4	19.4	23.5	27.6
	20	8.9	12.3	15.6	19.0	22.3	11.1	15.2	19.4	23.5	27.6	15.6	21.4	27.3	33.1	39.0
	24	11.7	16.3	20.8	25.3	29.8	14.5	20.1	25.8	31.4	37.0	20.5	28.4	36.3	44.2	52.1
 Roof, Ceiling & 2 Floors	28	14.9	20.8	26.6	32.5	36.7	18.4	25.7	33.0	40.3	45.5	26.0	36.3	46.5	56.8	64.1
	32	18.4	25.8	33.2	40.6 ⁶	-	22.8	31.9	41.1	50.3 ⁶	-	32.1	45.0	57.9	70.9 ⁶	-
	36	22.2	31.3	40.4	44.4 ⁶	-	27.5	38.8	50.0	55.0 ⁶	-	38.8	54.7	70.5	77.6 ⁶	-

See footnotes 1-6.

Table 3.17C2 Segmented Shear Wall Sheathing Requirements for Seismic**GSL = 50**

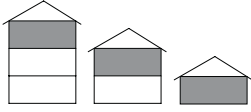
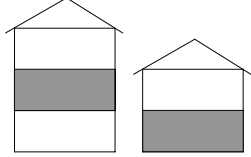
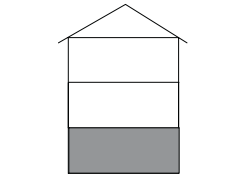
(Dead Load Assumptions: Roof/ceiling = 15 psf, Floor = 12 psf, Partition = 8 psf, Wall = 110 plf;
Ground Snow Load = 50 psf; Lateral force resisting system: Wood structural panel shear walls)

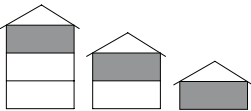
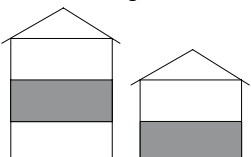
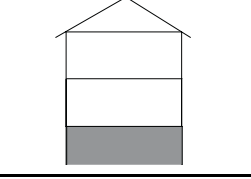
Shear Wall Line Beneath	Minimum Building Dimension, W (ft)	SDC A					SDC B					SDC C				
		L/W					L/W					L/W				
		1	1.5	2	2.5	3	1	1.5	2	2.5	3	1	1.5	2	2.5	3
		Full-height sheathing length, ft ^{1,2,3,4,5}														
Roof & Ceiling 	12	0.5	0.6	0.8	1.0	1.1	0.9	1.2	1.6	1.9	2.2	1.4	1.9	2.4	2.9	3.4
	16	0.7	1.0	1.2	1.5	1.8	1.4	1.9	2.4	2.9	3.5	2.1	2.9	3.7	4.5	5.2
	20	1.0	1.4	1.8	2.2	2.5	1.9	2.7	3.4	4.2	4.9	2.9	4.0	5.2	6.3	7.5
	24	1.3	1.8	2.4	2.9	3.4	2.5	3.6	4.6	5.6	6.7	3.9	5.4	7.0	8.5	10.1
	28	1.7	2.4	3.1	3.8	4.2	3.3	4.6	5.9	7.3	8.2	4.9	7.0	9.0	11.0	12.5
	32	2.1	3.0	3.8	4.7 ⁶	-	4.0	5.7	7.4	9.2 ⁶	-	6.1	8.7	11.3	13.9 ⁶	-
	36	2.5	3.6	4.7	5.2 ⁶	-	4.9	7.0	9.1	10.1 ⁶	-	7.4	10.6	13.8	15.2 ⁶	-
Roof, Ceiling, & 1 Floor 	12	0.8	1.1	1.4	1.7	2.0	1.6	2.2	2.8	3.4	3.9	2.5	3.4	4.2	5.1	6.0
	16	1.3	1.7	2.2	2.7	3.1	2.5	3.4	4.3	5.2	6.1	3.7	5.1	6.5	7.8	9.2
	20	1.8	2.4	3.1	3.8	4.5	3.4	4.7	6.0	7.3	8.6	5.2	7.2	9.1	11.1	13.1
	24	2.3	3.2	4.2	5.1	6.0	4.5	6.3	8.1	9.8	11.6	6.8	9.5	12.2	14.9	17.6
	28	3.0	4.2	5.4	6.5	7.4	5.7	8.1	10.4	12.7	14.4	8.7	12.2	15.7	19.3	21.8
	32	3.7	5.2	6.7	8.2 ⁶	-	7.1	10.1	13.0	15.9 ⁶	-	10.8	15.2	19.7	24.1 ⁶	-
	36	4.5	6.3	8.2	9.0 ⁶	-	8.6	12.3	15.9	17.5 ⁶	-	13.1	18.6	24.0	26.5 ⁶	-
Roof, Ceiling & 2 Floors 	12	1.2	1.6	2.1	2.5	2.9	2.4	3.2	4.0	4.8	5.7	3.6	4.8	6.1	7.3	8.6
	16	1.8	2.5	3.2	3.8	4.5	3.5	4.8	6.1	7.4	8.7	5.4	7.3	9.3	11.2	13.2
	20	2.5	3.5	4.4	5.4	6.4	4.9	6.8	8.6	10.5	12.4	7.4	10.3	13.1	15.9	18.7
	24	3.3	4.6	5.9	7.2	8.5	6.5	9.0	11.5	14.1	16.6	9.8	13.7	17.5	21.3	25.1
	28	4.2	5.9	7.6	9.3	10.6	8.2	11.5	14.8	18.1	20.5	12.5	17.5	22.5	27.5	31.0
	32	5.3	7.4	9.5	11.7 ⁶	-	10.2	14.4	18.5	22.7 ⁶	-	15.5	21.8	28.1	34.4 ⁶	-
	36	6.4	9.0	11.6	12.8 ⁶	-	12.4	17.5	22.6	24.9 ⁶	-	18.7	26.5	34.3	37.7 ⁶	-
Shear Wall Line Beneath	Minimum Building Dimension, W (ft)	SDC D ₀					SDC D ₁					SDC D ₂				
		L/W					L/W					L/W				
		1	1.5	2	2.5	3	1	1.5	2	2.5	3	1	1.5	2	2.5	3
		Full-height sheathing length, ft ^{1,2,3,4,5}														
Roof & Ceiling 	12	1.9	2.5	3.2	3.9	4.5	2.3	3.1	4.0	4.8	5.6	3.3	4.4	5.6	6.7	7.9
	16	2.8	3.9	4.9	6.0	7.0	3.5	4.8	6.1	7.4	8.7	4.9	6.7	8.6	10.4	12.3
	20	3.9	5.4	7.0	8.5	10.0	4.8	6.7	8.6	10.5	12.4	6.8	9.5	12.1	14.8	17.5
	24	5.2	7.3	9.3	11.4	13.5	6.4	9.0	11.6	14.2	16.7	9.0	12.7	16.3	20.0	23.6
	28	6.6	9.3	12.1	14.8	16.7	8.2	11.6	14.9	18.3	20.7	11.5	16.3	21.1	25.8	29.2
	32	8.2	11.7	15.1	18.6 ⁶	-	10.2	14.4	18.7	23.0 ⁶	-	14.3	20.4	26.4	32.4 ⁶	-
	36	10.0	14.2	18.5	20.4 ⁶	-	12.4	17.6	22.9	25.3 ⁶	-	17.4	24.9	32.3	35.6 ⁶	-
Roof, Ceiling, & 1 Floor 	12	3.3	4.5	5.7	6.8	8.0	4.1	5.6	7.0	8.5	9.9	5.8	7.9	9.9	11.9	14.0
	16	5.0	6.8	8.7	10.5	12.4	6.2	8.5	10.7	13.0	15.3	8.7	11.9	15.1	18.4	21.6
	20	6.9	9.6	12.2	14.9	17.6	8.6	11.9	15.2	18.5	21.7	12.1	16.7	21.4	26.0	30.7
	24	9.2	12.8	16.4	20.0	23.6	11.4	15.8	20.3	24.8	29.2	16.0	22.3	28.6	34.9	41.2
	28	11.7	16.4	21.1	25.8	29.2	14.5	20.3	26.1	32.0	36.1	20.4	28.6	36.8	45.1	50.9
	32	14.5	20.4	26.4	32.3 ⁶	-	17.9	25.3	32.7	40.0 ⁶	-	25.3	35.7	46.0	56.4 ⁶	-
	36	17.5	24.9	32.2	35.5 ⁶	-	21.7	30.8	39.9	43.9 ⁶	-	30.6	43.4	56.2	61.9 ⁶	-
Roof, Ceiling & 2 Floors 	12	4.8	6.5	8.1	9.8	11.5	6.0	8.0	10.1	12.2	14.2	8.4	11.3	14.2	17.1	20.1
	16	7.2	9.8	12.4	15.1	17.7	8.9	12.2	15.4	18.7	21.9	12.6	17.1	21.7	26.3	30.9
	20	10.0	13.8	17.5	21.3	25.1	12.4	17.0	21.7	26.4	31.1	17.4	24.0	30.6	37.2	43.8
	24	13.2	18.3	23.4	28.6	33.7	16.3	22.7	29.0	35.4	41.7	23.0	31.9	40.9	49.9	58.8
	28	16.7	23.4	30.1	36.8	41.6	20.7	29.0	37.3	45.6	51.5	29.2	40.9	52.6	64.3	72.6
	32	20.7	29.2	37.6	46.1 ⁶	-	25.7	36.1	46.6	57.1 ⁶	-	36.2	50.9	65.7	80.4 ⁶	-
	36	25.1	35.5	45.9	50.5 ⁶	-	31.1	44.0	56.9	62.6 ⁶	-	43.8	62.0	80.2	88.2 ⁶	-

See footnotes 1-6.

Table 3.17C3 Segmented Shear Wall Sheathing Requirements for Seismic**GSL = 70**

(Dead Load Assumptions: Roof/ceiling = 15 psf, Floor = 12 psf, Partition = 8 psf, Wall = 110 plf;
Ground Snow Load = 70 psf; Lateral force resisting system: Wood structural panel shear walls)

Shear Wall Line Beneath	Minimum Building Dimension, W (ft)	SDC A					SDC B					SDC C				
		L/W					L/W					L/W				
		1	1.5	2	2.5	3	1	1.5	2	2.5	3	1	1.5	2	2.5	3
		Full-height sheathing length, ft ^{1,2,3,4,5}														
Roof & Ceiling 	12	0.5	0.7	0.9	1.1	1.3	1.0	1.4	1.7	2.1	2.5	1.5	2.1	2.6	3.2	3.7
	16	0.8	1.1	1.4	1.7	2.0	1.5	2.1	2.7	3.3	3.8	2.3	3.2	4.1	4.9	5.8
	20	1.1	1.5	2.0	2.4	2.8	2.1	3.0	3.8	4.6	5.5	3.2	4.5	5.8	7.0	8.3
	24	1.5	2.0	2.6	3.2	3.8	2.8	4.0	5.1	6.3	7.4	4.3	6.0	7.8	9.5	11.2
	28	1.9	2.6	3.4	4.2	4.7	3.6	5.1	6.6	8.1	9.2	5.5	7.8	10.0	12.3	13.9
	32	2.3	3.3	4.3	5.3 ⁶	-	4.5	6.4	8.3	10.2 ⁶	-	6.8	9.7	12.6	15.5 ⁶	-
	36	2.8	4.0	5.3	5.8 ⁶	-	5.5	7.8	10.2	11.3 ⁶	-	8.3	11.9	15.5	17.0 ⁶	-
Roof, Ceiling, & 1 Floor 	12	0.9	1.2	1.5	1.8	2.1	1.7	2.3	3.0	3.6	4.2	2.6	3.6	4.5	5.4	6.3
	16	1.3	1.8	2.3	2.8	3.3	2.6	3.6	4.5	5.5	6.5	3.9	5.4	6.9	8.3	9.8
	20	1.9	2.6	3.3	4.0	4.7	3.6	5.0	6.4	7.8	9.2	5.5	7.6	9.7	11.8	13.9
	24	2.5	3.4	4.4	5.4	6.4	4.8	6.7	8.6	10.5	12.4	7.3	10.1	13.0	15.9	18.8
	28	3.1	4.4	5.7	7.0	7.9	6.1	8.6	11.1	13.6	15.3	9.3	13.0	16.8	20.5	23.2
	32	3.9	5.5	7.1	8.8 ⁶	-	7.6	10.7	13.9	17.0 ⁶	-	11.5	16.2	21.0	25.8 ⁶	-
	36	4.7	6.7	8.7	9.6 ⁶	-	9.2	13.1	16.9	18.7 ⁶	-	14.0	19.8	25.7	28.3 ⁶	-
Roof, Ceiling & 2 Floors 	12	1.3	1.7	2.2	2.6	3.0	2.5	3.3	4.2	5.0	5.9	3.7	5.0	6.3	7.6	8.9
	16	1.9	2.6	3.3	4.0	4.7	3.7	5.0	6.4	7.7	9.1	5.6	7.6	9.7	11.7	13.8
	20	2.6	3.6	4.6	5.6	6.6	5.1	7.1	9.0	11.0	12.9	7.8	10.7	13.7	16.6	19.6
	24	3.5	4.8	6.2	7.6	8.9	6.8	9.4	12.1	14.7	17.4	10.2	14.3	18.3	22.3	26.3
	28	4.4	6.2	8.0	9.8	11.0	8.6	12.1	15.5	19.0	21.4	13.0	18.3	23.5	28.7	32.5
	32	5.5	7.7	10.0	12.2 ⁶	-	10.7	15.0	19.4	23.8 ⁶	-	16.2	22.8	29.4	36.0 ⁶	-
	36	6.7	9.4	12.2	13.4 ⁶	-	12.9	18.3	23.7	26.1 ⁶	-	19.6	27.8	35.9	39.5 ⁶	-

Shear Wall Line Beneath	Minimum Building Dimension, W (ft)	SDC D ₀					SDC D ₁					SDC D ₂				
		L/W					L/W					L/W				
		1	1.5	2	2.5	3	1	1.5	2	2.5	3	1	1.5	2	2.5	3
		Full-height sheathing length, ft ^{1,2,3,4,5}														
Roof & Ceiling 	12	2.0	2.8	3.5	4.3	5.0	2.5	3.4	4.4	5.3	6.2	3.6	4.9	6.1	7.4	8.7
	16	3.1	4.3	5.4	6.6	7.8	3.8	5.3	6.7	8.2	9.6	5.4	7.4	9.5	11.5	13.6
	20	4.3	6.0	7.7	9.4	11.1	5.3	7.5	9.6	11.7	13.8	7.5	10.5	13.5	16.5	19.4
	24	5.7	8.1	10.4	12.7	15.1	7.1	10.0	12.9	15.8	18.7	10.0	14.1	18.2	22.2	26.3
	28	7.3	10.4	13.5	16.5	18.7	9.1	12.9	16.7	20.5	23.2	12.8	18.2	23.5	28.8	32.6
	32	9.1	13.0	16.9	20.8 ⁶	-	11.3	16.1	20.9	25.7 ⁶	-	16.0	22.7	29.5	36.3 ⁶	-
	36	11.1	15.9	20.7	22.8 ⁶	-	13.8	19.7	25.7	28.3 ⁶	-	19.4	27.8	36.2	39.9 ⁶	-
Roof, Ceiling, & 1 Floor 	12	3.5	4.8	6.0	7.2	8.5	4.4	5.9	7.4	9.0	10.5	6.2	8.3	10.5	12.6	14.8
	16	5.3	7.2	9.2	11.2	13.1	6.5	9.0	11.4	13.8	16.2	9.2	12.6	16.1	19.5	22.9
	20	7.4	10.2	13.0	15.8	18.7	9.1	12.6	16.1	19.6	23.1	12.8	17.8	22.7	27.7	32.6
	24	9.7	13.6	17.4	21.3	25.1	12.1	16.8	21.6	26.4	31.2	17.0	23.7	30.5	37.2	43.9
	28	12.4	17.4	22.5	27.5	31.1	15.4	21.6	27.9	34.1	38.5	21.7	30.5	39.3	48.0	54.3
	32	15.4	21.8	28.1	34.5 ⁶	-	19.1	27.0	34.9	42.7 ⁶	-	26.9	38.0	49.1	60.3 ⁶	-
	36	18.7	26.6	34.4	37.9 ⁶	-	23.2	32.9	42.6	47.0 ⁶	-	32.7	46.4	60.1	66.2 ⁶	-
Roof, Ceiling & 2 Floors 	12	5.0	6.7	8.5	10.2	11.9	6.2	8.3	10.5	12.6	14.8	8.7	11.8	14.8	17.8	20.9
	16	7.5	10.2	13.0	15.7	18.4	9.3	12.7	16.1	19.5	22.8	13.1	17.9	22.6	27.4	32.2
	20	10.4	14.3	18.3	22.3	26.2	12.9	17.8	22.7	27.6	32.5	18.2	25.1	32.0	38.9	45.8
	24	13.7	19.1	24.5	29.9	35.2	17.0	23.7	30.3	37.0	43.6	24.0	33.4	42.8	52.1	61.5
	28	17.5	24.5	31.5	38.5	43.5	21.7	30.3	39.0	47.7	53.9	30.5	42.8	55.0	67.3	76.0
	32	21.7	30.5	39.4	48.2 ⁶	-	26.8	37.8	48.8	59.8 ⁶	-	37.8	53.3	68.8	84.2 ⁶	-
	36	26.3	37.2	48.1	53.0 ⁶	-	32.5	46.1	59.6	65.6 ⁶	-	45.9	64.9	84.0	92.5 ⁶	-

See footnotes 1-6.

Footnotes to Table 3.17C

¹ The tabulated full-height sheathing length is applicable for each wall of a rectangular building.

² Tabulated full-height sheathing lengths can be multiplied by 0.83 for one-story above grade plane buildings and 0.92 for two story above grade plane buildings.

³ Tabulated full-height sheathing lengths assume walls are sheathed as specified in Section 3.4.4.2. For other sheathing materials the tabulated full-height sheathing length shall be multiplied by the appropriate sheathing type adjustment factor in Table 3.17D. The minimum length of full-height sheathing shall not be less than the minimum required to satisfy the maximum shear wall segment aspect ratio limitation in Table 3.17D.

⁴ Full-height sheathing lengths can be determined for other dead load cases by multiplying by the full-height sheathing length adjustment factor given in the following table:

Shear Wall Line Beneath	Minimum Building Dimension, W (ft.)	Roof/Ceiling Assembly = 15 psf				Roof/Ceiling Assembly = 25 psf			
		Floor = 12 psf Partition = 8 psf Wall = 180 plf	Floor = 20 psf Partition = 8 psf Wall = 180 plf	Floor = 12 psf Partition = 8 psf Wall = 110 plf	Floor = 20 psf Partition = 8 psf Wall = 110 plf	Floor = 12 psf Partition = 8 psf Wall = 180 plf	Floor = 20 psf Partition = 8 psf Wall = 180 plf	Floor = 12 psf Partition = 8 psf Wall = 110 plf	Floor = 20 psf Partition = 8 psf Wall = 110 plf
		Full-height sheathing length adjustment factors							
Roof & Ceiling	12	1.27	1.27	1.00	1.00	1.60	1.60	1.34	1.34
	16	1.25	1.25	1.00	1.00	1.60	1.60	1.37	1.37
	20	1.22	1.22	1.00	1.00	1.59	1.59	1.38	1.38
	24	1.20	1.20	1.00	1.00	1.58	1.58	1.40	1.40
	28	1.19	1.19	1.00	1.00	1.58	1.58	1.41	1.41
	32	1.17	1.17	1.00	1.00	1.57	1.57	1.42	1.42
	36	1.16	1.16	1.00	1.00	1.57	1.57	1.42	1.42
Roof, Ceiling, & 1 Floor	12	1.34	1.42	1.00	1.09	1.51	1.58	1.17	1.26
	16	1.31	1.40	1.00	1.11	1.48	1.57	1.18	1.29
	20	1.28	1.38	1.00	1.12	1.46	1.56	1.19	1.31
	24	1.26	1.36	1.00	1.13	1.44	1.55	1.20	1.32
	28	1.24	1.35	1.00	1.13	1.42	1.54	1.20	1.33
	32	1.22	1.34	1.00	1.14	1.41	1.53	1.20	1.34
	36	1.20	1.33	1.00	1.14	1.40	1.53	1.21	1.35
Roof, Ceiling, & 2 Floors	12	1.37	1.46	1.00	1.12	1.47	1.57	1.11	1.23
	16	1.33	1.44	1.00	1.14	1.44	1.56	1.12	1.26
	20	1.30	1.43	1.00	1.16	1.41	1.54	1.12	1.28
	24	1.27	1.41	1.00	1.17	1.39	1.54	1.13	1.30
	28	1.25	1.40	1.00	1.18	1.37	1.53	1.13	1.31
	32	1.23	1.39	1.00	1.18	1.36	1.52	1.14	1.32
	36	1.22	1.38	1.00	1.19	1.35	1.52	1.14	1.32

⁵ Effective seismic weight used to determine tabulated full-height sheathing lengths include 20% of ground snow load where the ground snow load exceeds 30 psf. S_{DS} used for SDC A, B, C, D₀, D₁ and D₂ are as follows: S_{DS} =0.17 for SDC A; S_{DS} =0.33 for SDC B; S_{DS} =0.50 for SDC C; S_{DS} =0.67 for SDC D₀; S_{DS} =0.83 for SDC D₁; S_{DS} =1.17 for SDC D₂.

⁶ Tabulated full-height sheathing lengths are based on building length, L, equal to 80 ft.

Table 3.17D Shear Wall Assembly Allowable Unit Shear Capacities, Maximum Shear Wall Segment Aspect Ratios, and Sheathing Type Adjustments

Exterior Wall Sheathing	Nails and Spacing Requirements	ASD Unit Shear Capacity of Wall Assembly (plf)		Maximum Shear Wall Segment Aspect Ratio		Sheathing Type Adjustment Factor	
		Wind	Seismic	Wind	Seismic	Wind	Seismic
Interior Wall Sheathing							
No Sheathing or Non-Rated Sheathing							
1/2" Gypsum Wallboard (Unblocked) ² , maximum stud spacing 16" on center	5d cooler nails - 7" edge spacing	100	100 ¹	1.5:1	1.5:1	4.36	7.77
1/2" Gypsum Wallboard (Unblocked) ² , maximum stud spacing 24" on center	5d cooler nails - 7" edge spacing	75	75 ¹	1.5:1	1.5:1	5.81	10.36
1/2" Structural Fiberboard Sheathing (Blocked), maximum stud spacing 16" on center	11 ga. galv. roofing nails - 3" edge spacing						
No Sheathing or Non-Rated Sheathing		297	212 ³	1:1 ⁴	1:1 ⁴	1.47	3.66
1/2" Gypsum Wallboard (Unblocked) ²	5d cooler nails - 7" edge spacing	397	212 ³	1:1 ⁴	1:1 ⁴	1.10	3.66
25/32" Structural Fiberboard Sheathing (Blocked), maximum stud spacing 16" on center	11 ga. galv. roofing nails - 3" edge spacing						
No Sheathing or Non-Rated Sheathing		297	212 ³	1:1 ⁴	1:1 ⁴	1.47	3.66
1/2" Gypsum Wallboard (Unblocked) ²	5d cooler nails - 7" edge spacing	397	212 ³	1:1 ⁴	1:1 ⁴	1.10	3.66
7/16" Wood Structural Panels (Blocked), maximum stud spacing 24" on center	8d common nails - 6" edge spacing						
No Sheathing or Non-Rated Sheathing		308	221	2:1 ⁴	2:1 ⁴	1.42	1.08
1/2" Gypsum Wallboard (Unblocked) ²	5d cooler nails - 7" edge spacing	383	221	2:1 ⁴	2:1 ⁴	1.14	1.08
7/16" Wood Structural Panels (Blocked)	8d common nails - 6" edge spacing	616	442	2:1 ⁴	2:1 ⁴	0.71	0.54
15/32" Wood Structural Panels (Blocked), maximum stud spacing 24" on center	8d common nails - 6" edge spacing						
No Sheathing or Non-Rated Sheathing		336	239	2:1 ⁴	2:1 ⁴	1.30	1.00
1/2" Gypsum Wallboard (Unblocked) ²	5d cooler nails - 7" edge spacing	411	239	2:1 ⁴	2:1 ⁴	1.06	1.00
15/32" Wood Structural Panels (Blocked)	8d common nails - 6" edge spacing	672	478	2:1 ⁴	2:1 ⁴	0.65	0.50
3/8", 7/16", and 15/32" Wood Structural Panels (Blocked), maximum stud spacing 16" on center	8d common nails - 6" edge spacing						
No Sheathing or Non-Rated Sheathing		336	239	2:1 ⁴	2:1 ⁴	1.30	1.00
1/2" Gypsum Wallboard (Unblocked) ²	5d cooler nails - 7" edge spacing	436	239	2:1 ⁴	2:1 ⁴	1.00	1.00
3/8", 7/16", and 15/32" Wood Structural Panels (Blocked)	8d common nails - 6" edge spacing	672	478	2:1 ⁴	2:1 ⁴	0.65	0.50

See footnotes 1-4.

Table 3.17D Shear Wall Assembly Allowable Unit Shear Capacities, Maximum Shear Wall Segment Aspect Ratios, and Sheathing Type Adjustments (Cont.)

Exterior Wall Sheathing	Nails and Spacing Requirements	ASD Unit Shear Capacity of Wall Assembly (plf)		Maximum Shear Wall Segment Aspect Ratio		Sheathing Type Adjustment Factor	
		Wind	Seismic	Wind	Seismic	Wind	Seismic
Interior Wall Sheathing							
15/32" Wood Structural Panels (Blocked), maximum stud spacing 24" on center	10d common nails - 6" edge spacing						
No Sheathing or Non-Rated Sheathing		400	285	2:1 ⁴	2:1 ⁴	1.09	0.84
1/2" Gypsum Wallboard (Unblocked) ²	5d cooler nails - 7" edge spacing	475	285	2:1 ⁴	2:1 ⁴	0.92	0.84
15/32" or Thicker Wood Structural Panels (Blocked)	10d common nails - 6" edge spacing	800	570	2:1 ⁴	2:1 ⁴	0.55	0.42
7/16" Wood Structural Panels (Blocked), maximum stud spacing 24" on center	8d common nails - 4" edge spacing						
No Sheathing or Non-Rated Sheathing		451	322	2:1 ⁴	2:1 ⁴	0.97	0.74
1/2" Gypsum Wallboard (Unblocked) ²	5d cooler nails - 7" edge spacing	526	322	2:1 ⁴	2:1 ⁴	0.83	0.74
7/16" Wood Structural Panels (Blocked)	8d common nails - 4" edge spacing	902	644	2:1 ⁴	2:1 ⁴	0.48	0.37
15/32" Wood Structural Panels (Blocked), maximum stud spacing 24" on center	8d common nails - 4" edge spacing						
No Sheathing or Non-Rated Sheathing		490	350	2:1 ⁴	2:1 ⁴	0.89	0.68
1/2" Gypsum Wallboard (Unblocked) ²	5d cooler nails - 7" edge spacing	565	350	2:1 ⁴	2:1 ⁴	0.77	0.68
7/16" Wood Structural Panels (Blocked)	8d common nails - 4" edge spacing	980	700	2:1 ⁴	2:1 ⁴	0.44	0.34
3/8", 7/16", and 15/32" Wood Structural Panels (Blocked), maximum stud spacing 16" on center	8d common nails - 4" edge spacing						
No Sheathing or Non-Rated Sheathing		490	350	2:1 ⁴	2:1 ⁴	0.89	0.68
1/2" Gypsum Wallboard (Unblocked) ²	5d cooler nails - 7" edge spacing	590	350	2:1 ⁴	2:1 ⁴	0.74	0.68
3/8", 7/16", and 15/32" Wood Structural Panels (Blocked)	8d common nails - 4" edge spacing	980	700	2:1 ⁴	2:1 ⁴	0.44	0.34
15/32" Wood Structural Panels (Blocked), maximum stud spacing 24" on center	10d common nails - 4" Edge spacing						
No Sheathing or Non-Rated Sheathing		593	423	2:1 ⁴	2:1 ⁴	0.74	0.57
1/2" Gypsum Wallboard (Unblocked) ²	5d cooler nails - 7" edge spacing	668	423	2:1 ⁴	2:1 ⁴	0.65	0.57
15/32" Wood Structural Panels (Blocked)	10d common nails - 4" edge spacing	1186	846	2:1 ⁴	2:1 ⁴	0.37	0.28

See footnotes 1-4.

Table 3.17D Shear Wall Assembly Allowable Unit Shear Capacities, Maximum Shear Wall Segment Aspect Ratios, and Sheathing Type Adjustments (Cont.)

Exterior Wall Sheathing	Nails and Spacing Requirements	ASD Unit Shear Capacity of Wall Assembly (plf)		Maximum Shear Wall Segment Aspect Ratio		Sheathing Type Adjustment Factor	
		Wind	Seismic	Wind	Seismic	Wind	Seismic
Interior Wall Sheathing							
7/16" Wood Structural Panels (Blocked), maximum stud spacing 24" on center	8d common nails - 3" Edge spacing						
No Sheathing or Non-Rated Sheathing		580	414	2:1 ⁴	2:1 ⁴	0.75	0.58
1/2" Gypsum Wallboard (Unblocked) ²	5d cooler nails - 7" edge spacing	655	414	2:1 ⁴	2:1 ⁴	0.67	0.58
7/16" or Thicker Wood Structural Panels (Blocked)	8d common nails - 3" Edge spacing	1160	828	2:1 ⁴	2:1 ⁴	0.38	0.29
15/32" Wood Structural Panels (Blocked), maximum stud spacing 24" on center	8d common nails - 3" Edge spacing						
No Sheathing or Non-Rated Sheathing		630	451	2:1 ⁴	2:1 ⁴	0.69	0.53
1/2" Gypsum Wallboard (Unblocked) ²	5d cooler nails - 7" edge spacing	705	451	2:1 ⁴	2:1 ⁴	0.62	0.53
7/16" or Thicker Wood Structural Panels (Blocked)	8d common nails - 3" Edge spacing	1260	902	2:1 ⁴	2:1 ⁴	0.35	0.26
3/8", 7/16", and 15/32" Wood Structural Panels (Blocked), maximum stud spacing 16" on center	8d common nails - 3" edge spacing						
No Sheathing or Non-Rated Sheathing		630	451	2:1 ⁴	2:1 ⁴	0.69	0.53
1/2" Gypsum Wallboard (Unblocked) ²	5d cooler nails - 7" edge spacing	730	451	2:1 ⁴	2:1 ⁴	0.60	0.53
3/8", 7/16", and 15/32" Wood Structural Panels (Blocked)	8d common nails - 3" edge spacing	1260	902	2:1 ⁴	2:1 ⁴	0.35	0.26
3/8" Wood Structural Panels (Unblocked), maximum stud spacing 16" on center	8d common nails - 6" Edge spacing						
No Sheathing or Non-Rated Sheathing		170	121	2:1	2:1	2.56	1.98
1/2" Gypsum Wallboard (Unblocked) ²	5d cooler nails - 7" edge spacing	270	121	2:1	2:1	1.61	1.98
3/8" Wood Structural Panels (Unblocked)	8d common nails - 6" Edge spacing	340	242	2:1	2:1	1.28	0.99

See footnotes 1-4.

Table 3.17D Shear Wall Assembly Allowable Unit Shear Capacities, Maximum Shear Wall Segment Aspect Ratios, and Sheathing Type Adjustments (Cont.)

Exterior Wall Sheathing	Nails and Spacing Requirements	ASD Unit Shear Capacity of Wall Assembly (plf)		Maximum Shear Wall Segment Aspect Ratio		Sheathing Type Adjustment Factor	
		Wind	Seismic	Wind	Seismic	Wind	Seismic
Interior Wall Sheathing							
7/16" Wood Structural Panels (Unblocked), maximum stud spacing 16" on center	8d common nails - 6" edge spacing						
No Sheathing or Non-Rated Sheathing		185	132	2:1	2:1	2.36	1.81
1/2" Gypsum Wallboard (Unblocked) ²	5d cooler nails - 7" edge spacing	285	132	2:1	2:1	1.53	1.81
7/16" Wood Structural Panels (Unblocked)	8d common nails - 6" edge spacing	370	264	2:1	2:1	1.18	0.91
15/32" Wood Structural Panels (Unblocked), maximum stud spacing 16" on center	10d common nails - 6" edge spacing						
No Sheathing or Non-Rated Sheathing		240	171	2:1	2:1	1.82	1.40
1/2" Gypsum Wallboard (Unblocked) ²	5d cooler nails - 7" edge spacing	340	171	2:1	2:1	1.28	1.40
15/32" Wood Structural Panels (Unblocked)	10d common nails - 6" edge spacing	480	342	2:1	2:1	0.91	0.70

¹ Shear capacities shown are for short term loading due to wind or seismic loading in Seismic Design Categories A, B, C, D₀, D₁, and D₂.

² Gypsum wallboard walls having aspect ratios exceeding 1.5:1 shall be blocked. Where shear walls are gypsum wallboard only, the maximum aspect ratio shall not exceed 2:1 in accordance with AWC/ANSI *Special Design Provisions for Wind and Seismic (SDPWS)* Table 4.3.4.

³ Shear capacities shown are for short term loading due to wind or seismic loading in Seismic Design Categories A, B, or C. Values shall not be permitted in Seismic Design Category D₀, D₁ or D₂.

⁴ The aspect ratio is permitted to be increased to a maximum value of 3.5:1 provided the unit shear capacity and sheathing type adjustment factor are adjusted in accordance with SDPWS Section 4.3.3.4.1 Exception 1 for wood structural panel shear walls or Exception 2 for structural fiberboard shear walls.

Table 3.17E Perforated Shear Wall Full Height Sheathing Adjustments

	Maximum Unrestrained Opening Height (ft - in.)				
	Window Height			Door Height	
	H/3	H/2	2H/3	5H/6	H
8' Wall	2 - 8	4 - 0	5 - 4	6 - 8	8 - 0
9' Wall	3 - 0	4 - 6	6 - 0	7 - 6	9 - 0
10' Wall	3 - 4	5 - 0	6 - 8	8 - 4	10 - 0
Percent Full-Height Sheathing on Segmented Shear Wall	Perforated Shear Wall Length Adjustment Factor ^{1,2,3}				
10%	1.00	1.43	1.82	2.17	2.50
20%	1.00	1.36	1.67	1.92	2.14
30%	1.00	1.30	1.54	1.72	1.88
40%	1.00	1.25	1.43	1.56	1.67
50%	1.00	1.20	1.33	1.43	1.50
60%	1.00	1.15	1.25	1.32	1.36
70%	1.00	1.11	1.18	1.22	1.25
80%	1.00	1.07	1.11	1.14	1.15
90%	1.00	1.03	1.05	1.06	1.07
100%	1.00	1.00	1.00	1.00	1.00

- 1 Full-height sheathing requirements in Tables 3.17A, or 3.17C shall be multiplied by the tabulated Perforated Shear Wall length increase factors to determine the required sheathing lengths for Perforated Shear Walls.
- 2 Shear Walls shall be blocked.
- 3 Interpolation of tabulated values is permitted.

Table 3.17F Segmented and Perforated Shear Wall Hold-down Capacity Requirements

Wall Height (ft)	Required Hold-down Connection Capacity (lbs) ^{1,2}	
	Wind	Seismic
8	3488	1912
9	3924	2151
10	4360	2390
12	5232	2868
14	6104	3346
16	6976	3824
18	7848	4302
20	8720	4780

- 1 Required hold-down capacities assume walls are sheathed in accordance with Section 3.4.4.2. For other wall sheathing types the tabulated hold-down capacity shall be divided by the appropriate sheathing type adjustment factor in Table 3.17D.
- 2 Hold-down capacities are tabulated per story. Required hold-down capacities shall be summed from the story above to the story below.

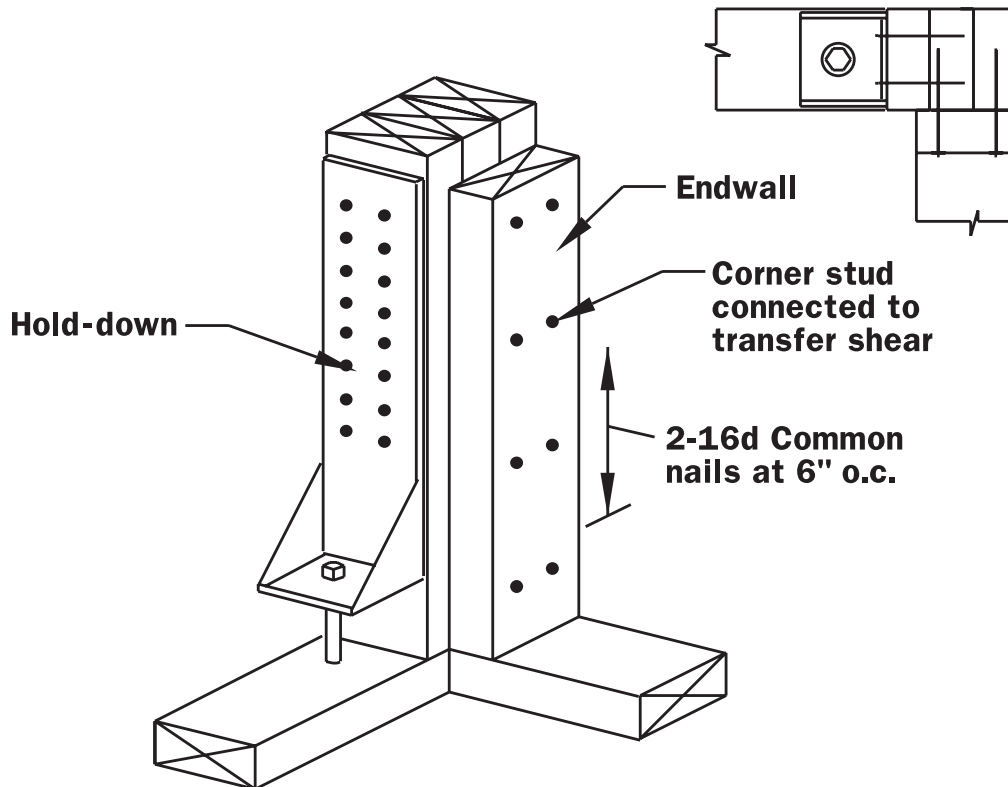


Table 3.18A Floor Joist Spans for Common Lumber Species(Residential Sleeping Areas) Live Load = 30 psf, $L/\Delta_{LL} = 360$ **LL = 30 psf**
 $L/\Delta_{LL} = 360$

			Dead Load = 10 psf				Dead Load = 20 psf			
			2x6	2x8	2x10	2x12	2x6	2x8	2x10	2x12
Maximum Floor Joist Spans ¹										
Joist Spacing	Species and Grade		(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)
12 in.	Douglas Fir-Larch	SS	12 - 6	16 - 6	21 - 0	25 - 7	12 - 6	16 - 6	21 - 0	25 - 7
	Douglas Fir-Larch	No.1	12 - 0	15 - 10	20 - 3	24 - 8	12 - 0	15 - 7	19 - 0	22 - 0
	Douglas Fir-Larch	No.2	11 - 10	15 - 7	19 - 10	23 - 4	11 - 8	14 - 9	18 - 0	20 - 11
	Douglas Fir-Larch	No.3	9 - 11	12 - 7	15 - 5	17 - 10	8 - 11	11 - 3	13 - 9	16 - 0
	Hem-Fir	SS	11 - 10	15 - 7	19 - 10	24 - 2	11 - 10	15 - 7	19 - 10	24 - 2
	Hem-Fir	No.1	11 - 7	15 - 3	19 - 5	23 - 7	11 - 7	15 - 3	18 - 9	21 - 9
	Hem-Fir	No.2	11 - 0	14 - 6	18 - 6	22 - 6	11 - 0	14 - 4	17 - 6	20 - 4
	Hem-Fir	No.3	9 - 8	12 - 4	15 - 0	17 - 5	8 - 8	11 - 0	13 - 5	15 - 7
	Southern Pine	SS	12 - 3	16 - 2	20 - 8	25 - 1	12 - 3	16 - 2	20 - 8	25 - 1
	Southern Pine	No.1	11 - 10	15 - 7	19 - 10	24 - 2	11 - 10	15 - 7	18 - 7	22 - 0
	Southern Pine	No.2	11 - 3	14 - 11	18 - 1	21 - 4	10 - 9	13 - 8	16 - 2	19 - 1
	Southern Pine	No.3	9 - 2	11 - 6	14 - 0	16 - 6	8 - 2	10 - 3	12 - 6	14 - 9
	Spruce-Pine Fir	SS	11 - 7	15 - 3	19 - 5	23 - 7	11 - 7	15 - 3	19 - 5	23 - 7
	Spruce-Pine Fir	No.1	11 - 3	14 - 11	19 - 0	23 - 0	11 - 3	14 - 7	17 - 9	20 - 7
	Spruce-Pine Fir	No.2	11 - 3	14 - 11	19 - 0	23 - 0	11 - 3	14 - 7	17 - 9	20 - 7
	Spruce-Pine Fir	No.3	9 - 8	12 - 4	15 - 0	17 - 5	8 - 8	11 - 0	13 - 5	15 - 7
16 in.	Douglas Fir-Larch	SS	11 - 4	15 - 0	19 - 1	23 - 3	11 - 4	15 - 0	19 - 1	23 - 3
	Douglas Fir-Larch	No.1	10 - 11	14 - 5	18 - 5	21 - 4	10 - 8	13 - 6	16 - 5	19 - 1
	Douglas Fir-Larch	No.2	10 - 9	14 - 2	17 - 5	20 - 3	10 - 1	12 - 9	15 - 7	18 - 1
	Douglas Fir-Larch	No.3	8 - 7	10 - 11	13 - 4	15 - 5	7 - 8	9 - 9	11 - 11	13 - 10
	Hem-Fir	SS	10 - 9	14 - 2	18 - 0	21 - 11	10 - 9	14 - 2	18 - 0	21 - 11
	Hem-Fir	No.1	10 - 6	13 - 10	17 - 8	21 - 1	10 - 6	13 - 4	16 - 3	18 - 10
	Hem-Fir	No.2	10 - 0	13 - 2	16 - 10	19 - 8	9 - 10	12 - 5	15 - 2	17 - 7
	Hem-Fir	No.3	8 - 5	10 - 8	13 - 0	15 - 1	7 - 6	9 - 6	11 - 8	13 - 6
	Southern Pine	SS	11 - 2	14 - 8	18 - 9	22 - 10	11 - 2	14 - 8	18 - 9	22 - 10
	Southern Pine	No.1	10 - 9	14 - 2	18 - 0	21 - 4	10 - 9	13 - 9	16 - 1	19 - 1
	Southern Pine	No.2	10 - 3	13 - 3	15 - 8	18 - 6	9 - 4	11 - 10	14 - 0	16 - 6
	Southern Pine	No.3	7 - 11	10 - 0	12 - 1	14 - 4	7 - 1	8 - 11	10 - 10	12 - 10
	Spruce-Pine Fir	SS	10 - 6	13 - 10	17 - 8	21 - 6	10 - 6	13 - 10	17 - 8	21 - 4
	Spruce-Pine Fir	No.1	10 - 3	13 - 6	17 - 2	19 - 11	9 - 11	12 - 7	15 - 5	17 - 10
	Spruce-Pine Fir	No.2	10 - 3	13 - 6	17 - 2	19 - 11	9 - 11	12 - 7	15 - 5	17 - 10
	Spruce-Pine Fir	No.3	8 - 5	10 - 8	13 - 0	15 - 1	7 - 6	9 - 6	11 - 8	13 - 6
19.2 in.	Douglas Fir-Larch	SS	10 - 8	14 - 1	18 - 0	21 - 10	10 - 8	14 - 1	18 - 0	21 - 4
	Douglas Fir-Larch	No.1	10 - 4	13 - 7	16 - 9	19 - 6	9 - 8	12 - 4	15 - 0	17 - 5
	Douglas Fir-Larch	No.2	10 - 1	13 - 0	15 - 11	18 - 6	9 - 3	11 - 8	14 - 3	16 - 6
	Douglas Fir-Larch	No.3	7 - 10	10 - 0	12 - 2	14 - 1	7 - 0	8 - 11	10 - 11	12 - 7
	Hem-Fir	SS	10 - 1	13 - 4	17 - 0	20 - 8	10 - 1	13 - 4	17 - 0	20 - 7
	Hem-Fir	No.1	9 - 10	13 - 0	16 - 7	19 - 3	9 - 7	12 - 2	14 - 10	17 - 2
	Hem-Fir	No.2	9 - 5	12 - 5	15 - 6	17 - 11	8 - 11	11 - 4	13 - 10	16 - 1
	Hem-Fir	No.3	7 - 8	9 - 9	11 - 10	13 - 9	6 - 10	8 - 8	10 - 7	12 - 4
	Southern Pine	SS	10 - 6	13 - 10	17 - 8	21 - 6	10 - 6	13 - 10	17 - 8	21 - 6
	Southern Pine	No.1	10 - 1	13 - 4	16 - 5	19 - 6	9 - 11	12 - 7	14 - 8	17 - 5
	Southern Pine	No.2	9 - 6	12 - 1	14 - 4	16 - 10	8 - 6	10 - 10	12 - 10	15 - 1
	Southern Pine	No.3	7 - 3	9 - 1	11 - 0	13 - 1	6 - 5	8 - 2	9 - 10	11 - 8
	Spruce-Pine Fir	SS	9 - 10	13 - 0	16 - 7	20 - 2	9 - 10	13 - 0	16 - 7	19 - 6
	Spruce-Pine Fir	No.1	9 - 8	12 - 9	15 - 8	18 - 3	9 - 1	11 - 6	14 - 1	16 - 3
	Spruce-Pine Fir	No.2	9 - 8	12 - 9	15 - 8	18 - 3	9 - 1	11 - 6	14 - 1	16 - 3
	Spruce-Pine Fir	No.3	7 - 8	9 - 9	11 - 10	13 - 9	6 - 10	8 - 8	10 - 7	12 - 4
24 in.	Douglas Fir-Larch	SS	9 - 11	13 - 1	16 - 8	20 - 3	9 - 11	13 - 1	16 - 5	19 - 1
	Douglas Fir-Larch	No.1	9 - 7	12 - 4	15 - 0	17 - 5	8 - 8	11 - 0	13 - 5	15 - 7
	Douglas Fir-Larch	No.2	9 - 3	11 - 8	14 - 3	16 - 6	8 - 3	10 - 5	12 - 9	14 - 9
	Douglas Fir-Larch	No.3	7 - 0	8 - 11	10 - 11	12 - 7	6 - 3	8 - 0	9 - 9	11 - 3
	Hem-Fir	SS	9 - 4	12 - 4	15 - 9	19 - 2	9 - 4	12 - 4	15 - 9	18 - 5
	Hem-Fir	No.1	9 - 2	12 - 1	14 - 10	17 - 2	8 - 7	10 - 10	13 - 3	15 - 5
	Hem-Fir	No.2	8 - 9	11 - 4	13 - 10	16 - 1	8 - 0	10 - 2	12 - 5	14 - 4
	Hem-Fir	No.3	6 - 10	8 - 8	10 - 7	12 - 4	6 - 2	7 - 9	9 - 6	11 - 0
	Southern Pine	SS	9 - 9	12 - 10	16 - 5	19 - 11	9 - 9	12 - 10	16 - 5	19 - 8
	Southern Pine	No.1	9 - 4	12 - 4	14 - 8	17 - 5	8 - 10	11 - 3	13 - 1	15 - 7
	Southern Pine	No.2	8 - 6	10 - 10	12 - 10	15 - 1	7 - 7	9 - 8	11 - 5	13 - 6
	Southern Pine	No.3	6 - 5	8 - 2	9 - 10	11 - 8	5 - 9	7 - 3	8 - 10	10 - 5
	Spruce-Pine Fir	SS	9 - 2	12 - 1	15 - 5	18 - 9	9 - 2	12 - 1	15 - 0	17 - 5
	Spruce-Pine Fir	No.1	9 - 0	11 - 6	14 - 1	16 - 3	8 - 1	10 - 3	12 - 7	14 - 7
	Spruce-Pine Fir	No.2	9 - 0	11 - 6	14 - 1	16 - 3	8 - 1	10 - 3	12 - 7	14 - 7
	Spruce-Pine Fir	No.3	6 - 10	8 - 8	10 - 7	12 - 4	6 - 2	7 - 9	9 - 6	11 - 0

Check sources for availability of lumber in lengths greater than 20 feet.

1. Spans checked for live load deflection only.

Table 3.18B Floor Joist Spans for Common Lumber Species(Residential Living Areas) Live Load = 40 psf, $L/\Delta_{LL} = 360$ **LL = 40 psf**
 $L/\Delta_{LL} = 360$

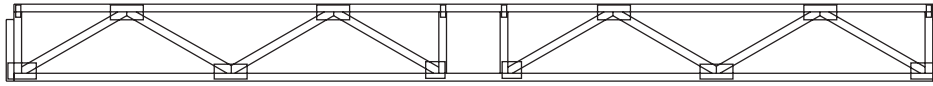
Joist Spacing	Species and Grade		Dead Load = 10 psf				Dead Load = 20 psf			
			2x6	2x8	2x10	2x12	2x6	2x8	2x10	2x12
			Maximum Floor Joist Spans ¹							
			(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)
12 in.	Douglas Fir-Larch	SS	11 - 4	15 - 0	19 - 1	23 - 3	11 - 4	15 - 0	19 - 1	23 - 3
	Douglas Fir-Larch	No.1	10 - 11	14 - 5	18 - 5	22 - 0	10 - 11	14 - 2	17 - 4	20 - 1
	Douglas Fir-Larch	No.2	10 - 9	14 - 2	18 - 0	20 - 11	10 - 8	13 - 6	16 - 5	19 - 1
	Douglas Fir-Larch	No.3	8 - 11	11 - 3	13 - 9	16 - 0	8 - 1	10 - 3	12 - 7	14 - 7
	Hem-Fir	SS	10 - 9	14 - 2	18 - 0	21 - 11	10 - 9	14 - 2	18 - 0	21 - 11
	Hem-Fir	No.1	10 - 6	13 - 10	17 - 8	21 - 6	10 - 6	13 - 10	17 - 1	19 - 10
	Hem-Fir	No.2	10 - 0	13 - 2	16 - 10	20 - 4	10 - 0	13 - 1	16 - 0	18 - 6
	Hem-Fir	No.3	8 - 8	11 - 0	13 - 5	15 - 7	7 - 11	10 - 0	12 - 3	14 - 3
	Southern Pine	SS	11 - 2	14 - 8	18 - 9	22 - 10	11 - 2	14 - 8	18 - 9	22 - 10
	Southern Pine	No.1	10 - 9	14 - 2	18 - 0	21 - 11	10 - 9	14 - 2	16 - 11	20 - 1
	Southern Pine	No.2	10 - 3	13 - 6	16 - 2	19 - 1	9 - 10	12 - 6	14 - 9	17 - 5
	Southern Pine	No.3	8 - 2	10 - 3	12 - 6	14 - 9	7 - 5	9 - 5	11 - 5	13 - 6
	Spruce-Pine Fir	SS	10 - 6	13 - 10	17 - 8	21 - 6	10 - 6	13 - 10	17 - 8	21 - 6
	Spruce-Pine Fir	No.1	10 - 3	13 - 6	17 - 3	20 - 7	10 - 3	13 - 3	16 - 3	18 - 10
	Spruce-Pine Fir	No.2	10 - 3	13 - 6	17 - 3	20 - 7	10 - 3	13 - 3	16 - 3	18 - 10
	Spruce-Pine Fir	No.3	8 - 8	11 - 0	13 - 5	15 - 7	7 - 11	10 - 0	12 - 3	14 - 3
16 in.	Douglas Fir-Larch	SS	10 - 4	13 - 7	17 - 4	21 - 1	10 - 4	13 - 7	17 - 4	21 - 1
	Douglas Fir-Larch	No.1	9 - 11	13 - 1	16 - 5	19 - 1	9 - 8	12 - 4	15 - 0	17 - 5
	Douglas Fir-Larch	No.2	9 - 9	12 - 9	15 - 7	18 - 1	9 - 3	11 - 8	14 - 3	16 - 6
	Douglas Fir-Larch	No.3	7 - 8	9 - 9	11 - 11	13 - 10	7 - 0	8 - 11	10 - 11	12 - 7
	Hem-Fir	SS	9 - 9	12 - 10	16 - 5	19 - 11	9 - 9	12 - 10	16 - 5	19 - 11
	Hem-Fir	No.1	9 - 6	12 - 7	16 - 0	18 - 10	9 - 6	12 - 2	14 - 10	17 - 2
	Hem-Fir	No.2	9 - 1	12 - 0	15 - 2	17 - 7	8 - 11	11 - 4	13 - 10	16 - 1
	Hem-Fir	No.3	7 - 6	9 - 6	11 - 8	13 - 6	6 - 10	8 - 8	10 - 7	12 - 4
	Southern Pine	SS	10 - 2	13 - 4	17 - 0	20 - 9	10 - 2	13 - 4	17 - 0	20 - 9
	Southern Pine	No.1	9 - 9	12 - 10	16 - 1	19 - 1	9 - 9	12 - 7	14 - 8	17 - 5
	Southern Pine	No.2	9 - 4	11 - 10	14 - 0	16 - 6	8 - 6	10 - 10	12 - 10	15 - 1
	Southern Pine	No.3	7 - 1	8 - 11	10 - 10	12 - 10	6 - 5	8 - 2	9 - 10	11 - 8
	Spruce-Pine Fir	SS	9 - 6	12 - 7	16 - 0	19 - 6	9 - 6	12 - 7	16 - 0	19 - 6
	Spruce-Pine Fir	No.1	9 - 4	12 - 3	15 - 5	17 - 10	9 - 1	11 - 6	14 - 1	16 - 3
	Spruce-Pine Fir	No.2	9 - 4	12 - 3	15 - 5	17 - 10	9 - 1	11 - 6	14 - 1	16 - 3
	Spruce-Pine Fir	No.3	7 - 6	9 - 6	11 - 8	13 - 6	6 - 10	8 - 8	10 - 7	12 - 4
19.2 in.	Douglas Fir-Larch	SS	9 - 8	12 - 10	16 - 4	19 - 10	9 - 8	12 - 10	16 - 4	19 - 6
	Douglas Fir-Larch	No.1	9 - 4	12 - 4	15 - 0	17 - 5	8 - 10	11 - 3	13 - 8	15 - 11
	Douglas Fir-Larch	No.2	9 - 2	11 - 8	14 - 3	16 - 6	8 - 5	10 - 8	13 - 0	15 - 1
	Douglas Fir-Larch	No.3	7 - 0	8 - 11	10 - 11	12 - 7	6 - 5	8 - 2	9 - 11	11 - 6
	Hem-Fir	SS	9 - 2	12 - 1	15 - 5	18 - 9	9 - 2	12 - 1	15 - 5	18 - 9
	Hem-Fir	No.1	9 - 0	11 - 10	14 - 10	17 - 2	8 - 9	11 - 1	13 - 6	15 - 8
	Hem-Fir	No.2	8 - 7	11 - 3	13 - 10	16 - 1	8 - 2	10 - 4	12 - 8	14 - 8
	Hem-Fir	No.3	6 - 10	8 - 8	10 - 7	12 - 4	6 - 3	7 - 11	9 - 8	11 - 3
	Southern Pine	SS	9 - 6	12 - 7	16 - 0	19 - 6	9 - 6	12 - 7	16 - 0	19 - 6
	Southern Pine	No.1	9 - 2	12 - 1	14 - 8	17 - 5	9 - 0	11 - 5	13 - 5	15 - 11
	Southern Pine	No.2	8 - 6	10 - 10	12 - 10	15 - 1	7 - 9	9 - 10	11 - 8	13 - 9
	Southern Pine	No.3	6 - 5	8 - 2	9 - 10	11 - 8	5 - 11	7 - 5	9 - 0	10 - 8
	Spruce-Pine Fir	SS	9 - 0	11 - 10	15 - 1	18 - 4	9 - 0	11 - 10	15 - 1	17 - 9
	Spruce-Pine Fir	No.1	8 - 9	11 - 6	14 - 1	16 - 3	8 - 3	10 - 6	12 - 10	14 - 10
	Spruce-Pine Fir	No.2	8 - 9	11 - 6	14 - 1	16 - 3	8 - 3	10 - 6	12 - 10	14 - 10
	Spruce-Pine Fir	No.3	6 - 10	8 - 8	10 - 7	12 - 4	6 - 3	7 - 11	9 - 8	11 - 3
24 in.	Douglas Fir-Larch	SS	9 - 0	11 - 11	15 - 2	18 - 5	9 - 0	11 - 11	15 - 0	17 - 5
	Douglas Fir-Larch	No.1	8 - 8	11 - 0	13 - 5	15 - 7	7 - 11	10 - 0	12 - 3	14 - 3
	Douglas Fir-Larch	No.2	8 - 3	10 - 5	12 - 9	14 - 9	7 - 6	9 - 6	11 - 8	13 - 6
	Douglas Fir-Larch	No.3	6 - 3	8 - 0	9 - 9	11 - 3	5 - 9	7 - 3	8 - 11	10 - 4
	Hem-Fir	SS	8 - 6	11 - 3	14 - 4	17 - 5	8 - 6	11 - 3	14 - 4	16 - 10
	Hem-Fir	No.1	8 - 4	10 - 10	13 - 3	15 - 5	7 - 10	9 - 11	12 - 1	14 - 0
	Hem-Fir	No.2	7 - 11	10 - 2	12 - 5	14 - 4	7 - 4	9 - 3	11 - 4	13 - 1
	Hem-Fir	No.3	6 - 2	7 - 9	9 - 6	11 - 0	5 - 7	7 - 1	8 - 8	10 - 1
	Southern Pine	SS	8 - 10	11 - 8	14 - 11	18 - 1	8 - 10	11 - 8	14 - 11	18 - 0
	Southern Pine	No.1	8 - 6	11 - 3	13 - 1	15 - 7	8 - 1	10 - 3	12 - 0	14 - 3
	Southern Pine	No.2	7 - 7	9 - 8	11 - 5	13 - 6	7 - 0	8 - 10	10 - 5	12 - 4
	Southern Pine	No.3	5 - 9	7 - 3	8 - 10	10 - 5	5 - 3	6 - 8	8 - 1	9 - 6
	Spruce-Pine Fir	SS	8 - 4	11 - 0	14 - 0	17 - 0	8 - 4	11 - 0	13 - 8	15 - 11
	Spruce-Pine Fir	No.1	8 - 1	10 - 3	12 - 7	14 - 7	7 - 5	9 - 5	11 - 6	13 - 4
	Spruce-Pine Fir	No.2	8 - 1	10 - 3	12 - 7	14 - 7	7 - 5	9 - 5	11 - 6	13 - 4
	Spruce-Pine Fir	No.3	6 - 2	7 - 9	9 - 6	11 - 0	5 - 7	7 - 1	8 - 8	10 - 1

Check sources for availability of lumber in lengths greater than 20 feet.

1. Spans checked for live load deflection only.

Table 3.19 Representative Metal Plate Connected Wood Floor Truss Spans

Actual Design Spans Shall Be Obtained from the Truss Manufacturer
(Top Chord Live Load = 40 psf)



		Top Chord Dead Load = 5 psf Bottom Chord Dead Load = 5 psf		Top Chord Dead Load = 10 psf Bottom Chord Dead Load = 5 psf		Top Chord Dead Load = 10 psf Bottom Chord Dead Load = 10 psf	
		16" o.c.	24" o.c.	16" o.c.	24" o.c.	16" o.c.	24" o.c.
Representative Floor Truss Spans							
Total Truss Depth	Species and Grade	(ft. in.)	(ft. in.)	(ft. in.)	(ft. in.)	(ft. in.)	(ft. in.)
12 in.	Douglas Fir-Larch SS	21-0	20-0	21-0	20-0	21-0	20-0
	Douglas Fir-Larch #1	21-0	19-0	21-0	17-0	19-4	16-7
	Douglas Fir-Larch #2	20-4	17-0	20-0	16-4	19-0	15-9
	Hem-Fir SS	18-6	18-6	18-6	18-4	18-4	18-0
	Hem-Fir #1	18-6	17-0	18-3	16-0	18-0	15-2
	Hem-Fir #2	18-6	16-0	18-0	14-4	17-9	14-2
	Southern Pine SS	21-0	20-0	21-0	20-0	21-0	20-0
	Southern Pine #1	21-0	19-0	21-0	17-7	20-0	17-0
	Southern Pine #2	20-0	17-0	19-8	16-4	19-0	15-9
	Spruce-Pine-Fir SS	17-6	14-9	17-6	14-8	17-0	14-4
	Spruce-Pine-Fir #1	17-0	13-9	16-8	13-6	16-0	13-0
	Spruce-Pine-Fir #2	16-6	13-9	16-0	12-0	15-6	11-6
16 in.	Douglas Fir-Larch SS	26-0	26-0	26-0	25-2	26-0	23-0
	Douglas Fir-Larch #1	26-0	21-4	25-6	20-3	23-4	18-4
	Douglas Fir-Larch #2	24-6	19-6	23-4	18-8	21-1	16-8
	Hem-Fir SS	25-0	25-0	25-0	24-0	25-0	22-0
	Hem-Fir #1	24-6	20-0	24-0	19-0	22-0	17-0
	Hem-Fir #2	22-6	18-0	21-8	17-2	20-0	15-3
	Southern Pine SS	26-0	26-0	26-0	25-2	26-0	23-0
	Southern Pine #1	25-0	22-0	25-9	20-9	24-0	18-9
	Southern Pine #2	24-0	19-1	23-0	18-2	21-0	16-4
	Spruce-Pine-Fir SS	24-0	21-3	24-2	20-2	23-2	18-8
	Spruce-Pine-Fir #1	21-0	16-9	20-0	16-0	18-2	14-3
	Spruce-Pine-Fir #2	21-0	16-9	20-0	16-0	18-2	14-3
20 in.	Douglas Fir-Larch SS	26-0	26-0	26-0	26-0	26-0	26-0
	Douglas Fir-Larch #1	26-0	24-3	26-0	23-0	26-0	20-6
	Douglas Fir-Larch #2	26-0	22-2	26-0	21-0	24-1	18-9
	Hem-Fir SS	26-0	26-0	26-0	26-0	26-0	24-9
	Hem-Fir #1	26-0	22-7	26-0	21-7	25-0	19-4
	Hem-Fir #2	25-6	20-5	24-7	19-7	22-2	17-3
	Southern Pine SS	26-0	26-0	26-0	26-0	26-0	26-0
	Southern Pine #1	26-0	24-6	26-0	23-3	26-0	20-9
	Southern Pine #2	26-0	21-3	26-0	20-6	24-0	18-4
	Spruce-Pine-Fir SS	26-0	24-1	26-0	23-0	26-0	21-0
	Spruce-Pine-Fir #1	23-6	18-9	22-2	18-0	20-6	16-1
	Spruce-Pine-Fir #2	23-6	18-9	22-2	18-0	20-6	16-1
24 in.	Douglas Fir-Larch SS	26-0	26-0	26-0	26-0	26-0	26-0
	Douglas Fir-Larch #1	26-0	26-0	26-0	25-4	26-0	23-0
	Douglas Fir-Larch #2	26-0	24-3	26-0	23-2	26-0	20-9
	Hem-Fir SS	26-0	26-0	26-0	26-0	26-0	26-0
	Hem-Fir #1	26-0	25-0	26-0	24-0	26-0	21-4
	Hem-Fir #2	26-0	22-8	26-0	21-4	24-9	19-2
	Southern Pine SS	26-0	26-0	26-0	26-0	26-0	26-0
	Southern Pine #1	26-0	26-0	26-0	25-9	26-0	23-6
	Southern Pine #2	26-0	24-0	26-0	23-0	26-0	20-4
	Spruce-Pine-Fir SS	26-0	26-0	26-0	25-3	26-0	23-4
	Spruce-Pine-Fir #1	26-0	20-8	24-9	20-0	23-0	17-9
	Spruce-Pine-Fir #2	26-0	20-8	24-9	20-0	23-0	17-9

See Table 3.19 footnotes.

Footnotes to Table 3.19

- ♦ This table provides example spans for the parameters shown and is not intended to be used for actual design purposes. Spans have been determined in accordance with the 2007 edition of the Truss Plate Institute's *National Design Standard for Metal Plate Connected Wood Truss Construction, ANSI/TPI 1-07*, and the 2009 *International Residential Code® (IRC®)*. Truss spans based on different loads, lumber species and grades, truss depths and web configurations are possible. Floor spans greater than 26 feet are possible but are limited by the context of this manual. Contact a truss manufacturer for actual floor truss designs and solutions to each specific application.
- ♦ This table applies only to wood floor trusses that are shop-built and designed and manufactured in accordance with ANSI/TPI 1.
- ♦ The spans shown in this table apply to floor trusses used in enclosed structures or where the moisture content in use does not exceed 19 percent for an extended period of time.
- ♦ All lumber for the floor trusses in this table is 2x4 oriented flatwise. The maximum panel length in these trusses is 30 inches.

Table 3.20A1 Maximum Exterior Loadbearing¹ and Non-Loadbearing Stud Lengths for Common Lumber Species Resisting Interior Zone Wind Loads - Stud Deflection Limit = H/180
(Fully Sheathed with a Minimum Sheathing Material)^a

**Exposure B
H/180**

Wind Speed 3-second gust (mph) (See Figure 1.1)			90			95			100			105		
Stud Spacing (in.)	Species	Grade	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8
Maximum Allowable Stud Length (ft-in.) ¹														
12	DFL	SS	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	DFL	No.1	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	DFL	No.2	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	DFL	No.3/Stud	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13-11	20-0†	20-0†
	DFL	Standard	14-0††	-	-	14-0††	-	-	14-0††	-	-	13-6	-	-
	HF	SS	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	HF	No.1	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	HF	No.2	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13-7	20-0†	20-0†
	HF	No.3/Stud	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13-8	20-0†	20-0†	13-2	20-0†	20-0†
	HF	Standard	14-0††	-	-	14-0††	-	-	13-8	-	-	13-2	-	-
	SP	SS	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	SP	No.1	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	SP	No.2	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13-11	20-0†	20-0†
	SP	No.3	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13-7	20-0†	20-0†
	SP	Stud	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13-7	20-0†	20-0†
	SP	Standard	13-8	-	-	13-7	-	-	12-10	-	-	12-2	-	-
16	SPF	SS	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	SPF	No.1	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13-11	20-0†	20-0†
	SPF	No.2	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13-11	20-0†	20-0†
	SPF	No.3/Stud	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13-8	20-0†	20-0†	13-2	20-0†	20-0†
	SPF	Standard	14-0††	-	-	14-0††	-	-	13-8	-	-	13-2	-	-
	DFL	SS	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	DFL	No.1	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13-11	20-0†	20-0†	13-6	20-0†	20-0†
	DFL	No.2	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13-8	20-0†	20-0†	13-2	20-0†	20-0†
	DFL	No.3/Stud	13-6	20-0†	20-0†	13-6	20-0†	20-0†	13-0	20-0†	20-0†	12-7	20-0†	20-0†
	DFL	Standard	13-0	-	-	12-11	-	-	12-2	-	-	11-7	-	-
	HF	SS	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13-8	20-0†	20-0†	13-2	20-0†	20-0†
	HF	No.1	13-10	20-0†	20-0†	13-10	20-0†	20-0†	13-4	20-0†	20-0†	12-11	20-0†	20-0†
	HF	No.2	13-2	20-0†	20-0†	13-2	20-0†	20-0†	12-8	20-0†	20-0†	12-3	19-8	20-0†
	HF	No.3/Stud	12-10	20-0†	20-0†	12-9	20-0†	20-0†	12-4	19-10	20-0†	11-11	19-2	20-0†
	HF	Standard	12-8	-	-	12-7	-	-	11-11	-	-	11-4	-	-
24	SP	SS	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13-9	20-0†	20-0†
	SP	No.1	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13-8	20-0†	20-0†	13-2	20-0†	20-0†
	SP	No.2	13-6	20-0†	20-0†	13-6	20-0†	20-0†	13-0	20-0†	20-0†	12-7	20-0†	20-0†
	SP	No.3	13-2	20-0†	20-0†	13-2	20-0†	20-0†	12-8	19-10	20-0†	12-3	18-10	20-0†
	SP	Stud	13-2	20-0†	20-0†	13-2	20-0†	20-0†	12-8	19-10	20-0†	12-3	18-10	20-0†
	SP	Standard	11-10	-	-	11-8	-	-	11-0	-	-	10-5	-	-
	SPF	SS	13-10	20-0†	20-0†	13-10	20-0†	20-0†	13-4	20-0†	20-0†	12-11	20-0†	20-0†
	SPF	No.1	13-6	20-0†	20-0†	13-6	20-0†	20-0†	13-0	20-0†	20-0†	12-7	20-0†	20-0†
	SPF	No.2	13-6	20-0†	20-0†	13-6	20-0†	20-0†	13-0	20-0†	20-0†	12-7	20-0†	20-0†
	SPF	No.3/Stud	12-10	20-0†	20-0†	12-9	20-0†	20-0†	12-4	19-10	20-0†	11-11	19-2	20-0†
	SPF	Standard	12-8	-	-	12-7	-	-	11-11	-	-	11-4	-	-
	DFL	SS	13-1	20-0†	20-0†	13-0	20-0†	20-0†	12-7	20-0†	20-0†	12-2	19-6	20-0†
	DFL	No.1	12-7	19-10	20-0†	12-6	19-10	20-0†	12-1	19-5	20-0†	11-8	18-9	20-0†
	DFL	No.2	12-4	19-5	20-0†	12-3	19-5	20-0†	11-10	19-0	20-0†	11-5	18-5	20-0†
	DFL	No.3/Stud	11-10	18-2	20-0†	11-9	18-2	20-0†	11-4	17-6	20-0†	10-11	16-7	20-0†
	DFL	Standard	10-7	-	-	10-5	-	-	9-10	-	-	9-4	-	-
24	HF	SS	12-4	19-5	20-0†	12-3	19-5	20-0†	11-10	19-0	20-0†	11-5	18-5	20-0†
	HF	No.1	12-1	19-0	20-0†	12-0	19-0	20-0†	11-7	18-7	20-0†	11-2	18-0	20-0†
	HF	No.2	11-6	18-2	20-0†	11-5	18-2	20-0†	11-0	17-8	20-0†	10-8	17-1	20-0†
	HF	No.3/Stud	11-3	17-8	20-0†	11-1	17-8	20-0†	10-9	17-0	20-0†	10-4	16-2	20-0†
	HF	Standard	10-4	-	-	10-2	-	-	9-7	-	-	9-1	-	-
	SP	SS	12-10	20-0†	20-0†	12-9	20-0†	20-0†	12-4	19-10	20-0†	11-11	19-2	20-0†
	SP	No.1	12-4	19-5	20-0†	12-3	19-5	20-0†	11-10	19-0	20-0†	11-5	18-5	20-0†
	SP	No.2	11-10	18-7	20-0†	11-9	18-7	20-0†	11-4	18-2	20-0†	10-11	17-7	20-0†
	SP	No.3	11-3	16-8	20-0†	11-1	16-8	20-0†	10-6	15-11	20-0†	10-0	15-2	19-5
	SP	Stud	11-3	16-8	20-0†	11-1	16-8	20-0†	10-6	15-11	20-0†	10-0	15-2	19-5
	SP	Standard	9-8	-	-	9-4	-	-	8-10	-	-	8-5	-	-
	SPF	SS	12-1	19-0	20-0†	12-0	19-0	20-0†	11-7	18-7	20-0†	11-2	18-0	20-0†
	SPF	No.1	11-10	18-7	20-0†	11-9	18-7	20-0†	11-4	18-2	20-0†	10-11	17-7	20-0†
	SPF	No.2	11-10	18-7	20-0†	11-9	18-7	20-0†	11-4	18-2	20-0†	10-11	17-7	20-0†
	SPF	No.3/Stud	11-3	17-8	20-0†	11-1	17-8	20-0†	10-9	17-0	20-0†	10-4	16-2	20-0†
	SPF	Standard	10-4	-	-	10-2	-	-	9-7	-	-	9-1	-	-

See Table 3.20A footnotes.

Table 3.20A1 Maximum Exterior Loadbearing¹ and Non-Loadbearing Stud Lengths for Common Lumber Species Resisting Interior Zone Wind Loads - Stud Deflection Limit = H/180
(Fully Sheathed with a Minimum Sheathing Material)^a

**Exposure B
H/180**

Wind Speed 3-second gust (mph) (See Figure 1.1)			110			115			120			130			140		
Stud Spacing (in.)	Species	Grade	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8
Maximum Allowable Stud Length (ft.-in.) ¹																	
12	DFL	SS	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺	13-4	20-0 ⁺	20-0 ⁺	12-8	20-0 ⁺	20-0 ⁺
	DFL	No.1	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0	20-0 ⁺	20-0 ⁺	13-7	20-0 ⁺	20-0 ⁺	12-10	20-0 ⁺	20-0 ⁺	12-2	19-7	20-0 ⁺
	DFL	No.2	14-0 ⁺	20-0 ⁺	20-0 ⁺	13-8	20-0 ⁺	20-0 ⁺	13-3	20-0 ⁺	20-0 ⁺	12-7	20-0 ⁺	20-0 ⁺	11-11	19-2	20-0 ⁺
	DFL	No.3/Stud	13-6	20-0 ⁺	20-0 ⁺	13-1	20-0 ⁺	20-0 ⁺	12-8	20-0 ⁺	20-0 ⁺	12-0	19-2	20-0 ⁺	11-5	17-8	20-0 ⁺
	DFL	Standard	12-10	-	-	12-3	-	-	11-9	-	-	10-9	-	-	9-11	-	-
	HF	SS	14-0 ⁺	20-0 ⁺	20-0 ⁺	13-8	20-0 ⁺	20-0 ⁺	13-3	20-0 ⁺	20-0 ⁺	12-7	20-0 ⁺	20-0 ⁺	11-11	19-2	20-0 ⁺
	HF	No.1	13-10	20-0 ⁺	20-0 ⁺	13-5	20-0 ⁺	20-0 ⁺	13-0	20-0 ⁺	20-0 ⁺	12-3	19-9	20-0 ⁺	11-8	18-9	20-0 ⁺
	HF	No.2	13-2	20-0 ⁺	20-0 ⁺	12-9	20-0 ⁺	20-0 ⁺	12-4	19-10	20-0 ⁺	11-8	18-9	20-0 ⁺	11-1	17-10	20-0 ⁺
	HF	No.3/Stud	12-9	20-0 ⁺	20-0 ⁺	12-5	19-10	20-0 ⁺	12-0	19-3	20-0 ⁺	11-4	18-3	20-0 ⁺	10-9	17-3	20-0 ⁺
	HF	Standard	12-7	-	-	12-0	-	-	11-5	-	-	10-6	-	-	9-8	-	-
	SP	SS	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺	13-10	20-0 ⁺	20-0 ⁺	13-1	20-0 ⁺	20-0 ⁺	12-5	20-0	20-0 ⁺
	SP	No.1	14-0 ⁺	20-0 ⁺	20-0 ⁺	13-8	20-0 ⁺	20-0 ⁺	13-3	20-0 ⁺	20-0 ⁺	12-7	20-0 ⁺	20-0 ⁺	11-11	19-2	20-0 ⁺
	SP	No.2	13-6	20-0 ⁺	20-0 ⁺	13-1	20-0 ⁺	20-0 ⁺	12-8	20-0 ⁺	20-0 ⁺	12-0	19-3	20-0 ⁺	11-5	18-3	20-0 ⁺
	SP	No.3	13-2	20-0 ⁺	20-0 ⁺	12-9	19-11	20-0 ⁺	12-4	19-0	20-0 ⁺	11-6	17-5	20-0 ⁺	10-7	16-1	20-0 ⁺
	SP	Stud	13-2	20-0 ⁺	20-0 ⁺	12-9	19-11	20-0 ⁺	12-4	19-0	20-0 ⁺	11-6	17-5	20-0 ⁺	10-7	16-1	20-0 ⁺
	SP	Standard	11-7	-	-	11-1	-	-	10-7	-	-	9-8	-	-	9-0	-	-
16	SPF	SS	13-10	20-0 ⁺	20-0 ⁺	13-5	20-0 ⁺	20-0 ⁺	13-0	20-0 ⁺	20-0 ⁺	12-3	19-9	20-0 ⁺	11-8	18-9	20-0 ⁺
	SPF	No.1	13-6	20-0 ⁺	20-0 ⁺	13-1	20-0 ⁺	20-0 ⁺	12-8	20-0 ⁺	20-0 ⁺	12-0	19-3	20-0 ⁺	11-5	18-3	20-0 ⁺
	SPF	No.2	13-6	20-0 ⁺	20-0 ⁺	13-1	20-0 ⁺	20-0 ⁺	12-8	20-0 ⁺	20-0 ⁺	12-0	19-3	20-0 ⁺	11-5	18-3	20-0 ⁺
	SPF	No.3/Stud	12-9	20-0 ⁺	20-0 ⁺	12-5	19-10	20-0 ⁺	12-0	19-3	20-0 ⁺	11-4	18-3	20-0 ⁺	10-9	17-3	20-0 ⁺
	SPF	Standard	12-7	-	-	12-0	-	-	11-5	-	-	10-6	-	-	9-8	-	-
	DFL	SS	13-7	20-0 ⁺	20-0 ⁺	13-2	20-0 ⁺	20-0 ⁺	12-9	20-0 ⁺	20-0 ⁺	12-1	19-4	20-0 ⁺	11-5	18-5	20-0 ⁺
	DFL	No.1	13-0	20-0 ⁺	20-0 ⁺	12-8	20-0 ⁺	20-0 ⁺	12-3	19-8	20-0 ⁺	11-7	18-8	20-0 ⁺	11-0	17-8	20-0 ⁺
	DFL	No.2	12-9	20-0 ⁺	20-0 ⁺	12-5	19-10	20-0 ⁺	12-0	19-3	20-0 ⁺	11-4	18-3	20-0 ⁺	10-9	17-4	20-0 ⁺
	DFL	No.3/Stud	12-2	19-7	20-0 ⁺	11-10	18-8	20-0 ⁺	11-6	17-10	20-0 ⁺	10-10	16-5	20-0 ⁺	10-1	15-2	19-6
	DFL	Standard	11-0	-	-	10-6	-	-	10-0	-	-	9-3	-	-	8-6	-	-
	HF	SS	12-9	20-0 ⁺	20-0 ⁺	12-5	19-10	20-0 ⁺	12-0	19-3	20-0 ⁺	11-4	18-3	20-0 ⁺	10-9	17-4	20-0 ⁺
	HF	No.1	12-6	20-0 ⁺	20-0 ⁺	12-1	19-5	20-0 ⁺	11-9	18-10	20-0 ⁺	11-1	17-10	20-0 ⁺	10-7	16-11	20-0 ⁺
	HF	No.2	11-10	19-1	20-0 ⁺	11-6	18-6	20-0 ⁺	11-2	17-11	20-0 ⁺	10-7	17-0	20-0 ⁺	10-0	16-1	20-0 ⁺
	HF	No.3/Stud	11-7	18-6	20-0 ⁺	11-2	18-0	20-0 ⁺	10-10	17-5	20-0 ⁺	10-3	16-0	20-0 ⁺	9-9	14-9	19-0
	HF	Standard	10-9	-	-	10-3	-	-	9-10	-	-	9-0	-	-	8-4	-	-
	SP	SS	13-4	20-0 ⁺	20-0 ⁺	12-11	20-0 ⁺	20-0 ⁺	12-6	20-0 ⁺	20-0 ⁺	11-10	19-0	20-0 ⁺	11-3	18-1	20-0 ⁺
24	SP	No.1	12-9	20-0 ⁺	20-0 ⁺	12-5	19-10	20-0 ⁺	12-0	19-3	20-0 ⁺	11-4	18-3	20-0 ⁺	10-9	17-4	20-0 ⁺
	SP	No.2	12-2	19-7	20-0 ⁺	11-10	19-0	20-0 ⁺	11-6	18-5	20-0 ⁺	10-10	17-5	20-0 ⁺	10-4	16-6	20-0 ⁺
	SP	No.3	11-9	17-11	20-0 ⁺	11-3	17-1	20-0 ⁺	10-9	16-4	20-0 ⁺	9-10	15-0	20-0 ⁺	9-1	13-10	17-8
	SP	Stud	11-9	17-11	20-0 ⁺	11-3	17-1	20-0 ⁺	10-9	16-4	20-0 ⁺	9-10	15-0	20-0 ⁺	9-1	13-10	17-8
	SP	Standard	9-11	-	-	9-6	-	-	9-1	-	-	8-4	-	-	-	-	-
	SPF	SS	12-6	20-0 ⁺	20-0 ⁺	12-1	19-5	20-0 ⁺	11-9	18-10	20-0 ⁺	11-1	17-10	20-0 ⁺	10-7	16-11	20-0 ⁺
	SPF	No.1	12-2	19-7	20-0 ⁺	11-10	19-0	20-0 ⁺	11-6	18-5	20-0 ⁺	10-10	17-5	20-0 ⁺	10-4	16-6	20-0 ⁺
	SPF	No.2	12-2	19-7	20-0 ⁺	11-10	19-0	20-0 ⁺	11-6	18-5	20-0 ⁺	10-10	17-5	20-0 ⁺	10-4	16-6	20-0 ⁺
	SPF	No.3/Stud	11-7	18-6	20-0 ⁺	11-2	18-0	20-0 ⁺	10-10	17-5	20-0 ⁺	10-3	16-0	20-0 ⁺	9-9	14-9	19-0
	SPF	Standard	10-9	-	-	10-3	-	-	9-10	-	-	9-0	-	-	8-4	-	-
	DFL	SS	11-9	18-11	20-0 ⁺	11-5	18-4	20-0 ⁺	11-1	17-9	20-0 ⁺	10-6	16-10	20-0 ⁺	9-11	16-0	20-0 ⁺
	DFL	No.1	11-4	18-2	20-0 ⁺	11-0	17-7	20-0 ⁺	10-8	17-1	20-0 ⁺	10-1	16-2	20-0 ⁺	9-7	15-4	20-0 ⁺
	DFL	No.2	11-1	17-10	20-0 ⁺	10-9	17-3	20-0 ⁺	10-5	16-9	20-0 ⁺	9-10	15-10	20-0 ⁺	9-4	15-0	20-0 ⁺
	DFL	No.3/Stud	10-6	15-9	20-0 ⁺	10-0	15-1	19-5	9-7	14-4	18-6	8-9	13-2	17-0	8-1	12-2	15-8
	DFL	Standard	8-10	-	-	8-6	-	-	8-1	-	-	-	-	-	-	-	-
	HF	SS	11-1	17-10	20-0 ⁺	10-9	17-3	20-0 ⁺	10-5	16-9	20-0 ⁺	9-10	15-10	20-0 ⁺	9-4	15-0	20-0 ⁺
24	HF	No.1	10-10	17-5	20-0 ⁺	10-6	16-10	20-0 ⁺	10-2	16-4	20-0 ⁺	9-8	15-6	20-0 ⁺	9-2	14-8	19-8
	HF	No.2	10-4	16-7	20-0 ⁺	10-0	16-0	20-0 ⁺	9-8	15-7	20-0 ⁺	9-2	14-9	19-8	8-9	14-0	18-8
	HF	No.3/Stud	10-0	15-4	19-10	9-9	14-8	18-11	9-4	14-0	18-1	8-7	12-10	16-7	7-11	11-10	15-3
	HF	Standard	8-8	-	-	8-3	-	-	7-11	-	-	-	-	-	-	-	-
	SP	SS	11-7	18-6	20-0 ⁺	11-2	18-0	20-0 ⁺	10-10	17-5	20-0 ⁺	10-3	16-6	20-0 ⁺	9-9	15-8	20-0 ⁺
	SP	No.1	11-1	17-10	20-0 ⁺	10-9	17-3	20-0 ⁺	10-5	16-9	20-0 ⁺	9-10	15-10	20-0 ⁺	9-4	15-0	20-0 ⁺
	SP	No.2	10-7	17-0	20-0 ⁺	10-3	16-6	20-0 ⁺	10-0	16-0	20-0 ⁺	9-5	15-1	20-0 ⁺	8-11	14-4	19-2
	SP	No.3	9-6	14-5	18-5	9-0	13-9	17-7	8-8	13-1	16-10	7-11	12-0	15-5	-	11-1	14-3
	SP	Stud	9-6	14-5	18-5	9-0	13-9	17-7	8-8	13-1	16-10	7-11	12-0	15-5	-	11-1	14-3
	SP	Standard	8-0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SPF	SS	10-10	17-5	20-0 ⁺	10-6	16-10	20-0 ⁺	10-2	16-4	20-0 ⁺	9-8	15-6	20-0 ⁺	9-2	14-8	19-8
	SPF	No.1	10-7	17-0	20-0 ⁺	10-3	16-6	20-0 ⁺	10-0	16-0	20-0 ⁺	9-5	15-1	20-0 ⁺	8-11	14-4	19-2
	SPF	No.2	10-7	17-0	20-0 ⁺	10-3	16-6	20-0 ⁺	10-0	16-0	20-0 ⁺	9-5	15-1	20-0 ⁺	8-11	14-4	19-2
	SPF	No.3/Stud	10-0	15-4	19-10	9-9	14-8	18-11	9-4	14-0	18-1	8-7	12-10	16-7	7-11	11-10	15-3
	SPF	Standard	8-8	-	-	8-3	-	-	7-11	-	-	-	-	-	-	-	-

See Table 3.20A footnotes.

Table 3.20A1 Maximum Exterior Loadbearing¹ and Non-Loadbearing Stud Lengths for Common Lumber Species Resisting Interior Zone Wind Loads - Stud Deflection Limit = H/180
(Fully Sheathed with a Minimum Sheathing Material)^a

**Exposure B
H/180**

Wind Speed 3-second gust (mph) (See Figure 1.1)			150			160			170			180			195		
Stud Spacing (in.)	Species	Grade	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8
Maximum Allowable Stud Length (ft.-in.) ¹																	
12	DFL	SS	12 - 1	19 - 5	20-0 ⁺	11 - 6	18 - 6	20-0 ⁺	11 - 1	17 - 9	20-0 ⁺	10 - 8	17 - 1	20-0 ⁺	10 - 1	16 - 2	20-0 ⁺
	DFL	No.1	11 - 7	18 - 8	20-0 ⁺	11 - 1	17 - 10	20-0 ⁺	10 - 8	17 - 1	20-0 ⁺	10 - 3	16 - 5	20-0 ⁺	9 - 8	15 - 6	20-0 ⁺
	DFL	No.2	11 - 4	18 - 3	20-0 ⁺	10 - 10	17 - 5	20-0 ⁺	10 - 5	16 - 9	20-0 ⁺	10 - 0	16 - 1	20-0 ⁺	9 - 6	15 - 2	20-0 ⁺
	DFL	No.3/Stud	10 - 10	16 - 5	20-0 ⁺	10 - 2	15 - 4	19 - 9	9 - 7	14 - 4	18 - 6	9 - 0	13 - 6	17 - 5	8 - 3	12 - 5	16 - 0
	DFL	Standard	9 - 3	-	-	8 - 7	-	-	8 - 1	-	-	-	-	-	-	-	-
	HF	SS	11 - 4	18 - 3	20-0 ⁺	10 - 10	17 - 5	20-0 ⁺	10 - 5	16 - 9	20-0 ⁺	10 - 0	16 - 1	20-0 ⁺	9 - 6	15 - 2	20-0 ⁺
	HF	No.1	11 - 1	17 - 10	20-0 ⁺	10 - 8	17 - 1	20-0 ⁺	10 - 2	16 - 4	20-0 ⁺	9 - 9	15 - 9	20-0 ⁺	9 - 3	14 - 10	19 - 10
	HF	No.2	10 - 7	17 - 0	20-0 ⁺	10 - 1	16 - 3	20-0 ⁺	9 - 8	15 - 7	20-0 ⁺	9 - 4	14 - 11	20 - 0	8 - 10	14 - 2	18 - 11
	HF	No.3/Stud	10 - 3	16 - 0	20-0 ⁺	9 - 10	14 - 11	19 - 3	9 - 4	14 - 0	18 - 0	8 - 9	13 - 2	16 - 11	8 - 0	12 - 1	15 - 7
	HF	Standard	9 - 0	-	-	8 - 5	-	-	7 - 11	-	-	-	-	-	-	-	-
	SP	SS	11 - 10	19 - 0	20-0 ⁺	11 - 4	18 - 2	20-0 ⁺	10 - 10	17 - 5	20-0 ⁺	10 - 5	16 - 9	20-0 ⁺	9 - 10	15 - 10	20-0 ⁺
	SP	No.1	11 - 4	18 - 3	20-0 ⁺	10 - 10	17 - 5	20-0 ⁺	10 - 5	16 - 9	20-0 ⁺	10 - 0	16 - 1	20-0 ⁺	9 - 6	15 - 2	20-0 ⁺
	SP	No.2	10 - 10	17 - 5	20-0 ⁺	10 - 4	16 - 8	20-0 ⁺	9 - 11	16 - 0	20-0 ⁺	9 - 7	15 - 4	20-0 ⁺	9 - 0	14 - 6	19 - 4
	SP	No.3	9 - 10	15 - 0	19 - 2	9 - 2	14 - 0	17 - 11	8 - 7	13 - 1	16 - 9	8 - 1	12 - 4	15 - 9	-	11 - 4	14 - 6
	SP	Stud	9 - 10	15 - 0	19 - 2	9 - 2	14 - 0	17 - 11	8 - 7	13 - 1	16 - 9	8 - 1	12 - 4	15 - 9	-	11 - 4	14 - 6
	SP	Standard	8 - 4	-	-	7 - 9	-	-	-	-	-	-	-	-	-	-	-
	SPF	SS	11 - 1	17 - 10	20-0 ⁺	10 - 8	17 - 1	20-0 ⁺	10 - 2	16 - 4	20-0 ⁺	9 - 9	15 - 9	20-0 ⁺	9 - 3	14 - 10	19 - 10
	SPF	No.1	10 - 10	17 - 5	20-0 ⁺	10 - 4	16 - 8	20-0 ⁺	9 - 11	16 - 0	20-0 ⁺	9 - 7	15 - 4	20-0 ⁺	9 - 0	14 - 6	19 - 4
	SPF	No.2	10 - 10	17 - 5	20-0 ⁺	10 - 4	16 - 8	20-0 ⁺	9 - 11	16 - 0	20-0 ⁺	9 - 7	15 - 4	20-0 ⁺	9 - 0	14 - 6	19 - 4
	SPF	No.3/Stud	10 - 3	16 - 0	20-0 ⁺	9 - 10	14 - 11	19 - 3	9 - 4	14 - 0	18 - 0	8 - 9	13 - 2	16 - 11	8 - 0	12 - 1	15 - 7
	SPF	Standard	9 - 0	-	-	8 - 5	-	-	7 - 11	-	-	-	-	-	-	-	-
16	DFL	SS	10 - 11	17 - 6	20-0 ⁺	10 - 5	16 - 9	20-0 ⁺	10 - 0	16 - 1	20-0 ⁺	9 - 7	15 - 5	20-0 ⁺	9 - 1	14 - 7	19 - 6
	DFL	No.1	10 - 6	16 - 10	20-0 ⁺	10 - 0	16 - 1	20-0 ⁺	9 - 8	15 - 5	20-0 ⁺	9 - 3	14 - 10	19 - 10	8 - 9	14 - 0	18 - 9
	DFL	No.2	10 - 3	16 - 6	20-0 ⁺	9 - 10	15 - 9	20-0 ⁺	9 - 5	15 - 1	20-0 ⁺	9 - 1	14 - 6	19 - 5	8 - 7	13 - 9	18 - 3
	DFL	No.3/Stud	9 - 4	14 - 1	18 - 1	8 - 9	13 - 1	16 - 11	8 - 2	12 - 4	15 - 10	-	11 - 7	14 - 11	-	10 - 7	13 - 8
	DFL	Standard	7 - 11	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	HF	SS	10 - 3	16 - 6	20-0 ⁺	9 - 10	15 - 9	20-0 ⁺	9 - 5	15 - 1	20-0 ⁺	9 - 1	14 - 6	19 - 5	8 - 7	13 - 9	18 - 4
	HF	No.1	10 - 1	16 - 2	20-0 ⁺	9 - 7	15 - 5	20-0 ⁺	9 - 3	14 - 9	19 - 9	8 - 10	14 - 2	19 - 0	8 - 5	13 - 5	17 - 11
	HF	No.2	9 - 7	15 - 4	20-0 ⁺	9 - 2	14 - 8	19 - 7	8 - 9	14 - 1	18 - 9	8 - 5	13 - 6	18 - 1	8 - 0	12 - 9	17 - 1
	HF	No.3/Stud	9 - 1	13 - 8	17 - 8	8 - 6	12 - 9	16 - 6	8 - 0	12 - 0	15 - 5	-	11 - 3	14 - 6	-	10 - 4	13 - 4
	HF	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SP	SS	10 - 9	17 - 2	20-0 ⁺	10 - 3	16 - 5	20-0 ⁺	9 - 10	15 - 9	20-0 ⁺	9 - 5	15 - 2	20-0 ⁺	8 - 11	14 - 4	19 - 2
	SP	No.1	10 - 3	16 - 6	20-0 ⁺	9 - 10	15 - 9	20-0 ⁺	9 - 5	15 - 1	20-0 ⁺	9 - 1	14 - 6	19 - 5	8 - 7	13 - 9	18 - 4
	SP	No.2	9 - 10	15 - 9	20-0 ⁺	9 - 5	15 - 1	20-0 ⁺	9 - 0	14 - 5	19 - 3	8 - 8	13 - 10	18 - 4	8 - 2	13 - 0	16 - 10
	SP	No.3	8 - 5	12 - 10	16 - 5	7 - 11	12 - 0	15 - 4	-	11 - 3	14 - 4	-	10 - 7	13 - 6	-	9 - 8	12 - 5
	SP	Stud	8 - 5	12 - 10	16 - 5	7 - 11	12 - 0	15 - 4	-	11 - 3	14 - 4	-	10 - 7	13 - 6	-	9 - 8	12 - 5
	SP	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SPF	SS	10 - 1	16 - 2	20-0 ⁺	9 - 7	15 - 5	20-0 ⁺	9 - 3	14 - 9	19 - 9	8 - 10	14 - 2	19 - 0	8 - 5	13 - 5	17 - 11
	SPF	No.1	9 - 10	15 - 9	20-0 ⁺	9 - 5	15 - 1	20-0 ⁺	9 - 0	14 - 5	19 - 3	8 - 8	13 - 10	18 - 6	8 - 2	13 - 1	17 - 6
	SPF	No.2	9 - 10	15 - 9	20-0 ⁺	9 - 5	15 - 1	20-0 ⁺	9 - 0	14 - 5	19 - 3	8 - 8	13 - 10	18 - 6	8 - 2	13 - 1	17 - 6
	SPF	No.3/Stud	9 - 1	13 - 8	17 - 8	8 - 6	12 - 9	16 - 6	8 - 0	12 - 0	15 - 5	-	11 - 3	14 - 6	-	10 - 4	13 - 4
	SPF	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	DFL	SS	9 - 6	15 - 3	20-0 ⁺	9 - 1	14 - 6	19 - 5	8 - 8	13 - 11	18 - 7	8 - 4	13 - 5	17 - 11	7 - 11	12 - 8	16 - 11
	DFL	No.1	9 - 1	14 - 8	19 - 7	8 - 9	14 - 0	18 - 8	8 - 4	13 - 5	17 - 11	8 - 0	12 - 11	16 - 11	-	12 - 1	15 - 7
	DFL	No.2	8 - 11	14 - 4	19 - 2	8 - 6	13 - 8	18 - 2	8 - 2	13 - 2	17 - 0	7 - 10	12 - 5	16 - 0	-	11 - 5	14 - 8
	DFL	No.3/Stud	-	11 - 4	14 - 7	-	10 - 7	13 - 7	-	9 - 11	12 - 9	-	9 - 4	12 - 0	-	8 - 7	11 - 0
	DFL	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	HF	SS	8 - 11	14 - 4	19 - 2	8 - 6	13 - 8	18 - 4	8 - 2	13 - 2	17 - 6	7 - 10	12 - 7	16 - 10	-	11 - 11	15 - 11
	HF	No.1	8 - 9	14 - 0	18 - 9	8 - 4	13 - 5	17 - 11	8 - 0	12 - 10	17 - 2	-	12 - 4	16 - 6	-	11 - 8	15 - 4
	HF	No.2	8 - 4	13 - 4	17 - 10	7 - 11	12 - 9	17 - 0	-	12 - 3	16 - 4	-	11 - 9	15 - 6	-	11 - 1	14 - 3
	HF	No.3/Stud	-	11 - 0	14 - 2	-	10 - 3	13 - 3	-	9 - 8	12 - 5	-	9 - 1	11 - 8	-	8 - 4	10 - 9
	HF	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SP	SS	9 - 4	14 - 11	19 - 11	8 - 11	14 - 3	19 - 1	8 - 6	13 - 8	18 - 3	8 - 2	13 - 2	17 - 7	7 - 9	12 - 5	16 - 7
	SP	No.1	8 - 11	14 - 4	19 - 2	8 - 6	13 - 8	18 - 4	8 - 2	13 - 2	17 - 6	7 - 10	12 - 7	16 - 10	-	11 - 11	15 - 11
	SP	No.2	8 - 6	13 - 8	17 - 11	8 - 2	13 - 0	16 - 9	7 - 10	12 - 2	15 - 8	-	11 - 5	14 - 9	-	10 - 6	13 - 6
	SP	No.3	-	10 - 4	13 - 3	-	9 - 8	12 - 4	-	9 - 0	11 - 7	-	8 - 6	10 - 10	-	7 - 10	10 - 0
	SP	Stud	-	10 - 4	13 - 3	-	9 - 8	12 - 4	-	9 - 0	11 - 7	-	8 - 6	10 - 10	-	7 - 10	10 - 0
	SP	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SPF	SS	8 - 9	14 - 0	18 - 9	8 - 4	13 - 5	17 - 11	8 - 0	12 - 10	17 - 2	-	12 - 4	16 - 6	-	11 - 8	15 - 7
	SPF	No.1	8 - 6	13 - 8	18 - 3	8 - 2	13 - 1	17 - 5	7 - 10	12 - 6	16 - 9	-	12 - 0	15 - 9	-	11 - 3	14 - 6
	SPF	No.2	8 - 6	13 - 8	18 - 3	8 - 2	13 - 1	17 - 5	7 - 10	12 - 6	16 - 9	-	12 - 0	15 - 9	-	11 - 3	14 - 6
	SPF	No.3/Stud	-	11 - 0	14 - 2	-	10 - 3	13 - 3	-	9 - 8	12 - 5	-	9 - 1	11 - 8	-	8 - 4	10 - 9
	SPF	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

See Table 3.20A footnotes.

Table 3.20A2 Maximum Exterior Loadbearing¹ and Non-Loadbearing Stud Lengths for Common Lumber Species Resisting Interior Zone Wind Loads - Stud Deflection Limit = H/240

(Fully Sheathed with a Minimum Sheathing Material)^a

**Exposure B
H/240**

Wind Speed 3-second gust (mph) (See Figure 1.1)			90			95			100			105		
Stud Spacing (in.)	Species	Grade	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8
Maximum Allowable Stud Length (ft-in.) ¹														
12	DFL	SS	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	DFL	No.1	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13-11	20-0†	20-0†	13-6	20-0†	20-0†
	DFL	No.2	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13-8	20-0†	20-0†	13-2	20-0†	20-0†
	DFL	No.3/Stud	13-6	20-0†	20-0†	13-6	20-0†	20-0†	13-0	20-0†	20-0†	12-7	20-0†	20-0†
	DFL	Standard	13-6	-	-	13-6	-	-	13-0	-	-	12-7	-	-
	HF	SS	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13-8	20-0†	20-0†	13-2	20-0†	20-0†
	HF	No.1	13-10	20-0†	20-0†	13-10	20-0†	20-0†	13-4	20-0†	20-0†	12-11	20-0†	20-0†
	HF	No.2	13-2	20-0†	20-0†	13-2	20-0†	20-0†	12-8	20-0†	20-0†	12-3	19-8	20-0†
	HF	No.3/Stud	12-10	20-0†	20-0†	12-9	20-0†	20-0†	12-4	19-10	20-0†	11-11	19-2	20-0†
	HF	Standard	12-10	-	-	12-9	-	-	12-4	-	-	11-11	-	-
	SP	SS	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13-9	20-0†	20-0†
	SP	No.1	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13-8	20-0†	20-0†	13-2	20-0†	20-0†
	SP	No.2	13-6	20-0†	20-0†	13-6	20-0†	20-0†	13-0	20-0†	20-0†	12-7	20-0†	20-0†
	SP	No.3	13-2	20-0†	20-0†	13-2	20-0†	20-0†	12-8	20-0†	20-0†	12-3	19-8	20-0†
	SP	Stud	13-2	20-0†	20-0†	13-2	20-0†	20-0†	12-8	20-0†	20-0†	12-3	19-8	20-0†
	SP	Standard	12-10	-	-	12-9	-	-	12-4	-	-	11-11	-	-
	SPF	SS	13-10	20-0†	20-0†	13-10	20-0†	20-0†	13-4	20-0†	20-0†	12-11	20-0†	20-0†
	SPF	No.1	13-6	20-0†	20-0†	13-6	20-0†	20-0†	13-0	20-0†	20-0†	12-7	20-0†	20-0†
	SPF	No.2	13-6	20-0†	20-0†	13-6	20-0†	20-0†	13-0	20-0†	20-0†	12-7	20-0†	20-0†
	SPF	No.3/Stud	12-10	20-0†	20-0†	12-9	20-0†	20-0†	12-4	19-10	20-0†	11-11	19-2	20-0†
	SPF	Standard	12-10	-	-	12-9	-	-	12-4	-	-	11-11	-	-
16	DFL	SS	13-7	20-0†	20-0†	13-7	20-0†	20-0†	13-1	20-0†	20-0†	12-8	20-0†	20-0†
	DFL	No.1	13-1	20-0†	20-0†	13-1	20-0†	20-0†	12-7	20-0†	20-0†	12-2	19-7	20-0†
	DFL	No.2	12-10	20-0†	20-0†	12-9	20-0†	20-0†	12-4	19-10	20-0†	11-11	19-2	20-0†
	DFL	No.3/Stud	12-4	19-4	20-0†	12-2	19-4	20-0†	11-9	18-11	20-0†	11-5	18-3	20-0†
	DFL	Standard	12-4	-	-	12-2	-	-	11-9	-	-	11-5	-	-
	HF	SS	12-10	20-0†	20-0†	12-9	20-0†	20-0†	12-4	19-10	20-0†	11-11	19-2	20-0†
	HF	No.1	12-7	19-9	20-0†	12-6	19-9	20-0†	12-1	19-5	20-0†	11-8	18-9	20-0†
	HF	No.2	12-0	18-10	20-0†	11-11	18-10	20-0†	11-6	18-5	20-0†	11-1	17-10	20-0†
	HF	No.3/Stud	11-8	18-4	20-0†	11-7	18-4	20-0†	11-2	17-11	20-0†	10-9	17-4	20-0†
	HF	Standard	11-8	-	-	11-7	-	-	11-2	-	-	10-9	-	-
	SP	SS	13-4	20-0†	20-0†	13-4	20-0†	20-0†	12-10	20-0†	20-0†	12-5	20-0	20-0†
	SP	No.1	12-10	20-0†	20-0†	12-9	20-0†	20-0†	12-4	19-10	20-0†	11-11	19-2	20-0†
	SP	No.2	12-4	19-4	20-0†	12-2	19-4	20-0†	11-9	18-11	20-0†	11-5	18-3	20-0†
	SP	No.3	12-0	18-10	20-0†	11-11	18-10	20-0†	11-6	18-5	20-0†	11-1	17-10	20-0†
	SP	Stud	12-0	18-10	20-0†	11-11	18-10	20-0†	11-6	18-5	20-0†	11-1	17-10	20-0†
	SP	Standard	11-8	-	-	11-7	-	-	11-0	-	-	10-5	-	-
	SPF	SS	12-7	19-9	20-0†	12-6	19-9	20-0†	12-1	19-5	20-0†	11-8	18-9	20-0†
	SPF	No.1	12-4	19-4	20-0†	12-2	19-4	20-0†	11-9	18-11	20-0†	11-5	18-3	20-0†
	SPF	No.2	12-4	19-4	20-0†	12-2	19-4	20-0†	11-9	18-11	20-0†	11-5	18-3	20-0†
	SPF	No.3/Stud	11-8	18-4	20-0†	11-7	18-4	20-0†	11-2	17-11	20-0†	10-9	17-4	20-0†
	SPF	Standard	11-8	-	-	11-7	-	-	11-2	-	-	10-9	-	-
24	DFL	SS	11-11	18-8	20-0†	11-9	18-8	20-0†	11-5	18-3	20-0†	11-0	17-8	20-0†
	DFL	No.1	11-6	18-0	20-0†	11-4	18-0	20-0†	10-11	17-7	20-0†	10-7	17-0	20-0†
	DFL	No.2	11-3	17-8	20-0†	11-1	17-8	20-0†	10-9	17-2	20-0†	10-4	16-7	20-0†
	DFL	No.3/Stud	10-9	16-11	20-0†	10-7	16-11	20-0†	10-3	16-5	20-0†	9-11	15-10	20-0†
	DFL	Standard	10-7	-	-	10-5	-	-	9-10	-	-	9-4	-	-
	HF	SS	11-3	17-8	20-0†	11-1	17-8	20-0†	10-9	17-2	20-0†	10-4	16-7	20-0†
	HF	No.1	11-0	17-3	20-0†	10-10	17-3	20-0†	10-6	16-10	20-0†	10-2	16-3	20-0†
	HF	No.2	10-6	16-6	20-0†	10-4	16-6	20-0†	10-0	16-0	20-0†	9-8	15-6	20-0†
	HF	No.3/Stud	10-2	16-0	20-0†	10-1	16-0	20-0†	9-8	15-7	20-0†	9-4	15-0	20-0†
	HF	Standard	10-2	-	-	10-1	-	-	9-7	-	-	9-1	-	-
	SP	SS	11-8	18-4	20-0†	11-7	18-4	20-0†	11-2	17-11	20-0†	10-9	17-4	20-0†
	SP	No.1	11-3	17-8	20-0†	11-1	17-8	20-0†	10-9	17-2	20-0†	10-4	16-7	20-0†
	SP	No.2	10-9	16-11	20-0†	10-7	16-11	20-0†	10-3	16-5	20-0†	9-11	15-10	20-0†
	SP	No.3	10-6	16-6	20-0†	10-4	16-6	20-0†	10-0	15-11	20-0†	9-8	15-2	19-5
	SP	Stud	10-6	16-6	20-0†	10-4	16-6	20-0†	10-0	15-11	20-0†	9-8	15-2	19-5
	SP	Standard	9-8	-	-	9-4	-	-	8-10	-	-	8-5	-	-
	SPF	SS	11-0	17-3	20-0†	10-10	17-3	20-0†	10-6	16-10	20-0†	10-2	16-3	20-0†
	SPF	No.1	10-9	16-11	20-0†	10-7	16-11	20-0†	10-3	16-5	20-0†	9-11	15-10	20-0†
	SPF	No.2	10-9	16-11	20-0†	10-7	16-11	20-0†	10-3	16-5	20-0†	9-11	15-10	20-0†
	SPF	No.3/Stud	10-2	16-0	20-0†	10-1	16-0	20-0†	9-8	15-7	20-0†	9-4	15-0	20-0†
	SPF	Standard	10-2	-	-	10-1	-	-	9-7	-	-	9-1	-	-

See Table 3.20A footnotes.

Table 3.20A2 Maximum Exterior Loadbearing¹ and Non-Loadbearing Stud Lengths for Common Lumber Species Resisting Interior Zone Wind Loads - Stud Deflection Limit = H/240
(Fully Sheathed with a Minimum Sheathing Material)^a

**Exposure B
H/240**

Wind Speed 3-second gust (mph) (See Figure 1.1)			110			115			120			130			140		
Stud Spacing (in.)	Species	Grade	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8
Maximum Allowable Stud Length (ft.-in.) ¹																	
12	DFL	SS	13 - 7	20-0 ⁺	20-0 ⁺	13 - 2	20-0 ⁺	20-0 ⁺	12 - 9	20-0 ⁺	20-0 ⁺	12 - 1	19 - 4	20-0 ⁺	11 - 5	18 - 5	20-0 ⁺
	DFL	No.1	13 - 0	20-0 ⁺	20-0 ⁺	12 - 8	20-0 ⁺	20-0 ⁺	12 - 3	19 - 8	20-0 ⁺	11 - 7	18 - 8	20-0 ⁺	11 - 0	17 - 8	20-0 ⁺
	DFL	No.2	12 - 9	20-0 ⁺	20-0 ⁺	12 - 5	19 - 10	20-0 ⁺	12 - 0	19 - 3	20-0 ⁺	11 - 4	18 - 3	20-0 ⁺	10 - 9	17 - 4	20-0 ⁺
	DFL	No.3/Stud	12 - 2	19 - 7	20-0 ⁺	11 - 10	19 - 0	20-0 ⁺	11 - 6	18 - 5	20-0 ⁺	10 - 10	17 - 5	20-0 ⁺	10 - 4	16 - 6	20-0 ⁺
	DFL	Standard	12 - 2	-	-	11 - 10	-	-	11 - 6	-	-	10 - 9	-	-	9 - 11	-	-
	HF	SS	12 - 9	20-0 ⁺	20-0 ⁺	12 - 5	19 - 10	20-0 ⁺	12 - 0	19 - 3	20-0 ⁺	11 - 4	18 - 3	20-0 ⁺	10 - 9	17 - 4	20-0 ⁺
	HF	No.1	12 - 6	20-0 ⁺	20-0 ⁺	12 - 1	19 - 5	20-0 ⁺	11 - 9	18 - 10	20-0 ⁺	11 - 1	17 - 10	20-0 ⁺	10 - 7	16 - 11	20-0 ⁺
	HF	No.2	11 - 10	19 - 1	20-0 ⁺	11 - 6	18 - 6	20-0 ⁺	11 - 2	17 - 11	20-0 ⁺	10 - 7	17 - 0	20-0 ⁺	10 - 0	16 - 1	20-0 ⁺
	HF	No.3/Stud	11 - 7	18 - 6	20-0 ⁺	11 - 2	18 - 0	20-0 ⁺	10 - 10	17 - 5	20-0 ⁺	10 - 3	16 - 6	20-0 ⁺	9 - 9	15 - 8	20-0 ⁺
	HF	Standard	11 - 7	-	-	11 - 2	-	-	10 - 10	-	-	10 - 3	-	-	9 - 8	-	-
	SP	SS	13 - 4	20-0 ⁺	20-0 ⁺	12 - 11	20-0 ⁺	20-0 ⁺	12 - 6	20-0 ⁺	20-0 ⁺	11 - 10	19 - 0	20-0 ⁺	11 - 3	18 - 1	20-0 ⁺
	SP	No.1	12 - 9	20-0 ⁺	20-0 ⁺	12 - 5	19 - 10	20-0 ⁺	12 - 0	19 - 3	20-0 ⁺	11 - 4	18 - 3	20-0 ⁺	10 - 9	17 - 4	20-0 ⁺
	SP	No.2	12 - 2	19 - 7	20-0 ⁺	11 - 10	19 - 0	20-0 ⁺	11 - 6	18 - 5	20-0 ⁺	10 - 10	17 - 5	20-0 ⁺	10 - 4	16 - 6	20-0 ⁺
	SP	No.3	11 - 10	19 - 1	20-0 ⁺	11 - 6	18 - 6	20-0 ⁺	11 - 2	17 - 11	20-0 ⁺	10 - 7	17 - 0	20-0 ⁺	10 - 0	16 - 1	20-0 ⁺
	SP	Stud	11 - 10	19 - 1	20-0 ⁺	11 - 6	18 - 6	20-0 ⁺	11 - 2	17 - 11	20-0 ⁺	10 - 7	17 - 0	20-0 ⁺	10 - 0	16 - 1	20-0 ⁺
	SP	Standard	11 - 7	-	-	11 - 1	-	-	10 - 7	-	-	9 - 8	-	-	9 - 0	-	-
	SPF	SS	12 - 6	20-0 ⁺	20-0 ⁺	12 - 1	19 - 5	20-0 ⁺	11 - 9	18 - 10	20-0 ⁺	11 - 1	17 - 10	20-0 ⁺	10 - 7	16 - 11	20-0 ⁺
16	DFL	SS	12 - 3	19 - 8	20-0 ⁺	11 - 11	19 - 1	20-0 ⁺	11 - 6	18 - 6	20-0 ⁺	10 - 11	17 - 6	20-0 ⁺	10 - 4	16 - 8	20-0 ⁺
	DFL	No.1	11 - 10	18 - 11	20-0 ⁺	11 - 5	18 - 4	20-0 ⁺	11 - 1	17 - 10	20-0 ⁺	10 - 6	16 - 10	20-0 ⁺	10 - 0	16 - 0	20-0 ⁺
	DFL	No.2	11 - 7	18 - 6	20-0 ⁺	11 - 2	18 - 0	20-0 ⁺	10 - 10	17 - 5	20-0 ⁺	10 - 3	16 - 6	20-0 ⁺	9 - 9	15 - 8	20-0 ⁺
	DFL	No.3/Stud	11 - 0	17 - 8	20-0 ⁺	10 - 8	17 - 2	20-0 ⁺	10 - 4	16 - 8	20-0 ⁺	9 - 10	15 - 9	20-0 ⁺	9 - 4	15 - 0	19 - 6
	DFL	Standard	11 - 0	-	-	10 - 6	-	-	10 - 0	-	-	9 - 3	-	-	8 - 6	-	-
	HF	SS	11 - 7	18 - 6	20-0 ⁺	11 - 2	18 - 0	20-0 ⁺	10 - 10	17 - 5	20-0 ⁺	10 - 3	16 - 6	20-0 ⁺	9 - 9	15 - 8	20-0 ⁺
	HF	No.1	11 - 3	18 - 2	20-0 ⁺	10 - 11	17 - 7	20-0 ⁺	10 - 8	17 - 1	20-0 ⁺	10 - 1	16 - 2	20-0 ⁺	9 - 7	15 - 4	20-0 ⁺
	HF	No.2	10 - 9	17 - 3	20-0 ⁺	10 - 5	16 - 9	20-0 ⁺	10 - 1	16 - 3	20-0 ⁺	9 - 7	15 - 4	20-0 ⁺	9 - 1	14 - 7	19 - 6
	HF	No.3/Stud	10 - 5	16 - 9	20-0 ⁺	10 - 2	16 - 3	20-0 ⁺	9 - 10	15 - 9	20-0 ⁺	9 - 4	14 - 11	19 - 11	8 - 10	14 - 2	18 - 11
	HF	Standard	10 - 5	-	-	10 - 2	-	-	9 - 10	-	-	9 - 0	-	-	8 - 4	-	-
	SP	SS	12 - 0	19 - 4	20-0 ⁺	11 - 8	18 - 9	20-0 ⁺	11 - 4	18 - 2	20-0 ⁺	10 - 9	17 - 2	20-0 ⁺	10 - 2	16 - 4	20-0 ⁺
	SP	No.1	11 - 7	18 - 6	20-0 ⁺	11 - 2	18 - 0	20-0 ⁺	10 - 10	17 - 5	20-0 ⁺	10 - 3	16 - 6	20-0 ⁺	9 - 9	15 - 8	20-0 ⁺
	SP	No.2	11 - 0	17 - 8	20-0 ⁺	10 - 8	17 - 2	20-0 ⁺	10 - 4	16 - 8	20-0 ⁺	9 - 10	15 - 9	20-0 ⁺	9 - 4	15 - 0	20 - 0
	SP	No.3	10 - 9	17 - 3	20-0 ⁺	10 - 5	16 - 9	20-0 ⁺	10 - 1	16 - 3	20-0 ⁺	9 - 7	15 - 0	19 - 2	9 - 1	13 - 10	17 - 8
	SP	Stud	10 - 9	17 - 3	20-0 ⁺	10 - 5	16 - 9	20-0 ⁺	10 - 1	16 - 3	20-0 ⁺	9 - 7	15 - 0	19 - 2	9 - 1	13 - 10	17 - 8
	SP	Standard	9 - 11	-	-	9 - 6	-	-	9 - 1	-	-	8 - 4	-	-	-	-	-
	SPF	SS	11 - 3	18 - 2	20-0 ⁺	10 - 11	17 - 7	20-0 ⁺	10 - 8	17 - 1	20-0 ⁺	10 - 1	16 - 2	20-0 ⁺	9 - 7	15 - 4	20-0 ⁺
24	DFL	SS	10 - 8	17 - 1	20-0 ⁺	10 - 4	16 - 7	20-0 ⁺	10 - 0	16 - 1	20-0 ⁺	9 - 6	15 - 2	20-0 ⁺	9 - 0	14 - 5	19 - 3
	DFL	No.1	10 - 3	16 - 5	20-0 ⁺	9 - 11	15 - 11	20-0 ⁺	9 - 8	15 - 6	20-0 ⁺	9 - 1	14 - 7	19 - 6	8 - 8	13 - 11	18 - 7
	DFL	No.2	10 - 0	16 - 1	20-0 ⁺	9 - 9	15 - 7	20-0 ⁺	9 - 5	15 - 2	20-0 ⁺	8 - 11	14 - 4	19 - 2	8 - 6	13 - 7	18 - 2
	DFL	No.3/Stud	9 - 7	15 - 4	20-0 ⁺	9 - 3	14 - 11	19 - 5	9 - 0	14 - 4	18 - 6	8 - 6	13 - 2	17 - 0	8 - 1	12 - 2	15 - 8
	DFL	Standard	8 - 10	-	-	8 - 6	-	-	8 - 1	-	-	-	-	-	-	-	-
	HF	SS	10 - 0	16 - 1	20-0 ⁺	9 - 9	15 - 7	20-0 ⁺	9 - 5	15 - 2	20-0 ⁺	8 - 11	14 - 4	19 - 2	8 - 6	13 - 7	18 - 2
	HF	No.1	9 - 10	15 - 9	20-0 ⁺	9 - 6	15 - 3	20-0 ⁺	9 - 3	14 - 10	19 - 9	8 - 9	14 - 0	18 - 8	8 - 3	13 - 4	17 - 9
	HF	No.2	9 - 4	15 - 0	20 - 0	9 - 1	14 - 6	19 - 5	8 - 9	14 - 1	18 - 10	8 - 4	13 - 4	17 - 9	7 - 11	12 - 8	16 - 11
	HF	No.3/Stud	9 - 1	14 - 7	19 - 5	8 - 10	14 - 1	18 - 10	8 - 6	13 - 8	18 - 1	8 - 1	12 - 10	16 - 7	-	11 - 10	15 - 3
	HF	Standard	8 - 8	-	-	8 - 3	-	-	7 - 11	-	-	-	-	-	-	-	-
	SP	SS	10 - 5	16 - 9	20-0 ⁺	10 - 2	16 - 3	20-0 ⁺	9 - 10	15 - 9	20-0 ⁺	9 - 4	14 - 11	19 - 11	8 - 10	14 - 2	18 - 11
	SP	No.1	10 - 0	16 - 1	20-0 ⁺	9 - 9	15 - 7	20-0 ⁺	9 - 5	15 - 2	20-0 ⁺	8 - 11	14 - 4	19 - 2	8 - 6	13 - 7	18 - 2
	SP	No.2	9 - 7	15 - 4	20-0 ⁺	9 - 3	14 - 11	19 - 11	9 - 0	14 - 5	19 - 4	8 - 6	13 - 8	18 - 3	8 - 1	13 - 0	17 - 4
	SP	No.3	9 - 4	14 - 5	18 - 5	9 - 0	13 - 9	17 - 7	8 - 8	13 - 1	16 - 10	7 - 11	12 - 0	15 - 5	-	11 - 1	14 - 3
	SP	Stud	9 - 4	14 - 5	18 - 5	9 - 0	13 - 9	17 - 7	8 - 8	13 - 1	16 - 10	7 - 11	12 - 0	15 - 5	-	11 - 1	14 - 3
	SP	Standard	8 - 0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SPF	SS	9 - 10	15 - 9	20-0 ⁺	9 - 6	15 - 3	20-0 ⁺	9 - 3	14 - 10	19 - 9	8 - 9	14 - 0	18 - 8	8 - 3	13 - 4	17 - 9
	SPF	No.1	9 - 7	15 - 4	20-0 ⁺	9 - 3	14 - 11	19 - 11	9 - 0	14 - 5	19 - 4	8 - 6	13 - 8	18 - 3	8 - 1	13 - 0	17 - 4
	SPF	No.2	9 - 7	15 - 4	20-0 ⁺	9 - 3	14 - 11	19 - 11	9 - 0	14 - 5	19 - 4	8 - 6	13 - 8	18 - 3	8 - 1	13 - 0	17 - 4
	SPF	No.3/Stud	9 - 1	14 - 7	19 - 5	8 - 10	14 - 1	18 - 10	8 - 6	13 - 8	18 - 1	8 - 1	12 - 10	16 - 7	-	11 - 10	15 - 3
	SPF	Standard	8 - 8	-	-	8 - 3	-	-	7 - 11	-	-	-	-	-	-	-	-

See Table 3.20A footnotes.

Table 3.20A2 Maximum Exterior Loadbearing¹ and Non-Loadbearing Stud Lengths for Common Lumber Species Resisting Interior Zone Wind Loads - Stud Deflection Limit = H/240
(Fully Sheathed with a Minimum Sheathing Material)^a

**Exposure B
H/240**

Wind Speed 3-second gust (mph) (See Figure 1.1)			150			160			170			180			195		
Stud Spacing (in.)	Species	Grade	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8
Maximum Allowable Stud Length (ft.-in.) ¹																	
12	DFL	SS	10-11	17-6	20-0 ⁺	10-5	16-9	20-0 ⁺	10-0	16-1	20-0 ⁺	9-7	15-5	20-0 ⁺	9-1	14-7	19-6
	DFL	No.1	10-6	16-10	20-0 ⁺	10-0	16-1	20-0 ⁺	9-8	15-5	20-0 ⁺	9-3	14-10	19-10	8-9	14-0	18-9
	DFL	No.2	10-3	16-6	20-0 ⁺	9-10	15-9	20-0 ⁺	9-5	15-1	20-0 ⁺	9-1	14-6	19-5	8-7	13-9	18-4
	DFL	No.3/Stud	9-10	15-9	20-0 ⁺	9-5	15-1	19-9	9-0	14-4	18-6	8-8	13-6	17-5	8-2	12-5	16-0
	DFL	Standard	9-3	-	-	8-7	-	-	8-1	-	-	-	-	-	-	-	-
	HF	SS	10-3	16-6	20-0 ⁺	9-10	15-9	20-0 ⁺	9-5	15-1	20-0 ⁺	9-1	14-6	19-5	8-7	13-9	18-4
	HF	No.1	10-1	16-2	20-0 ⁺	9-7	15-5	20-0 ⁺	9-3	14-9	19-9	8-10	14-2	19-0	8-5	13-5	17-11
	HF	No.2	9-7	15-4	20-0 ⁺	9-2	14-8	19-7	8-9	14-1	18-9	8-5	13-6	18-1	8-0	12-9	17-1
	HF	No.3/Stud	9-4	14-11	19-11	8-11	14-3	19-1	8-6	13-8	18-0	8-2	13-2	16-11	7-9	12-1	15-7
	HF	Standard	9-0	-	-	8-5	-	-	7-11	-	-	-	-	-	-	-	-
	SP	SS	10-9	17-2	20-0 ⁺	10-3	16-5	20-0 ⁺	9-10	15-9	20-0 ⁺	9-5	15-2	20-0 ⁺	8-11	14-4	19-2
	SP	No.1	10-3	16-6	20-0 ⁺	9-10	15-9	20-0 ⁺	9-5	15-1	20-0 ⁺	9-1	14-6	19-5	8-7	13-9	18-4
	SP	No.2	9-10	15-9	20-0 ⁺	9-5	15-1	20-0 ⁺	9-0	14-5	19-3	8-8	13-10	18-6	8-2	13-1	17-6
	SP	No.3	9-7	15-0	19-2	9-2	14-0	17-11	8-7	13-1	16-9	8-1	12-4	15-9	-	11-4	14-6
	SP	Stud	9-7	15-0	19-2	9-2	14-0	17-11	8-7	13-1	16-9	8-1	12-4	15-9	-	11-4	14-6
	SP	Standard	8-4	-	-	7-9	-	-	-	-	-	-	-	-	-	-	-
	SPF	SS	10-1	16-2	20-0 ⁺	9-7	15-5	20-0 ⁺	9-3	14-9	19-9	8-10	14-2	19-0	8-5	13-5	17-11
	SPF	No.1	9-10	15-9	20-0 ⁺	9-5	15-1	20-0 ⁺	9-0	14-5	19-3	8-8	13-10	18-6	8-2	13-1	17-6
	SPF	No.2	9-10	15-9	20-0 ⁺	9-5	15-1	20-0 ⁺	9-0	14-5	19-3	8-8	13-10	18-6	8-2	13-1	17-6
	SPF	No.3/Stud	9-4	14-11	19-11	8-11	14-3	19-1	8-6	13-8	18-0	8-2	13-2	16-11	7-9	12-1	15-7
	SPF	Standard	9-0	-	-	8-5	-	-	7-11	-	-	-	-	-	-	-	-
16	DFL	SS	9-11	15-10	20-0 ⁺	9-5	15-2	20-0 ⁺	9-1	14-6	19-5	8-8	14-0	18-8	8-3	13-2	17-8
	DFL	No.1	9-6	15-3	20-0 ⁺	9-1	14-7	19-6	8-9	14-0	18-8	8-4	13-5	17-11	7-11	12-8	17-0
	DFL	No.2	9-4	14-11	19-11	8-11	14-3	19-1	8-6	13-8	18-3	8-2	13-2	17-7	7-9	12-5	16-7
	DFL	No.3/Stud	8-11	14-1	18-1	8-6	13-1	16-11	8-2	12-4	15-10	-	11-7	14-11	-	10-7	13-8
	DFL	Standard	7-11	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	HF	SS	9-4	14-11	19-11	8-11	14-3	19-1	8-6	13-8	18-3	8-2	13-2	17-7	7-9	12-5	16-7
	HF	No.1	9-1	14-7	19-6	8-8	14-0	18-8	8-4	13-4	17-10	8-0	12-10	17-2	-	12-2	16-3
	HF	No.2	8-8	13-11	18-7	8-3	13-3	17-9	7-11	12-9	17-0	-	12-3	16-4	-	11-7	15-5
	HF	No.3/Stud	8-5	13-6	17-8	8-1	12-9	16-6	-	12-0	15-5	-	11-3	14-6	-	10-4	13-4
	HF	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SP	SS	9-8	15-7	20-0 ⁺	9-3	14-10	19-10	8-11	14-3	19-0	8-6	13-8	18-4	8-1	12-11	17-4
	SP	No.1	9-4	14-11	19-11	8-11	14-3	19-1	8-6	13-8	18-3	8-2	13-2	17-7	7-9	12-5	16-7
	SP	No.2	8-11	14-3	19-0	8-6	13-7	18-2	8-2	13-1	17-5	7-10	12-7	16-9	-	11-10	15-10
	SP	No.3	8-5	12-10	16-5	7-11	12-0	15-4	-	11-3	14-4	-	10-7	13-6	-	9-8	12-5
	SP	Stud	8-5	12-10	16-5	7-11	12-0	15-4	-	11-3	14-4	-	10-7	13-6	-	9-8	12-5
	SP	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SPF	SS	9-1	14-7	19-6	8-8	14-0	18-8	8-4	13-4	17-10	8-0	12-10	17-2	-	12-2	16-3
	SPF	No.1	8-11	14-3	19-0	8-6	13-7	18-2	8-2	13-1	17-5	7-10	12-7	16-9	-	11-10	15-10
	SPF	No.2	8-11	14-3	19-0	8-6	13-7	18-2	8-2	13-1	17-5	7-10	12-7	16-9	-	11-10	15-10
	SPF	No.3/Stud	8-5	13-6	17-8	8-1	12-9	16-6	-	12-0	15-5	-	11-3	14-6	-	10-4	13-4
	SPF	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	DFL	SS	8-7	13-9	18-5	8-2	13-2	17-7	7-10	12-7	16-10	-	12-1	16-2	-	11-5	15-4
	DFL	No.1	8-3	13-3	17-8	7-11	12-8	16-11	-	12-2	16-2	-	11-8	15-7	-	11-0	14-9
	DFL	No.2	8-1	13-0	17-4	-	12-5	16-7	-	11-10	15-10	-	11-5	15-3	-	10-9	14-5
	DFL	No.3/Stud	-	11-4	14-7	-	10-7	13-7	-	9-11	12-9	-	9-4	12-0	-	8-7	11-0
	DFL	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	HF	SS	8-1	13-0	17-4	-	12-5	16-7	-	11-10	15-10	-	11-5	15-3	-	10-9	14-5
	HF	No.1	7-11	12-8	16-11	-	12-1	16-2	-	11-7	15-6	-	11-2	14-11	-	10-7	14-1
	HF	No.2	-	12-1	16-1	-	11-6	15-5	-	11-1	14-9	-	10-7	14-2	-	10-0	13-5
	HF	No.3/Stud	-	11-0	14-2	-	10-3	13-3	-	9-8	12-5	-	9-1	11-8	-	8-4	10-9
	HF	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SP	SS	8-5	13-6	18-0	8-1	12-11	17-3	-	12-4	16-6	-	11-11	15-11	-	11-3	15-0
	SP	No.1	8-1	13-0	17-4	-	12-5	16-7	-	11-10	15-10	-	11-5	15-3	-	10-9	14-5
	SP	No.2	-	12-4	16-6	-	11-10	15-9	-	11-4	15-2	-	10-11	14-7	-	10-4	13-6
	SP	No.3	-	10-4	13-3	-	9-8	12-4	-	9-0	11-7	-	8-6	10-10	-	7-10	10-0
	SP	Stud	-	10-4	13-3	-	9-8	12-4	-	9-0	11-7	-	8-6	10-10	-	7-10	10-0
	SP	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SPF	SS	7-11	12-8	16-11	-	12-1	16-2	-	11-7	15-6	-	11-2	14-11	-	10-7	14-1
	SPF	No.1	-	12-4	16-6	-	11-10	15-9	-	11-4	15-2	-	10-11	14-7	-	10-4	13-9
	SPF	No.2	-	12-4	16-6	-	11-10	15-9	-	11-4	15-2	-	10-11	14-7	-	10-4	13-9
	SPF	No.3/Stud	-	11-0	14-2	-	10-3	13-3	-	9-8	12-5	-	9-1	11-8	-	8-4	10-9
	SPF	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

See Table 3.20A footnotes.

Table 3.20A3 Maximum Exterior Loadbearing¹ and Non-Loadbearing Stud Lengths for Common Lumber Species Resisting Interior Zone Wind Loads - Stud Deflection Limit = H/360
(Fully Sheathed with a Minimum Sheathing Material)^a

**Exposure B
H/360**

Wind Speed 3-second gust (mph) (See Figure 1.1)			90			95			100			105		
Stud Spacing (in.)	Species	Grade	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8
Maximum Allowable Stud Length (ft.-in.) ¹														
12	DFL	SS	13 - 1	20-0†	20-0†	13 - 0	20-0†	20-0†	12 - 7	20-0†	20-0†	12 - 2	19 - 6	20-0†
	DFL	No.1	12 - 7	19 - 10	20-0†	12 - 6	19 - 10	20-0†	12 - 1	19 - 5	20-0†	11 - 8	18 - 9	20-0†
	DFL	No.2	12 - 4	19 - 5	20-0†	12 - 3	19 - 5	20-0†	11 - 10	19 - 0	20-0†	11 - 5	18 - 5	20-0†
	DFL	No.3/Stud	11 - 10	18 - 7	20-0†	11 - 9	18 - 7	20-0†	11 - 4	18 - 2	20-0†	10 - 11	17 - 7	20-0†
	DFL	Standard	11 - 10	-	-	11 - 9	-	-	11 - 4	-	-	10 - 11	-	-
	HF	SS	12 - 4	19 - 5	20-0†	12 - 3	19 - 5	20-0†	11 - 10	19 - 0	20-0†	11 - 5	18 - 5	20-0†
	HF	No.1	12 - 1	19 - 0	20-0†	12 - 0	19 - 0	20-0†	11 - 7	18 - 7	20-0†	11 - 2	18 - 0	20-0†
	HF	No.2	11 - 6	18 - 2	20-0†	11 - 5	18 - 2	20-0†	11 - 0	17 - 8	20-0†	10 - 8	17 - 1	20-0†
	HF	No.3/Stud	11 - 3	17 - 8	20-0†	11 - 1	17 - 8	20-0†	10 - 9	17 - 2	20-0†	10 - 4	16 - 7	20-0†
	HF	Standard	11 - 3	-	-	11 - 1	-	-	10 - 9	-	-	10 - 4	-	-
	SP	SS	12 - 10	20-0†	20-0†	12 - 9	20-0†	20-0†	12 - 4	19 - 10	20-0†	11 - 11	19 - 2	20-0†
	SP	No.1	12 - 4	19 - 5	20-0†	12 - 3	19 - 5	20-0†	11 - 10	19 - 0	20-0†	11 - 5	18 - 5	20-0†
	SP	No.2	11 - 10	18 - 7	20-0†	11 - 9	18 - 7	20-0†	11 - 4	18 - 2	20-0†	10 - 11	17 - 7	20-0†
	SP	No.3	11 - 6	18 - 2	20-0†	11 - 5	18 - 2	20-0†	11 - 0	17 - 8	20-0†	10 - 8	17 - 1	20-0†
	SP	Stud	11 - 6	18 - 2	20-0†	11 - 5	18 - 2	20-0†	11 - 0	17 - 8	20-0†	10 - 8	17 - 1	20-0†
	SP	Standard	11 - 3	-	-	11 - 1	-	-	10 - 9	-	-	10 - 4	-	-
	SPF	SS	12 - 1	19 - 0	20-0†	12 - 0	19 - 0	20-0†	11 - 7	18 - 7	20-0†	11 - 2	18 - 0	20-0†
	SPF	No.1	11 - 10	18 - 7	20-0†	11 - 9	18 - 7	20-0†	11 - 4	18 - 2	20-0†	10 - 11	17 - 7	20-0†
	SPF	No.2	11 - 10	18 - 7	20-0†	11 - 9	18 - 7	20-0†	11 - 4	18 - 2	20-0†	10 - 11	17 - 7	20-0†
	SPF	No.3/Stud	11 - 3	17 - 8	20-0†	11 - 1	17 - 8	20-0†	10 - 9	17 - 2	20-0†	10 - 4	16 - 7	20-0†
	SPF	Standard	11 - 3	-	-	11 - 1	-	-	10 - 9	-	-	10 - 4	-	-
16	DFL	SS	11 - 11	18 - 8	20-0†	11 - 9	18 - 8	20-0†	11 - 5	18 - 3	20-0†	11 - 0	17 - 8	20-0†
	DFL	No.1	11 - 6	18 - 0	20-0†	11 - 4	18 - 0	20-0†	10 - 11	17 - 7	20-0†	10 - 7	17 - 0	20-0†
	DFL	No.2	11 - 3	17 - 8	20-0†	11 - 1	17 - 8	20-0†	10 - 9	17 - 2	20-0†	10 - 4	16 - 7	20-0†
	DFL	No.3/Stud	10 - 9	16 - 11	20-0†	10 - 7	16 - 11	20-0†	10 - 3	16 - 5	20-0†	9 - 11	15 - 10	20-0†
	DFL	Standard	10 - 9	-	-	10 - 7	-	-	10 - 3	-	-	9 - 11	-	-
	HF	SS	11 - 3	17 - 8	20-0†	11 - 1	17 - 8	20-0†	10 - 9	17 - 2	20-0†	10 - 4	16 - 7	20-0†
	HF	No.1	11 - 0	17 - 3	20-0†	10 - 10	17 - 3	20-0†	10 - 6	16 - 10	20-0†	10 - 2	16 - 3	20-0†
	HF	No.2	10 - 6	16 - 6	20-0†	10 - 4	16 - 6	20-0†	10 - 0	16 - 0	20-0†	9 - 8	15 - 6	20-0†
	HF	No.3/Stud	10 - 2	16 - 0	20-0†	10 - 1	16 - 0	20-0†	9 - 8	15 - 7	20-0†	9 - 4	15 - 0	20-0†
	HF	Standard	10 - 2	-	-	10 - 1	-	-	9 - 8	-	-	9 - 4	-	-
	SP	SS	11 - 8	18 - 4	20-0†	11 - 7	18 - 4	20-0†	11 - 2	17 - 11	20-0†	10 - 9	17 - 4	20-0†
	SP	No.1	11 - 3	17 - 8	20-0†	11 - 1	17 - 8	20-0†	10 - 9	17 - 2	20-0†	10 - 4	16 - 7	20-0†
	SP	No.2	10 - 9	16 - 11	20-0†	10 - 7	16 - 11	20-0†	10 - 3	16 - 5	20-0†	9 - 11	15 - 10	20-0†
	SP	No.3	10 - 6	16 - 6	20-0†	10 - 4	16 - 6	20-0†	10 - 0	16 - 0	20-0†	9 - 8	15 - 6	20-0†
	SP	Stud	10 - 6	16 - 6	20-0†	10 - 4	16 - 6	20-0†	10 - 0	16 - 0	20-0†	9 - 8	15 - 6	20-0†
	SP	Standard	10 - 2	-	-	10 - 1	-	-	9 - 8	-	-	9 - 4	-	-
	SPF	SS	11 - 0	17 - 3	20-0†	10 - 10	17 - 3	20-0†	10 - 6	16 - 10	20-0†	10 - 2	16 - 3	20-0†
	SPF	No.1	10 - 9	16 - 11	20-0†	10 - 7	16 - 11	20-0†	10 - 3	16 - 5	20-0†	9 - 11	15 - 10	20-0†
	SPF	No.2	10 - 9	16 - 11	20-0†	10 - 7	16 - 11	20-0†	10 - 3	16 - 5	20-0†	9 - 11	15 - 10	20-0†
	SPF	No.3/Stud	10 - 2	16 - 0	20-0†	10 - 1	16 - 0	20-0†	9 - 8	15 - 7	20-0†	9 - 4	15 - 0	20-0†
	SPF	Standard	10 - 2	-	-	10 - 1	-	-	9 - 8	-	-	9 - 4	-	-
24	DFL	SS	10 - 5	16 - 4	20-0†	10 - 3	16 - 4	20-0†	9 - 11	15 - 10	20-0†	9 - 7	15 - 4	20-0†
	DFL	No.1	10 - 0	15 - 9	20-0†	9 - 10	15 - 9	20-0†	9 - 6	15 - 3	20-0†	9 - 2	14 - 9	19 - 8
	DFL	No.2	9 - 10	15 - 5	20-0†	9 - 8	15 - 5	20-0†	9 - 4	14 - 11	19 - 11	9 - 0	14 - 5	19 - 3
	DFL	No.3/Stud	9 - 5	14 - 9	19 - 5	9 - 2	14 - 9	19 - 5	8 - 11	14 - 3	19 - 0	8 - 7	13 - 9	18 - 5
	DFL	Standard	9 - 5	-	-	9 - 2	-	-	8 - 11	-	-	8 - 7	-	-
	HF	SS	9 - 10	15 - 5	20-0†	9 - 8	15 - 5	20-0†	9 - 4	14 - 11	19 - 11	9 - 0	14 - 5	19 - 3
	HF	No.1	9 - 7	15 - 1	19 - 11	9 - 5	15 - 1	19 - 11	9 - 1	14 - 7	19 - 6	8 - 10	14 - 1	18 - 10
	HF	No.2	9 - 2	14 - 5	19 - 0	9 - 0	14 - 5	19 - 0	8 - 8	13 - 11	18 - 7	8 - 4	13 - 5	17 - 11
	HF	No.3/Stud	8 - 11	14 - 0	18 - 6	8 - 9	14 - 0	18 - 6	8 - 5	13 - 6	18 - 0	8 - 2	13 - 1	17 - 5
	HF	Standard	8 - 11	-	-	8 - 9	-	-	8 - 5	-	-	8 - 2	-	-
	SP	SS	10 - 2	16 - 0	20-0†	10 - 1	16 - 0	20-0†	9 - 8	15 - 7	20-0†	9 - 4	15 - 0	20-0†
	SP	No.1	9 - 10	15 - 5	20-0†	9 - 8	15 - 5	20-0†	9 - 4	14 - 11	19 - 11	9 - 0	14 - 5	19 - 3
	SP	No.2	9 - 5	14 - 9	19 - 5	9 - 2	14 - 9	19 - 5	8 - 11	14 - 3	19 - 0	8 - 7	13 - 9	18 - 5
	SP	No.3	9 - 2	14 - 5	19 - 0	9 - 0	14 - 5	19 - 0	8 - 8	13 - 11	18 - 7	8 - 4	13 - 5	17 - 11
	SP	Stud	9 - 2	14 - 5	19 - 0	9 - 0	14 - 5	19 - 0	8 - 8	13 - 11	18 - 7	8 - 4	13 - 5	17 - 11
	SP	Standard	8 - 11	-	-	8 - 9	-	-	8 - 5	-	-	8 - 2	-	-
	SPF	SS	9 - 7	15 - 1	19 - 11	9 - 5	15 - 1	19 - 11	9 - 1	14 - 7	19 - 6	8 - 10	14 - 1	18 - 10
	SPF	No.1	9 - 5	14 - 9	19 - 5	9 - 2	14 - 9	19 - 5	8 - 11	14 - 3	19 - 0	8 - 7	13 - 9	18 - 5
	SPF	No.2	9 - 5	14 - 9	19 - 5	9 - 2	14 - 9	19 - 5	8 - 11	14 - 3	19 - 0	8 - 7	13 - 9	18 - 5
	SPF	No.3/Stud	8 - 11	14 - 0	18 - 6	8 - 9	14 - 0	18 - 6	8 - 5	13 - 6	18 - 0	8 - 2	13 - 1	17 - 5
	SPF	Standard	8 - 11	-	-	8 - 9	-	-	8 - 5	-	-	8 - 2	-	-

See Table 3.20A footnotes.

Table 3.20A3 Maximum Exterior Loadbearing¹ and Non-Loadbearing Stud Lengths for Common Lumber Species Resisting Interior Zone Wind Loads - Stud Deflection Limit = H/360
(Fully Sheathed with a Minimum Sheathing Material)^a

**Exposure B
H/360**

Wind Speed 3-second gust (mph) (See Figure 1.1)			110			115			120			130			140		
Stud Spacing (in.)	Species	Grade	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8
Maximum Allowable Stud Length (ft.-in.) ¹																	
12	DFL	SS	11-9	18-11	20-0†	11-5	18-4	20-0†	11-1	17-9	20-0†	10-6	16-10	20-0†	9-11	16-0	20-0†
	DFL	No.1	11-4	18-2	20-0†	11-0	17-7	20-0†	10-8	17-1	20-0†	10-1	16-2	20-0†	9-7	15-4	20-0†
	DFL	No.2	11-1	17-10	20-0†	10-9	17-3	20-0†	10-5	16-9	20-0†	9-10	15-10	20-0†	9-4	15-0	20-0†
	DFL	No.3/Stud	10-7	17-0	20-0†	10-3	16-6	20-0†	10-0	16-0	20-0†	9-5	15-1	20-0†	8-11	14-4	19-2
	DFL	Standard	10-7	-	-	10-3	-	-	10-0	-	-	9-5	-	-	8-11	-	-
	HF	SS	11-1	17-10	20-0†	10-9	17-3	20-0†	10-5	16-9	20-0†	9-10	15-10	20-0†	9-4	15-0	20-0†
	HF	No.1	10-10	17-5	20-0†	10-6	16-10	20-0†	10-2	16-4	20-0†	9-8	15-6	20-0†	9-2	14-8	19-8
	HF	No.2	10-4	16-7	20-0†	10-0	16-0	20-0†	9-8	15-7	20-0†	9-2	14-9	19-8	8-9	14-0	18-8
	HF	No.3/Stud	10-0	16-1	20-0†	9-9	15-7	20-0†	9-5	15-2	20-0†	8-11	14-4	19-2	8-6	13-7	18-2
	HF	Standard	10-0	-	-	9-9	-	-	9-5	-	-	8-11	-	-	8-6	-	-
	SP	SS	11-7	18-6	20-0†	11-2	18-0	20-0†	10-10	17-5	20-0†	10-3	16-6	20-0†	9-9	15-8	20-0†
	SP	No.1	11-1	17-10	20-0†	10-9	17-3	20-0†	10-5	16-9	20-0†	9-10	15-10	20-0†	9-4	15-0	20-0†
	SP	No.2	10-7	17-0	20-0†	10-3	16-6	20-0†	10-0	16-0	20-0†	9-5	15-1	20-0†	8-11	14-4	19-2
	SP	No.3	10-4	16-7	20-0†	10-0	16-0	20-0†	9-8	15-7	20-0†	9-2	14-9	19-8	8-9	14-0	18-8
	SP	Stud	10-4	16-7	20-0†	10-0	16-0	20-0†	9-8	15-7	20-0†	9-2	14-9	19-8	8-9	14-0	18-8
	SP	Standard	10-0	-	-	9-9	-	-	9-5	-	-	8-11	-	-	8-6	-	-
	SPF	SS	10-10	17-5	20-0†	10-6	16-10	20-0†	10-2	16-4	20-0†	9-8	15-6	20-0†	9-2	14-8	19-8
	SPF	No.1	10-7	17-0	20-0†	10-3	16-6	20-0†	10-0	16-0	20-0†	9-5	15-1	20-0†	8-11	14-4	19-2
	SPF	No.2	10-7	17-0	20-0†	10-3	16-6	20-0†	10-0	16-0	20-0†	9-5	15-1	20-0†	8-11	14-4	19-2
	SPF	No.3/Stud	10-0	16-1	20-0†	9-9	15-7	20-0†	9-5	15-2	20-0†	8-11	14-4	19-2	8-6	13-7	18-2
	SPF	Standard	10-0	-	-	9-9	-	-	9-5	-	-	8-11	-	-	8-6	-	-
16	DFL	SS	10-8	17-1	20-0†	10-4	16-7	20-0†	10-0	16-1	20-0†	9-6	15-2	20-0†	9-0	14-5	19-3
	DFL	No.1	10-3	16-5	20-0†	9-11	15-11	20-0†	9-8	15-6	20-0†	9-1	14-7	19-6	8-8	13-11	18-7
	DFL	No.2	10-0	16-1	20-0†	9-9	15-7	20-0†	9-5	15-2	20-0†	8-11	14-4	19-2	8-6	13-7	18-2
	DFL	No.3/Stud	9-7	15-4	20-0†	9-3	14-11	19-11	9-0	14-5	19-4	8-6	13-8	18-3	8-1	13-0	17-4
	DFL	Standard	9-7	-	-	9-3	-	-	9-0	-	-	8-6	-	-	8-1	-	-
	HF	SS	10-0	16-1	20-0†	9-9	15-7	20-0†	9-5	15-2	20-0†	8-11	14-4	19-2	8-6	13-7	18-2
	HF	No.1	9-10	15-9	20-0†	9-6	15-3	20-0†	9-3	14-10	19-9	8-9	14-0	18-8	8-3	13-4	17-9
	HF	No.2	9-4	15-0	20-0	9-1	14-6	19-5	8-9	14-1	18-10	8-4	13-4	17-9	7-11	12-8	16-11
	HF	No.3/Stud	9-1	14-7	19-5	8-10	14-1	18-10	8-6	13-8	18-4	8-1	12-11	17-4	-	12-4	16-5
	HF	Standard	9-1	-	-	8-10	-	-	8-6	-	-	8-1	-	-	-	-	-
	SP	SS	10-5	16-9	20-0†	10-2	16-3	20-0†	9-10	15-9	20-0†	9-4	14-11	19-11	8-10	14-2	18-11
	SP	No.1	10-0	16-1	20-0†	9-9	15-7	20-0†	9-5	15-2	20-0†	8-11	14-4	19-2	8-6	13-7	18-2
	SP	No.2	9-7	15-4	20-0†	9-3	14-11	19-11	9-0	14-5	19-4	8-6	13-8	18-3	8-1	13-0	17-4
	SP	No.3	9-4	15-0	20-0	9-1	14-6	19-5	8-9	14-1	18-10	8-4	13-4	17-9	7-11	12-8	16-11
	SP	Stud	9-4	15-0	20-0	9-1	14-6	19-5	8-9	14-1	18-10	8-4	13-4	17-9	7-11	12-8	16-11
	SP	Standard	9-1	-	-	8-10	-	-	8-6	-	-	8-1	-	-	-	-	-
	SPF	SS	9-10	15-9	20-0†	9-6	15-3	20-0†	9-3	14-10	19-9	8-9	14-0	18-8	8-3	13-4	17-9
	SPF	No.1	9-7	15-4	20-0†	9-3	14-11	19-11	9-0	14-5	19-4	8-6	13-8	18-3	8-1	13-0	17-4
	SPF	No.2	9-7	15-4	20-0†	9-3	14-11	19-11	9-0	14-5	19-4	8-6	13-8	18-3	8-1	13-0	17-4
	SPF	No.3/Stud	9-1	14-7	19-5	8-10	14-1	18-10	8-6	13-8	18-4	8-1	12-11	17-4	-	12-4	16-5
	SPF	Standard	9-1	-	-	8-10	-	-	8-6	-	-	8-1	-	-	-	-	-
24	DFL	SS	9-3	14-10	19-10	9-0	14-5	19-2	8-8	14-0	18-8	8-3	13-2	17-8	7-10	12-6	16-9
	DFL	No.1	8-11	14-3	19-1	8-7	13-10	18-6	8-4	13-5	17-11	7-11	12-8	17-0	-	12-1	16-1
	DFL	No.2	8-8	14-0	18-8	8-5	13-6	18-1	8-2	13-2	17-7	7-9	12-5	16-7	-	11-10	15-9
	DFL	No.3/Stud	8-4	13-4	17-10	8-1	12-11	17-3	7-10	12-7	16-9	-	11-10	15-10	-	11-3	15-1
	DFL	Standard	8-4	-	-	8-1	-	-	7-10	-	-	-	-	-	-	-	-
	HF	SS	8-8	14-0	18-8	8-5	13-6	18-1	8-2	13-2	17-7	7-9	12-5	16-7	-	11-10	15-9
	HF	No.1	8-6	13-8	18-3	8-3	13-3	17-8	8-0	12-10	17-2	-	12-2	16-3	-	11-6	15-5
	HF	No.2	8-1	13-0	17-4	7-10	12-7	16-10	-	12-3	16-4	-	11-7	15-5	-	11-0	14-8
	HF	No.3/Stud	7-11	12-8	16-10	-	12-3	16-4	-	11-11	15-11	-	11-3	15-0	-	10-8	14-3
	HF	Standard	7-11	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SP	SS	9-1	14-7	19-5	8-10	14-1	18-10	8-6	13-8	18-4	8-1	12-11	17-4	-	12-4	16-5
	SP	No.1	8-8	14-0	18-8	8-5	13-6	18-1	8-2	13-2	17-7	7-9	12-5	16-7	-	11-10	15-9
	SP	No.2	8-4	13-4	17-10	8-1	12-11	17-3	7-10	12-7	16-9	-	11-10	15-10	-	11-3	15-1
	SP	No.3	8-1	13-0	17-4	7-10	12-7	16-10	-	12-3	16-4	-	11-7	15-5	-	11-0	14-3
	SP	Stud	8-1	13-0	17-4	7-10	12-7	16-10	-	12-3	16-4	-	11-7	15-5	-	11-0	14-3
	SP	Standard	7-11	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SPF	SS	8-6	13-8	18-3	8-3	13-3	17-8	8-0	12-10	17-2	-	12-2	16-3	-	11-6	15-5
	SPF	No.1	8-4	13-4	17-10	8-1	12-11	17-3	7-10	12-7	16-9	-	11-10	15-10	-	11-3	15-1
	SPF	No.2	8-4	13-4	17-10	8-1	12-11	17-3	7-10	12-7	16-9	-	11-10	15-10	-	11-3	15-1
	SPF	No.3/Stud	7-11	12-8	16-10	-	12-3	16-4	-	11-11	15-11	-	11-3	15-0	-	10-8	14-3
	SPF	Standard	7-11	-	-	-	-	-	-	-	-	-	-	-	-	-	-

See Table 3.20A footnotes.

Table 3.20A3 Maximum Exterior Loadbearing¹ and Non-Loadbearing Stud Lengths for Common Lumber Species Resisting Interior Zone Wind Loads - Stud Deflection Limit = H/360
(Fully Sheathed with a Minimum Sheathing Material)^a

**Exposure B
H/360**

Wind Speed 3-second gust (mph) (See Figure 1.1)			150			160			170			180			195		
Stud Spacing (in.)	Species	Grade	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8
Maximum Allowable Stud Length (ft.-in.) ¹																	
12	DFL	SS	9 - 6	15 - 3	20 - 0†	9 - 1	14 - 6	19 - 5	8 - 8	13 - 11	18 - 7	8 - 4	13 - 5	17 - 11	7 - 11	12 - 8	16 - 11
	DFL	No.1	9 - 1	14 - 8	19 - 7	8 - 9	14 - 0	18 - 8	8 - 4	13 - 5	17 - 11	8 - 0	12 - 11	17 - 2	-	12 - 2	16 - 3
	DFL	No.2	8 - 11	14 - 4	19 - 2	8 - 6	13 - 8	18 - 4	8 - 2	13 - 2	17 - 6	7 - 10	12 - 7	16 - 10	-	11 - 11	15 - 11
	DFL	No.3/Stud	8 - 6	13 - 8	18 - 3	8 - 2	13 - 1	17 - 5	7 - 10	12 - 6	16 - 9	-	12 - 0	16 - 1	-	11 - 5	15 - 2
	DFL	Standard	8 - 6	-	-	8 - 2	-	-	7 - 10	-	-	-	-	-	-	-	-
	HF	SS	8 - 11	14 - 4	19 - 2	8 - 6	13 - 8	18 - 4	8 - 2	13 - 2	17 - 6	7 - 10	12 - 7	16 - 10	-	11 - 11	15 - 11
	HF	No.1	8 - 9	14 - 0	18 - 9	8 - 4	13 - 5	17 - 11	8 - 0	12 - 10	17 - 2	-	12 - 4	16 - 6	-	11 - 8	15 - 7
	HF	No.2	8 - 4	13 - 4	17 - 10	7 - 11	12 - 9	17 - 0	-	12 - 3	16 - 4	-	11 - 9	15 - 8	-	11 - 1	14 - 10
	HF	No.3/Stud	8 - 1	13 - 0	17 - 4	-	12 - 5	16 - 7	-	11 - 10	15 - 10	-	11 - 5	15 - 3	-	10 - 9	14 - 5
	HF	Standard	8 - 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SP	SS	9 - 4	14 - 11	19 - 11	8 - 11	14 - 3	19 - 1	8 - 6	13 - 8	18 - 3	8 - 2	13 - 2	17 - 7	7 - 9	12 - 5	16 - 7
	SP	No.1	8 - 11	14 - 4	19 - 2	8 - 6	13 - 8	18 - 4	8 - 2	13 - 2	17 - 6	7 - 10	12 - 7	16 - 10	-	11 - 11	15 - 11
	SP	No.2	8 - 6	13 - 8	18 - 3	8 - 2	13 - 1	17 - 5	7 - 10	12 - 6	16 - 9	-	12 - 0	16 - 1	-	11 - 5	15 - 2
	SP	No.3	8 - 4	13 - 4	17 - 10	7 - 11	12 - 9	17 - 0	-	12 - 3	16 - 4	-	11 - 9	15 - 8	-	11 - 1	14 - 6
	SP	Stud	8 - 4	13 - 4	17 - 10	7 - 11	12 - 9	17 - 0	-	12 - 3	16 - 4	-	11 - 9	15 - 8	-	11 - 1	14 - 6
	SP	Standard	8 - 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	SPF	SS	8 - 9	14 - 0	18 - 9	8 - 4	13 - 5	17 - 11	8 - 0	12 - 10	17 - 2	-	12 - 4	16 - 6	-	11 - 8	15 - 7
	SPF	No.1	8 - 6	13 - 8	18 - 3	8 - 2	13 - 1	17 - 5	7 - 10	12 - 6	16 - 9	-	12 - 0	16 - 1	-	11 - 5	15 - 2
	SPF	No.2	8 - 6	13 - 8	18 - 3	8 - 2	13 - 1	17 - 5	7 - 10	12 - 6	16 - 9	-	12 - 0	16 - 1	-	11 - 5	15 - 2
	SPF	No.3/Stud	8 - 1	13 - 0	17 - 4	-	12 - 5	16 - 7	-	11 - 10	15 - 10	-	11 - 5	15 - 3	-	10 - 9	14 - 5
	SPF	Standard	8 - 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DFL	SS	8 - 7	13 - 9	18 - 5	8 - 2	13 - 2	17 - 7	7 - 10	12 - 7	16 - 10	-	12 - 1	16 - 2	-	11 - 5	15 - 4
	DFL	No.1	8 - 3	13 - 3	17 - 8	7 - 11	12 - 8	16 - 11	-	12 - 2	16 - 2	-	11 - 8	15 - 7	-	11 - 0	14 - 9
	DFL	No.2	8 - 1	13 - 0	17 - 4	-	12 - 5	16 - 7	-	11 - 10	15 - 10	-	11 - 5	15 - 3	-	10 - 9	14 - 5
	DFL	No.3/Stud	-	12 - 4	16 - 6	-	11 - 10	15 - 9	-	11 - 4	15 - 2	-	10 - 11	14 - 7	-	10 - 4	13 - 8
	DFL	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	HF	SS	8 - 1	13 - 0	17 - 4	-	12 - 5	16 - 7	-	11 - 10	15 - 10	-	11 - 5	15 - 3	-	10 - 9	14 - 5
	HF	No.1	7 - 11	12 - 8	16 - 11	-	12 - 1	16 - 2	-	11 - 7	15 - 6	-	11 - 2	14 - 11	-	10 - 7	14 - 1
	HF	No.2	-	12 - 1	16 - 1	-	11 - 6	15 - 5	-	11 - 1	14 - 9	-	10 - 7	14 - 2	-	10 - 0	13 - 5
	HF	No.3/Stud	-	11 - 9	15 - 8	-	11 - 2	15 - 0	-	10 - 9	14 - 4	-	10 - 4	13 - 9	-	9 - 9	13 - 0
	HF	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SP	SS	8 - 5	13 - 6	18 - 0	8 - 1	12 - 11	17 - 3	-	12 - 4	16 - 6	-	11 - 11	15 - 11	-	11 - 3	15 - 0
	SP	No.1	8 - 1	13 - 0	17 - 4	-	12 - 5	16 - 7	-	11 - 10	15 - 10	-	11 - 5	15 - 3	-	10 - 9	14 - 5
24	SP	No.2	-	12 - 4	16 - 6	-	11 - 10	15 - 9	-	11 - 4	15 - 2	-	10 - 11	14 - 7	-	10 - 4	13 - 9
	SP	No.3	-	12 - 1	16 - 1	-	11 - 6	15 - 4	-	11 - 1	14 - 4	-	10 - 7	13 - 6	-	9 - 8	12 - 5
	SP	Stud	-	12 - 1	16 - 1	-	11 - 6	15 - 4	-	11 - 1	14 - 4	-	10 - 7	13 - 6	-	9 - 8	12 - 5
	SP	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SPF	SS	7 - 11	12 - 8	16 - 11	-	12 - 1	16 - 2	-	11 - 7	15 - 6	-	11 - 2	14 - 11	-	10 - 7	14 - 1
	SPF	No.1	-	12 - 4	16 - 6	-	11 - 10	15 - 9	-	11 - 4	15 - 2	-	10 - 11	14 - 7	-	10 - 4	13 - 9
	SPF	No.2	-	12 - 4	16 - 6	-	11 - 10	15 - 9	-	11 - 4	15 - 2	-	10 - 11	14 - 7	-	10 - 4	13 - 9
	SPF	No.3/Stud	-	11 - 9	15 - 8	-	11 - 2	15 - 0	-	10 - 9	14 - 4	-	10 - 4	13 - 9	-	9 - 9	13 - 0
	SPF	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DFL	SS	-	11 - 11	15 - 11	-	11 - 5	15 - 3	-	10 - 11	14 - 7	-	10 - 6	14 - 1	-	9 - 11	13 - 3
	DFL	No.1	-	11 - 6	15 - 4	-	11 - 0	14 - 8	-	10 - 6	14 - 1	-	10 - 1	13 - 6	-	9 - 7	12 - 9
	DFL	No.2	-	11 - 3	15 - 0	-	10 - 9	14 - 4	-	10 - 4	13 - 9	-	9 - 11	13 - 3	-	9 - 4	12 - 6
	DFL	No.3/Stud	-	10 - 9	14 - 4	-	10 - 3	13 - 7	-	9 - 10	12 - 9	-	9 - 4	12 - 0	-	8 - 7	11 - 0
	DFL	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	HF	SS	-	11 - 3	15 - 0	-	10 - 9	14 - 4	-	10 - 4	13 - 9	-	9 - 11	13 - 3	-	9 - 4	12 - 6
	HF	No.1	-	11 - 0	14 - 8	-	10 - 6	14 - 0	-	10 - 1	13 - 5	-	9 - 8	12 - 11	-	9 - 2	12 - 3
	HF	No.2	-	10 - 6	14 - 0	-	10 - 0	13 - 4	-	9 - 7	12 - 10	-	9 - 3	12 - 4	-	8 - 9	11 - 8
	HF	No.3/Stud	-	10 - 2	13 - 7	-	9 - 9	13 - 0	-	9 - 4	12 - 5	-	9 - 0	11 - 8	-	8 - 4	10 - 9
	HF	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SP	SS	-	11 - 9	15 - 8	-	11 - 2	15 - 0	-	10 - 9	14 - 4	-	10 - 4	13 - 9	-	9 - 9	13 - 0
	SP	No.1	-	11 - 3	15 - 0	-	10 - 9	14 - 4	-	10 - 4	13 - 9	-	9 - 11	13 - 3	-	9 - 4	12 - 6
	SP	No.2	-	10 - 9	14 - 4	-	10 - 3	13 - 8	-	9 - 10	13 - 2	-	9 - 5	12 - 7	-	8 - 11	11 - 11
	SP	No.3	-	10 - 4	13 - 3	-	9 - 8	12 - 4	-	9 - 0	11 - 7	-	8 - 6	10 - 10	-	7 - 10	10 - 0
	SP	Stud	-	10 - 4	13 - 3	-	9 - 8	12 - 4	-	9 - 0	11 - 7	-	8 - 6	10 - 10	-	7 - 10	10 - 0
	SP	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SPF	SS	-	11 - 0	14 - 8	-	10 - 6	14 - 0	-	10 - 1	13 - 5	-	9 - 8	12 - 11	-	9 - 2	12 - 3
	SPF	No.1	-	10 - 9	14 - 4	-	10 - 3	13 - 8	-	9 - 10	13 - 2	-	9 - 5	12 - 7	-	8 - 11	11 - 11
	SPF	No.2	-	10 - 9	14 - 4	-	10 - 3	13 - 8	-	9 - 10	13 - 2	-	9 - 5	12 - 7	-	8 - 11	11 - 11
	SPF	No.3/Stud	-	10 - 2	13 - 7	-	9 - 9	13 - 0	-	9 - 4	12 - 5	-	9 - 0	11 - 8	-	8 - 4	10 - 9
	SPF	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

See Table 3.20A footnotes.

Table 3.20A4 Maximum Exterior Loadbearing¹ and Non-Loadbearing Stud Lengths for Common Lumber Species Resisting Interior Zone Wind Loads - Stud Deflection Limit = H/180
(Fully Sheathed with a Minimum Sheathing Material)^a

**Exposure C
H/180**

Wind Speed 3-second gust (mph) (See Figure 1.1)			90			95			100			105		
Stud Spacing (in.)	Species	Grade	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8
Maximum Allowable Stud Length (ft.-in.) ¹														
12	DFL	SS	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13-10	20-0†	20-0†
	DFL	No.1	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13-9	20-0†	20-0†	13-3	20-0†	20-0†
	DFL	No.2	14-0††	20-0†	20-0†	13-11	20-0†	20-0†	13-5	20-0†	20-0†	13-0	20-0†	20-0†
	DFL	No.3/Stud	13-10	20-0†	20-0†	13-4	20-0†	20-0†	12-10	20-0†	20-0†	12-5	19-11	20-0†
	DFL	Standard	13-4	-	-	12-7	-	-	11-11	-	-	11-4	-	-
	HF	SS	14-0††	20-0†	20-0†	13-11	20-0†	20-0†	13-5	20-0†	20-0†	13-0	20-0†	20-0†
	HF	No.1	14-0††	20-0†	20-0†	13-8	20-0†	20-0†	13-2	20-0†	20-0†	12-9	20-0†	20-0†
	HF	No.2	13-6	20-0†	20-0†	13-0	20-0†	20-0†	12-6	20-0†	20-0†	12-1	19-5	20-0†
	HF	No.3/Stud	13-1	20-0†	20-0†	12-7	20-0†	20-0†	12-2	19-6	20-0†	11-9	18-11	20-0†
	HF	Standard	13-1	-	-	12-4	-	-	11-8	-	-	11-1	-	-
	SP	SS	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13-7	20-0†	20-0†
	SP	No.1	14-0††	20-0†	20-0†	13-11	20-0†	20-0†	13-5	20-0†	20-0†	13-0	20-0†	20-0†
	SP	No.2	13-10	20-0†	20-0†	13-4	20-0†	20-0†	12-10	20-0†	20-0†	12-5	19-11	20-0†
	SP	No.3	13-6	20-0†	20-0†	13-0	20-0†	20-0†	12-6	19-5	20-0†	12-1	18-5	20-0†
	SP	Stud	13-6	20-0†	20-0†	13-0	20-0†	20-0†	12-6	19-5	20-0†	12-1	18-5	20-0†
	SP	Standard	12-1	-	-	11-5	-	-	10-9	-	-	10-3	-	-
	SPF	SS	14-0††	20-0†	20-0†	13-8	20-0†	20-0†	13-2	20-0†	20-0†	12-9	20-0†	20-0†
	SPF	No.1	13-10	20-0†	20-0†	13-4	20-0†	20-0†	12-10	20-0†	20-0†	12-5	19-11	20-0†
	SPF	No.2	13-10	20-0†	20-0†	13-4	20-0†	20-0†	12-10	20-0†	20-0†	12-5	19-11	20-0†
	SPF	No.3/Stud	13-1	20-0†	20-0†	12-7	20-0†	20-0†	12-2	19-6	20-0†	11-9	18-11	20-0†
	SPF	Standard	13-1	-	-	12-4	-	-	11-8	-	-	11-1	-	-
16	DFL	SS	13-11	20-0†	20-0†	13-5	20-0†	20-0†	12-11	20-0†	20-0†	12-6	20-0†	20-0†
	DFL	No.1	13-4	20-0†	20-0†	12-11	20-0†	20-0†	12-5	20-0	20-0†	12-0	19-3	20-0†
	DFL	No.2	13-1	20-0†	20-0†	12-7	20-0†	20-0†	12-2	19-6	20-0†	11-9	18-11	20-0†
	DFL	No.3/Stud	12-6	20-0†	20-0†	12-0	19-3	20-0†	11-7	18-3	20-0†	11-3	17-3	20-0†
	DFL	Standard	11-5	-	-	10-10	-	-	10-3	-	-	9-9	-	-
	HF	SS	13-1	20-0†	20-0†	12-7	20-0†	20-0†	12-2	19-6	20-0†	11-9	18-11	20-0†
	HF	No.1	12-10	20-0†	20-0†	12-4	19-10	20-0†	11-11	19-1	20-0†	11-6	18-6	20-0†
	HF	No.2	12-2	19-7	20-0†	11-9	18-10	20-0†	11-4	18-2	20-0†	10-11	17-7	20-0†
	HF	No.3/Stud	11-10	19-0	20-0†	11-5	18-4	20-0†	11-0	17-8	20-0†	10-8	16-10	20-0†
	HF	Standard	11-2	-	-	10-7	-	-	10-0	-	-	9-6	-	-
	SP	SS	13-8	20-0†	20-0†	13-2	20-0†	20-0†	12-8	20-0†	20-0†	12-3	19-8	20-0†
	SP	No.1	13-1	20-0†	20-0†	12-7	20-0†	20-0†	12-2	19-6	20-0†	11-9	18-11	20-0†
	SP	No.2	12-6	20-0†	20-0†	12-0	19-4	20-0†	11-7	18-8	20-0†	11-3	18-0	20-0†
	SP	No.3	12-2	18-7	20-0†	11-7	17-7	20-0†	10-11	16-7	20-0†	10-4	15-9	20-0†
	SP	Stud	12-2	18-7	20-0†	11-7	17-7	20-0†	10-11	16-7	20-0†	10-4	15-9	20-0†
	SP	Standard	10-4	-	-	9-9	-	-	9-3	-	-	8-9	-	-
	SPF	SS	12-10	20-0†	20-0†	12-4	19-10	20-0†	11-11	19-1	20-0†	11-6	18-6	20-0†
	SPF	No.1	12-6	20-0†	20-0†	12-0	19-4	20-0†	11-7	18-8	20-0†	11-3	18-0	20-0†
	SPF	No.2	12-6	20-0†	20-0†	12-0	19-4	20-0†	11-7	18-8	20-0†	11-3	18-0	20-0†
	SPF	No.3/Stud	11-10	19-0	20-0†	11-5	18-4	20-0†	11-0	17-8	20-0†	10-8	16-10	20-0†
	SPF	Standard	11-2	-	-	10-7	-	-	10-0	-	-	9-6	-	-
24	DFL	SS	12-1	19-5	20-0†	11-7	18-8	20-0†	11-3	18-0	20-0†	10-10	17-5	20-0†
	DFL	No.1	11-7	18-8	20-0†	11-2	18-0	20-0†	10-9	17-4	20-0†	10-5	16-9	20-0†
	DFL	No.2	11-4	18-3	20-0†	10-11	17-7	20-0†	10-7	17-0	20-0†	10-3	16-5	20-0†
	DFL	No.3/Stud	10-10	16-5	20-0†	10-4	15-6	20-0	9-9	14-8	18-11	9-3	13-11	17-11
	DFL	Standard	9-3	-	-	8-8	-	-	8-3	-	-	7-10	-	-
	HF	SS	11-4	18-3	20-0†	10-11	17-7	20-0†	10-7	17-0	20-0†	10-3	16-5	20-0†
	HF	No.1	11-1	17-10	20-0†	10-8	17-2	20-0†	10-4	16-7	20-0†	10-0	16-0	20-0†
	HF	No.2	10-7	17-0	20-0†	10-2	16-4	20-0†	9-10	15-9	20-0†	9-6	15-3	20-0†
	HF	No.3/Stud	10-3	16-0	20-0†	9-11	15-1	19-5	9-6	14-3	18-5	9-0	13-7	17-5
	HF	Standard	9-0	-	-	8-6	-	-	8-1	-	-	-	-	-
	SP	SS	11-10	19-0	20-0†	11-5	18-4	20-0†	11-0	17-8	20-0†	10-8	17-1	20-0†
	SP	No.1	11-4	18-3	20-0†	10-11	17-7	20-0†	10-7	17-0	20-0†	10-3	16-5	20-0†
	SP	No.2	10-10	17-5	20-0†	10-5	16-9	20-0†	10-1	16-2	20-0†	9-9	15-8	20-0†
	SP	No.3	9-10	15-0	19-2	9-4	14-1	18-1	8-10	13-4	17-1	8-4	12-8	16-3
	SP	Stud	9-10	15-0	19-2	9-4	14-1	18-1	8-10	13-4	17-1	8-4	12-8	16-3
	SP	Standard	8-4	-	-	7-10	-	-	-	-	-	-	-	-
	SPF	SS	11-1	17-10	20-0†	10-8	17-2	20-0†	10-4	16-7	20-0†	10-0	16-0	20-0†
	SPF	No.1	10-10	17-5	20-0†	10-5	16-9	20-0†	10-1	16-2	20-0†	9-9	15-8	20-0†
	SPF	No.2	10-10	17-5	20-0†	10-5	16-9	20-0†	10-1	16-2	20-0†	9-9	15-8	20-0†
	SPF	No.3/Stud	10-3	16-0	20-0†	9-11	15-1	19-5	9-6	14-3	18-5	9-0	13-7	17-5
	SPF	Standard	9-0	-	-	8-6	-	-	8-1	-	-	-	-	-

See Table 3.20A footnotes.

Table 3.20A4 Maximum Exterior Loadbearing¹ and Non-Loadbearing Stud Lengths for Common Lumber Species Resisting Interior Zone Wind Loads - Stud Deflection Limit = H/180
(Fully Sheathed with a Minimum Sheathing Material)^a

**Exposure C
H/180**

Wind Speed 3-second gust (mph) (See Figure 1.1)			110			115			120			130			140		
Stud Spacing (in.)	Species	Grade	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8
Maximum Allowable Stud Length (ft.-in.) ¹																	
12	DFL	SS	13 - 4	20-0 ⁺	20-0 ⁺	13 - 0	20-0 ⁺	20-0 ⁺	12 - 7	20-0 ⁺	20-0 ⁺	11 - 11	19 - 1	20-0 ⁺	11 - 4	18 - 2	20-0 ⁺
	DFL	No.1	12 - 10	20-0 ⁺	20-0 ⁺	12 - 6	20-0 ⁺	20-0 ⁺	12 - 1	19 - 5	20-0 ⁺	11 - 5	18 - 4	20-0 ⁺	10 - 10	17 - 5	20-0 ⁺
	DFL	No.2	12 - 7	20-0 ⁺	20-0 ⁺	12 - 2	19 - 7	20-0 ⁺	11 - 10	19 - 0	20-0 ⁺	11 - 2	18 - 0	20-0 ⁺	10 - 8	17 - 1	20-0 ⁺
	DFL	No.3/Stud	12 - 0	19 - 2	20-0 ⁺	11 - 8	18 - 4	20-0 ⁺	11 - 4	17 - 6	20-0 ⁺	10 - 8	16 - 0	20-0 ⁺	9 - 10	14 - 10	19 - 1
	DFL	Standard	10 - 9	-	-	10 - 3	-	-	9 - 10	-	-	9 - 0	-	-	8 - 4	-	-
	HF	SS	12 - 7	20-0 ⁺	20-0 ⁺	12 - 2	19 - 7	20-0 ⁺	11 - 10	19 - 0	20-0 ⁺	11 - 2	18 - 0	20-0 ⁺	10 - 8	17 - 1	20-0 ⁺
	HF	No.1	12 - 4	19 - 9	20-0 ⁺	11 - 11	19 - 2	20-0 ⁺	11 - 7	18 - 7	20-0 ⁺	11 - 0	17 - 7	20-0 ⁺	10 - 5	16 - 8	20-0 ⁺
	HF	No.2	11 - 8	18 - 10	20-0 ⁺	11 - 4	18 - 3	20-0 ⁺	11 - 0	17 - 8	20-0 ⁺	10 - 5	16 - 9	20-0 ⁺	9 - 11	15 - 11	20-0 ⁺
	HF	No.3/Stud	11 - 5	18 - 3	20-0 ⁺	11 - 0	17 - 9	20-0 ⁺	10 - 9	17 - 0	20-0 ⁺	10 - 2	15 - 8	20-0 ⁺	9 - 7	14 - 5	18 - 7
	HF	Standard	10 - 6	-	-	10 - 0	-	-	9 - 7	-	-	8 - 10	-	-	8 - 2	-	-
	SP	SS	13 - 1	20-0 ⁺	20-0 ⁺	12 - 9	20-0 ⁺	20-0 ⁺	12 - 4	19 - 10	20-0 ⁺	11 - 8	18 - 9	20-0 ⁺	11 - 1	17 - 10	20-0 ⁺
	SP	No.1	12 - 7	20-0 ⁺	20-0 ⁺	12 - 2	19 - 7	20-0 ⁺	11 - 10	19 - 0	20-0 ⁺	11 - 2	18 - 0	20-0 ⁺	10 - 8	17 - 1	20-0 ⁺
	SP	No.2	12 - 0	19 - 3	20-0 ⁺	11 - 8	18 - 8	20-0 ⁺	11 - 4	18 - 2	20-0 ⁺	10 - 8	17 - 2	20-0 ⁺	10 - 2	16 - 4	20-0 ⁺
	SP	No.3	11 - 6	17 - 6	20-0 ⁺	11 - 0	16 - 8	20-0 ⁺	10 - 6	15 - 11	20-0 ⁺	9 - 8	14 - 8	18 - 9	8 - 11	13 - 6	17 - 4
	SP	Stud	11 - 6	17 - 6	20-0 ⁺	11 - 0	16 - 8	20-0 ⁺	10 - 6	15 - 11	20-0 ⁺	9 - 8	14 - 8	18 - 9	8 - 11	13 - 6	17 - 4
	SP	Standard	9 - 9	-	-	9 - 3	-	-	8 - 10	-	-	8 - 2	-	-	-	-	-
16	SPF	SS	12 - 4	19 - 9	20-0 ⁺	11 - 11	19 - 2	20-0 ⁺	11 - 7	18 - 7	20-0 ⁺	11 - 0	17 - 7	20-0 ⁺	10 - 5	16 - 8	20-0 ⁺
	SPF	No.1	12 - 0	19 - 3	20-0 ⁺	11 - 8	18 - 8	20-0 ⁺	11 - 4	18 - 2	20-0 ⁺	10 - 8	17 - 2	20-0 ⁺	10 - 2	16 - 4	20-0 ⁺
	SPF	No.2	12 - 0	19 - 3	20-0 ⁺	11 - 8	18 - 8	20-0 ⁺	11 - 4	18 - 2	20-0 ⁺	10 - 8	17 - 2	20-0 ⁺	10 - 2	16 - 4	20-0 ⁺
	SPF	No.3/Stud	11 - 5	18 - 3	20-0 ⁺	11 - 0	17 - 9	20-0 ⁺	10 - 9	17 - 0	20-0 ⁺	10 - 2	15 - 8	20-0 ⁺	9 - 7	14 - 5	18 - 7
	SPF	Standard	10 - 6	-	-	10 - 0	-	-	9 - 7	-	-	8 - 10	-	-	8 - 2	-	-
	DFL	SS	12 - 1	19 - 5	20-0 ⁺	11 - 9	18 - 10	20-0 ⁺	11 - 5	18 - 3	20-0 ⁺	10 - 9	17 - 3	20-0 ⁺	10 - 3	16 - 5	20-0 ⁺
	DFL	No.1	11 - 8	18 - 8	20-0 ⁺	11 - 3	18 - 1	20-0 ⁺	10 - 11	17 - 7	20-0 ⁺	10 - 4	16 - 7	20-0 ⁺	9 - 10	15 - 9	20-0 ⁺
	DFL	No.2	11 - 5	18 - 3	20-0 ⁺	11 - 0	17 - 9	20-0 ⁺	10 - 9	17 - 2	20-0 ⁺	10 - 2	16 - 3	20-0 ⁺	9 - 7	15 - 5	20-0 ⁺
	DFL	No.3/Stud	10 - 10	16 - 5	20-0 ⁺	10 - 5	15 - 8	20-0 ⁺	10 - 0	15 - 0	19 - 4	9 - 2	13 - 9	17 - 9	8 - 5	12 - 8	16 - 4
	DFL	Standard	9 - 3	-	-	8 - 10	-	-	8 - 5	-	-	-	-	-	-	-	-
	HF	SS	11 - 5	18 - 3	20-0 ⁺	11 - 0	17 - 9	20-0 ⁺	10 - 9	17 - 2	20-0 ⁺	10 - 2	16 - 3	20-0 ⁺	9 - 7	15 - 5	20-0 ⁺
	HF	No.1	11 - 2	17 - 10	20-0 ⁺	10 - 9	17 - 4	20-0 ⁺	10 - 6	16 - 10	20-0 ⁺	9 - 11	15 - 11	20-0 ⁺	9 - 5	15 - 1	20-0 ⁺
	HF	No.2	10 - 7	17 - 0	20-0 ⁺	10 - 3	16 - 6	20-0 ⁺	10 - 0	16 - 0	20-0 ⁺	9 - 5	15 - 1	20-0 ⁺	9 - 0	14 - 4	19 - 2
	HF	No.3/Stud	10 - 4	16 - 0	20-0 ⁺	10 - 0	15 - 3	19 - 8	9 - 8	14 - 7	18 - 10	8 - 11	13 - 5	17 - 3	8 - 3	12 - 4	15 - 11
	HF	Standard	9 - 0	-	-	8 - 7	-	-	8 - 3	-	-	-	-	-	-	-	-
	SP	SS	11 - 10	19 - 1	20-0 ⁺	11 - 6	18 - 6	20-0 ⁺	11 - 2	17 - 11	20-0 ⁺	10 - 7	16 - 11	20-0 ⁺	10 - 0	16 - 1	20-0 ⁺
24	SP	No.1	11 - 5	18 - 3	20-0 ⁺	11 - 0	17 - 9	20-0 ⁺	10 - 9	17 - 2	20-0 ⁺	10 - 2	16 - 3	20-0 ⁺	9 - 7	15 - 5	20-0 ⁺
	SP	No.2	10 - 10	17 - 5	20-0 ⁺	10 - 6	16 - 11	20-0 ⁺	10 - 3	16 - 5	20-0 ⁺	9 - 8	15 - 6	20-0 ⁺	9 - 2	14 - 9	19 - 8
	SP	No.3	9 - 10	15 - 0	19 - 3	9 - 5	14 - 4	18 - 4	9 - 0	13 - 8	17 - 6	8 - 3	12 - 6	16 - 1	-	11 - 7	14 - 10
	SP	Stud	9 - 10	15 - 0	19 - 3	9 - 5	14 - 4	18 - 4	9 - 0	13 - 8	17 - 6	8 - 3	12 - 6	16 - 1	-	11 - 7	14 - 10
	SP	Standard	8 - 4	-	-	8 - 0	-	-	-	-	-	-	-	-	-	-	-
	SPF	SS	11 - 2	17 - 10	20-0 ⁺	10 - 9	17 - 4	20-0 ⁺	10 - 6	16 - 10	20-0 ⁺	9 - 11	15 - 11	20-0 ⁺	9 - 5	15 - 1	20-0 ⁺
	SPF	No.1	10 - 10	17 - 5	20-0 ⁺	10 - 6	16 - 11	20-0 ⁺	10 - 3	16 - 5	20-0 ⁺	9 - 8	15 - 6	20-0 ⁺	9 - 2	14 - 9	19 - 8
	SPF	No.2	10 - 10	17 - 5	20-0 ⁺	10 - 6	16 - 11	20-0 ⁺	10 - 3	16 - 5	20-0 ⁺	9 - 8	15 - 6	20-0 ⁺	9 - 2	14 - 9	19 - 8
	SPF	No.3/Stud	10 - 4	16 - 0	20-0 ⁺	10 - 0	15 - 3	19 - 8	9 - 8	14 - 7	18 - 10	8 - 11	13 - 5	17 - 3	8 - 3	12 - 4	15 - 11
	SPF	Standard	9 - 0	-	-	8 - 7	-	-	8 - 3	-	-	-	-	-	-	-	-
	DFL	SS	10 - 6	16 - 10	20-0 ⁺	10 - 2	16 - 4	20-0 ⁺	9 - 11	15 - 10	20-0 ⁺	9 - 4	15 - 0	20-0 ⁺	8 - 10	14 - 3	19 - 0
	DFL	No.1	10 - 1	16 - 2	20-0 ⁺	9 - 9	15 - 8	20-0 ⁺	9 - 6	15 - 3	20-0 ⁺	9 - 0	14 - 5	19 - 3	8 - 6	13 - 8	18 - 3
	DFL	No.2	9 - 11	15 - 10	20-0 ⁺	9 - 7	15 - 5	20-0 ⁺	9 - 4	14 - 11	19 - 11	8 - 10	14 - 1	18 - 10	8 - 4	13 - 5	17 - 7
	DFL	No.3/Stud	8 - 10	13 - 3	17 - 1	8 - 5	12 - 7	16 - 3	8 - 0	12 - 1	15 - 6	-	11 - 1	14 - 3	-	10 - 3	13 - 2
	DFL	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	HF	SS	9 - 11	15 - 10	20-0 ⁺	9 - 7	15 - 5	20-0 ⁺	9 - 4	14 - 11	19 - 11	8 - 10	14 - 1	18 - 10	8 - 4	13 - 5	17 - 11
	HF	No.1	9 - 8	15 - 6	20-0 ⁺	9 - 4	15 - 0	20-0 ⁺	9 - 1	14 - 7	19 - 6	8 - 7	13 - 10	18 - 5	8 - 2	13 - 1	17 - 6
	HF	No.2	9 - 2	14 - 9	19 - 9	8 - 11	14 - 4	19 - 1	8 - 8	13 - 11	18 - 7	8 - 2	13 - 2	17 - 6	7 - 9	12 - 6	16 - 8
	HF	No.3/Stud	8 - 7	12 - 11	16 - 7	8 - 2	12 - 3	15 - 10	7 - 10	11 - 9	15 - 2	-	10 - 9	13 - 11	-	10 - 0	12 - 10
	HF	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SP	SS	10 - 4	16 - 6	20-0 ⁺	10 - 0	16 - 0	20-0 ⁺	9 - 8	15 - 7	20-0 ⁺	9 - 2	14 - 8	19 - 8	8 - 8	14 - 0	18 - 8
	SP	No.1	9 - 11	15 - 10	20-0 ⁺	9 - 7	15 - 5	20-0 ⁺	9 - 4	14 - 11	19 - 11	8 - 10	14 - 1	18 - 10	8 - 4	13 - 5	17 - 11
	SP	No.2	9 - 5	15 - 2	20-0 ⁺	9 - 2	14 - 8	19 - 7	8 - 11	14 - 3	19 - 0	8 - 5	13 - 6	17 - 6	8 - 0	12 - 6	16 - 2
	SP	No.3	7 - 11	12 - 1	15 - 5	-	11 - 6	14 - 9	-	11 - 0	14 - 1	-	10 - 1	12 - 11	-	9 - 4	11 - 11
	SP	Stud	7 - 11	12 - 1	15 - 5	-	11 - 6	14 - 9	-	11 - 0	14 - 1	-	10 - 1	12 - 11	-	9 - 4	11 - 11
	SP	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SPF	SS	9 - 8	15 - 6	20-0 ⁺	9 - 4	15 - 0	20-0 ⁺	9 - 1	14 - 7	19 - 6	8 - 7	13 - 10	18 - 5	8 - 2	13 - 1	17 - 6
	SPF	No.1	9 - 5	15 - 2	20-0 ⁺	9 - 2	14 - 8	19 - 7	8 - 11	14 - 3	19 - 0	8 - 5	13 - 6	18 - 0	8 - 0	12 - 10	17 - 1
	SPF	No.2	9 - 5	15 - 2	20-0 ⁺	9 - 2	14 - 8	19 - 7	8 - 11	14 - 3	19 - 0	8 - 5	13 - 6	18 - 0	8 - 0	12 - 10	17 - 1
	SPF	No.3/Stud	8 - 7	12 - 11	16 - 7	8 - 2	12 - 3	15 - 10	7 - 10	11 - 9	15 - 2	-	10 - 9	13 - 11	-	10 - 0	12 - 10
	SPF	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

See Table 3.20A footnotes.

Table 3.20A4 Maximum Exterior Loadbearing¹ and Non-Loadbearing Stud Lengths for Common Lumber Species Resisting Interior Zone Wind Loads - Stud Deflection Limit = H/180
(Fully Sheathed with a Minimum Sheathing Material)^a

**Exposure C
H/180**

Wind Speed 3-second gust (mph) (See Figure 1.1)			150			160			170			180			195		
Stud Spacing (in.)	Species	Grade	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8
Maximum Allowable Stud Length (ft.-in.) ¹																	
12	DFL	SS	10-9	17-3	20-0 ⁺	10-3	16-6	20-0 ⁺	9-10	15-10	20-0 ⁺	9-6	15-3	20-0 ⁺	9-0	14-5	19-3
	DFL	No.1	10-4	16-7	20-0 ⁺	9-11	15-11	20-0 ⁺	9-6	15-3	20-0 ⁺	9-1	14-8	19-7	8-8	13-10	18-6
	DFL	No.2	10-2	16-3	20-0 ⁺	9-8	15-7	20-0 ⁺	9-4	14-11	19-11	8-11	14-4	19-2	8-5	13-7	17-10
	DFL	No.3/Stud Standard	9-2	13-9	17-9	8-7	12-10	16-6	8-0	12-0	15-6	-	11-4	14-7	-	10-5	13-5
	DFL	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	HF	SS	10-2	16-3	20-0 ⁺	9-8	15-7	20-0 ⁺	9-4	14-11	19-11	8-11	14-4	19-2	8-5	13-7	18-1
	HF	No.1	9-11	15-11	20-0 ⁺	9-6	15-2	20-0 ⁺	9-1	14-7	19-6	8-9	14-0	18-9	8-3	13-3	17-8
	HF	No.2	9-5	15-2	20-0 ⁺	9-0	14-6	19-4	8-8	13-10	18-6	8-4	13-4	17-10	7-10	12-7	16-10
	HF	No.3/Stud Standard	8-11	13-5	17-3	8-4	12-6	16-1	7-10	11-9	15-1	-	11-0	14-2	-	10-1	13-0
	HF	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SP	SS	10-7	17-0	20-0 ⁺	10-1	16-2	20-0 ⁺	9-8	15-6	20-0 ⁺	9-4	14-11	19-11	8-10	14-1	18-10
	SP	No.1	10-2	16-3	20-0 ⁺	9-8	15-7	20-0 ⁺	9-4	14-11	19-11	8-11	14-4	19-2	8-5	13-7	18-1
	SP	No.2	9-8	15-6	20-0 ⁺	9-3	14-10	19-10	8-10	14-3	19-0	8-6	13-8	17-11	8-1	12-9	16-5
	SP	No.3	8-3	12-7	16-1	-	11-9	15-0	-	11-0	14-1	-	10-4	13-3	-	9-6	12-2
	SP	Stud	8-3	12-7	16-1	-	11-9	15-0	-	11-0	14-1	-	10-4	13-3	-	9-6	12-2
	SP	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SPF	SS	9-11	15-11	20-0 ⁺	9-6	15-2	20-0 ⁺	9-1	14-7	19-6	8-9	14-0	18-9	8-3	13-3	17-8
	SPF	No.1	9-8	15-6	20-0 ⁺	9-3	14-10	19-10	8-10	14-3	19-0	8-6	13-8	18-3	8-1	12-11	17-3
	SPF	No.2	9-8	15-6	20-0 ⁺	9-3	14-10	19-10	8-10	14-3	19-0	8-6	13-8	18-3	8-1	12-11	17-3
	SPF	No.3/Stud Standard	8-11	13-5	17-3	8-4	12-6	16-1	7-10	11-9	15-1	-	11-0	14-2	-	10-1	13-0
	SPF	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	DFL	SS	9-9	15-8	20-0 ⁺	9-4	14-11	20-0	8-11	14-4	19-2	8-7	13-9	18-5	8-1	13-0	17-5
	DFL	No.1	9-4	15-0	20-0 ⁺	9-0	14-4	19-2	8-7	13-9	18-5	8-3	13-3	17-8	7-10	12-6	16-2
	DFL	No.2	9-2	14-9	19-8	8-9	14-1	18-9	8-5	13-6	17-9	8-1	12-11	16-8	-	11-11	15-4
	DFL	No.3/Stud Standard	7-10	11-10	15-2	-	11-0	14-2	-	10-4	13-3	-	9-8	12-6	-	8-11	11-6
	DFL	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	HF	SS	9-2	14-9	19-8	8-9	14-1	18-9	8-5	13-6	18-0	8-1	13-0	17-4	-	12-3	16-4
	HF	No.1	9-0	14-5	19-3	8-7	13-9	18-4	8-3	13-2	17-7	7-11	12-8	16-11	-	12-0	16-0
	HF	No.2	8-6	13-8	18-3	8-2	13-1	17-6	7-10	12-6	16-9	-	12-1	16-1	-	11-5	14-10
	HF	No.3/Stud Standard	-	11-6	14-10	-	10-9	13-10	-	10-1	12-11	-	9-5	12-2	-	8-8	11-2
	HF	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SP	SS	9-7	15-4	20-0 ⁺	9-2	14-8	19-7	8-9	14-1	18-9	8-5	13-6	18-0	8-0	12-9	17-1
	SP	No.1	9-2	14-9	19-8	8-9	14-1	18-9	8-5	13-6	18-0	8-1	13-0	17-4	-	12-3	16-4
	SP	No.2	8-9	14-1	18-8	8-4	13-5	17-5	8-0	12-8	16-4	-	11-11	15-4	-	10-11	14-1
	SP	No.3	-	10-9	13-9	-	10-0	12-10	-	9-5	12-1	-	8-10	11-4	-	8-2	10-5
	SP	Stud	-	10-9	13-9	-	10-0	12-10	-	9-5	12-1	-	8-10	11-4	-	8-2	10-5
	SP	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SPF	SS	9-0	14-5	19-3	8-7	13-9	18-4	8-3	13-2	17-7	7-11	12-8	16-11	-	12-0	16-0
	SPF	No.1	8-9	14-1	18-9	8-4	13-5	17-11	8-0	12-10	17-2	-	12-4	16-5	-	11-8	15-1
	SPF	No.2	8-9	14-1	18-9	8-4	13-5	17-11	8-0	12-10	17-2	-	12-4	16-5	-	11-8	15-1
	SPF	No.3/Stud Standard	-	11-6	14-10	-	10-9	13-10	-	10-1	12-11	-	9-5	12-2	-	8-8	11-2
	SPF	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	DFL	SS	8-5	13-7	18-1	8-1	13-0	17-4	7-9	12-5	16-7	-	11-11	15-11	-	11-4	15-1
	DFL	No.1	8-2	13-1	17-3	7-9	12-6	16-1	-	11-9	15-1	-	11-0	14-2	-	10-1	13-0
	DFL	No.2	8-0	12-8	16-4	-	11-10	15-3	-	11-1	14-3	-	10-5	13-5	-	9-7	12-4
	DFL	No.3/Stud Standard	-	9-6	12-3	-	8-10	11-5	-	8-4	10-8	-	7-10	10-1	-	-	9-3
	DFL	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	HF	SS	8-0	12-9	17-1	-	12-3	16-4	-	11-8	15-8	-	11-3	15-0	-	10-8	14-2
	HF	No.1	7-9	12-6	16-8	-	11-11	15-11	-	11-5	14-11	-	10-11	14-0	-	10-0	12-10
	HF	No.2	-	11-11	15-10	-	11-4	14-9	-	10-9	13-10	-	10-1	13-0	-	9-3	11-11
	HF	No.3/Stud Standard	-	9-3	11-11	-	8-8	11-1	-	8-1	10-5	-	-	9-10	-	-	9-0
	HF	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SP	SS	8-4	13-4	17-9	7-11	12-9	17-0	-	12-2	16-3	-	11-9	15-8	-	11-1	14-10
	SP	No.1	8-0	12-9	17-1	-	12-3	16-4	-	11-8	15-5	-	11-3	14-6	-	10-4	13-4
	SP	No.2	-	11-8	15-0	-	10-10	14-0	-	10-2	13-2	-	9-7	12-4	-	8-10	11-4
	SP	No.3	-	8-8	11-1	-	8-1	10-4	-	-	9-8	-	-	9-1	-	-	8-5
	SP	Stud	-	8-8	11-1	-	8-1	10-4	-	-	9-8	-	-	9-1	-	-	8-5
	SP	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SPF	SS	7-9	12-6	16-8	-	11-11	15-11	-	11-5	15-3	-	11-0	14-8	-	10-5	13-11
	SPF	No.1	-	12-2	16-1	-	11-8	15-0	-	10-11	14-1	-	10-3	13-3	-	9-5	12-2
	SPF	No.2	-	12-2	16-1	-	11-8	15-0	-	10-11	14-1	-	10-3	13-3	-	9-5	12-2
	SPF	No.3/Stud Standard	-	9-3	11-11	-	8-8	11-1	-	8-1	10-5	-	-	9-10	-	-	9-0
	SPF	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

See Table 3.20A footnotes.

Table 3.20A5 Maximum Exterior Loadbearing¹ and Non-Loadbearing Stud Lengths for Common Lumber Species Resisting Interior Zone Wind Loads - Stud Deflection Limit = H/240

(Fully Sheathed with a Minimum Sheathing Material)^a

**Exposure C
H/240**

Wind Speed 3-second gust (mph) (See Figure 1.1)			90			95			100			105		
Stud Spacing (in.)	Species	Grade	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8
Maximum Allowable Stud Length (ft.-in.) ¹														
12	DFL	SS	13 - 11	20-0†	20-0†	13 - 5	20-0†	20-0†	12 - 11	20-0†	20-0†	12 - 6	20-0†	20-0†
	DFL	No.1	13 - 4	20-0†	20-0†	12 - 11	20-0†	20-0†	12 - 5	20 - 0	20-0†	12 - 0	19 - 3	20-0†
	DFL	No.2	13 - 1	20-0†	20-0†	12 - 7	20-0†	20-0†	12 - 2	19 - 6	20-0†	11 - 9	18 - 11	20-0†
	DFL	No.3/Stud	12 - 6	20-0†	20-0†	12 - 0	19 - 4	20-0†	11 - 7	18 - 8	20-0†	11 - 3	18 - 0	20-0†
	DFL	Standard	12 - 6	-	-	12 - 0	-	-	11 - 7	-	-	11 - 3	-	-
	HF	SS	13 - 1	20-0†	20-0†	12 - 7	20-0†	20-0†	12 - 2	19 - 6	20-0†	11 - 9	18 - 11	20-0†
	HF	No.1	12 - 10	20-0†	20-0†	12 - 4	19 - 10	20-0†	11 - 11	19 - 1	20-0†	11 - 6	18 - 6	20-0†
	HF	No.2	12 - 2	19 - 7	20-0†	11 - 9	18 - 10	20-0†	11 - 4	18 - 2	20-0†	10 - 11	17 - 7	20-0†
	HF	No.3/Stud	11 - 10	19 - 0	20-0†	11 - 5	18 - 4	20-0†	11 - 0	17 - 8	20-0†	10 - 8	17 - 1	20-0†
	HF	Standard	11 - 10	-	-	11 - 5	-	-	11 - 0	-	-	10 - 8	-	-
	SP	SS	13 - 8	20-0†	20-0†	13 - 2	20-0†	20-0†	12 - 8	20-0†	20-0†	12 - 3	19 - 8	20-0†
	SP	No.1	13 - 1	20-0†	20-0†	12 - 7	20-0†	20-0†	12 - 2	19 - 6	20-0†	11 - 9	18 - 11	20-0†
	SP	No.2	12 - 6	20-0†	20-0†	12 - 0	19 - 4	20-0†	11 - 7	18 - 8	20-0†	11 - 3	18 - 0	20-0†
	SP	No.3	12 - 2	19 - 7	20-0†	11 - 9	18 - 10	20-0†	11 - 4	18 - 2	20-0†	10 - 11	17 - 7	20-0†
	SP	Stud	12 - 2	19 - 7	20-0†	11 - 9	18 - 10	20-0†	11 - 4	18 - 2	20-0†	10 - 11	17 - 7	20-0†
	SP	Standard	11 - 10	-	-	11 - 5	-	-	10 - 9	-	-	10 - 3	-	-
	SPF	SS	12 - 10	20-0†	20-0†	12 - 4	19 - 10	20-0†	11 - 11	19 - 1	20-0†	11 - 6	18 - 6	20-0†
	SPF	No.1	12 - 6	20-0†	20-0†	12 - 0	19 - 4	20-0†	11 - 7	18 - 8	20-0†	11 - 3	18 - 0	20-0†
	SPF	No.2	12 - 6	20-0†	20-0†	12 - 0	19 - 4	20-0†	11 - 7	18 - 8	20-0†	11 - 3	18 - 0	20-0†
	SPF	No.3/Stud	11 - 10	19 - 0	20-0†	11 - 5	18 - 4	20-0†	11 - 0	17 - 8	20-0†	10 - 8	17 - 1	20-0†
	SPF	Standard	11 - 10	-	-	11 - 5	-	-	11 - 0	-	-	10 - 8	-	-
16	DFL	SS	12 - 7	20-0†	20-0†	12 - 1	19 - 5	20-0†	11 - 8	18 - 9	20-0†	11 - 4	18 - 2	20-0†
	DFL	No.1	12 - 1	19 - 5	20-0†	11 - 8	18 - 8	20-0†	11 - 3	18 - 1	20-0†	10 - 10	17 - 5	20-0†
	DFL	No.2	11 - 10	19 - 0	20-0†	11 - 5	18 - 4	20-0†	11 - 0	17 - 8	20-0†	10 - 8	17 - 1	20-0†
	DFL	No.3/Stud	11 - 4	18 - 2	20-0†	10 - 11	17 - 6	20-0†	10 - 6	16 - 10	20-0†	10 - 2	16 - 4	20-0†
	DFL	Standard	11 - 4	-	-	10 - 10	-	-	10 - 3	-	-	9 - 9	-	-
	HF	SS	11 - 10	19 - 0	20-0†	11 - 5	18 - 4	20-0†	11 - 0	17 - 8	20-0†	10 - 8	17 - 1	20-0†
	HF	No.1	11 - 7	18 - 7	20-0†	11 - 2	17 - 11	20-0†	10 - 9	17 - 3	20-0†	10 - 5	16 - 8	20-0†
	HF	No.2	11 - 0	17 - 8	20-0†	10 - 7	17 - 0	20-0†	10 - 3	16 - 5	20-0†	9 - 11	15 - 11	20-0†
	HF	No.3/Stud	10 - 9	17 - 2	20-0†	10 - 4	16 - 7	20-0†	10 - 0	16 - 0	20-0†	9 - 7	15 - 5	20-0†
	HF	Standard	10 - 9	-	-	10 - 4	-	-	10 - 0	-	-	9 - 6	-	-
	SP	SS	12 - 4	19 - 10	20-0†	11 - 11	19 - 1	20-0†	11 - 6	18 - 5	20-0†	11 - 1	17 - 10	20-0†
	SP	No.1	11 - 10	19 - 0	20-0†	11 - 5	18 - 4	20-0†	11 - 0	17 - 8	20-0†	10 - 8	17 - 1	20-0†
	SP	No.2	11 - 4	18 - 2	20-0†	10 - 11	17 - 6	20-0†	10 - 6	16 - 10	20-0†	10 - 2	16 - 4	20-0†
	SP	No.3	11 - 0	17 - 8	20-0†	10 - 7	17 - 0	20-0†	10 - 3	16 - 5	20-0†	9 - 11	15 - 9	20-0†
	SP	Stud	11 - 0	17 - 8	20-0†	10 - 7	17 - 0	20-0†	10 - 3	16 - 5	20-0†	9 - 11	15 - 9	20-0†
	SP	Standard	10 - 4	-	-	9 - 9	-	-	9 - 3	-	-	8 - 9	-	-
	SPF	SS	11 - 7	18 - 7	20-0†	11 - 2	17 - 11	20-0†	10 - 9	17 - 3	20-0†	10 - 5	16 - 8	20-0†
	SPF	No.1	11 - 4	18 - 2	20-0†	10 - 11	17 - 6	20-0†	10 - 6	16 - 10	20-0†	10 - 2	16 - 4	20-0†
	SPF	No.2	11 - 4	18 - 2	20-0†	10 - 11	17 - 6	20-0†	10 - 6	16 - 10	20-0†	10 - 2	16 - 4	20-0†
	SPF	No.3/Stud	10 - 9	17 - 2	20-0†	10 - 4	16 - 7	20-0†	10 - 0	16 - 0	20-0†	9 - 7	15 - 5	20-0†
	SPF	Standard	10 - 9	-	-	10 - 4	-	-	10 - 0	-	-	9 - 6	-	-
24	DFL	SS	10 - 11	17 - 6	20-0†	10 - 6	16 - 11	20-0†	10 - 2	16 - 3	20-0†	9 - 10	15 - 9	20-0†
	DFL	No.1	10 - 6	16 - 10	20-0†	10 - 1	16 - 3	20-0†	9 - 9	15 - 8	20-0†	9 - 5	15 - 2	20-0†
	DFL	No.2	10 - 3	16 - 6	20-0†	9 - 11	15 - 11	20-0†	9 - 7	15 - 4	20-0†	9 - 3	14 - 10	19 - 10
	DFL	No.3/Stud	9 - 10	15 - 9	20-0†	9 - 5	15 - 2	20 - 0	9 - 1	14 - 8	18 - 11	8 - 10	13 - 11	17 - 11
	DFL	Standard	9 - 3	-	-	8 - 8	-	-	8 - 3	-	-	7 - 10	-	-
	HF	SS	10 - 3	16 - 6	20-0†	9 - 11	15 - 11	20-0†	9 - 7	15 - 4	20-0†	9 - 3	14 - 10	19 - 10
	HF	No.1	10 - 1	16 - 2	20-0†	9 - 8	15 - 6	20-0†	9 - 4	15 - 0	20-0†	9 - 0	14 - 6	19 - 4
	HF	No.2	9 - 7	15 - 4	20-0†	9 - 3	14 - 9	19 - 9	8 - 11	14 - 3	19 - 1	8 - 7	13 - 9	18 - 5
	HF	No.3/Stud	9 - 4	14 - 11	19 - 11	9 - 0	14 - 4	19 - 2	8 - 8	13 - 10	18 - 5	8 - 4	13 - 5	17 - 5
	HF	Standard	9 - 0	-	-	8 - 6	-	-	8 - 1	-	-	-	-	-
	SP	SS	10 - 9	17 - 2	20-0†	10 - 4	16 - 7	20-0†	10 - 0	16 - 0	20-0†	9 - 7	15 - 5	20-0†
	SP	No.1	10 - 3	16 - 6	20-0†	9 - 11	15 - 11	20-0†	9 - 7	15 - 4	20-0†	9 - 3	14 - 10	19 - 10
	SP	No.2	9 - 10	15 - 9	20-0†	9 - 5	15 - 2	20-0†	9 - 1	14 - 8	19 - 7	8 - 10	14 - 2	18 - 11
	SP	No.3	9 - 7	15 - 0	19 - 2	9 - 3	14 - 1	18 - 1	8 - 10	13 - 4	17 - 1	8 - 4	12 - 8	16 - 3
	SP	Stud	9 - 7	15 - 0	19 - 2	9 - 3	14 - 1	18 - 1	8 - 10	13 - 4	17 - 1	8 - 4	12 - 8	16 - 3
	SP	Standard	8 - 4	-	-	7 - 10	-	-	-	-	-	-	-	-
	SPF	SS	10 - 1	16 - 2	20-0†	9 - 8	15 - 6	20-0†	9 - 4	15 - 0	20-0†	9 - 0	14 - 6	19 - 4
	SPF	No.1	9 - 10	15 - 9	20-0†	9 - 5	15 - 2	20-0†	9 - 1	14 - 8	19 - 7	8 - 10	14 - 2	18 - 11
	SPF	No.2	9 - 10	15 - 9	20-0†	9 - 5	15 - 2	20-0†	9 - 1	14 - 8	19 - 7	8 - 10	14 - 2	18 - 11
	SPF	No.3/Stud	9 - 4	14 - 11	19 - 11	9 - 0	14 - 4	19 - 2	8 - 8	13 - 10	18 - 5	8 - 4	13 - 5	17 - 5
	SPF	Standard	9 - 0	-	-	8 - 6	-	-	8 - 1	-	-	-	-	-

See Table 3.20A footnotes.

Table 3.20A5 Maximum Exterior Loadbearing¹ and Non-Loadbearing Stud Lengths for Common Lumber Species Resisting Interior Zone Wind Loads - Stud Deflection Limit = H/240
(Fully Sheathed with a Minimum Sheathing Material)^a

Exposure C
H/240

Wind Speed 3-second gust (mph) (See Figure 1.1)			110			115			120			130			140		
Stud Spacing (in.)	Species	Grade	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8
Maximum Allowable Stud Length (ft.-in.) ¹																	
12	DFL	SS	12 - 1	19 - 5	20-0†	11 - 9	18 - 10	20-0†	11 - 5	18 - 3	20-0†	10 - 9	17 - 3	20-0†	10 - 3	16 - 5	20-0†
	DFL	No.1	11 - 8	18 - 8	20-0†	11 - 3	18 - 1	20-0†	10 - 11	17 - 7	20-0†	10 - 4	16 - 7	20-0†	9 - 10	15 - 9	20-0†
	DFL	No.2	11 - 5	18 - 3	20-0†	11 - 0	17 - 9	20-0†	10 - 9	17 - 2	20-0†	10 - 2	16 - 3	20-0†	9 - 7	15 - 5	20-0†
	DFL	No.3/Stud	10 - 10	17 - 5	20-0†	10 - 6	16 - 11	20-0†	10 - 3	16 - 5	20-0†	9 - 8	15 - 6	20-0†	9 - 2	14 - 9	19 - 1
	DFL	Standard	10 - 9	-	-	10 - 3	-	-	9 - 10	-	-	9 - 0	-	-	8 - 4	-	-
	HF	SS	11 - 5	18 - 3	20-0†	11 - 0	17 - 9	20-0†	10 - 9	17 - 2	20-0†	10 - 2	16 - 3	20-0†	9 - 7	15 - 5	20-0†
	HF	No.1	11 - 2	17 - 10	20-0†	10 - 9	17 - 4	20-0†	10 - 6	16 - 10	20-0†	9 - 11	15 - 11	20-0†	9 - 5	15 - 1	20-0†
	HF	No.2	10 - 7	17 - 0	20-0†	10 - 3	16 - 6	20-0†	10 - 0	16 - 0	20-0†	9 - 5	15 - 1	20-0†	9 - 0	14 - 4	19 - 2
	HF	No.3/Stud	10 - 4	16 - 6	20-0†	10 - 0	16 - 0	20-0†	9 - 8	15 - 7	20-0†	9 - 2	14 - 8	19 - 8	8 - 8	14 - 0	18 - 7
	HF	Standard	10 - 4	-	-	10 - 0	-	-	9 - 7	-	-	8 - 10	-	-	8 - 2	-	-
	SP	SS	11 - 10	19 - 1	20-0†	11 - 6	18 - 6	20-0†	11 - 2	17 - 11	20-0†	10 - 7	16 - 11	20-0†	10 - 0	16 - 1	20-0†
	SP	No.1	11 - 5	18 - 3	20-0†	11 - 0	17 - 9	20-0†	10 - 9	17 - 2	20-0†	10 - 2	16 - 3	20-0†	9 - 7	15 - 5	20-0†
	SP	No.2	10 - 10	17 - 5	20-0†	10 - 6	16 - 11	20-0†	10 - 3	16 - 5	20-0†	9 - 8	15 - 6	20-0†	9 - 2	14 - 9	19 - 8
	SP	No.3	10 - 7	17 - 0	20-0†	10 - 3	16 - 6	20-0†	10 - 0	15 - 11	20-0†	9 - 5	14 - 8	18 - 9	8 - 11	13 - 6	17 - 4
	SP	Stud	10 - 7	17 - 0	20-0†	10 - 3	16 - 6	20-0†	10 - 0	15 - 11	20-0†	9 - 5	14 - 8	18 - 9	8 - 11	13 - 6	17 - 4
	SP	Standard	9 - 9	-	-	9 - 3	-	-	8 - 10	-	-	8 - 2	-	-	-	-	-
	SPF	SS	11 - 2	17 - 10	20-0†	10 - 9	17 - 4	20-0†	10 - 6	16 - 10	20-0†	9 - 11	15 - 11	20-0†	9 - 5	15 - 1	20-0†
	SPF	No.1	10 - 10	17 - 5	20-0†	10 - 6	16 - 11	20-0†	10 - 3	16 - 5	20-0†	9 - 8	15 - 6	20-0†	9 - 2	14 - 9	19 - 8
	SPF	No.2	10 - 10	17 - 5	20-0†	10 - 6	16 - 11	20-0†	10 - 3	16 - 5	20-0†	9 - 8	15 - 6	20-0†	9 - 2	14 - 9	19 - 8
	SPF	No.3/Stud	10 - 4	16 - 6	20-0†	10 - 0	16 - 0	20-0†	9 - 8	15 - 7	20-0†	9 - 2	14 - 8	19 - 8	8 - 8	14 - 0	18 - 7
	SPF	Standard	10 - 4	-	-	10 - 0	-	-	9 - 7	-	-	8 - 10	-	-	8 - 2	-	-
16	DFL	SS	10 - 11	17 - 7	20-0†	10 - 7	17 - 0	20-0†	10 - 3	16 - 6	20-0†	9 - 9	15 - 7	20-0†	9 - 3	14 - 10	19 - 10
	DFL	No.1	10 - 6	16 - 11	20-0†	10 - 2	16 - 4	20-0†	9 - 11	15 - 11	20-0†	9 - 4	15 - 0	20-0†	8 - 11	14 - 3	19 - 1
	DFL	No.2	10 - 4	16 - 6	20-0†	10 - 0	16 - 0	20-0†	9 - 8	15 - 7	20-0†	9 - 2	14 - 8	19 - 8	8 - 8	14 - 0	18 - 8
	DFL	No.3/Stud	9 - 10	15 - 9	20-0†	9 - 6	15 - 4	20-0†	9 - 3	14 - 10	19 - 4	8 - 9	13 - 9	17 - 9	8 - 4	12 - 8	16 - 4
	DFL	Standard	9 - 3	-	-	8 - 10	-	-	8 - 5	-	-	-	-	-	-	-	-
	HF	SS	10 - 4	16 - 6	20-0†	10 - 0	16 - 0	20-0†	9 - 8	15 - 7	20-0†	9 - 2	14 - 8	19 - 8	8 - 8	14 - 0	18 - 8
	HF	No.1	10 - 1	16 - 2	20-0†	9 - 9	15 - 8	20-0†	9 - 6	15 - 2	20-0†	9 - 0	14 - 5	19 - 3	8 - 6	13 - 8	18 - 3
	HF	No.2	9 - 7	15 - 4	20-0†	9 - 3	14 - 11	19 - 11	9 - 0	14 - 6	19 - 4	8 - 6	13 - 8	18 - 3	8 - 1	13 - 0	17 - 4
	HF	No.3/Stud	9 - 4	14 - 11	20 - 0	9 - 0	14 - 6	19 - 4	8 - 9	14 - 1	18 - 9	8 - 4	13 - 4	17 - 3	7 - 11	12 - 4	15 - 11
	HF	Standard	9 - 0	-	-	8 - 7	-	-	8 - 3	-	-	-	-	-	-	-	-
	SP	SS	10 - 9	17 - 3	20-0†	10 - 5	16 - 8	20-0†	10 - 1	16 - 2	20-0†	9 - 7	15 - 4	20-0†	9 - 1	14 - 7	19 - 5
	SP	No.1	10 - 4	16 - 6	20-0†	10 - 0	16 - 0	20-0†	9 - 8	15 - 7	20-0†	9 - 2	14 - 8	19 - 8	8 - 8	14 - 0	18 - 8
	SP	No.2	9 - 10	15 - 9	20-0†	9 - 6	15 - 4	20-0†	9 - 3	14 - 10	19 - 10	8 - 9	14 - 0	18 - 9	8 - 4	13 - 4	17 - 10
	SP	No.3	9 - 7	15 - 0	19 - 3	9 - 3	14 - 4	18 - 4	9 - 0	13 - 8	17 - 6	8 - 3	12 - 6	16 - 1	-	11 - 7	14 - 10
	SP	Stud	9 - 7	15 - 0	19 - 3	9 - 3	14 - 4	18 - 4	9 - 0	13 - 8	17 - 6	8 - 3	12 - 6	16 - 1	-	11 - 7	14 - 10
	SP	Standard	8 - 4	-	-	8 - 0	-	-	-	-	-	-	-	-	-	-	-
	SPF	SS	10 - 1	16 - 2	20-0†	9 - 9	15 - 8	20-0†	9 - 6	15 - 2	20-0†	9 - 0	14 - 5	19 - 3	8 - 6	13 - 8	18 - 3
	SPF	No.1	9 - 10	15 - 9	20-0†	9 - 6	15 - 4	20-0†	9 - 3	14 - 10	19 - 10	8 - 9	14 - 0	18 - 9	8 - 4	13 - 4	17 - 10
	SPF	No.2	9 - 10	15 - 9	20-0†	9 - 6	15 - 4	20-0†	9 - 3	14 - 10	19 - 10	8 - 9	14 - 0	18 - 9	8 - 4	13 - 4	17 - 10
	SPF	No.3/Stud	9 - 4	14 - 11	20 - 0	9 - 0	14 - 6	19 - 4	8 - 9	14 - 1	18 - 9	8 - 4	13 - 4	17 - 3	7 - 11	12 - 4	15 - 11
	SPF	Standard	9 - 0	-	-	8 - 7	-	-	8 - 3	-	-	-	-	-	-	-	-
24	DFL	SS	9 - 6	15 - 3	20-0†	9 - 2	14 - 9	19 - 9	8 - 11	14 - 4	19 - 2	8 - 5	13 - 7	18 - 1	8 - 0	12 - 10	17 - 2
	DFL	No.1	9 - 2	14 - 8	19 - 7	8 - 10	14 - 2	19 - 0	8 - 7	13 - 9	18 - 5	8 - 2	13 - 0	17 - 5	-	12 - 5	16 - 6
	DFL	No.2	8 - 11	14 - 4	19 - 2	8 - 8	13 - 11	18 - 7	8 - 5	13 - 6	18 - 0	8 - 0	12 - 9	17 - 1	-	12 - 1	16 - 2
	DFL	No.3/Stud	8 - 6	13 - 3	17 - 1	8 - 3	12 - 7	16 - 3	8 - 0	12 - 1	15 - 6	-	11 - 1	14 - 3	-	10 - 3	13 - 2
	DFL	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	HF	SS	8 - 11	14 - 4	19 - 2	8 - 8	13 - 11	18 - 7	8 - 5	13 - 6	18 - 0	8 - 0	12 - 9	17 - 1	-	12 - 1	16 - 2
	HF	No.1	8 - 9	14 - 0	18 - 9	8 - 6	13 - 7	18 - 2	8 - 3	13 - 2	17 - 8	7 - 9	12 - 6	16 - 8	-	11 - 10	15 - 10
	HF	No.2	8 - 4	13 - 4	17 - 10	8 - 1	12 - 11	17 - 3	7 - 10	12 - 7	16 - 9	-	11 - 10	15 - 10	-	11 - 3	15 - 1
	HF	No.3/Stud	8 - 1	12 - 11	16 - 7	7 - 10	12 - 3	15 - 10	-	11 - 9	15 - 2	-	10 - 9	13 - 11	-	10 - 0	12 - 10
	HF	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SP	SS	9 - 4	14 - 11	20 - 0	9 - 0	14 - 6	19 - 4	8 - 9	14 - 1	18 - 9	8 - 4	13 - 4	17 - 9	7 - 11	12 - 8	16 - 10
	SP	No.1	8 - 11	14 - 4	19 - 2	8 - 8	13 - 11	18 - 7	8 - 5	13 - 6	18 - 0	8 - 0	12 - 9	17 - 1	-	12 - 1	16 - 2
	SP	No.2	8 - 6	13 - 8	18 - 3	8 - 3	13 - 3	17 - 9	8 - 0	12 - 11	17 - 3	-	12 - 2	16 - 3	-	11 - 7	15 - 5
	SP	No.3	7 - 11	12 - 1	15 - 5	-	11 - 6	14 - 9	-	11 - 0	14 - 1	-	10 - 1	12 - 11	-	9 - 4	11 - 11
	SP	Stud	7 - 11	12 - 1	15 - 5	-	11 - 6	14 - 9	-	11 - 0	14 - 1	-	10 - 1	12 - 11	-	9 - 4	11 - 11
	SP	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SPF	SS	8 - 9	14 - 0	18 - 9	8 - 6	13 - 7	18 - 2	8 - 3	13 - 2	17 - 8	7 - 9	12 - 6	16 - 8	-	11 - 10	15 - 10
	SPF	No.1	8 - 6	13 - 8	18 - 3	8 - 3	13 - 3	17 - 9	8 - 0	12 - 11	17 - 3	-	12 - 2	16 - 3	-	11 - 7	15 - 5
	SPF	No.2	8 - 6	13 - 8	18 - 3	8 - 3	13 - 3	17 - 9	8 - 0	12 - 11	17 - 3	-	12 - 2	16 - 3	-	11 - 7	15 - 5
	SPF	No.3/Stud	8 - 1	12 - 11	16 - 7	7 - 10	12 - 3	15 - 10	-	11 - 9	15 - 2	-	10 - 9	13 - 11	-	10 - 0	12 - 10
	SPF	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

See Table 3.20A footnotes.

Table 3.20A5 Maximum Exterior Loadbearing¹ and Non-Loadbearing Stud Lengths for Common Lumber Species Resisting Interior Zone Wind Loads - Stud Deflection Limit = H/240
(Fully Sheathed with a Minimum Sheathing Material)^a

**Exposure C
H/240**

Wind Speed 3-second gust (mph) (See Figure 1.1)			150			160			170			180			195		
Stud Spacing (in.)	Species	Grade	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8
Maximum Allowable Stud Length (ft.-in.) ¹																	
12	DFL	SS	9-9	15-8	20-0+	9-4	14-11	20-0	8-11	14-4	19-2	8-7	13-9	18-5	8-1	13-0	17-5
	DFL	No.1	9-4	15-0	20-0+	9-0	14-4	19-2	8-7	13-9	18-5	8-3	13-3	17-8	7-10	12-6	16-9
	DFL	No.2	9-2	14-9	19-8	8-9	14-1	18-9	8-5	13-6	18-0	8-1	13-0	17-4	-	12-3	16-4
	DFL	No.3/Stud	8-9	13-9	17-9	8-4	12-10	16-6	8-0	12-0	15-6	-	11-4	14-7	-	10-5	13-5
	DFL	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	HF	SS	9-2	14-9	19-8	8-9	14-1	18-9	8-5	13-6	18-0	8-1	13-0	17-4	-	12-3	16-4
	HF	No.1	9-0	14-5	19-3	8-7	13-9	18-4	8-3	13-2	17-7	7-11	12-8	16-11	-	12-0	16-0
	HF	No.2	8-6	13-8	18-3	8-2	13-1	17-6	7-10	12-6	16-9	-	12-1	16-1	-	11-5	15-3
	HF	No.3/Stud	8-4	13-4	17-3	7-11	12-6	16-1	-	11-9	15-1	-	11-0	14-2	-	10-1	13-0
	HF	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SP	SS	9-7	15-4	20-0+	9-2	14-8	19-7	8-9	14-1	18-9	8-5	13-6	18-0	8-0	12-9	17-1
	SP	No.1	9-2	14-9	19-8	8-9	14-1	18-9	8-5	13-6	18-0	8-1	13-0	17-4	-	12-3	16-4
	SP	No.2	8-9	14-1	18-9	8-4	13-5	17-11	8-0	12-10	17-2	-	12-4	16-6	-	11-8	15-7
	SP	No.3	8-3	12-7	16-1	-	11-9	15-0	-	11-0	14-1	-	10-4	13-3	-	9-6	12-2
	SP	Stud	8-3	12-7	16-1	-	11-9	15-0	-	11-0	14-1	-	10-4	13-3	-	9-6	12-2
	SP	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SPF	SS	9-0	14-5	19-3	8-7	13-9	18-4	8-3	13-2	17-7	7-11	12-8	16-11	-	12-0	16-0
	SPF	No.1	8-9	14-1	18-9	8-4	13-5	17-11	8-0	12-10	17-2	-	12-4	16-6	-	11-8	15-7
	SPF	No.2	8-9	14-1	18-9	8-4	13-5	17-11	8-0	12-10	17-2	-	12-4	16-6	-	11-8	15-7
	SPF	No.3/Stud	8-4	13-4	17-3	7-11	12-6	16-1	-	11-9	15-1	-	11-0	14-2	-	10-1	13-0
	SPF	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	DFL	SS	8-10	14-2	18-11	8-5	13-6	18-1	8-1	12-11	17-4	7-9	12-5	16-7	-	11-9	15-9
	DFL	No.1	8-6	13-7	18-2	8-1	13-0	17-4	7-9	12-5	16-8	-	12-0	16-0	-	11-4	15-1
	DFL	No.2	8-4	13-4	17-9	7-11	12-9	17-0	-	12-2	16-3	-	11-9	15-8	-	11-1	14-10
	DFL	No.3/Stud	7-10	11-10	15-2	-	11-0	14-2	-	10-4	13-3	-	9-8	12-6	-	8-11	11-6
	DFL	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	HF	SS	8-4	13-4	17-9	7-11	12-9	17-0	-	12-2	16-3	-	11-9	15-8	-	11-1	14-10
	HF	No.1	8-1	13-0	17-5	7-9	12-5	16-7	-	11-11	15-11	-	11-6	15-4	-	10-10	14-6
	HF	No.2	-	12-5	16-6	-	11-10	15-10	-	11-4	15-2	-	10-11	14-7	-	10-4	13-9
	HF	No.3/Stud	-	11-6	14-10	-	10-9	13-10	-	10-1	12-11	-	9-5	12-2	-	8-8	11-2
	HF	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SP	SS	8-8	13-10	18-6	8-3	13-3	17-8	7-11	12-8	17-0	-	12-3	16-4	-	11-7	15-5
	SP	No.1	8-4	13-4	17-9	7-11	12-9	17-0	-	12-2	16-3	-	11-9	15-8	-	11-1	14-10
	SP	No.2	7-11	12-8	17-0	-	12-2	16-3	-	11-8	15-7	-	11-2	14-11	-	10-7	14-1
	SP	No.3	-	10-9	13-9	-	10-0	12-10	-	9-5	12-1	-	8-10	11-4	-	8-2	10-5
	SP	Stud	-	10-9	13-9	-	10-0	12-10	-	9-5	12-1	-	8-10	11-4	-	8-2	10-5
	SP	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SPF	SS	8-1	13-0	17-5	7-9	12-5	16-7	-	11-11	15-11	-	11-6	15-4	-	10-10	14-6
	SPF	No.1	7-11	12-8	17-0	-	12-2	16-3	-	11-8	15-7	-	11-2	14-11	-	10-7	14-2
	SPF	No.2	7-11	12-8	17-0	-	12-2	16-3	-	11-8	15-7	-	11-2	14-11	-	10-7	14-2
	SPF	No.3/Stud	-	11-6	14-10	-	10-9	13-10	-	10-1	12-11	-	9-5	12-2	-	8-8	11-2
	SPF	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	DFL	SS	-	12-3	16-5	-	11-9	15-8	-	11-3	15-0	-	10-10	14-5	-	10-3	13-8
	DFL	No.1	-	11-10	15-9	-	11-3	15-1	-	10-10	14-5	-	10-5	13-11	-	9-10	13-0
	DFL	No.2	-	11-7	15-5	-	11-1	14-9	-	10-7	14-2	-	10-2	13-5	-	9-7	12-4
	DFL	No.3/Stud	-	9-6	12-3	-	8-10	11-5	-	8-4	10-8	-	7-10	10-1	-	-	9-3
	DFL	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	HF	SS	-	11-7	15-5	-	11-1	14-9	-	10-7	14-2	-	10-2	13-7	-	9-7	12-10
	HF	No.1	-	11-4	15-1	-	10-10	14-5	-	10-4	13-10	-	9-11	13-3	-	9-5	12-7
	HF	No.2	-	10-9	14-4	-	10-3	13-9	-	9-10	13-2	-	9-6	12-8	-	9-0	11-11
	HF	No.3/Stud	-	9-3	11-11	-	8-8	11-1	-	8-1	10-5	-	-	9-10	-	-	9-0
	HF	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SP	SS	-	12-0	16-1	-	11-6	15-4	-	11-0	14-9	-	10-7	14-2	-	10-0	13-5
	SP	No.1	-	11-7	15-5	-	11-1	14-9	-	10-7	14-2	-	10-2	13-7	-	9-7	12-10
	SP	No.2	-	11-0	14-9	-	10-7	14-0	-	10-1	13-2	-	9-7	12-4	-	8-10	11-4
	SP	No.3	-	8-8	11-1	-	8-1	10-4	-	-	9-8	-	-	9-1	-	-	8-5
	SP	Stud	-	8-8	11-1	-	8-1	10-4	-	-	9-8	-	-	9-1	-	-	8-5
	SP	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SPF	SS	-	11-4	15-1	-	10-10	14-5	-	10-4	13-10	-	9-11	13-3	-	9-5	12-7
	SPF	No.1	-	11-0	14-9	-	10-7	14-1	-	10-1	13-6	-	9-9	13-0	-	9-2	12-2
	SPF	No.2	-	11-0	14-9	-	10-7	14-1	-	10-1	13-6	-	9-9	13-0	-	9-2	12-2
	SPF	No.3/Stud	-	9-3	11-11	-	8-8	11-1	-	8-1	10-5	-	-	9-10	-	-	9-0
	SPF	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

See Table 3.20A footnotes.

Table 3.20A6 Maximum Exterior Loadbearing¹ and Non-Loadbearing Stud Lengths for Common Lumber Species Resisting Interior Zone Wind Loads - Stud Deflection Limit = H/360

(Fully Sheathed with a Minimum Sheathing Material)^a

**Exposure C
H/360**

Wind Speed 3-second gust (mph) (See Figure 1.1)			90			95			100			105		
Stud Spacing (in.)	Species	Grade	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8
Maximum Allowable Stud Length (ft.-in.) ¹														
12	DFL	SS	12 - 1	19 - 5	20-0†	11 - 7	18 - 8	20-0†	11 - 3	18 - 0	20-0†	10 - 10	17 - 5	20-0†
	DFL	No.1	11 - 7	18 - 8	20-0†	11 - 2	18 - 0	20-0†	10 - 9	17 - 4	20-0†	10 - 5	16 - 9	20-0†
	DFL	No.2	11 - 4	18 - 3	20-0†	10 - 11	17 - 7	20-0†	10 - 7	17 - 0	20-0†	10 - 3	16 - 5	20-0†
	DFL	No.3/Stud	10 - 10	17 - 5	20-0†	10 - 5	16 - 9	20-0†	10 - 1	16 - 2	20-0†	9 - 9	15 - 8	20-0†
	DFL	Standard	10 - 10	-	-	10 - 5	-	-	10 - 1	-	-	9 - 9	-	-
	HF	SS	11 - 4	18 - 3	20-0†	10 - 11	17 - 7	20-0†	10 - 7	17 - 0	20-0†	10 - 3	16 - 5	20-0†
	HF	No.1	11 - 1	17 - 10	20-0†	10 - 8	17 - 2	20-0†	10 - 4	16 - 7	20-0†	10 - 0	16 - 0	20-0†
	HF	No.2	10 - 7	17 - 0	20-0†	10 - 2	16 - 4	20-0†	9 - 10	15 - 9	20-0†	9 - 6	15 - 3	20-0†
	HF	No.3/Stud	10 - 3	16 - 6	20-0†	9 - 11	15 - 11	20-0†	9 - 7	15 - 4	20-0†	9 - 3	14 - 10	19 - 10
	HF	Standard	10 - 3	-	-	9 - 11	-	-	9 - 7	-	-	9 - 3	-	-
	SP	SS	11 - 10	19 - 0	20-0†	11 - 5	18 - 4	20-0†	11 - 0	17 - 8	20-0†	10 - 8	17 - 1	20-0†
	SP	No.1	11 - 4	18 - 3	20-0†	10 - 11	17 - 7	20-0†	10 - 7	17 - 0	20-0†	10 - 3	16 - 5	20-0†
	SP	No.2	10 - 10	17 - 5	20-0†	10 - 5	16 - 9	20-0†	10 - 1	16 - 2	20-0†	9 - 9	15 - 8	20-0†
	SP	No.3	10 - 7	17 - 0	20-0†	10 - 2	16 - 4	20-0†	9 - 10	15 - 9	20-0†	9 - 6	15 - 3	20-0†
	SP	Stud	10 - 7	17 - 0	20-0†	10 - 2	16 - 4	20-0†	9 - 10	15 - 9	20-0†	9 - 6	15 - 3	20-0†
	SP	Standard	10 - 3	-	-	9 - 11	-	-	9 - 7	-	-	9 - 3	-	-
	SPF	SS	11 - 1	17 - 10	20-0†	10 - 8	17 - 2	20-0†	10 - 4	16 - 7	20-0†	10 - 0	16 - 0	20-0†
	SPF	No.1	10 - 10	17 - 5	20-0†	10 - 5	16 - 9	20-0†	10 - 1	16 - 2	20-0†	9 - 9	15 - 8	20-0†
	SPF	No.2	10 - 10	17 - 5	20-0†	10 - 5	16 - 9	20-0†	10 - 1	16 - 2	20-0†	9 - 9	15 - 8	20-0†
	SPF	No.3/Stud	10 - 3	16 - 6	20-0†	9 - 11	15 - 11	20-0†	9 - 7	15 - 4	20-0†	9 - 3	14 - 10	19 - 10
	SPF	Standard	10 - 3	-	-	9 - 11	-	-	9 - 7	-	-	9 - 3	-	-
16	DFL	SS	10 - 11	17 - 6	20-0†	10 - 6	16 - 11	20-0†	10 - 2	16 - 3	20-0†	9 - 10	15 - 9	20-0†
	DFL	No.1	10 - 6	16 - 10	20-0†	10 - 1	16 - 3	20-0†	9 - 9	15 - 8	20-0†	9 - 5	15 - 2	20-0†
	DFL	No.2	10 - 3	16 - 6	20-0†	9 - 11	15 - 11	20-0†	9 - 7	15 - 4	20-0†	9 - 3	14 - 10	19 - 10
	DFL	No.3/Stud	9 - 10	15 - 9	20-0†	9 - 5	15 - 2	20-0†	9 - 1	14 - 8	19 - 7	8 - 10	14 - 2	18 - 11
	DFL	Standard	9 - 10	-	-	9 - 5	-	-	9 - 1	-	-	8 - 10	-	-
	HF	SS	10 - 3	16 - 6	20-0†	9 - 11	15 - 11	20-0†	9 - 7	15 - 4	20-0†	9 - 3	14 - 10	19 - 10
	HF	No.1	10 - 1	16 - 2	20-0†	9 - 8	15 - 6	20-0†	9 - 4	15 - 0	20-0†	9 - 0	14 - 6	19 - 4
	HF	No.2	9 - 7	15 - 4	20-0†	9 - 3	14 - 9	19 - 9	8 - 11	14 - 3	19 - 1	8 - 7	13 - 9	18 - 5
	HF	No.3/Stud	9 - 4	14 - 11	19 - 11	9 - 0	14 - 4	19 - 2	8 - 8	13 - 10	18 - 6	8 - 4	13 - 5	17 - 11
	HF	Standard	9 - 4	-	-	9 - 0	-	-	8 - 8	-	-	8 - 4	-	-
	SP	SS	10 - 9	17 - 2	20-0†	10 - 4	16 - 7	20-0†	10 - 0	16 - 0	20-0†	9 - 7	15 - 5	20-0†
	SP	No.1	10 - 3	16 - 6	20-0†	9 - 11	15 - 11	20-0†	9 - 7	15 - 4	20-0†	9 - 3	14 - 10	19 - 10
	SP	No.2	9 - 10	15 - 9	20-0†	9 - 5	15 - 2	20-0†	9 - 1	14 - 8	19 - 7	8 - 10	14 - 2	18 - 11
	SP	No.3	9 - 7	15 - 4	20-0†	9 - 3	14 - 9	19 - 9	8 - 11	14 - 3	19 - 1	8 - 7	13 - 9	18 - 5
	SP	Stud	9 - 7	15 - 4	20-0†	9 - 3	14 - 9	19 - 9	8 - 11	14 - 3	19 - 1	8 - 7	13 - 9	18 - 5
	SP	Standard	9 - 4	-	-	9 - 0	-	-	8 - 8	-	-	8 - 4	-	-
	SPF	SS	10 - 1	16 - 2	20-0†	9 - 8	15 - 6	20-0†	9 - 4	15 - 0	20-0†	9 - 0	14 - 6	19 - 4
	SPF	No.1	9 - 10	15 - 9	20-0†	9 - 5	15 - 2	20-0†	9 - 1	14 - 8	19 - 7	8 - 10	14 - 2	18 - 11
	SPF	No.2	9 - 10	15 - 9	20-0†	9 - 5	15 - 2	20-0†	9 - 1	14 - 8	19 - 7	8 - 10	14 - 2	18 - 11
	SPF	No.3/Stud	9 - 4	14 - 11	19 - 11	9 - 0	14 - 4	19 - 2	8 - 8	13 - 10	18 - 6	8 - 4	13 - 5	17 - 11
	SPF	Standard	9 - 4	-	-	9 - 0	-	-	8 - 8	-	-	8 - 4	-	-
24	DFL	SS	9 - 6	15 - 3	20-0†	9 - 2	14 - 8	19 - 7	8 - 10	14 - 2	18 - 11	8 - 6	13 - 8	18 - 3
	DFL	No.1	9 - 1	14 - 8	19 - 7	8 - 9	14 - 1	18 - 10	8 - 6	13 - 7	18 - 2	8 - 2	13 - 2	17 - 7
	DFL	No.2	8 - 11	14 - 4	19 - 2	8 - 7	13 - 10	18 - 5	8 - 4	13 - 4	17 - 9	8 - 0	12 - 10	17 - 2
	DFL	No.3/Stud	8 - 6	13 - 8	18 - 3	8 - 3	13 - 2	17 - 7	7 - 11	12 - 8	17 - 0	-	12 - 3	16 - 5
	DFL	Standard	8 - 6	-	-	8 - 3	-	-	7 - 11	-	-	-	-	-
	HF	SS	8 - 11	14 - 4	19 - 2	8 - 7	13 - 10	18 - 5	8 - 4	13 - 4	17 - 9	8 - 0	12 - 10	17 - 2
	HF	No.1	8 - 9	14 - 0	18 - 9	8 - 5	13 - 6	18 - 0	8 - 1	13 - 0	17 - 5	7 - 10	12 - 7	16 - 10
	HF	No.2	8 - 4	13 - 4	17 - 10	8 - 0	12 - 10	17 - 2	-	12 - 5	16 - 6	-	12 - 0	16 - 0
	HF	No.3/Stud	8 - 1	13 - 0	17 - 4	7 - 9	12 - 6	16 - 8	-	12 - 0	16 - 1	-	11 - 8	15 - 6
	HF	Standard	8 - 1	-	-	7 - 9	-	-	-	-	-	-	-	-
	SP	SS	9 - 4	14 - 11	19 - 11	9 - 0	14 - 4	19 - 2	8 - 8	13 - 10	18 - 6	8 - 4	13 - 5	17 - 11
	SP	No.1	8 - 11	14 - 4	19 - 2	8 - 7	13 - 10	18 - 5	8 - 4	13 - 4	17 - 9	8 - 0	12 - 10	17 - 2
	SP	No.2	8 - 6	13 - 8	18 - 3	8 - 3	13 - 2	17 - 7	7 - 11	12 - 8	17 - 0	-	12 - 3	16 - 5
	SP	No.3	8 - 4	13 - 4	17 - 10	8 - 0	12 - 10	17 - 2	-	12 - 5	16 - 6	-	12 - 0	16 - 0
	SP	Stud	8 - 4	13 - 4	17 - 10	8 - 0	12 - 10	17 - 2	-	12 - 5	16 - 6	-	12 - 0	16 - 0
	SP	Standard	8 - 1	-	-	7 - 9	-	-	-	-	-	-	-	-
	SPF	SS	8 - 9	14 - 0	18 - 9	8 - 5	13 - 6	18 - 0	8 - 1	13 - 0	17 - 5	7 - 10	12 - 7	16 - 10
	SPF	No.1	8 - 6	13 - 8	18 - 3	8 - 3	13 - 2	17 - 7	7 - 11	12 - 8	17 - 0	-	12 - 3	16 - 5
	SPF	No.2	8 - 6	13 - 8	18 - 3	8 - 3	13 - 2	17 - 7	7 - 11	12 - 8	17 - 0	-	12 - 3	16 - 5
	SPF	No.3/Stud	8 - 1	13 - 0	17 - 4	7 - 9	12 - 6	16 - 8	-	12 - 0	16 - 1	-	11 - 8	15 - 6
	SPF	Standard	8 - 1	-	-	7 - 9	-	-	-	-	-	-	-	-

See Table 3.20A footnotes.

Table 3.20A6 Maximum Exterior Loadbearing¹ and Non-Loadbearing Stud Lengths for Common Lumber Species Resisting Interior Zone Wind Loads - Stud Deflection Limit = H/360
(Fully Sheathed with a Minimum Sheathing Material)^a

**Exposure C
H/360**

Wind Speed 3-second gust (mph) (See Figure 1.1)			110			115			120			130			140		
Stud Spacing (in.)	Species	Grade	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8
Maximum Allowable Stud Length (ft.-in.) ¹																	
12	DFL	SS	10 - 6	16 - 10	20 - 0†	10 - 2	16 - 4	20 - 0†	9 - 11	15 - 10	20 - 0†	9 - 4	15 - 0	20 - 0†	8 - 10	14 - 3	19 - 0
	DFL	No.1	10 - 1	16 - 2	20 - 0†	9 - 9	15 - 8	20 - 0†	9 - 6	15 - 3	20 - 0†	9 - 0	14 - 5	19 - 3	8 - 6	13 - 8	18 - 3
	DFL	No.2	9 - 11	15 - 10	20 - 0†	9 - 7	15 - 5	20 - 0†	9 - 4	14 - 11	19 - 11	8 - 10	14 - 1	18 - 10	8 - 4	13 - 5	17 - 11
	DFL	No.3/Stud	9 - 5	15 - 2	20 - 0†	9 - 2	14 - 8	19 - 7	8 - 11	14 - 3	19 - 0	8 - 5	13 - 6	18 - 0	8 - 0	12 - 10	17 - 1
	DFL	Standard	9 - 5	-	-	9 - 2	-	-	8 - 11	-	-	8 - 5	-	-	8 - 0	-	-
	HF	SS	9 - 11	15 - 10	20 - 0†	9 - 7	15 - 5	20 - 0†	9 - 4	14 - 11	19 - 11	8 - 10	14 - 1	18 - 10	8 - 4	13 - 5	17 - 11
	HF	No.1	9 - 8	15 - 6	20 - 0†	9 - 4	15 - 0	20 - 0†	9 - 1	14 - 7	19 - 6	8 - 7	13 - 10	18 - 5	8 - 2	13 - 1	17 - 6
	HF	No.2	9 - 2	14 - 9	19 - 9	8 - 11	14 - 4	19 - 1	8 - 8	13 - 11	18 - 7	8 - 2	13 - 2	17 - 6	7 - 9	12 - 6	16 - 8
	HF	No.3/Stud	8 - 11	14 - 4	19 - 2	8 - 8	13 - 11	18 - 7	8 - 5	13 - 6	18 - 0	8 - 0	12 - 9	17 - 1	-	12 - 1	16 - 2
	HF	Standard	8 - 11	-	-	8 - 8	-	-	8 - 5	-	-	8 - 0	-	-	-	-	-
	SP	SS	10 - 4	16 - 6	20 - 0†	10 - 0	16 - 0	20 - 0†	9 - 8	15 - 7	20 - 0†	9 - 2	14 - 8	19 - 8	8 - 8	14 - 0	18 - 8
	SP	No.1	9 - 11	15 - 10	20 - 0†	9 - 7	15 - 5	20 - 0†	9 - 4	14 - 11	19 - 11	8 - 10	14 - 1	18 - 10	8 - 4	13 - 5	17 - 11
	SP	No.2	9 - 5	15 - 2	20 - 0†	9 - 2	14 - 8	19 - 7	8 - 11	14 - 3	19 - 0	8 - 5	13 - 6	18 - 0	8 - 0	12 - 10	17 - 1
	SP	No.3	9 - 2	14 - 9	19 - 9	8 - 11	14 - 4	19 - 1	8 - 8	13 - 11	18 - 7	8 - 2	13 - 2	17 - 6	7 - 9	12 - 6	16 - 8
	SP	Stud	9 - 2	14 - 9	19 - 9	8 - 11	14 - 4	19 - 1	8 - 8	13 - 11	18 - 7	8 - 2	13 - 2	17 - 6	7 - 9	12 - 6	16 - 8
	SP	Standard	8 - 11	-	-	8 - 8	-	-	8 - 5	-	-	8 - 0	-	-	-	-	-
	SPF	SS	9 - 8	15 - 6	20 - 0†	9 - 4	15 - 0	20 - 0†	9 - 1	14 - 7	19 - 6	8 - 7	13 - 10	18 - 5	8 - 2	13 - 1	17 - 6
	SPF	No.1	9 - 5	15 - 2	20 - 0†	9 - 2	14 - 8	19 - 7	8 - 11	14 - 3	19 - 0	8 - 5	13 - 6	18 - 0	8 - 0	12 - 10	17 - 1
	SPF	No.2	9 - 5	15 - 2	20 - 0†	9 - 2	14 - 8	19 - 7	8 - 11	14 - 3	19 - 0	8 - 5	13 - 6	18 - 0	8 - 0	12 - 10	17 - 1
	SPF	No.3/Stud	8 - 11	14 - 4	19 - 2	8 - 8	13 - 11	18 - 7	8 - 5	13 - 6	18 - 0	8 - 0	12 - 9	17 - 1	-	12 - 1	16 - 2
	SPF	Standard	8 - 11	-	-	8 - 8	-	-	8 - 5	-	-	8 - 0	-	-	-	-	-
16	DFL	SS	9 - 6	15 - 3	20 - 0†	9 - 2	14 - 9	19 - 9	8 - 11	14 - 4	19 - 2	8 - 5	13 - 7	18 - 1	8 - 0	12 - 10	17 - 2
	DFL	No.1	9 - 2	14 - 8	19 - 7	8 - 10	14 - 2	19 - 0	8 - 7	13 - 9	18 - 5	8 - 2	13 - 0	17 - 5	-	12 - 5	16 - 6
	DFL	No.2	8 - 11	14 - 4	19 - 2	8 - 8	13 - 11	18 - 7	8 - 5	13 - 6	18 - 0	8 - 0	12 - 9	17 - 1	-	12 - 1	16 - 2
	DFL	No.3/Stud	8 - 6	13 - 8	18 - 3	8 - 3	13 - 3	17 - 9	8 - 0	12 - 11	17 - 3	-	12 - 2	16 - 3	-	11 - 7	15 - 5
	DFL	Standard	8 - 6	-	-	8 - 3	-	-	8 - 0	-	-	-	-	-	-	-	-
	HF	SS	8 - 11	14 - 4	19 - 2	8 - 8	13 - 11	18 - 7	8 - 5	13 - 6	18 - 0	8 - 0	12 - 9	17 - 1	-	12 - 1	16 - 2
	HF	No.1	8 - 9	14 - 0	18 - 9	8 - 6	13 - 7	18 - 2	8 - 3	13 - 2	17 - 8	7 - 9	12 - 6	16 - 8	-	11 - 10	15 - 10
	HF	No.2	8 - 4	13 - 4	17 - 10	8 - 1	12 - 11	17 - 3	7 - 10	12 - 7	16 - 9	-	11 - 10	15 - 10	-	11 - 3	15 - 1
	HF	No.3/Stud	8 - 1	13 - 0	17 - 4	7 - 10	12 - 7	16 - 10	-	12 - 3	16 - 4	-	11 - 7	15 - 5	-	11 - 0	14 - 8
	HF	Standard	8 - 1	-	-	7 - 10	-	-	-	-	-	-	-	-	-	-	-
	SP	SS	9 - 4	14 - 11	20 - 0	9 - 0	14 - 6	19 - 4	8 - 9	14 - 1	18 - 9	8 - 4	13 - 4	17 - 9	7 - 11	12 - 8	16 - 10
	SP	No.1	8 - 11	14 - 4	19 - 2	8 - 8	13 - 11	18 - 7	8 - 5	13 - 6	18 - 0	8 - 0	12 - 9	17 - 1	-	12 - 1	16 - 2
	SP	No.2	8 - 6	13 - 8	18 - 3	8 - 3	13 - 3	17 - 9	8 - 0	12 - 11	17 - 3	-	12 - 2	16 - 3	-	11 - 7	15 - 5
	SP	No.3	8 - 4	13 - 4	17 - 10	8 - 1	12 - 11	17 - 3	7 - 10	12 - 7	16 - 9	-	11 - 10	15 - 10	-	11 - 3	14 - 10
	SP	Stud	8 - 4	13 - 4	17 - 10	8 - 1	12 - 11	17 - 3	7 - 10	12 - 7	16 - 9	-	11 - 10	15 - 10	-	11 - 3	14 - 10
	SP	Standard	8 - 1	-	-	7 - 10	-	-	-	-	-	-	-	-	-	-	-
	SPF	SS	8 - 9	14 - 0	18 - 9	8 - 6	13 - 7	18 - 2	8 - 3	13 - 2	17 - 8	7 - 9	12 - 6	16 - 8	-	11 - 10	15 - 10
	SPF	No.1	8 - 6	13 - 8	18 - 3	8 - 3	13 - 3	17 - 9	8 - 0	12 - 11	17 - 3	-	12 - 2	16 - 3	-	11 - 7	15 - 5
	SPF	No.2	8 - 6	13 - 8	18 - 3	8 - 3	13 - 3	17 - 9	8 - 0	12 - 11	17 - 3	-	12 - 2	16 - 3	-	11 - 7	15 - 5
	SPF	No.3/Stud	8 - 1	13 - 0	17 - 4	7 - 10	12 - 7	16 - 10	-	12 - 3	16 - 4	-	11 - 7	15 - 5	-	11 - 0	14 - 8
	SPF	Standard	8 - 1	-	-	7 - 10	-	-	-	-	-	-	-	-	-	-	-
24	DFL	SS	8 - 3	13 - 3	17 - 8	8 - 0	12 - 10	17 - 1	7 - 9	12 - 5	16 - 7	-	11 - 9	15 - 9	-	11 - 2	14 - 11
	DFL	No.1	7 - 11	12 - 9	17 - 0	-	12 - 4	16 - 6	-	12 - 0	16 - 0	-	11 - 4	15 - 1	-	10 - 9	14 - 4
	DFL	No.2	7 - 9	12 - 5	16 - 8	-	12 - 1	16 - 1	-	11 - 9	15 - 8	-	11 - 1	14 - 10	-	10 - 6	14 - 1
	DFL	No.3/Stud	-	11 - 11	15 - 10	-	11 - 6	15 - 5	-	11 - 2	14 - 11	-	10 - 7	14 - 2	-	10 - 1	13 - 2
	DFL	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	HF	SS	7 - 9	12 - 5	16 - 8	-	12 - 1	16 - 1	-	11 - 9	15 - 8	-	11 - 1	14 - 10	-	10 - 6	14 - 1
	HF	No.1	-	12 - 2	16 - 3	-	11 - 10	15 - 9	-	11 - 6	15 - 4	-	10 - 10	14 - 6	-	10 - 3	13 - 9
	HF	No.2	-	11 - 7	15 - 6	-	11 - 3	15 - 0	-	10 - 11	14 - 7	-	10 - 4	13 - 9	-	9 - 9	13 - 1
	HF	No.3/Stud	-	11 - 3	15 - 1	-	10 - 11	14 - 7	-	10 - 7	14 - 2	-	10 - 0	13 - 5	-	9 - 6	12 - 9
	HF	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SP	SS	8 - 1	13 - 0	17 - 4	7 - 10	12 - 7	16 - 10	-	12 - 3	16 - 4	-	11 - 7	15 - 5	-	11 - 0	14 - 8
	SP	No.1	7 - 9	12 - 5	16 - 8	-	12 - 1	16 - 1	-	11 - 9	15 - 8	-	11 - 1	14 - 10	-	10 - 6	14 - 1
	SP	No.2	-	11 - 11	15 - 10	-	11 - 6	15 - 5	-	11 - 2	14 - 11	-	10 - 7	14 - 2	-	10 - 1	13 - 5
	SP	No.3	-	11 - 7	15 - 5	-	11 - 3	14 - 9	-	10 - 11	14 - 1	-	10 - 1	12 - 11	-	9 - 4	11 - 11
	SP	Stud	-	11 - 7	15 - 5	-	11 - 3	14 - 9	-	10 - 11	14 - 1	-	10 - 1	12 - 11	-	9 - 4	11 - 11
	SP	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SPF	SS	-	12 - 2	16 - 3	-	11 - 10	15 - 9	-	11 - 6	15 - 4	-	10 - 10	14 - 6	-	10 - 3	13 - 9
	SPF	No.1	-	11 - 11	15 - 10	-	11 - 6	15 - 5	-	11 - 2	14 - 11	-	10 - 7	14 - 2	-	10 - 1	13 - 5
	SPF	No.2	-	11 - 11	15 - 10	-	11 - 6	15 - 5	-	11 - 2	14 - 11	-	10 - 7	14 - 2	-	10 - 1	13 - 5
	SPF	No.3/Stud	-	11 - 3	15 - 1	-	10 - 11	14 - 7	-	10 - 7	14 - 2	-	10 - 0	13 - 5	-	9 - 6	12 - 9
	SPF	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

See Table 3.20A footnotes.

Table 3.20A6 Maximum Exterior Loadbearing¹ and Non-Loadbearing Stud Lengths for Common Lumber Species Resisting Interior Zone Wind Loads - Stud Deflection Limit = H/360
(Fully Sheathed with a Minimum Sheathing Material)^a

**Exposure C
H/360**

Wind Speed 3-second gust (mph) (See Figure 1.1)			150			160			170			180			195		
Stud Spacing (in.)	Species	Grade	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8
Maximum Allowable Stud Length (ft.-in.) ¹																	
12	DFL	SS	8-5	13-7	18-1	8-1	13-0	17-4	7-9	12-5	16-7	-	11-11	15-11	-	11-4	15-1
	DFL	No.1	8-2	13-1	17-5	7-9	12-6	16-8	-	12-0	16-0	-	11-6	15-4	-	10-10	14-6
	DFL	No.2	8-0	12-9	17-1	-	12-3	16-4	-	11-8	15-8	-	11-3	15-0	-	10-8	14-2
	DFL	No.3/Stud	-	12-2	16-3	-	11-8	15-7	-	11-2	14-11	-	10-9	14-4	-	10-2	13-5
	DFL	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	HF	SS	8-0	12-9	17-1	-	12-3	16-4	-	11-8	15-8	-	11-3	15-0	-	10-8	14-2
	HF	No.1	7-9	12-6	16-8	-	11-11	15-11	-	11-5	15-3	-	11-0	14-8	-	10-5	13-11
	HF	No.2	-	11-11	15-10	-	11-4	15-2	-	10-11	14-6	-	10-6	14-0	-	9-11	13-3
	HF	No.3/Stud	-	11-7	15-5	-	11-1	14-9	-	10-7	14-2	-	10-2	13-7	-	9-7	12-10
	HF	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SP	SS	8-4	13-4	17-9	7-11	12-9	17-0	-	12-2	16-3	-	11-9	15-8	-	11-1	14-10
	SP	No.1	8-0	12-9	17-1	-	12-3	16-4	-	11-8	15-8	-	11-3	15-0	-	10-8	14-2
	SP	No.2	-	12-2	16-3	-	11-8	15-7	-	11-2	14-11	-	10-9	14-4	-	10-2	13-7
	SP	No.3	-	11-11	15-10	-	11-4	15-0	-	10-11	14-1	-	10-4	13-3	-	9-6	12-2
	SP	Stud	-	11-11	15-10	-	11-4	15-0	-	10-11	14-1	-	10-4	13-3	-	9-6	12-2
	SP	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SPF	SS	7-9	12-6	16-8	-	11-11	15-11	-	11-5	15-3	-	11-0	14-8	-	10-5	13-11
	SPF	No.1	-	12-2	16-3	-	11-8	15-7	-	11-2	14-11	-	10-9	14-4	-	10-2	13-7
	SPF	No.2	-	12-2	16-3	-	11-8	15-7	-	11-2	14-11	-	10-9	14-4	-	10-2	13-7
	SPF	No.3/Stud	-	11-7	15-5	-	11-1	14-9	-	10-7	14-2	-	10-2	13-7	-	9-7	12-10
	SPF	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	DFL	SS	-	12-3	16-5	-	11-9	15-8	-	11-3	15-0	-	10-10	14-5	-	10-3	13-8
	DFL	No.1	-	11-10	15-9	-	11-3	15-1	-	10-10	14-5	-	10-5	13-11	-	9-10	13-1
	DFL	No.2	-	11-7	15-5	-	11-1	14-9	-	10-7	14-2	-	10-2	13-7	-	9-7	12-10
	DFL	No.3/Stud	-	11-0	14-9	-	10-7	14-1	-	10-1	13-3	-	9-8	12-6	-	8-11	11-6
	DFL	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	HF	SS	-	11-7	15-5	-	11-1	14-9	-	10-7	14-2	-	10-2	13-7	-	9-7	12-10
	HF	No.1	-	11-4	15-1	-	10-10	14-5	-	10-4	13-10	-	9-11	13-3	-	9-5	12-7
	HF	No.2	-	10-9	14-4	-	10-3	13-9	-	9-10	13-2	-	9-6	12-8	-	9-0	11-11
	HF	No.3/Stud	-	10-5	14-0	-	10-0	13-4	-	9-7	12-9	-	9-2	12-2	-	8-8	11-2
	HF	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SP	SS	-	12-0	16-1	-	11-6	15-4	-	11-0	14-9	-	10-7	14-2	-	10-0	13-5
	SP	No.1	-	11-7	15-5	-	11-1	14-9	-	10-7	14-2	-	10-2	13-7	-	9-7	12-10
	SP	No.2	-	11-0	14-9	-	10-7	14-1	-	10-1	13-6	-	9-9	13-0	-	9-2	12-3
	SP	No.3	-	10-9	13-9	-	10-0	12-10	-	9-5	12-1	-	8-10	11-4	-	8-2	10-5
	SP	Stud	-	10-9	13-9	-	10-0	12-10	-	9-5	12-1	-	8-10	11-4	-	8-2	10-5
	SP	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SPF	SS	-	11-4	15-1	-	10-10	14-5	-	10-4	13-10	-	9-11	13-3	-	9-5	12-7
	SPF	No.1	-	11-0	14-9	-	10-7	14-1	-	10-1	13-6	-	9-9	13-0	-	9-2	12-3
	SPF	No.2	-	11-0	14-9	-	10-7	14-1	-	10-1	13-6	-	9-9	13-0	-	9-2	12-3
	SPF	No.3/Stud	-	10-5	14-0	-	10-0	13-4	-	9-7	12-9	-	9-2	12-2	-	8-8	11-2
	SPF	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	DFL	SS	-	10-8	14-3	-	10-2	13-7	-	9-9	13-0	-	9-5	12-6	-	8-10	11-10
	DFL	No.1	-	10-3	13-8	-	9-10	13-1	-	9-5	12-6	-	9-0	12-1	-	8-6	11-5
	DFL	No.2	-	10-0	13-5	-	9-7	12-10	-	9-2	12-3	-	8-10	11-10	-	8-4	11-2
	DFL	No.3/Stud	-	9-6	12-3	-	8-10	11-5	-	8-4	10-8	-	7-10	10-1	-	-	9-3
	DFL	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	HF	SS	-	10-0	13-5	-	9-7	12-10	-	9-2	12-3	-	8-10	11-10	-	8-4	11-2
	HF	No.1	-	9-10	13-1	-	9-5	12-6	-	9-0	12-0	-	8-8	11-6	-	8-2	10-11
	HF	No.2	-	9-4	12-5	-	8-11	11-11	-	8-7	11-5	-	8-3	11-0	-	7-9	10-4
	HF	No.3/Stud	-	9-1	11-11	-	8-8	11-1	-	8-1	10-5	-	9-10	-	-	-	9-0
	HF	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SP	SS	-	10-5	14-0	-	10-0	13-4	-	9-7	12-9	-	9-2	12-3	-	8-8	11-7
	SP	No.1	-	10-0	13-5	-	9-7	12-10	-	9-2	12-3	-	8-10	11-10	-	8-4	11-2
	SP	No.2	-	9-7	12-9	-	9-2	12-3	-	8-9	11-9	-	8-5	11-3	-	8-0	10-8
	SP	No.3	-	8-8	11-1	-	8-1	10-4	-	-	9-8	-	-	9-1	-	-	8-5
	SP	Stud	-	8-8	11-1	-	8-1	10-4	-	-	9-8	-	-	9-1	-	-	8-5
	SP	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SPF	SS	-	9-10	13-1	-	9-5	12-6	-	9-0	12-0	-	8-8	11-6	-	8-2	10-11
	SPF	No.1	-	9-7	12-9	-	9-2	12-3	-	8-9	11-9	-	8-5	11-3	-	8-0	10-8
	SPF	No.2	-	9-7	12-9	-	9-2	12-3	-	8-9	11-9	-	8-5	11-3	-	8-0	10-8
	SPF	No.3/Stud	-	9-1	11-11	-	8-8	11-1	-	8-1	10-5	-	-	9-10	-	-	9-0
	SPF	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

See Table 3.20A footnotes.

Table 3.20A Footnotes

- † Allowable stud length exceeds 20 feet.
- †† Maximum stud length for 2x4's is limited to 14 feet per Table 3.20C.
- Lumber grade not available or allowable stud length is less than 7 ft - 9 in. (for 8 ft wall height).
- a Maximum stud lengths in Table 3.20A are based on interior zone loads and assume that all studs are covered on the inside with a minimum of 1/2 inch gypsum wallboard. To address additional end zone loading requirements, studs within 4 feet of corners shall be sheathed on the exterior side with a minimum of 3/8 inch wood structural panel sheathing or the end zone stud spacings shall be multiplied by 0.80 for framing located within 4 feet of corners to account for the additional end zone loading requirements. The additional bending capacity provided by the wood structural panels or reduced stud spacing is assumed to be sufficient to resist the additional end zone loading requirements.
- 1 Exterior studs shall be limited to a height between horizontal supports per Table 3.20C. DFL = Douglas Fir-Larch, HF = Hem-Fir, SP = Southern Pine, SPF = Spruce-Pine-Fir.

Table 3.20B1 Maximum Exterior Loadbearing¹ and Non-Loadbearing Stud Lengths for Common Lumber Species Resisting Interior Zone Wind Loads - Stud Deflection Limit = H/180
(Fully Sheathed with a Minimum of 3/8" Wood Structural Panels)^a

Exposure B
H/180
3/8" WSP

Wind Speed 3-second gust (mph) (See Figure 1.1)			90			95			100			105		
Stud Spacing (in.)	Species	Grade	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8
Maximum Allowable Stud Length (ft.-in.) ¹														
12	DFL	SS	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	DFL	No.1	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	DFL	No.2	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	DFL	No.3/Stud	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	DFL	Standard	14-0††	-	-	14-0††	-	-	14-0††	-	-	14-0††	-	-
	HF	SS	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	HF	No.1	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	HF	No.2	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	HF	No.3/Stud	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	HF	Standard	14-0††	-	-	14-0††	-	-	14-0††	-	-	14-0††	-	-
	SP	SS	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	SP	No.1	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	SP	No.2	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	SP	No.3	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	SP	Stud	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	SP	Standard	14-0††	-	-	14-0††	-	-	14-0††	-	-	14-0††	-	-
	SPF	SS	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	SPF	No.1	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	SPF	No.2	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	SPF	No.3/Stud	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	SPF	Standard	14-0††	-	-	14-0††	-	-	14-0††	-	-	14-0††	-	-
16	DFL	SS	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	DFL	No.1	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	DFL	No.2	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	DFL	No.3/Stud	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	DFL	Standard	14-0††	-	-	14-0††	-	-	14-0††	-	-	13 - 4	-	-
	HF	SS	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	HF	No.1	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	HF	No.2	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	HF	No.3/Stud	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13 - 9	20-0†	20-0†
	HF	Standard	14-0††	-	-	14-0††	-	-	13 - 9	-	-	13 - 0	-	-
	SP	SS	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	SP	No.1	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	SP	No.2	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	SP	No.3	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	SP	Stud	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	SP	Standard	13 - 6	-	-	13 - 5	-	-	12 - 8	-	-	12 - 1	-	-
	SPF	SS	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	SPF	No.1	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	SPF	No.2	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	SPF	No.3/Stud	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13 - 9	20-0†	20-0†
	SPF	Standard	14-0††	-	-	14-0††	-	-	13 - 9	-	-	13 - 0	-	-
24	DFL	SS	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	DFL	No.1	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13 - 11	20-0†	20-0†	13 - 6	20-0†	20-0†
	DFL	No.2	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13 - 8	20-0†	20-0†	13 - 2	20-0†	20-0†
	DFL	No.3/Stud	13 - 6	19 - 8	20-0†	13 - 6	19 - 8	20-0†	13 - 0	19 - 1	20-0†	12 - 7	18 - 1	20-0†
	DFL	Standard	12 - 1	-	-	12 - 0	-	-	11 - 4	-	-	10 - 9	-	-
	HF	SS	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13 - 8	20-0†	20-0†	13 - 2	20-0†	20-0†
	HF	No.1	13 - 10	20-0†	20-0†	13 - 10	20-0†	20-0†	13 - 4	20-0†	20-0†	12 - 11	20 - 0	20-0†
	HF	No.2	13 - 2	20-0†	20-0†	13 - 2	20-0†	20-0†	12 - 8	19 - 8	20-0†	12 - 3	19 - 0	20-0†
	HF	No.3/Stud	12 - 10	19 - 2	20-0†	12 - 9	19 - 2	20-0†	12 - 4	18 - 7	20-0†	11 - 11	17 - 7	20-0†
	HF	Standard	11 - 10	-	-	11 - 8	-	-	11 - 1	-	-	10 - 6	-	-
	SP	SS	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13 - 9	20-0†	20-0†
	SP	No.1	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13 - 8	20-0†	20-0†	13 - 2	20-0†	20-0†
	SP	No.2	13 - 6	20-0†	20-0†	13 - 6	20-0†	20-0†	13 - 0	20-0†	20-0†	12 - 7	19 - 6	20-0†
	SP	No.3	12 - 11	18 - 1	20-0†	12 - 9	18 - 1	20-0†	12 - 1	17 - 5	20-0†	11 - 6	16 - 6	20-0†
	SP	Stud	12 - 11	18 - 1	20-0†	12 - 9	18 - 1	20-0†	12 - 1	17 - 5	20-0†	11 - 6	16 - 6	20-0†
	SP	Standard	11 - 0	-	-	10 - 10	-	-	10 - 3	-	-	9 - 8	-	-
	SPF	SS	13 - 10	20-0†	20-0†	13 - 10	20-0†	20-0†	13 - 4	20-0†	20-0†	12 - 11	20 - 0	20-0†
	SPF	No.1	13 - 6	20-0†	20-0†	13 - 6	20-0†	20-0†	13 - 0	20-0†	20-0†	12 - 7	19 - 6	20-0†
	SPF	No.2	13 - 6	20-0†	20-0†	13 - 6	20-0†	20-0†	13 - 0	20-0†	20-0†	12 - 7	19 - 6	20-0†
	SPF	No.3/Stud	12 - 10	19 - 2	20-0†	12 - 9	19 - 2	20-0†	12 - 4	18 - 7	20-0†	11 - 11	17 - 7	20-0†
	SPF	Standard	11 - 10	-	-	11 - 8	-	-	11 - 1	-	-	10 - 6	-	-

See Table 3.20B footnotes.

Table 3.20B1 Maximum Exterior Loadbearing¹ and Non-Loadbearing Stud Lengths for Common Lumber Species Resisting Interior Zone Wind Loads - Stud Deflection Limit = H/180
(Fully Sheathed with a Minimum of 3/8" Wood Structural Panels)^a

Exposure B
H/180
3/8" WSP

Wind Speed 3-second gust (mph) (See Figure 1.1)			110			115			120			130			140		
Stud Spacing (in.)	Species	Grade	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8
Maximum Allowable Stud Length (ft.-in.) ¹																	
12	DFL	SS	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	DFL	No.1	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	DFL	No.2	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13-9	20-0†	20-0†
	DFL	No.3/Stud	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13-10	20-0†	20-0†	13-1	19-3	20-0†
	DFL	Standard	14-0††	-	-	14-0††	-	-	13-6	-	-	12-5	-	-	11-5	-	-
	HF	SS	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13-9	20-0†	20-0†
	HF	No.1	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13-5	20-0†	20-0†
	HF	No.2	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13-5	20-0†	20-0†	12-9	19-9	20-0†
	HF	No.3/Stud	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13-10	20-0†	20-0†	13-1	20-0†	20-0†	12-5	18-9	20-0†
	HF	Standard	14-0††	-	-	13-10	-	-	13-2	-	-	12-1	-	-	11-2	-	-
	SP	SS	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	SP	No.1	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13-9	20-0†	20-0†
	SP	No.2	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13-10	20-0†	20-0†	13-1	20-0†	20-0†
	SP	No.3	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13-3	19-0	20-0†	12-3	17-7	20-0†
	SP	Stud	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13-3	19-0	20-0†	12-3	17-7	20-0†
	SP	Standard	13-5	-	-	12-9	-	-	12-2	-	-	11-2	-	-	10-4	-	-
16	SPF	SS	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13-5	20-0†	20-0†
	SPF	No.1	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13-10	20-0†	20-0†	13-1	20-0†	20-0†
	SPF	No.2	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13-10	20-0†	20-0†	13-1	20-0†	20-0†
	SPF	No.3/Stud	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13-10	20-0†	20-0†	13-1	20-0†	20-0†	12-5	18-9	20-0†
	SPF	Standard	14-0††	-	-	13-10	-	-	13-2	-	-	12-1	-	-	11-2	-	-
	DFL	SS	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13-11	20-0†	20-0†	13-2	20-0†	20-0†
	DFL	No.1	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13-4	20-0†	20-0†	12-8	19-8	20-0†
	DFL	No.2	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13-10	20-0†	20-0†	13-1	20-0†	20-0†	12-5	19-3	20-0†
	DFL	No.3/Stud	14-0††	20-0†	20-0†	13-7	20-0†	20-0†	13-3	19-6	20-0†	12-6	17-10	20-0†	11-7	16-6	20-0†
	DFL	Standard	12-8	-	-	12-1	-	-	11-7	-	-	10-7	-	-	9-10	-	-
	HF	SS	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13-10	20-0†	20-0†	13-1	20-0†	20-0†	12-5	19-3	20-0†
	HF	No.1	14-0††	20-0†	20-0†	13-11	20-0†	20-0†	13-6	20-0†	20-0†	12-10	19-10	20-0†	12-2	18-10	20-0†
	HF	No.2	13-8	20-0†	20-0†	13-3	20-0†	20-0†	12-10	19-11	20-0†	12-2	18-10	20-0†	11-7	17-11	20-0†
	HF	No.3/Stud	13-4	20-0†	20-0†	12-11	19-10	20-0†	12-6	19-0	20-0†	11-10	17-5	20-0†	11-3	16-1	19-11
	HF	Standard	12-5	-	-	11-10	-	-	11-4	-	-	10-4	-	-	9-7	-	-
24	SP	SS	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13-8	20-0†	20-0†	12-11	20-0†	20-0†
	SP	No.1	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13-10	20-0†	20-0†	13-1	20-0†	20-0†	12-5	19-3	20-0†
	SP	No.2	14-0††	20-0†	20-0†	13-7	20-0†	20-0†	13-3	20-0†	20-0†	12-6	19-4	20-0†	11-10	18-4	20-0†
	SP	No.3	13-7	19-6	20-0†	12-11	18-7	20-0†	12-4	17-9	20-0†	11-4	16-4	20-0†	10-6	15-1	18-6
	SP	Stud	13-7	19-6	20-0†	12-11	18-7	20-0†	12-4	17-9	20-0†	11-4	16-4	20-0†	10-6	15-1	18-6
	SP	Standard	11-6	-	-	10-11	-	-	10-5	-	-	9-7	-	-	8-10	-	-
	SPF	SS	14-0††	20-0†	20-0†	13-11	20-0†	20-0†	13-6	20-0†	20-0†	12-10	19-10	20-0†	12-2	18-10	20-0†
	SPF	No.1	14-0††	20-0†	20-0†	13-7	20-0†	20-0†	13-3	20-0†	20-0†	12-6	19-4	20-0†	11-10	18-4	20-0†
	SPF	No.2	14-0††	20-0†	20-0†	13-7	20-0†	20-0†	13-3	20-0†	20-0†	12-6	19-4	20-0†	11-10	18-4	20-0†
	SPF	No.3/Stud	13-4	20-0†	20-0†	12-11	19-10	20-0†	12-6	19-0	20-0†	11-10	17-5	20-0†	11-3	16-1	19-11
	SPF	Standard	12-5	-	-	11-10	-	-	11-4	-	-	10-4	-	-	9-7	-	-
24	DFL	SS	13-7	20-0†	20-0†	13-2	20-0†	20-0†	12-9	19-9	20-0†	12-1	18-8	20-0†	11-5	17-9	20-0†
	DFL	No.1	13-0	20-0†	20-0†	12-8	19-7	20-0†	12-3	19-0	20-0†	11-7	18-0	20-0†	11-0	17-1	20-0†
	DFL	No.2	12-9	19-9	20-0†	12-5	19-2	20-0†	12-0	18-7	20-0†	11-4	17-7	20-0†	10-9	16-8	20-0†
	DFL	No.3/Stud	12-1	17-2	20-0†	11-6	16-5	20-0†	11-0	15-8	20-0†	10-1	14-4	17-9	9-4	13-3	16-5
	DFL	Standard	10-3	-	-	9-9	-	-	9-4	-	-	8-7	-	-	7-11	-	-
	HF	SS	12-9	19-9	20-0†	12-5	19-2	20-0†	12-0	18-7	20-0†	11-4	17-7	20-0†	10-9	16-8	20-0†
	HF	No.1	12-6	19-4	20-0†	12-1	18-9	20-0†	11-9	18-2	20-0†	11-1	17-2	20-0†	10-7	16-4	20-0†
	HF	No.2	11-10	18-5	20-0†	11-6	17-10	20-0†	11-2	17-4	20-0†	10-7	16-4	20-0†	10-0	15-6	20-0†
	HF	No.3/Stud	11-7	16-9	20-0†	11-2	16-0	19-9	10-9	15-3	18-10	9-10	14-0	17-4	9-1	12-11	16-0
	HF	Standard	10-0	-	-	9-6	-	-	9-1	-	-	8-4	-	-	-	-	-
	SP	SS	13-4	20-0†	20-0†	12-11	20-0	20-0†	12-6	19-5	20-0†	11-10	18-4	20-0†	11-3	17-5	20-0†
	SP	No.1	12-9	19-9	20-0†	12-5	19-2	20-0†	12-0	18-7	20-0†	11-4	17-7	20-0†	10-9	16-8	20-0†
	SP	No.2	12-2	18-10	20-0†	11-10	18-3	20-0†	11-6	17-9	20-0†	10-10	16-9	20-0†	10-4	15-11	20-0†
	SP	No.3	10-11	15-8	19-3	10-5	15-0	18-5	9-11	14-3	17-7	9-2	13-1	16-1	8-5	12-1	14-11
	SP	Stud	10-11	15-8	19-3	10-5	15-0	18-5	9-11	14-3	17-7	9-2	13-1	16-1	8-5	12-1	14-11
	SP	Standard	9-3	-	-	8-10	-	-	8-5	-	-	-	-	-	-	-	-
	SPF	SS	12-6	19-4	20-0†	12-1	18-9	20-0†	11-9	18-2	20-0†	11-1	17-2	20-0†	10-7	16-4	20-0†
	SPF	No.1	12-2	18-10	20-0†	11-10	18-3	20-0†	11-6	17-9	20-0†	10-10	16-9	20-0†	10-4	15-11	20-0†
	SPF	No.2	12-2	18-10	20-0†	11-10	18-3	20-0†	11-6	17-9	20-0†	10-10	16-9	20-0†	10-4	15-11	20-0†
	SPF	No.3/Stud	11-7	16-9	20-0†	11-2	16-0	19-9	10-9	15-3	18-10	9-10	14-0	17-4	9-1	12-11	16-0
	SPF	Standard	10-0	-	-	9-6	-	-	9-1	-	-	8-4	-	-	-	-	-

See Table 3.20B footnotes.

Table 3.20B1 Maximum Exterior Loadbearing¹ and Non-Loadbearing Stud Lengths for Common Lumber Species Resisting Interior Zone Wind Loads - Stud Deflection Limit = H/180
(Fully Sheathed with a Minimum of 3/8" Wood Structural Panels)^a

Exposure B
H/180
3/8" WSP

Wind Speed 3-second gust (mph) (See Figure 1.1)			150			160			170			180			195		
Stud Spacing (in.)	Species	Grade	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8
Maximum Allowable Stud Length (ft.-in.) ¹																	
12	DFL	SS	13 - 11	20-0+	20-0+	13 - 3	20-0+	20-0+	12 - 9	19 - 9	20-0+	12 - 3	18 - 11	20-0+	11 - 7	17 - 11	20-0+
	DFL	No.1	13 - 4	20-0+	20-0+	12 - 9	19 - 9	20-0+	12 - 3	19 - 0	20-0+	11 - 9	18 - 3	20-0+	11 - 2	17 - 3	20-0+
	DFL	No.2	13 - 1	20-0+	20-0+	12 - 6	19 - 5	20-0+	12 - 0	18 - 7	20-0+	11 - 6	17 - 10	20-0+	10 - 11	16 - 10	20-0+
	DFL	No.3/Stud	12 - 6	17 - 11	20-0+	11 - 9	16 - 8	20-0+	11 - 0	15 - 8	19 - 4	10 - 4	14 - 8	18 - 2	9 - 6	13 - 6	16 - 8
	DFL	Standard	10 - 8	-	-	9 - 11	-	-	9 - 4	-	-	8 - 9	-	-	8 - 0	-	-
	HF	SS	13 - 1	20-0+	20-0+	12 - 6	19 - 5	20-0+	12 - 0	18 - 7	20-0+	11 - 6	17 - 10	20-0+	10 - 11	16 - 10	20-0+
	HF	No.1	12 - 10	19 - 10	20-0+	12 - 3	18 - 11	20-0+	11 - 9	18 - 2	20-0+	11 - 3	17 - 5	20-0+	10 - 8	16 - 6	20-0+
	HF	No.2	12 - 2	18 - 10	20-0+	11 - 8	18 - 0	20-0+	11 - 2	17 - 3	20-0+	10 - 9	16 - 7	20-0+	10 - 2	15 - 8	20-0+
	HF	No.3/Stud	11 - 10	17 - 5	20-0+	11 - 4	16 - 3	20-0+	10 - 9	15 - 3	18 - 10	10 - 1	14 - 4	17 - 9	9 - 3	13 - 2	16 - 3
	HF	Standard	10 - 5	-	-	9 - 8	-	-	9 - 1	-	-	8 - 7	-	-	7 - 10	-	-
	SP	SS	13 - 8	20-0+	20-0+	13 - 1	20-0+	20-0+	12 - 6	19 - 4	20-0+	12 - 0	18 - 7	20-0+	11 - 4	17 - 7	20-0+
	SP	No.1	13 - 1	20-0+	20-0+	12 - 6	19 - 5	20-0+	12 - 0	18 - 7	20-0+	11 - 6	17 - 10	20-0+	10 - 11	16 - 10	20-0+
	SP	No.2	12 - 6	19 - 4	20-0+	11 - 11	18 - 6	20-0+	11 - 5	17 - 9	20-0+	11 - 0	17 - 0	20-0+	10 - 5	16 - 1	20-0+
	SP	No.3	11 - 4	16 - 4	20-0+	10 - 7	15 - 3	18 - 9	9 - 11	14 - 3	17 - 6	9 - 4	13 - 5	16 - 6	8 - 7	12 - 4	15 - 2
	SP	Stud	11 - 4	16 - 4	20-0+	10 - 7	15 - 3	18 - 9	9 - 11	14 - 3	17 - 6	9 - 4	13 - 5	16 - 6	8 - 7	12 - 4	15 - 2
	SP	Standard	9 - 7	-	-	9 - 0	-	-	8 - 5	-	-	7 - 11	-	-	-	-	-
16	SPF	SS	12 - 10	19 - 10	20-0+	12 - 3	18 - 11	20-0+	11 - 9	18 - 2	20-0+	11 - 3	17 - 5	20-0+	10 - 8	16 - 6	20-0+
	SPF	No.1	12 - 6	19 - 4	20-0+	11 - 11	18 - 6	20-0+	11 - 5	17 - 9	20-0+	11 - 0	17 - 0	20-0+	10 - 5	16 - 1	20-0+
	SPF	No.2	12 - 6	19 - 4	20-0+	11 - 11	18 - 6	20-0+	11 - 5	17 - 9	20-0+	11 - 0	17 - 0	20-0+	10 - 5	16 - 1	20-0+
	SPF	No.3/Stud	11 - 10	17 - 5	20-0+	11 - 4	16 - 3	20-0+	10 - 9	15 - 3	18 - 10	10 - 1	14 - 4	17 - 9	9 - 3	13 - 2	16 - 3
	SPF	Standard	10 - 5	-	-	9 - 8	-	-	9 - 1	-	-	8 - 7	-	-	7 - 10	-	-
	DFL	SS	12 - 7	19 - 6	20-0+	12 - 0	18 - 7	20-0+	11 - 6	17 - 10	20-0+	11 - 1	17 - 2	20-0+	10 - 6	16 - 2	20-0+
	DFL	No.1	12 - 1	18 - 9	20-0+	11 - 7	17 - 11	20-0+	11 - 1	17 - 2	20-0+	10 - 8	16 - 6	20-0+	10 - 1	15 - 7	20-0+
	DFL	No.2	11 - 10	18 - 4	20-0+	11 - 4	17 - 6	20-0+	10 - 10	16 - 10	20-0+	10 - 5	16 - 2	20-0+	9 - 10	15 - 3	19 - 1
	DFL	No.3/Stud	10 - 9	15 - 4	19 - 0	10 - 1	14 - 4	17 - 8	9 - 5	13 - 5	16 - 7	8 - 11	12 - 7	15 - 7	8 - 2	11 - 7	14 - 4
	DFL	Standard	9 - 1	-	-	8 - 6	-	-	8 - 0	-	-	-	-	-	-	-	-
	HF	SS	11 - 10	18 - 4	20-0+	11 - 4	17 - 6	20-0+	10 - 10	16 - 10	20-0+	10 - 5	16 - 2	20-0+	9 - 10	15 - 3	19 - 10
	HF	No.1	11 - 7	17 - 11	20-0+	11 - 1	17 - 2	20-0+	10 - 7	16 - 5	20-0+	10 - 2	15 - 9	20-0+	9 - 8	14 - 11	19 - 5
	HF	No.2	11 - 0	17 - 1	20-0+	10 - 6	16 - 4	20-0+	10 - 1	15 - 7	20-0+	9 - 8	15 - 0	19 - 6	9 - 2	14 - 2	18 - 5
	HF	No.3/Stud	10 - 6	14 - 11	18 - 6	9 - 10	13 - 11	17 - 3	9 - 2	13 - 1	16 - 2	8 - 8	12 - 3	15 - 2	7 - 11	11 - 3	13 - 11
	HF	Standard	8 - 11	-	-	8 - 4	-	-	7 - 9	-	-	-	-	-	-	-	-
	SP	SS	12 - 4	19 - 1	20-0+	11 - 10	18 - 3	20-0+	11 - 4	17 - 6	20-0+	10 - 10	16 - 10	20-0+	10 - 3	15 - 11	20-0+
	SP	No.1	11 - 10	18 - 4	20-0+	11 - 4	17 - 6	20-0+	10 - 10	16 - 10	20-0+	10 - 5	16 - 2	20-0+	9 - 10	15 - 3	19 - 10
24	SP	No.2	11 - 4	17 - 6	20-0+	10 - 10	16 - 9	20-0+	10 - 4	16 - 0	20-0+	10 - 0	15 - 5	19 - 2	9 - 5	14 - 2	17 - 7
	SP	No.3	9 - 9	14 - 0	17 - 2	9 - 1	13 - 1	16 - 0	8 - 6	12 - 3	15 - 0	8 - 0	11 - 6	14 - 2	-	10 - 7	13 - 0
	SP	Stud	9 - 9	14 - 0	17 - 2	9 - 1	13 - 1	16 - 0	8 - 6	12 - 3	15 - 0	8 - 0	11 - 6	14 - 2	-	10 - 7	13 - 0
	SP	Standard	8 - 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SPF	SS	11 - 7	17 - 11	20-0+	11 - 1	17 - 2	20-0+	10 - 7	16 - 5	20-0+	10 - 2	15 - 9	20-0+	9 - 8	14 - 11	19 - 5
	SPF	No.1	11 - 4	17 - 6	20-0+	10 - 10	16 - 9	20-0+	10 - 4	16 - 0	20-0+	10 - 0	15 - 5	20-0+	9 - 5	14 - 7	18 - 10
	SPF	No.2	11 - 4	17 - 6	20-0+	10 - 10	16 - 9	20-0+	10 - 4	16 - 0	20-0+	10 - 0	15 - 5	20-0+	9 - 5	14 - 7	18 - 10
	SPF	No.3/Stud	10 - 6	14 - 11	18 - 6	9 - 10	13 - 11	17 - 3	9 - 2	13 - 1	16 - 2	8 - 8	12 - 3	15 - 2	7 - 11	11 - 3	13 - 11
	SPF	Standard	8 - 11	-	-	8 - 4	-	-	7 - 9	-	-	-	-	-	-	-	-
	DFL	SS	10 - 11	16 - 11	20-0+	10 - 5	16 - 2	20-0+	10 - 0	15 - 6	20-0+	9 - 7	14 - 10	19 - 4	9 - 1	14 - 1	18 - 3
	DFL	No.1	10 - 6	16 - 3	20-0+	10 - 0	15 - 6	20-0+	9 - 8	14 - 11	18 - 10	9 - 3	14 - 4	17 - 9	8 - 9	13 - 2	16 - 3
	DFL	No.2	10 - 3	15 - 11	20-0+	9 - 10	15 - 2	19 - 0	9 - 5	14 - 5	17 - 10	9 - 1	13 - 6	16 - 9	8 - 7	12 - 5	15 - 4
	DFL	No.3/Stud	8 - 8	12 - 4	15 - 3	8 - 1	11 - 6	14 - 3	-	10 - 9	13 - 4	-	10 - 2	12 - 6	-	9 - 4	11 - 6
	DFL	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	HF	SS	10 - 3	15 - 11	20-0+	9 - 10	15 - 2	19 - 9	9 - 5	14 - 7	19 - 0	9 - 1	14 - 0	18 - 3	8 - 7	13 - 3	17 - 3
	HF	No.1	10 - 1	15 - 7	20-0+	9 - 7	14 - 10	19 - 4	9 - 3	14 - 3	18 - 6	8 - 10	13 - 8	17 - 6	8 - 5	13 - 0	16 - 0
	HF	No.2	9 - 7	14 - 10	19 - 3	9 - 2	14 - 2	18 - 5	8 - 9	13 - 7	17 - 3	8 - 5	13 - 0	16 - 3	8 - 0	12 - 1	14 - 11
	HF	No.3/Stud	8 - 6	12 - 0	14 - 10	7 - 11	11 - 3	13 - 10	-	10 - 6	13 - 0	-	9 - 11	12 - 3	-	9 - 1	11 - 3
	HF	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SP	SS	10 - 9	16 - 7	20-0+	10 - 3	15 - 10	20-0+	9 - 10	15 - 2	19 - 9	9 - 5	14 - 7	19 - 0	8 - 11	13 - 10	17 - 11
	SP	No.1	10 - 3	15 - 11	20-0+	9 - 10	15 - 2	19 - 9	9 - 5	14 - 7	19 - 0	9 - 1	14 - 0	18 - 1	8 - 7	13 - 3	16 - 7
	SP	No.2	9 - 10	15 - 2	18 - 9	9 - 5	14 - 1	17 - 6	9 - 0	13 - 3	16 - 5	8 - 7	12 - 5	15 - 5	7 - 10	11 - 5	14 - 2
	SP	No.3	7 - 10	11 - 3	13 - 10	-	10 - 6	12 - 11	-	9 - 10	12 - 1	-	9 - 3	11 - 4	-	8 - 6	10 - 5
	SP	Stud	7 - 10	11 - 3	13 - 10	-	10 - 6	12 - 11	-	9 - 10	12 - 1	-	9 - 3	11 - 4	-	8 - 6	10 - 5
	SP	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SPF	SS	10 - 1	15 - 7	20-0+	9 - 7	14 - 10	19 - 4	9 - 3	14 - 3	18 - 6	8 - 10	13 - 8	17 - 10	8 - 5	12 - 11	16 - 10
	SPF	No.1	9 - 10	15 - 2	19 - 9	9 - 5	14 - 6	18 - 9	9 - 0	13 - 11	17 - 6	8 - 8	13 - 4	16 - 6	8 - 2	12 - 3	15 - 2
	SPF	No.2	9 - 10	15 - 2	19 - 9	9 - 5	14 - 6	18 - 9	9 - 0	13 - 11	17 - 6	8 - 8	13 - 4	16 - 6	8 - 2	12 - 3	15 - 2
	SPF	No.3/Stud	8 - 6	12 - 0	14 - 10	7 - 11	11 - 3	13 - 10	-	10 - 6	13 - 0	-	9 - 11	12 - 3	-	9 - 1	11 - 3
	SPF	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

See Table 3.20B footnotes.

Table 3.20B2 Maximum Exterior Loadbearing¹ and Non-Loadbearing Stud Lengths for Common Lumber Species Resisting Interior Zone Wind Loads - Stud Deflection Limit = H/240
(Fully Sheathed with a Minimum of 3/8" Wood Structural Panels)^a

Exposure B
H/240
3/8" WSP

Wind Speed 3-second gust (mph) (See Figure 1.1)			90			95			100			105		
Stud Spacing (in.)	Species	Grade	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8
Maximum Allowable Stud Length (ft.-in.) ¹														
12	DFL	SS	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	DFL	No.1	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	DFL	No.2	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	DFL	No.3/Stud	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	DFL	Standard	14-0††	-	-	14-0††	-	-	14-0††	-	-	14-0††	-	-
	HF	SS	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	HF	No.1	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	HF	No.2	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	HF	No.3/Stud	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13 - 9	20-0†	20-0†
	HF	Standard	14-0††	-	-	14-0††	-	-	14-0††	-	-	13 - 9	-	-
	SP	SS	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	SP	No.1	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	SP	No.2	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	SP	No.3	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	SP	Stud	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	SP	Standard	14-0††	-	-	14-0††	-	-	14-0††	-	-	13 - 9	-	-
	SPF	SS	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	SPF	No.1	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	SPF	No.2	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	SPF	No.3/Stud	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13 - 9	20-0†	20-0†
	SPF	Standard	14-0††	-	-	14-0††	-	-	14-0††	-	-	13 - 9	-	-
16	DFL	SS	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	DFL	No.1	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	DFL	No.2	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13 - 9	20-0†	20-0†
	DFL	No.3/Stud	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13 - 7	20-0†	20-0†	13 - 1	20-0†	20-0†
	DFL	Standard	14-0††	-	-	14-0††	-	-	13 - 7	-	-	13 - 1	-	-
	HF	SS	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13 - 9	20-0†	20-0†
	HF	No.1	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13 - 11	20-0†	20-0†	13 - 5	20-0†	20-0†
	HF	No.2	13 - 9	20-0†	20-0†	13 - 8	20-0†	20-0†	13 - 3	20-0†	20-0†	12 - 9	19 - 9	20-0†
	HF	No.3/Stud	13 - 4	20-0†	20-0†	13 - 4	20-0†	20-0†	12 - 10	19 - 11	20-0†	12 - 5	19 - 3	20-0†
	HF	Standard	13 - 4	-	-	13 - 4	-	-	12 - 10	-	-	12 - 5	-	-
	SP	SS	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	SP	No.1	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13 - 9	20-0†	20-0†
	SP	No.2	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13 - 7	20-0†	20-0†	13 - 1	20-0†	20-0†
	SP	No.3	13 - 9	20-0†	20-0†	13 - 8	20-0†	20-0†	13 - 3	20-0†	20-0†	12 - 9	19 - 9	20-0†
	SP	Stud	13 - 9	20-0†	20-0†	13 - 8	20-0†	20-0†	13 - 3	20-0†	20-0†	12 - 9	19 - 9	20-0†
	SP	Standard	13 - 4	-	-	13 - 4	-	-	12 - 8	-	-	12 - 1	-	-
	SPF	SS	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13 - 11	20-0†	20-0†	13 - 5	20-0†	20-0†
	SPF	No.1	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13 - 7	20-0†	20-0†	13 - 1	20-0†	20-0†
	SPF	No.2	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13 - 7	20-0†	20-0†	13 - 1	20-0†	20-0†
	SPF	No.3/Stud	13 - 4	20-0†	20-0†	13 - 4	20-0†	20-0†	12 - 10	19 - 11	20-0†	12 - 5	19 - 3	20-0†
	SPF	Standard	13 - 4	-	-	13 - 4	-	-	12 - 10	-	-	12 - 5	-	-
24	DFL	SS	13 - 7	20-0†	20-0†	13 - 7	20-0†	20-0†	13 - 1	20-0†	20-0†	12 - 8	19 - 7	20-0†
	DFL	No.1	13 - 1	19 - 11	20-0†	13 - 1	19 - 11	20-0†	12 - 7	19 - 6	20-0†	12 - 2	18 - 10	20-0†
	DFL	No.2	12 - 10	19 - 6	20-0†	12 - 9	19 - 6	20-0†	12 - 4	19 - 1	20-0†	11 - 11	18 - 6	20-0†
	DFL	No.3/Stud	12 - 4	18 - 8	20-0†	12 - 2	18 - 8	20-0†	11 - 9	18 - 3	20-0†	11 - 5	17 - 7	20-0†
	DFL	Standard	12 - 1	-	-	12 - 0	-	-	11 - 4	-	-	10 - 9	-	-
	HF	SS	12 - 10	19 - 6	20-0†	12 - 9	19 - 6	20-0†	12 - 4	19 - 1	20-0†	11 - 11	18 - 6	20-0†
	HF	No.1	12 - 7	19 - 1	20-0†	12 - 6	19 - 1	20-0†	12 - 1	18 - 8	20-0†	11 - 8	18 - 1	20-0†
	HF	No.2	12 - 0	18 - 2	20-0†	11 - 11	18 - 2	20-0†	11 - 6	17 - 9	20-0†	11 - 1	17 - 2	20-0†
	HF	No.3/Stud	11 - 8	17 - 9	20-0†	11 - 7	17 - 9	20-0†	11 - 2	17 - 3	20-0†	10 - 9	16 - 8	20-0†
	HF	Standard	11 - 8	-	-	11 - 7	-	-	11 - 1	-	-	10 - 6	-	-
	SP	SS	13 - 4	20-0†	20-0†	13 - 4	20-0†	20-0†	12 - 10	19 - 11	20-0†	12 - 5	19 - 3	20-0†
	SP	No.1	12 - 10	19 - 6	20-0†	12 - 9	19 - 6	20-0†	12 - 4	19 - 1	20-0†	11 - 11	18 - 6	20-0†
	SP	No.2	12 - 4	18 - 8	20-0†	12 - 2	18 - 8	20-0†	11 - 9	18 - 3	20-0†	11 - 5	17 - 7	20-0†
	SP	No.3	12 - 0	18 - 1	20-0†	11 - 11	18 - 1	20-0†	11 - 6	17 - 5	20-0†	11 - 1	16 - 6	20-0†
	SP	Stud	12 - 0	18 - 1	20-0†	11 - 11	18 - 1	20-0†	11 - 6	17 - 5	20-0†	11 - 1	16 - 6	20-0†
	SP	Standard	11 - 0	-	-	10 - 10	-	-	10 - 3	-	-	9 - 8	-	-
	SPF	SS	12 - 7	19 - 1	20-0†	12 - 6	19 - 1	20-0†	12 - 1	18 - 8	20-0†	11 - 8	18 - 1	20-0†
	SPF	No.1	12 - 4	18 - 8	20-0†	12 - 2	18 - 8	20-0†	11 - 9	18 - 3	20-0†	11 - 5	17 - 7	20-0†
	SPF	No.2	12 - 4	18 - 8	20-0†	12 - 2	18 - 8	20-0†	11 - 9	18 - 3	20-0†	11 - 5	17 - 7	20-0†
	SPF	No.3/Stud	11 - 8	17 - 9	20-0†	11 - 7	17 - 9	20-0†	11 - 2	17 - 3	20-0†	10 - 9	16 - 8	20-0†
	SPF	Standard	11 - 8	-	-	11 - 7	-	-	11 - 1	-	-	10 - 6	-	-

See Table 3.20B footnotes.

Table 3.20B2 Maximum Exterior Loadbearing¹ and Non-Loadbearing Stud Lengths for Common Lumber Species Resisting Interior Zone Wind Loads - Stud Deflection Limit = H/240
(Fully Sheathed with a Minimum of 3/8" Wood Structural Panels)^a

Exposure B
H/240
3/8" WSP

Wind Speed 3-second gust (mph) (See Figure 1.1)			110			115			120			130			140		
Stud Spacing (in.)	Species	Grade	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8
Maximum Allowable Stud Length (ft.-in.) ¹																	
12	DFL	SS	14-0+	20-0+	20-0+	14-0+	20-0+	20-0+	14-0+	20-0+	20-0+	13-11	20-0+	20-0+	13-2	20-0+	20-0+
	DFL	No.1	14-0+	20-0+	20-0+	14-0+	20-0+	20-0+	14-0+	20-0+	20-0+	13-4	20-0+	20-0+	12-8	19-8	20-0+
	DFL	No.2	14-0+	20-0+	20-0+	14-0+	20-0+	20-0+	13-10	20-0+	20-0+	13-1	20-0+	20-0+	12-5	19-3	20-0+
	DFL	No.3/Stud Standard	14-0+	20-0+	20-0+	13-7	20-0+	20-0+	13-3	20-0+	20-0+	12-6	19-4	20-0+	11-10	18-4	20-0+
	DFL	Standard	14-0+	-	-	13-7	-	-	13-3	-	-	12-5	-	-	11-5	-	-
	HF	SS	14-0+	20-0+	20-0+	14-0+	20-0+	20-0+	13-10	20-0+	20-0+	13-1	20-0+	20-0+	12-5	19-3	20-0+
	HF	No.1	14-0+	20-0+	20-0+	13-11	20-0+	20-0+	13-6	20-0+	20-0+	12-10	19-10	20-0+	12-2	18-10	20-0+
	HF	No.2	13-8	20-0+	20-0+	13-3	20-0+	20-0+	12-10	19-11	20-0+	12-2	18-10	20-0+	11-7	17-11	20-0+
	HF	No.3/Stud Standard	13-4	20-0+	20-0+	12-11	20-0	20-0+	12-6	19-5	20-0+	11-10	18-4	20-0+	11-3	17-5	20-0+
	HF	Standard	13-4	-	-	12-11	-	-	12-6	-	-	11-10	-	-	11-2	-	-
	SP	SS	14-0+	20-0+	20-0+	14-0+	20-0+	20-0+	14-0+	20-0+	20-0+	13-8	20-0+	20-0+	12-11	20-0+	20-0+
	SP	No.1	14-0+	20-0+	20-0+	14-0+	20-0+	20-0+	13-10	20-0+	20-0+	13-1	20-0+	20-0+	12-5	19-3	20-0+
	SP	No.2	14-0+	20-0+	20-0+	13-7	20-0+	20-0+	13-3	20-0+	20-0+	12-6	19-4	20-0+	11-10	18-4	20-0+
	SP	No.3	13-8	20-0+	20-0+	13-3	20-0+	20-0+	12-10	19-11	20-0+	12-2	18-10	20-0+	11-7	17-7	20-0+
	SP	Stud	13-8	20-0+	20-0+	13-3	20-0+	20-0+	12-10	19-11	20-0+	12-2	18-10	20-0+	11-7	17-7	20-0+
	SP	Standard	13-4	-	-	12-9	-	-	12-2	-	-	11-2	-	-	10-4	-	-
	SPF	SS	14-0+	20-0+	20-0+	13-11	20-0+	20-0+	13-6	20-0+	20-0+	12-10	19-10	20-0+	12-2	18-10	20-0+
	SPF	No.1	14-0+	20-0+	20-0+	13-7	20-0+	20-0+	13-3	20-0+	20-0+	12-6	19-4	20-0+	11-10	18-4	20-0+
	SPF	No.2	14-0+	20-0+	20-0+	13-7	20-0+	20-0+	13-3	20-0+	20-0+	12-6	19-4	20-0+	11-10	18-4	20-0+
	SPF	No.3/Stud Standard	13-4	20-0+	20-0+	12-11	20-0	20-0+	12-6	19-5	20-0+	11-10	18-4	20-0+	11-3	17-5	20-0+
	SPF	Standard	13-4	-	-	12-11	-	-	12-6	-	-	11-10	-	-	11-2	-	-
16	DFL	SS	14-0+	20-0+	20-0+	13-8	20-0+	20-0+	13-3	20-0+	20-0+	12-7	19-5	20-0+	11-11	18-6	20-0+
	DFL	No.1	13-7	20-0+	20-0+	13-2	20-0+	20-0+	12-9	19-9	20-0+	12-1	18-9	20-0+	11-6	17-9	20-0+
	DFL	No.2	13-4	20-0+	20-0+	12-11	20-0	20-0+	12-6	19-5	20-0+	11-10	18-4	20-0+	11-3	17-5	20-0+
	DFL	No.3/Stud Standard	12-8	19-8	20-0+	12-4	19-1	20-0+	11-11	18-6	20-0+	11-4	17-6	20-0+	10-9	16-6	20-0+
	DFL	Standard	12-8	-	-	12-1	-	-	11-7	-	-	10-7	-	-	9-10	-	-
	HF	SS	13-4	20-0+	20-0+	12-11	20-0	20-0+	12-6	19-5	20-0+	11-10	18-4	20-0+	11-3	17-5	20-0+
	HF	No.1	13-0	20-0+	20-0+	12-7	19-6	20-0+	12-3	18-11	20-0+	11-7	17-11	20-0+	11-0	17-0	20-0+
	HF	No.2	12-4	19-2	20-0+	12-0	18-7	20-0+	11-8	18-0	20-0+	11-0	17-0	20-0+	10-5	16-2	20-0+
	HF	No.3/Stud Standard	12-0	18-7	20-0+	11-8	18-1	20-0+	11-4	17-6	20-0+	10-9	16-7	20-0+	10-2	15-9	19-11
	HF	Standard	12-0	-	-	11-8	-	-	11-4	-	-	10-4	-	-	9-7	-	-
	SP	SS	13-10	20-0+	20-0+	13-5	20-0+	20-0+	13-1	20-0+	20-0+	12-4	19-1	20-0+	11-9	18-2	20-0+
	SP	No.1	13-4	20-0+	20-0+	12-11	20-0	20-0+	12-6	19-5	20-0+	11-10	18-4	20-0+	11-3	17-5	20-0+
	SP	No.2	12-8	19-8	20-0+	12-4	19-1	20-0+	11-11	18-6	20-0+	11-4	17-6	20-0+	10-9	16-7	20-0+
	SP	No.3	12-4	19-2	20-0+	12-0	18-7	20-0+	11-8	17-9	20-0+	11-0	16-4	20-0+	10-5	15-1	18-6
	SP	Stud	12-4	19-2	20-0+	12-0	18-7	20-0+	11-8	17-9	20-0+	11-0	16-4	20-0+	10-5	15-1	18-6
	SP	Standard	11-6	-	-	10-11	-	-	10-5	-	-	9-7	-	-	8-10	-	-
	SPF	SS	13-0	20-0+	20-0+	12-7	19-6	20-0+	12-3	18-11	20-0+	11-7	17-11	20-0+	11-0	17-0	20-0+
	SPF	No.1	12-8	19-8	20-0+	12-4	19-1	20-0+	11-11	18-6	20-0+	11-4	17-6	20-0+	10-9	16-7	20-0+
	SPF	No.2	12-8	19-8	20-0+	12-4	19-1	20-0+	11-11	18-6	20-0+	11-4	17-6	20-0+	10-9	16-7	20-0+
	SPF	No.3/Stud Standard	12-0	18-7	20-0+	11-8	18-1	20-0+	11-4	17-6	20-0+	10-9	16-7	20-0+	10-2	15-9	19-11
	SPF	Standard	12-0	-	-	11-8	-	-	11-4	-	-	10-4	-	-	9-7	-	-
24	DFL	SS	12-3	19-0	20-0+	11-11	18-5	20-0+	11-6	17-10	20-0+	10-11	16-11	20-0+	10-4	16-0	20-0+
	DFL	No.1	11-10	18-3	20-0+	11-5	17-8	20-0+	11-1	17-2	20-0+	10-6	16-3	20-0+	10-0	15-5	20-0+
	DFL	No.2	11-7	17-10	20-0+	11-2	17-4	20-0+	10-10	16-10	20-0+	10-3	15-11	20-0+	9-9	15-1	19-8
	DFL	No.3/Stud Standard	11-0	17-1	20-0+	10-8	16-5	20-0+	10-4	15-8	19-4	9-10	14-4	17-9	9-4	13-3	16-5
	DFL	Standard	10-3	-	-	9-9	-	-	9-4	-	-	8-7	-	-	7-11	-	-
	HF	SS	11-7	17-10	20-0+	11-2	17-4	20-0+	10-10	16-10	20-0+	10-3	15-11	20-0+	9-9	15-1	19-8
	HF	No.1	11-3	17-6	20-0+	10-11	16-11	20-0+	10-8	16-5	20-0+	10-1	15-7	20-0+	9-7	14-9	19-2
	HF	No.2	10-9	16-7	20-0+	10-5	16-1	20-0+	10-1	15-8	20-0+	9-7	14-9	19-3	9-1	14-1	18-3
	HF	No.3/Stud Standard	10-5	16-2	20-0+	10-2	15-8	19-9	9-10	15-2	18-10	9-4	14-0	17-4	8-10	12-11	16-0
	HF	Standard	10-0	-	-	9-6	-	-	9-1	-	-	8-4	-	-	-	-	-
	SP	SS	12-0	18-7	20-0+	11-8	18-1	20-0+	11-4	17-6	20-0+	10-9	16-7	20-0+	10-2	15-9	20-0+
	SP	No.1	11-7	17-10	20-0+	11-2	17-4	20-0+	10-10	16-10	20-0+	10-3	15-11	20-0+	9-9	15-1	19-8
	SP	No.2	11-0	17-1	20-0+	10-8	16-6	20-0+	10-4	16-1	20-0+	9-10	15-2	19-9	9-4	14-5	18-9
	SP	No.3	10-9	15-8	19-3	10-5	15-0	18-5	9-11	14-3	17-7	9-2	13-1	16-1	8-5	12-1	14-11
	SP	Stud	10-9	15-8	19-3	10-5	15-0	18-5	9-11	14-3	17-7	9-2	13-1	16-1	8-5	12-1	14-11
	SP	Standard	9-3	-	-	8-10	-	-	8-5	-	-	-	-	-	-	-	-
	SPF	SS	11-3	17-6	20-0+	10-11	16-11	20-0+	10-8	16-5	20-0+	10-1	15-7	20-0+	9-7	14-9	19-2
	SPF	No.1	11-0	17-1	20-0+	10-8	16-6	20-0+	10-4	16-1	20-0+	9-10	15-2	19-9	9-4	14-5	18-9
	SPF	No.2	11-0	17-1	20-0+	10-8	16-6	20-0+	10-4	16-1	20-0+	9-10	15-2	19-9	9-4	14-5	18-9
	SPF	No.3/Stud Standard	10-5	16-2	20-0+	10-2	15-8	19-9	9-10	15-2	18-10	9-4	14-0	17-4	8-10	12-11	16-0
	SPF	Standard	10-0	-	-	9-6	-	-	9-1	-	-	8-4	-	-	-	-	-

See Table 3.20B footnotes.

Table 3.20B2 Maximum Exterior Loadbearing¹ and Non-Loadbearing Stud Lengths for Common Lumber Species Resisting Interior Zone Wind Loads - Stud Deflection Limit = H/240
(Fully Sheathed with a Minimum of 3/8" Wood Structural Panels)^a

Exposure B
H/240
3/8" WSP

Wind Speed 3-second gust (mph) (See Figure 1.1)			150			160			170			180			195		
Stud Spacing (in.)	Species	Grade	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8
Maximum Allowable Stud Length (ft.-in.) ¹																	
12	DFL	SS	12 - 7	19 - 6	20-0†	12 - 0	18 - 7	20-0†	11 - 6	17 - 10	20-0†	11 - 1	17 - 2	20-0†	10 - 6	16 - 2	20-0†
	DFL	No.1	12 - 1	18 - 9	20-0†	11 - 7	17 - 11	20-0†	11 - 1	17 - 2	20-0†	10 - 8	16 - 6	20-0†	10 - 1	15 - 7	20-0†
	DFL	No.2	11 - 10	18 - 4	20-0†	11 - 4	17 - 6	20-0†	10 - 10	16 - 10	20-0†	10 - 5	16 - 2	20-0†	9 - 10	15 - 3	19 - 10
	DFL	No.3/Stud	11 - 4	17 - 6	20-0†	10 - 10	16 - 8	20-0†	10 - 4	15 - 8	19 - 4	10 - 0	14 - 8	18 - 2	9 - 5	13 - 6	16 - 8
	DFL	Standard	10 - 8	-	-	9 - 11	-	-	9 - 4	-	-	8 - 9	-	-	8 - 0	-	-
	HF	SS	11 - 10	18 - 4	20-0†	11 - 4	17 - 6	20-0†	10 - 10	16 - 10	20-0†	10 - 5	16 - 2	20-0†	9 - 10	15 - 3	19 - 10
	HF	No.1	11 - 7	17 - 11	20-0†	11 - 1	17 - 2	20-0†	10 - 7	16 - 5	20-0†	10 - 2	15 - 9	20-0†	9 - 8	14 - 11	19 - 5
	HF	No.2	11 - 0	17 - 1	20-0†	10 - 6	16 - 4	20-0†	10 - 1	15 - 7	20-0†	9 - 8	15 - 0	19 - 6	9 - 2	14 - 2	18 - 5
	HF	No.3/Stud	10 - 9	16 - 7	20-0†	10 - 3	15 - 10	20-0†	9 - 10	15 - 2	18 - 10	9 - 5	14 - 4	17 - 9	8 - 11	13 - 2	16 - 3
	HF	Standard	10 - 5	-	-	9 - 8	-	-	9 - 1	-	-	8 - 7	-	-	7 - 10	-	-
	SP	SS	12 - 4	19 - 1	20-0†	11 - 10	18 - 3	20-0†	11 - 4	17 - 6	20-0†	10 - 10	16 - 10	20-0†	10 - 3	15 - 11	20-0†
	SP	No.1	11 - 10	18 - 4	20-0†	11 - 4	17 - 6	20-0†	10 - 10	16 - 10	20-0†	10 - 5	16 - 2	20-0†	9 - 10	15 - 3	19 - 10
	SP	No.2	11 - 4	17 - 6	20-0†	10 - 10	16 - 9	20-0†	10 - 4	16 - 0	20-0†	10 - 0	15 - 5	20-0†	9 - 5	14 - 7	18 - 11
	SP	No.3	11 - 0	16 - 4	20-0†	10 - 6	15 - 3	18 - 9	9 - 11	14 - 3	17 - 6	9 - 4	13 - 5	16 - 6	8 - 7	12 - 4	15 - 2
	SP	Stud	11 - 0	16 - 4	20-0†	10 - 6	15 - 3	18 - 9	9 - 11	14 - 3	17 - 6	9 - 4	13 - 5	16 - 6	8 - 7	12 - 4	15 - 2
	SP	Standard	9 - 7	-	-	9 - 0	-	-	8 - 5	-	-	7 - 11	-	-	-	-	-
16	SPF	SS	11 - 7	17 - 11	20-0†	11 - 1	17 - 2	20-0†	10 - 7	16 - 5	20-0†	10 - 2	15 - 9	20-0†	9 - 8	14 - 11	19 - 5
	SPF	No.1	11 - 4	17 - 6	20-0†	10 - 10	16 - 9	20-0†	10 - 4	16 - 0	20-0†	10 - 0	15 - 5	20-0†	9 - 5	14 - 7	18 - 11
	SPF	No.2	11 - 4	17 - 6	20-0†	10 - 10	16 - 9	20-0†	10 - 4	16 - 0	20-0†	10 - 0	15 - 5	20-0†	9 - 5	14 - 7	18 - 11
	SPF	No.3/Stud	10 - 9	16 - 7	20-0†	10 - 3	15 - 10	20-0†	9 - 10	15 - 2	18 - 10	9 - 5	14 - 4	17 - 9	8 - 11	13 - 2	16 - 3
	SPF	Standard	10 - 5	-	-	9 - 8	-	-	9 - 1	-	-	8 - 7	-	-	7 - 10	-	-
	DFL	SS	11 - 5	17 - 7	20-0†	10 - 11	16 - 10	20-0†	10 - 5	16 - 2	20-0†	10 - 0	15 - 6	20-0†	9 - 6	14 - 8	19 - 1
	DFL	No.1	10 - 11	16 - 11	20-0†	10 - 6	16 - 2	20-0†	10 - 0	15 - 6	20-0†	9 - 8	14 - 11	19 - 5	9 - 1	14 - 1	18 - 4
	DFL	No.2	10 - 9	16 - 7	20-0†	10 - 3	15 - 10	20-0†	9 - 10	15 - 2	19 - 9	9 - 5	14 - 7	19 - 0	8 - 11	13 - 10	17 - 11
	DFL	No.3/Stud	10 - 3	15 - 4	19 - 0	9 - 9	14 - 4	17 - 8	9 - 4	13 - 5	16 - 7	8 - 11	12 - 7	15 - 7	8 - 2	11 - 7	14 - 4
	DFL	Standard	9 - 1	-	-	8 - 6	-	-	8 - 0	-	-	-	-	-	-	-	-
	HF	SS	10 - 9	16 - 7	20-0†	10 - 3	15 - 10	20-0†	9 - 10	15 - 2	19 - 9	9 - 5	14 - 7	19 - 0	8 - 11	13 - 10	17 - 11
	HF	No.1	10 - 6	16 - 2	20-0†	10 - 0	15 - 6	20-0†	9 - 7	14 - 10	19 - 4	9 - 3	14 - 3	18 - 7	8 - 9	13 - 6	17 - 7
	HF	No.2	10 - 0	15 - 5	20-0†	9 - 6	14 - 9	19 - 2	9 - 2	14 - 2	18 - 4	8 - 9	13 - 7	17 - 8	8 - 4	12 - 10	16 - 8
	HF	No.3/Stud	9 - 8	14 - 11	18 - 6	9 - 3	13 - 11	17 - 3	8 - 11	13 - 1	16 - 2	8 - 6	12 - 3	15 - 2	7 - 11	11 - 3	13 - 11
	HF	Standard	8 - 11	-	-	8 - 4	-	-	7 - 9	-	-	-	-	-	-	-	-
	SP	SS	11 - 2	17 - 3	20-0†	10 - 8	16 - 6	20-0†	10 - 3	15 - 10	20-0†	9 - 10	15 - 2	19 - 9	9 - 4	14 - 5	18 - 8
24	SP	No.1	10 - 9	16 - 7	20-0†	10 - 3	15 - 10	20-0†	9 - 10	15 - 2	19 - 9	9 - 5	14 - 7	19 - 0	8 - 11	13 - 10	17 - 11
	SP	No.2	10 - 3	15 - 10	20-0†	9 - 9	15 - 1	19 - 8	9 - 4	14 - 6	18 - 10	9 - 0	13 - 11	18 - 1	8 - 6	13 - 2	17 - 2
	SP	No.3	9 - 9	14 - 0	17 - 2	9 - 1	13 - 1	16 - 0	8 - 6	12 - 3	15 - 0	8 - 0	11 - 6	14 - 2	-	10 - 7	13 - 0
	SP	Stud	9 - 9	14 - 0	17 - 2	9 - 1	13 - 1	16 - 0	8 - 6	12 - 3	15 - 0	8 - 0	11 - 6	14 - 2	-	10 - 7	13 - 0
	SP	Standard	8 - 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SPF	SS	10 - 6	16 - 2	20-0†	10 - 0	15 - 6	20-0†	9 - 7	14 - 10	19 - 4	9 - 3	14 - 3	18 - 7	8 - 9	13 - 6	17 - 7
	SPF	No.1	10 - 3	15 - 10	20-0†	9 - 9	15 - 1	19 - 8	9 - 4	14 - 6	18 - 10	9 - 0	13 - 11	18 - 1	8 - 6	13 - 2	17 - 2
	SPF	No.2	10 - 3	15 - 10	20-0†	9 - 9	15 - 1	19 - 8	9 - 4	14 - 6	18 - 10	9 - 0	13 - 11	18 - 1	8 - 6	13 - 2	17 - 2
	SPF	No.3/Stud	9 - 8	14 - 11	18 - 6	9 - 3	13 - 11	17 - 3	8 - 11	13 - 1	16 - 2	8 - 6	12 - 3	15 - 2	7 - 11	11 - 3	13 - 11
	SPF	Standard	8 - 11	-	-	8 - 4	-	-	7 - 9	-	-	-	-	-	-	-	-
	DFL	SS	9 - 11	15 - 3	19 - 10	9 - 5	14 - 7	19 - 0	9 - 1	14 - 0	18 - 2	8 - 8	13 - 5	17 - 6	8 - 3	12 - 9	16 - 6
	DFL	No.1	9 - 6	14 - 8	19 - 1	9 - 1	14 - 1	18 - 3	8 - 9	13 - 6	17 - 6	8 - 4	12 - 11	16 - 10	7 - 11	12 - 3	15 - 11
	DFL	No.2	9 - 4	14 - 5	18 - 9	8 - 11	13 - 9	17 - 11	8 - 6	13 - 2	17 - 2	8 - 2	12 - 8	16 - 6	7 - 9	12 - 0	15 - 4
	DFL	No.3/Stud	8 - 8	12 - 4	15 - 3	8 - 1	11 - 6	14 - 3	-	10 - 9	13 - 4	-	10 - 2	12 - 6	-	9 - 4	11 - 6
	DFL	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	HF	SS	9 - 4	14 - 5	18 - 9	8 - 11	13 - 9	17 - 11	8 - 6	13 - 2	17 - 2	8 - 2	12 - 8	16 - 6	7 - 9	12 - 0	15 - 7
	HF	No.1	9 - 1	14 - 1	18 - 4	8 - 8	13 - 5	17 - 6	8 - 4	12 - 11	16 - 9	8 - 0	12 - 5	16 - 1	-	11 - 9	15 - 3
	HF	No.2	8 - 8	13 - 5	17 - 5	8 - 3	12 - 10	16 - 8	7 - 11	12 - 3	15 - 11	-	11 - 9	15 - 4	-	11 - 2	14 - 6
	HF	No.3/Stud	8 - 5	12 - 0	14 - 10	7 - 11	11 - 3	13 - 10	-	10 - 6	13 - 0	-	9 - 11	12 - 3	-	9 - 1	11 - 3
	HF	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SP	SS	9 - 8	15 - 0	19 - 6	9 - 3	14 - 4	18 - 8	8 - 11	13 - 9	17 - 10	8 - 6	13 - 2	17 - 2	8 - 1	12 - 6	16 - 3
	SP	No.1	9 - 4	14 - 5	18 - 9	8 - 11	13 - 9	17 - 11	8 - 6	13 - 2	17 - 2	8 - 2	12 - 8	16 - 6	7 - 9	12 - 0	15 - 7
	SP	No.2	8 - 11	13 - 9	17 - 10	8 - 6	13 - 2	17 - 1	8 - 2	12 - 7	16 - 4	7 - 10	12 - 1	15 - 5	-	11 - 5	14 - 2
	SP	No.3	7 - 10	11 - 3	13 - 10	-	10 - 6	12 - 11	-	9 - 10	12 - 1	-	9 - 3	11 - 4	-	8 - 6	10 - 5
	SP	Stud	7 - 10	11 - 3	13 - 10	-	10 - 6	12 - 11	-	9 - 10	12 - 1	-	9 - 3	11 - 4	-	8 - 6	10 - 5
	SP	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SPF	SS	9 - 1	14 - 1	18 - 4	8 - 8	13 - 5	17 - 6	8 - 4	12 - 11	16 - 9	8 - 0	12 - 5	16 - 1	-	11 - 9	15 - 3
	SPF	No.1	8 - 11	13 - 9	17 - 10	8 - 6	13 - 2	17 - 1	8 - 2	12 - 7	16 - 4	7 - 10	12 - 1	15 - 9	-	11 - 5	14 - 10
	SPF	No.2	8 - 11	13 - 9	17 - 10	8 - 6	13 - 2	17 - 1	8 - 2	12 - 7	16 - 4	7 - 10	12 - 1	15 - 9	-	11 - 5	14 - 10
	SPF	No.3/Stud	8 - 5	12 - 0	14 - 10	7 - 11	11 - 3	13 - 10	-	10 - 6	13 - 0	-	9 - 11	12 - 3	-	9 - 1	11 - 3
	SPF	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

See Table 3.20B footnotes.

Table 3.20B3 Maximum Exterior Loadbearing¹ and Non-Loadbearing Stud Lengths for Common Lumber Species Resisting Interior Zone Wind Loads - Stud Deflection Limit = H/360
(Fully Sheathed with a Minimum of 3/8" Wood Structural Panels)^a

Exposure B
H/360
3/8" WSP

Wind Speed 3-second gust (mph) (See Figure 1.1)			90			95			100			105		
Stud Spacing (in.)	Species	Grade	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8
Maximum Allowable Stud Length (ft.-in.) ¹														
12	DFL	SS	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†
	DFL	No.1	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13-11	20-0†	20-0†	13-6	20-0†	20-0†
	DFL	No.2	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13-8	20-0†	20-0†	13-2	20-0†	20-0†
	DFL	No.3/Stud	13-6	20-0†	20-0†	13-6	20-0†	20-0†	13-0	20-0†	20-0†	12-7	19-6	20-0†
	DFL	Standard	13-6	-	-	13-6	-	-	13-0	-	-	12-7	-	-
	HF	SS	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13-8	20-0†	20-0†	13-2	20-0†	20-0†
	HF	No.1	13-10	20-0†	20-0†	13-10	20-0†	20-0†	13-4	20-0†	20-0†	12-11	20-0	20-0†
	HF	No.2	13-2	20-0†	20-0†	13-2	20-0†	20-0†	12-8	19-8	20-0†	12-3	19-0	20-0†
	HF	No.3/Stud	12-10	19-6	20-0†	12-9	19-6	20-0†	12-4	19-1	20-0†	11-11	18-6	20-0†
	HF	Standard	12-10	-	-	12-9	-	-	12-4	-	-	11-11	-	-
	SP	SS	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13-9	20-0†	20-0†
	SP	No.1	14-0††	20-0†	20-0†	14-0††	20-0†	20-0†	13-8	20-0†	20-0†	13-2	20-0†	20-0†
	SP	No.2	13-6	20-0†	20-0†	13-6	20-0†	20-0†	13-0	20-0†	20-0†	12-7	19-6	20-0†
	SP	No.3	13-2	20-0†	20-0†	13-2	20-0†	20-0†	12-8	19-8	20-0†	12-3	19-0	20-0†
	SP	Stud	13-2	20-0†	20-0†	13-2	20-0†	20-0†	12-8	19-8	20-0†	12-3	19-0	20-0†
	SP	Standard	12-10	-	-	12-9	-	-	12-4	-	-	11-11	-	-
	SPF	SS	13-10	20-0†	20-0†	13-10	20-0†	20-0†	13-4	20-0†	20-0†	12-11	20-0	20-0†
	SPF	No.1	13-6	20-0†	20-0†	13-6	20-0†	20-0†	13-0	20-0†	20-0†	12-7	19-6	20-0†
	SPF	No.2	13-6	20-0†	20-0†	13-6	20-0†	20-0†	13-0	20-0†	20-0†	12-7	19-6	20-0†
	SPF	No.3/Stud	12-10	19-6	20-0†	12-9	19-6	20-0†	12-4	19-1	20-0†	11-11	18-6	20-0†
	SPF	Standard	12-10	-	-	12-9	-	-	12-4	-	-	11-11	-	-
16	DFL	SS	13-7	20-0†	20-0†	13-7	20-0†	20-0†	13-1	20-0†	20-0†	12-8	19-7	20-0†
	DFL	No.1	13-1	19-11	20-0†	13-1	19-11	20-0†	12-7	19-6	20-0†	12-2	18-10	20-0†
	DFL	No.2	12-10	19-6	20-0†	12-9	19-6	20-0†	12-4	19-1	20-0†	11-11	18-6	20-0†
	DFL	No.3/Stud	12-4	18-8	20-0†	12-2	18-8	20-0†	11-9	18-3	20-0†	11-5	17-7	20-0†
	DFL	Standard	12-4	-	-	12-2	-	-	11-9	-	-	11-5	-	-
	HF	SS	12-10	19-6	20-0†	12-9	19-6	20-0†	12-4	19-1	20-0†	11-11	18-6	20-0†
	HF	No.1	12-7	19-1	20-0†	12-6	19-1	20-0†	12-1	18-8	20-0†	11-8	18-1	20-0†
	HF	No.2	12-0	18-2	20-0†	11-11	18-2	20-0†	11-6	17-9	20-0†	11-1	17-2	20-0†
	HF	No.3/Stud	11-8	17-9	20-0†	11-7	17-9	20-0†	11-2	17-3	20-0†	10-9	16-8	20-0†
	HF	Standard	11-8	-	-	11-7	-	-	11-2	-	-	10-9	-	-
	SP	SS	13-4	20-0†	20-0†	13-4	20-0†	20-0†	12-10	19-11	20-0†	12-5	19-3	20-0†
	SP	No.1	12-10	19-6	20-0†	12-9	19-6	20-0†	12-4	19-1	20-0†	11-11	18-6	20-0†
	SP	No.2	12-4	18-8	20-0†	12-2	18-8	20-0†	11-9	18-3	20-0†	11-5	17-7	20-0†
	SP	No.3	12-0	18-2	20-0†	11-11	18-2	20-0†	11-6	17-9	20-0†	11-1	17-2	20-0†
	SP	Stud	12-0	18-2	20-0†	11-11	18-2	20-0†	11-6	17-9	20-0†	11-1	17-2	20-0†
	SP	Standard	11-8	-	-	11-7	-	-	11-2	-	-	10-9	-	-
	SPF	SS	12-7	19-1	20-0†	12-6	19-1	20-0†	12-1	18-8	20-0†	11-8	18-1	20-0†
	SPF	No.1	12-4	18-8	20-0†	12-2	18-8	20-0†	11-9	18-3	20-0†	11-5	17-7	20-0†
	SPF	No.2	12-4	18-8	20-0†	12-2	18-8	20-0†	11-9	18-3	20-0†	11-5	17-7	20-0†
	SPF	No.3/Stud	11-8	17-9	20-0†	11-7	17-9	20-0†	11-2	17-3	20-0†	10-9	16-8	20-0†
	SPF	Standard	11-8	-	-	11-7	-	-	11-2	-	-	10-9	-	-
24	DFL	SS	11-11	18-1	20-0†	11-9	18-1	20-0†	11-5	17-7	20-0†	11-0	17-0	20-0†
	DFL	No.1	11-6	17-5	20-0†	11-4	17-5	20-0†	10-11	16-11	20-0†	10-7	16-4	20-0†
	DFL	No.2	11-3	17-1	20-0†	11-1	17-1	20-0†	10-9	16-7	20-0†	10-4	16-0	20-0†
	DFL	No.3/Stud	10-9	16-4	20-0†	10-7	16-4	20-0†	10-3	15-10	20-0†	9-11	15-3	19-11
	DFL	Standard	10-9	-	-	10-7	-	-	10-3	-	-	9-11	-	-
	HF	SS	11-3	17-1	20-0†	11-1	17-1	20-0†	10-9	16-7	20-0†	10-4	16-0	20-0†
	HF	No.1	11-0	16-8	20-0†	10-10	16-8	20-0†	10-6	16-2	20-0†	10-2	15-8	20-0†
	HF	No.2	10-6	15-11	20-0†	10-4	15-11	20-0†	10-0	15-5	20-0†	9-8	14-11	19-5
	HF	No.3/Stud	10-2	15-6	19-11	10-1	15-6	19-11	9-8	15-0	19-6	9-4	14-6	18-10
	HF	Standard	10-2	-	-	10-1	-	-	9-8	-	-	9-4	-	-
	SP	SS	11-8	17-9	20-0†	11-7	17-9	20-0†	11-2	17-3	20-0†	10-9	16-8	20-0†
	SP	No.1	11-3	17-1	20-0†	11-1	17-1	20-0†	10-9	16-7	20-0†	10-4	16-0	20-0†
	SP	No.2	10-9	16-4	20-0†	10-7	16-4	20-0†	10-3	15-10	20-0†	9-11	15-3	19-11
	SP	No.3	10-6	15-11	20-0†	10-4	15-11	20-0†	10-0	15-5	20-0†	9-8	14-11	19-5
	SP	Stud	10-6	15-11	20-0†	10-4	15-11	20-0†	10-0	15-5	20-0†	9-8	14-11	19-5
	SP	Standard	10-2	-	-	10-1	-	-	9-8	-	-	9-4	-	-
	SPF	SS	11-0	16-8	20-0†	10-10	16-8	20-0†	10-6	16-2	20-0†	10-2	15-8	20-0†
	SPF	No.1	10-9	16-4	20-0†	10-7	16-4	20-0†	10-3	15-10	20-0†	9-11	15-3	19-11
	SPF	No.2	10-9	16-4	20-0†	10-7	16-4	20-0†	10-3	15-10	20-0†	9-11	15-3	19-11
	SPF	No.3/Stud	10-2	15-6	19-11	10-1	15-6	19-11	9-8	15-0	19-6	9-4	14-6	18-10
	SPF	Standard	10-2	-	-	10-1	-	-	9-8	-	-	9-4	-	-

See Table 3.20B footnotes.

Table 3.20B3 Maximum Exterior Loadbearing¹ and Non-Loadbearing Stud Lengths for Common Lumber Species Resisting Interior Zone Wind Loads - Stud Deflection Limit = H/360
(Fully Sheathed with a Minimum of 3/8" Wood Structural Panels)^a

Exposure B
H/360
3/8" WSP

Wind Speed 3-second gust (mph) (See Figure 1.1)			110			115			120			130			140		
Stud Spacing (in.)	Species	Grade	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8
Maximum Allowable Stud Length (ft.-in.) ¹																	
12	DFL	SS	13 - 7	20-0 ⁺	20-0 ⁺	13 - 2	20-0 ⁺	20-0 ⁺	12 - 9	19 - 9	20-0 ⁺	12 - 1	18 - 8	20-0 ⁺	11 - 5	17 - 9	20-0 ⁺
	DFL	No.1	13 - 0	20-0 ⁺	20-0 ⁺	12 - 8	19 - 7	20-0 ⁺	12 - 3	19 - 0	20-0 ⁺	11 - 7	18 - 0	20-0 ⁺	11 - 0	17 - 1	20-0 ⁺
	DFL	No.2	12 - 9	19 - 9	20-0 ⁺	12 - 5	19 - 2	20-0 ⁺	12 - 0	18 - 7	20-0 ⁺	11 - 4	17 - 7	20-0 ⁺	10 - 9	16 - 8	20-0 ⁺
	DFL	No.3/Stud	12 - 2	18 - 10	20-0 ⁺	11 - 10	18 - 3	20-0 ⁺	11 - 6	17 - 9	20-0 ⁺	10 - 10	16 - 9	20-0 ⁺	10 - 4	15 - 11	20-0 ⁺
	DFL	Standard	12 - 2	-	-	11 - 10	-	-	11 - 6	-	-	10 - 10	-	-	10 - 4	-	-
	HF	SS	12 - 9	19 - 9	20-0 ⁺	12 - 5	19 - 2	20-0 ⁺	12 - 0	18 - 7	20-0 ⁺	11 - 4	17 - 7	20-0 ⁺	10 - 9	16 - 8	20-0 ⁺
	HF	No.1	12 - 6	19 - 4	20-0 ⁺	12 - 1	18 - 9	20-0 ⁺	11 - 9	18 - 2	20-0 ⁺	11 - 1	17 - 2	20-0 ⁺	10 - 7	16 - 4	20-0 ⁺
	HF	No.2	11 - 10	18 - 5	20-0 ⁺	11 - 6	17 - 10	20-0 ⁺	11 - 2	17 - 4	20-0 ⁺	10 - 7	16 - 4	20-0 ⁺	10 - 0	15 - 6	20-0 ⁺
	HF	No.3/Stud	11 - 7	17 - 10	20-0 ⁺	11 - 2	17 - 4	20-0 ⁺	10 - 10	16 - 10	20-0 ⁺	10 - 3	15 - 11	20-0 ⁺	9 - 9	15 - 1	19 - 8
	HF	Standard	11 - 7	-	-	11 - 2	-	-	10 - 10	-	-	10 - 3	-	-	9 - 9	-	-
	SP	SS	13 - 4	20-0 ⁺	20-0 ⁺	12 - 11	20 - 0	20-0 ⁺	12 - 6	19 - 5	20-0 ⁺	11 - 10	18 - 4	20-0 ⁺	11 - 3	17 - 5	20-0 ⁺
	SP	No.1	12 - 9	19 - 9	20-0 ⁺	12 - 5	19 - 2	20-0 ⁺	12 - 0	18 - 7	20-0 ⁺	11 - 4	17 - 7	20-0 ⁺	10 - 9	16 - 8	20-0 ⁺
	SP	No.2	12 - 2	18 - 10	20-0 ⁺	11 - 10	18 - 3	20-0 ⁺	11 - 6	17 - 9	20-0 ⁺	10 - 10	16 - 9	20-0 ⁺	10 - 4	15 - 11	20-0 ⁺
	SP	No.3	11 - 10	18 - 5	20-0 ⁺	11 - 6	17 - 10	20-0 ⁺	11 - 2	17 - 4	20-0 ⁺	10 - 7	16 - 4	20-0 ⁺	10 - 0	15 - 6	20-0 ⁺
	SP	Stud	11 - 10	18 - 5	20-0 ⁺	11 - 6	17 - 10	20-0 ⁺	11 - 2	17 - 4	20-0 ⁺	10 - 7	16 - 4	20-0 ⁺	10 - 0	15 - 6	20-0 ⁺
	SP	Standard	11 - 7	-	-	11 - 2	-	-	10 - 10	-	-	10 - 3	-	-	9 - 9	-	-
16	SPF	SS	12 - 6	19 - 4	20-0 ⁺	12 - 1	18 - 9	20-0 ⁺	11 - 9	18 - 2	20-0 ⁺	11 - 1	17 - 2	20-0 ⁺	10 - 7	16 - 4	20-0 ⁺
	SPF	No.1	12 - 2	18 - 10	20-0 ⁺	11 - 10	18 - 3	20-0 ⁺	11 - 6	17 - 9	20-0 ⁺	10 - 10	16 - 9	20-0 ⁺	10 - 4	15 - 11	20-0 ⁺
	SPF	No.2	12 - 2	18 - 10	20-0 ⁺	11 - 10	18 - 3	20-0 ⁺	11 - 6	17 - 9	20-0 ⁺	10 - 10	16 - 9	20-0 ⁺	10 - 4	15 - 11	20-0 ⁺
	SPF	No.3/Stud	11 - 7	17 - 10	20-0 ⁺	11 - 2	17 - 4	20-0 ⁺	10 - 10	16 - 10	20-0 ⁺	10 - 3	15 - 11	20-0 ⁺	9 - 9	15 - 1	19 - 8
	SPF	Standard	11 - 7	-	-	11 - 2	-	-	10 - 10	-	-	10 - 3	-	-	9 - 9	-	-
	DFL	SS	12 - 3	19 - 0	20-0 ⁺	11 - 11	18 - 5	20-0 ⁺	11 - 6	17 - 10	20-0 ⁺	10 - 11	16 - 11	20-0 ⁺	10 - 4	16 - 0	20-0 ⁺
	DFL	No.1	11 - 10	18 - 3	20-0 ⁺	11 - 5	17 - 8	20-0 ⁺	11 - 1	17 - 2	20-0 ⁺	10 - 6	16 - 3	20-0 ⁺	10 - 0	15 - 5	20-0 ⁺
	DFL	No.2	11 - 7	17 - 10	20-0 ⁺	11 - 2	17 - 4	20-0 ⁺	10 - 10	16 - 10	20-0 ⁺	10 - 3	15 - 11	20-0 ⁺	9 - 9	15 - 1	19 - 8
	DFL	No.3/Stud	11 - 0	17 - 1	20-0 ⁺	10 - 8	16 - 6	20-0 ⁺	10 - 4	16 - 1	20-0 ⁺	9 - 10	15 - 2	19 - 9	9 - 4	14 - 5	18 - 9
	DFL	Standard	11 - 0	-	-	10 - 8	-	-	10 - 4	-	-	9 - 10	-	-	9 - 4	-	-
	HF	SS	11 - 7	17 - 10	20-0 ⁺	11 - 2	17 - 4	20-0 ⁺	10 - 10	16 - 10	20-0 ⁺	10 - 3	15 - 11	20-0 ⁺	9 - 9	15 - 1	19 - 8
	HF	No.1	11 - 3	17 - 6	20-0 ⁺	10 - 11	16 - 11	20-0 ⁺	10 - 8	16 - 5	20-0 ⁺	10 - 1	15 - 7	20-0 ⁺	9 - 7	14 - 9	19 - 2
	HF	No.2	10 - 9	16 - 7	20-0 ⁺	10 - 5	16 - 1	20-0 ⁺	10 - 1	15 - 8	20-0 ⁺	9 - 7	14 - 9	19 - 3	9 - 1	14 - 1	18 - 3
	HF	No.3/Stud	10 - 5	16 - 2	20-0 ⁺	10 - 2	15 - 8	20-0 ⁺	9 - 10	15 - 2	19 - 9	9 - 4	14 - 5	18 - 8	8 - 10	13 - 8	17 - 9
	HF	Standard	10 - 5	-	-	10 - 2	-	-	9 - 10	-	-	9 - 4	-	-	8 - 10	-	-
	SP	SS	12 - 0	18 - 7	20-0 ⁺	11 - 8	18 - 1	20-0 ⁺	11 - 4	17 - 6	20-0 ⁺	10 - 9	16 - 7	20-0 ⁺	10 - 2	15 - 9	20-0 ⁺
24	SP	No.1	11 - 7	17 - 10	20-0 ⁺	11 - 2	17 - 4	20-0 ⁺	10 - 10	16 - 10	20-0 ⁺	10 - 3	15 - 11	20-0 ⁺	9 - 9	15 - 1	19 - 8
	SP	No.2	11 - 0	17 - 1	20-0 ⁺	10 - 8	16 - 6	20-0 ⁺	10 - 4	16 - 1	20-0 ⁺	9 - 10	15 - 2	19 - 9	9 - 4	14 - 5	18 - 9
	SP	No.3	10 - 9	16 - 7	20-0 ⁺	10 - 5	16 - 1	20-0 ⁺	10 - 1	15 - 8	20-0 ⁺	9 - 7	14 - 9	19 - 3	9 - 1	14 - 1	18 - 3
	SP	Stud	10 - 9	16 - 7	20-0 ⁺	10 - 5	16 - 1	20-0 ⁺	10 - 1	15 - 8	20-0 ⁺	9 - 7	14 - 9	19 - 3	9 - 1	14 - 1	18 - 3
	SP	Standard	10 - 5	-	-	10 - 2	-	-	9 - 10	-	-	9 - 4	-	-	8 - 10	-	-
	SPF	SS	11 - 3	17 - 6	20-0 ⁺	10 - 11	16 - 11	20-0 ⁺	10 - 8	16 - 5	20-0 ⁺	10 - 1	15 - 7	20-0 ⁺	9 - 7	14 - 9	19 - 2
	SPF	No.1	11 - 0	17 - 1	20-0 ⁺	10 - 8	16 - 6	20-0 ⁺	10 - 4	16 - 1	20-0 ⁺	9 - 10	15 - 2	19 - 9	9 - 4	14 - 5	18 - 9
	SPF	No.2	11 - 0	17 - 1	20-0 ⁺	10 - 8	16 - 6	20-0 ⁺	10 - 4	16 - 1	20-0 ⁺	9 - 10	15 - 2	19 - 9	9 - 4	14 - 5	18 - 9
	SPF	No.3/Stud	10 - 5	16 - 2	20-0 ⁺	10 - 2	15 - 8	20-0 ⁺	9 - 10	15 - 2	19 - 9	9 - 4	14 - 5	18 - 8	8 - 10	13 - 8	17 - 9
	SPF	Standard	10 - 5	-	-	10 - 2	-	-	9 - 10	-	-	9 - 4	-	-	8 - 10	-	-
	DFL	SS	10 - 8	16 - 6	20-0 ⁺	10 - 4	16 - 0	20-0 ⁺	10 - 0	15 - 6	20-0 ⁺	9 - 6	14 - 8	19 - 1	9 - 0	13 - 11	18 - 1
	DFL	No.1	10 - 3	15 - 10	20-0 ⁺	9 - 11	15 - 4	20 - 0	9 - 8	14 - 11	19 - 5	9 - 1	14 - 1	18 - 4	8 - 8	13 - 5	17 - 5
	DFL	No.2	10 - 0	15 - 6	20-0 ⁺	9 - 9	15 - 0	19 - 7	9 - 5	14 - 7	19 - 0	8 - 11	13 - 10	17 - 11	8 - 6	13 - 1	17 - 0
	DFL	No.3/Stud	9 - 7	14 - 10	19 - 3	9 - 3	14 - 4	18 - 8	9 - 0	13 - 11	18 - 1	8 - 6	13 - 2	17 - 2	8 - 1	12 - 6	16 - 3
	DFL	Standard	9 - 7	-	-	9 - 3	-	-	9 - 0	-	-	8 - 6	-	-	7 - 11	-	-
	HF	SS	10 - 0	15 - 6	20-0 ⁺	9 - 9	15 - 0	19 - 7	9 - 5	14 - 7	19 - 0	8 - 11	13 - 10	17 - 11	8 - 6	13 - 1	17 - 0
	HF	No.1	9 - 10	15 - 2	19 - 9	9 - 6	14 - 8	19 - 1	9 - 3	14 - 3	18 - 7	8 - 9	13 - 6	17 - 7	8 - 3	12 - 10	16 - 8
	HF	No.2	9 - 4	14 - 5	18 - 9	9 - 1	14 - 0	18 - 2	8 - 9	13 - 7	17 - 8	8 - 4	12 - 10	16 - 8	7 - 11	12 - 2	15 - 10
	HF	No.3/Stud	9 - 1	14 - 0	18 - 3	8 - 10	13 - 7	17 - 8	8 - 6	13 - 2	17 - 2	8 - 1	12 - 6	16 - 3	-	11 - 10	15 - 5
	HF	Standard	9 - 1	-	-	8 - 10	-	-	8 - 6	-	-	8 - 1	-	-	-	-	-
	SP	SS	10 - 5	16 - 2	20-0 ⁺	10 - 2	15 - 8	20-0 ⁺	9 - 10	15 - 2	19 - 9	9 - 4	14 - 5	18 - 8	8 - 10	13 - 8	17 - 9
	SP	No.1	10 - 0	15 - 6	20-0 ⁺	9 - 9	15 - 0	19 - 7	9 - 5	14 - 7	19 - 0	8 - 11	13 - 10	17 - 11	8 - 6	13 - 1	17 - 0
	SP	No.2	9 - 7	14 - 10	19 - 3	9 - 3	14 - 4	18 - 8	9 - 0	13 - 11	18 - 1	8 - 6	13 - 2	17 - 2	8 - 1	12 - 6	16 - 3
	SP	No.3	9 - 4	14 - 5	18 - 9	9 - 1	14 - 0	18 - 2	8 - 9	13 - 7	17 - 7	8 - 4	12 - 10	16 - 1	7 - 11	12 - 1	14 - 11
	SP	Stud	9 - 4	14 - 5	18 - 9	9 - 1	14 - 0	18 - 2	8 - 9	13 - 7	17 - 7	8 - 4	12 - 10	16 - 1	7 - 11	12 - 1	14 - 11
	SP	Standard	9 - 1	-	-	8 - 10	-	-	8 - 5	-	-	-	-	-	-	-	-
	SPF	SS	9 - 10	15 - 2	19 - 9	9 - 6	14 - 8	19 - 1	9 - 3	14 - 3	18 - 7	8 - 9	13 - 6	17 - 7	8 - 3	12 - 10	16 - 8
	SPF	No.1	9 - 7	14 - 10	19 - 3	9 - 3	14 - 4	18 - 8	9 - 0	13 - 11	18 - 1	8 - 6	13 - 2	17 - 2	8 - 1	12 - 6	16 - 3
	SPF	No.2	9 - 7	14 - 10	19 - 3	9 - 3	14 - 4	18 - 8	9 - 0	13 - 11	18 - 1	8 - 6	13 - 2	17 - 2	8 - 1	12 - 6	16 - 3
	SPF	No.3/Stud	9 - 1	14 - 0	18 - 3	8 - 10	13 - 7	17 - 8	8 - 6	13 - 2	17 - 2	8 - 1	12 - 6	16 - 3	-	11 - 10	15 - 5
	SPF	Standard	9 - 1	-	-	8 - 10	-	-	8 - 6	-	-	8 - 1	-	-	-	-	-

See Table 3.20B footnotes.

Table 3.20B3 Maximum Exterior Loadbearing¹ and Non-Loadbearing Stud Lengths for Common Lumber Species Resisting Interior Zone Wind Loads - Stud Deflection Limit = H/360
(Fully Sheathed with a Minimum of 3/8" Wood Structural Panels)^a

Exposure B
H/360
3/8" WSP

Wind Speed 3-second gust (mph) (See Figure 1.1)			150			160			170			180			195		
Stud Spacing (in.)	Species	Grade	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8
Maximum Allowable Stud Length (ft.-in.) ¹																	
12	DFL	SS	10 - 11	16 - 11	20-0+	10 - 5	16 - 2	20-0+	10 - 0	15 - 6	20-0+	9 - 7	14 - 10	19 - 4	9 - 1	14 - 1	18 - 3
	DFL	No.1	10 - 6	16 - 3	20-0+	10 - 0	15 - 6	20-0+	9 - 8	14 - 11	19 - 4	9 - 3	14 - 4	18 - 7	8 - 9	13 - 6	17 - 7
	DFL	No.2	10 - 3	15 - 11	20-0+	9 - 10	15 - 2	19 - 9	9 - 5	14 - 7	19 - 0	9 - 1	14 - 0	18 - 3	8 - 7	13 - 3	17 - 3
	DFL	No.3/Stud	9 - 10	15 - 2	19 - 9	9 - 5	14 - 6	18 - 10	9 - 0	13 - 11	18 - 1	8 - 8	13 - 4	17 - 5	8 - 2	12 - 8	16 - 5
	DFL	Standard	9 - 10	-	-	9 - 5	-	-	9 - 0	-	-	8 - 8	-	-	8 - 0	-	-
	HF	SS	10 - 3	15 - 11	20-0+	9 - 10	15 - 2	19 - 9	9 - 5	14 - 7	19 - 0	9 - 1	14 - 0	18 - 3	8 - 7	13 - 3	17 - 3
	HF	No.1	10 - 1	15 - 7	20-0+	9 - 7	14 - 10	19 - 4	9 - 3	14 - 3	18 - 6	8 - 10	13 - 8	17 - 10	8 - 5	12 - 11	16 - 10
	HF	No.2	9 - 7	14 - 10	19 - 3	9 - 2	14 - 2	18 - 5	8 - 9	13 - 7	17 - 8	8 - 5	13 - 0	16 - 11	8 - 0	12 - 4	16 - 0
	HF	No.3/Stud	9 - 4	14 - 5	18 - 9	8 - 11	13 - 9	17 - 11	8 - 6	13 - 2	17 - 2	8 - 2	12 - 8	16 - 6	7 - 9	12 - 0	15 - 7
	HF	Standard	9 - 4	-	-	8 - 11	-	-	8 - 6	-	-	8 - 2	-	-	7 - 9	-	-
	SP	SS	10 - 9	16 - 7	20-0+	10 - 3	15 - 10	20-0+	9 - 10	15 - 2	19 - 9	9 - 5	14 - 7	19 - 0	8 - 11	13 - 10	17 - 11
	SP	No.1	10 - 3	15 - 11	20-0+	9 - 10	15 - 2	19 - 9	9 - 5	14 - 7	19 - 0	9 - 1	14 - 0	18 - 3	8 - 7	13 - 3	17 - 3
	SP	No.2	9 - 10	15 - 2	19 - 9	9 - 5	14 - 6	18 - 10	9 - 0	13 - 11	18 - 1	8 - 8	13 - 4	17 - 5	8 - 2	12 - 8	16 - 5
	SP	No.3	9 - 7	14 - 10	19 - 3	9 - 2	14 - 2	18 - 5	8 - 9	13 - 7	17 - 6	8 - 5	13 - 0	16 - 6	8 - 0	12 - 4	15 - 2
	SP	Stud	9 - 7	14 - 10	19 - 3	9 - 2	14 - 2	18 - 5	8 - 9	13 - 7	17 - 6	8 - 5	13 - 0	16 - 6	8 - 0	12 - 4	15 - 2
	SP	Standard	9 - 4	-	-	8 - 11	-	-	8 - 5	-	-	7 - 11	-	-	-	-	-
	SPF	SS	10 - 1	15 - 7	20-0+	9 - 7	14 - 10	19 - 4	9 - 3	14 - 3	18 - 6	8 - 10	13 - 8	17 - 10	8 - 5	12 - 11	16 - 10
	SPF	No.1	9 - 10	15 - 2	19 - 9	9 - 5	14 - 6	18 - 10	9 - 0	13 - 11	18 - 1	8 - 8	13 - 4	17 - 5	8 - 2	12 - 8	16 - 5
	SPF	No.2	9 - 10	15 - 2	19 - 9	9 - 5	14 - 6	18 - 10	9 - 0	13 - 11	18 - 1	8 - 8	13 - 4	17 - 5	8 - 2	12 - 8	16 - 5
	SPF	No.3/Stud	9 - 4	14 - 5	18 - 9	8 - 11	13 - 9	17 - 11	8 - 6	13 - 2	17 - 2	8 - 2	12 - 8	16 - 6	7 - 9	12 - 0	15 - 7
	SPF	Standard	9 - 4	-	-	8 - 11	-	-	8 - 6	-	-	8 - 2	-	-	7 - 9	-	-
16	DFL	SS	9 - 11	15 - 3	19 - 10	9 - 5	14 - 7	19 - 0	9 - 1	14 - 0	18 - 2	8 - 8	13 - 5	17 - 6	8 - 3	12 - 9	16 - 6
	DFL	No.1	9 - 6	14 - 8	19 - 1	9 - 1	14 - 1	18 - 3	8 - 9	13 - 6	17 - 6	8 - 4	12 - 11	16 - 10	7 - 11	12 - 3	15 - 11
	DFL	No.2	9 - 4	14 - 5	18 - 9	8 - 11	13 - 9	17 - 11	8 - 6	13 - 2	17 - 2	8 - 2	12 - 8	16 - 6	7 - 9	12 - 0	15 - 7
	DFL	No.3/Stud	8 - 11	13 - 9	17 - 10	8 - 6	13 - 2	17 - 1	8 - 2	12 - 7	16 - 4	7 - 10	12 - 1	15 - 7	-	11 - 5	14 - 4
	DFL	Standard	8 - 11	-	-	8 - 6	-	-	8 - 0	-	-	-	-	-	-	-	-
	HF	SS	9 - 4	14 - 5	18 - 9	8 - 11	13 - 9	17 - 11	8 - 6	13 - 2	17 - 2	8 - 2	12 - 8	16 - 6	7 - 9	12 - 0	15 - 7
	HF	No.1	9 - 1	14 - 1	18 - 4	8 - 8	13 - 5	17 - 6	8 - 4	12 - 11	16 - 9	8 - 0	12 - 5	16 - 1	-	11 - 9	15 - 3
	HF	No.2	8 - 8	13 - 5	17 - 5	8 - 3	12 - 10	16 - 8	7 - 11	12 - 3	15 - 11	-	11 - 9	15 - 4	-	11 - 2	14 - 6
	HF	No.3/Stud	8 - 5	13 - 0	16 - 11	8 - 1	12 - 5	16 - 2	-	11 - 11	15 - 6	-	11 - 6	14 - 11	-	10 - 10	13 - 11
	HF	Standard	8 - 5	-	-	8 - 1	-	-	-	-	-	-	-	-	-	-	-
	SP	SS	9 - 8	15 - 0	19 - 6	9 - 3	14 - 4	18 - 8	8 - 11	13 - 9	17 - 10	8 - 6	13 - 2	17 - 2	8 - 1	12 - 6	16 - 3
	SP	No.1	9 - 4	14 - 5	18 - 9	8 - 11	13 - 9	17 - 11	8 - 6	13 - 2	17 - 2	8 - 2	12 - 8	16 - 6	7 - 9	12 - 0	15 - 7
	SP	No.2	8 - 11	13 - 9	17 - 10	8 - 6	13 - 2	17 - 1	8 - 2	12 - 7	16 - 4	7 - 10	12 - 1	15 - 9	-	11 - 5	14 - 10
	SP	No.3	8 - 8	13 - 5	17 - 2	8 - 3	12 - 10	16 - 0	7 - 11	12 - 3	15 - 0	-	11 - 6	14 - 2	-	10 - 7	13 - 0
	SP	Stud	8 - 8	13 - 5	17 - 2	8 - 3	12 - 10	16 - 0	7 - 11	12 - 3	15 - 0	-	11 - 6	14 - 2	-	10 - 7	13 - 0
	SP	Standard	8 - 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SPF	SS	9 - 1	14 - 1	18 - 4	8 - 8	13 - 5	17 - 6	8 - 4	12 - 11	16 - 9	8 - 0	12 - 5	16 - 1	-	11 - 9	15 - 3
	SPF	No.1	8 - 11	13 - 9	17 - 10	8 - 6	13 - 2	17 - 1	8 - 2	12 - 7	16 - 4	7 - 10	12 - 1	15 - 9	-	11 - 5	14 - 10
	SPF	No.2	8 - 11	13 - 9	17 - 10	8 - 6	13 - 2	17 - 1	8 - 2	12 - 7	16 - 4	7 - 10	12 - 1	15 - 9	-	11 - 5	14 - 10
	SPF	No.3/Stud	8 - 5	13 - 0	16 - 11	8 - 1	12 - 5	16 - 2	-	11 - 11	15 - 6	-	11 - 6	14 - 11	-	10 - 10	13 - 11
	SPF	Standard	8 - 5	-	-	8 - 1	-	-	-	-	-	-	-	-	-	-	-
24	DFL	SS	8 - 7	13 - 3	17 - 3	8 - 2	12 - 8	16 - 6	7 - 10	12 - 2	15 - 10	-	11 - 8	15 - 2	-	11 - 1	14 - 4
	DFL	No.1	8 - 3	12 - 9	16 - 7	7 - 11	12 - 2	15 - 10	-	11 - 8	15 - 2	-	11 - 3	14 - 7	-	10 - 7	13 - 10
	DFL	No.2	8 - 1	12 - 6	16 - 3	-	11 - 11	15 - 6	-	11 - 5	14 - 11	-	11 - 0	14 - 4	-	10 - 5	13 - 6
	DFL	No.3/Stud	-	11 - 11	15 - 3	-	11 - 5	14 - 3	-	10 - 9	13 - 4	-	10 - 2	12 - 6	-	9 - 4	11 - 6
	DFL	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	HF	SS	8 - 1	12 - 6	16 - 3	-	11 - 11	15 - 6	-	11 - 5	14 - 11	-	11 - 0	14 - 4	-	10 - 5	13 - 6
	HF	No.1	7 - 11	12 - 3	15 - 11	-	11 - 8	15 - 2	-	11 - 2	14 - 7	-	10 - 9	14 - 0	-	10 - 2	13 - 3
	HF	No.2	-	11 - 7	15 - 1	-	11 - 1	14 - 5	-	10 - 8	13 - 10	-	10 - 3	13 - 4	-	9 - 8	12 - 7
	HF	No.3/Stud	-	11 - 4	14 - 8	-	10 - 10	13 - 10	-	10 - 4	13 - 0	-	9 - 11	12 - 3	-	9 - 1	11 - 3
	HF	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SP	SS	8 - 5	13 - 0	16 - 11	8 - 1	12 - 5	16 - 2	-	11 - 11	15 - 6	-	11 - 6	14 - 11	-	10 - 10	14 - 1
	SP	No.1	8 - 1	12 - 6	16 - 3	-	11 - 11	15 - 6	-	11 - 5	14 - 11	-	11 - 0	14 - 4	-	10 - 5	13 - 6
	SP	No.2	-	11 - 11	15 - 6	-	11 - 5	14 - 10	-	10 - 11	14 - 2	-	10 - 6	13 - 8	-	9 - 11	12 - 11
	SP	No.3	-	11 - 3	13 - 10	-	10 - 6	12 - 11	-	9 - 10	12 - 1	-	9 - 3	11 - 4	-	8 - 6	10 - 5
	SP	Stud	-	11 - 3	13 - 10	-	10 - 6	12 - 11	-	9 - 10	12 - 1	-	9 - 3	11 - 4	-	8 - 6	10 - 5
	SP	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SPF	SS	7 - 11	12 - 3	15 - 11	-	11 - 8	15 - 2	-	11 - 2	14 - 7	-	10 - 9	14 - 0	-	10 - 2	13 - 3
	SPF	No.1	-	11 - 11	15 - 6	-	11 - 5	14 - 10	-	10 - 11	14 - 2	-	10 - 6	13 - 8	-	9 - 11	12 - 11
	SPF	No.2	-	11 - 11	15 - 6	-	11 - 5	14 - 10	-	10 - 11	14 - 2	-	10 - 6	13 - 8	-	9 - 11	12 - 11
	SPF	No.3/Stud	-	11 - 4	14 - 8	-	10 - 10	13 - 10	-	10 - 4	13 - 0	-	9 - 11	12 - 3	-	9 - 1	11 - 3
	SPF	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

See Table 3.20B footnotes.

Table 3.20B4 Maximum Exterior Loadbearing¹ and Non-Loadbearing Stud Lengths for Common Lumber Species Resisting Interior Zone Wind Loads - Stud Deflection Limit = H/180
(Fully Sheathed with a Minimum of 3/8" Wood Structural Panels)^a

Exposure C
H/180
3/8" WSP

Wind Speed 3-second gust (mph) (See Figure 1.1)			90			95			100			105		
Stud Spacing (in.)	Species	Grade	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8
Maximum Allowable Stud Length (ft.-in.) ¹														
12	DFL	SS	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺
	DFL	No.1	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺
	DFL	No.2	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺
	DFL	No.3/Stud	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺
	DFL	Standard	14-0 ⁺	-	-	14-0 ⁺	-	-	13-9	-	-	13-1	-	-
	HF	SS	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺
	HF	No.1	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺
	HF	No.2	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺	13-11	20-0 ⁺	20-0 ⁺
	HF	No.3/Stud	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺	13-7	20-0 ⁺	20-0 ⁺
	HF	Standard	14-0 ⁺	-	-	14-0 ⁺	-	-	13-5	-	-	12-9	-	-
	SP	SS	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺
	SP	No.1	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺
	SP	No.2	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺
	SP	No.3	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺	13-11	20-0 ⁺	20-0 ⁺
	SP	Stud	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺	13-11	20-0 ⁺	20-0 ⁺
	SP	Standard	13-11	-	-	13-2	-	-	12-5	-	-	11-10	-	-
	SPF	SS	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺
	SPF	No.1	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺
	SPF	No.2	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺
	SPF	No.3/Stud	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺	13-7	20-0 ⁺	20-0 ⁺
	SPF	Standard	14-0 ⁺	-	-	14-0 ⁺	-	-	13-5	-	-	12-9	-	-
16	DFL	SS	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺
	DFL	No.1	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺	13-10	20-0 ⁺	20-0 ⁺
	DFL	No.2	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺	13-7	20-0 ⁺	20-0 ⁺
	DFL	No.3/Stud	14-0 ⁺	20-0 ⁺	20-0 ⁺	13-10	20-0 ⁺	20-0 ⁺	13-5	19-10	20-0 ⁺	12-11	18-10	20-0 ⁺
	DFL	Standard	13-3	-	-	12-6	-	-	11-10	-	-	11-2	-	-
	HF	SS	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺	13-7	20-0 ⁺	20-0 ⁺
	HF	No.1	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺	13-8	20-0 ⁺	20-0 ⁺	13-3	20-0 ⁺	20-0 ⁺
	HF	No.2	14-0 ⁺	20-0 ⁺	20-0 ⁺	13-6	20-0 ⁺	20-0 ⁺	13-0	20-0 ⁺	20-0 ⁺	12-7	19-6	20-0 ⁺
	HF	No.3/Stud	13-8	20-0 ⁺	20-0 ⁺	13-2	20-0 ⁺	20-0 ⁺	12-8	19-4	20-0 ⁺	12-3	18-4	20-0 ⁺
	HF	Standard	12-11	-	-	12-2	-	-	11-6	-	-	10-11	-	-
	SP	SS	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺
	SP	No.1	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺	13-7	20-0 ⁺	20-0 ⁺
	SP	No.2	14-0 ⁺	20-0 ⁺	20-0 ⁺	13-10	20-0 ⁺	20-0 ⁺	13-5	20-0 ⁺	20-0 ⁺	12-11	20-0 ⁺	20-0 ⁺
	SP	No.3	14-0 ⁺	20-0 ⁺	20-0 ⁺	13-4	19-2	20-0 ⁺	12-7	18-1	20-0 ⁺	12-0	17-2	20-0 ⁺
	SP	Stud	14-0 ⁺	20-0 ⁺	20-0 ⁺	13-4	19-2	20-0 ⁺	12-7	18-1	20-0 ⁺	12-0	17-2	20-0 ⁺
	SP	Standard	11-11	-	-	11-3	-	-	10-8	-	-	10-1	-	-
	SPF	SS	14-0 ⁺	20-0 ⁺	20-0 ⁺	14-0 ⁺	20-0 ⁺	20-0 ⁺	13-8	20-0 ⁺	20-0 ⁺	13-3	20-0 ⁺	20-0 ⁺
	SPF	No.1	14-0 ⁺	20-0 ⁺	20-0 ⁺	13-10	20-0 ⁺	20-0 ⁺	13-5	20-0 ⁺	20-0 ⁺	12-11	20-0 ⁺	20-0 ⁺
	SPF	No.2	14-0 ⁺	20-0 ⁺	20-0 ⁺	13-10	20-0 ⁺	20-0 ⁺	13-5	20-0 ⁺	20-0 ⁺	12-11	20-0 ⁺	20-0 ⁺
	SPF	No.3/Stud	13-8	20-0 ⁺	20-0 ⁺	13-2	20-0 ⁺	20-0 ⁺	12-8	19-4	20-0 ⁺	12-3	18-4	20-0 ⁺
	SPF	Standard	12-11	-	-	12-2	-	-	11-6	-	-	10-11	-	-
24	DFL	SS	13-11	20-0 ⁺	20-0 ⁺	13-5	20-0 ⁺	20-0 ⁺	12-11	20-0	20-0 ⁺	12-6	19-4	20-0 ⁺
	DFL	No.1	13-4	20-0 ⁺	20-0 ⁺	12-11	19-11	20-0 ⁺	12-5	19-3	20-0 ⁺	12-0	18-7	20-0 ⁺
	DFL	No.2	13-1	20-0 ⁺	20-0 ⁺	12-7	19-6	20-0 ⁺	12-2	18-10	20-0 ⁺	11-9	18-2	20-0 ⁺
	DFL	No.3/Stud	12-6	17-11	20-0 ⁺	11-10	16-11	20-0 ⁺	11-3	16-0	19-9	10-8	15-2	18-9
	DFL	Standard	10-8	-	-	10-0	-	-	9-6	-	-	9-0	-	-
	HF	SS	13-1	20-0 ⁺	20-0 ⁺	12-7	19-6	20-0 ⁺	12-2	18-10	20-0 ⁺	11-9	18-2	20-0 ⁺
	HF	No.1	12-10	19-10	20-0 ⁺	12-4	19-1	20-0 ⁺	11-11	18-5	20-0 ⁺	11-6	17-10	20-0 ⁺
	HF	No.2	12-2	18-10	20-0 ⁺	11-9	18-2	20-0 ⁺	11-4	17-6	20-0 ⁺	10-11	16-11	20-0 ⁺
	HF	No.3/Stud	11-10	17-5	20-0 ⁺	11-5	16-5	20-0 ⁺	11-0	15-7	19-3	10-5	14-9	18-3
	HF	Standard	10-5	-	-	9-10	-	-	9-3	-	-	8-10	-	-
	SP	SS	13-8	20-0 ⁺	20-0 ⁺	13-2	20-0 ⁺	20-0 ⁺	12-8	19-7	20-0 ⁺	12-3	19-0	20-0 ⁺
	SP	No.1	13-1	20-0 ⁺	20-0 ⁺	12-7	19-6	20-0 ⁺	12-2	18-10	20-0 ⁺	11-9	18-2	20-0 ⁺
	SP	No.2	12-6	19-4	20-0 ⁺	12-0	18-8	20-0 ⁺	11-7	18-0	20-0 ⁺	11-3	17-4	20-0 ⁺
	SP	No.3	11-4	16-4	20-0 ⁺	10-9	15-5	18-11	10-2	14-7	17-11	9-8	13-10	17-0
	SP	Stud	11-4	16-4	20-0 ⁺	10-9	15-5	18-11	10-2	14-7	17-11	9-8	13-10	17-0
	SP	Standard	9-7	-	-	9-1	-	-	8-7	-	-	8-2	-	-
	SPF	SS	12-10	19-10	20-0 ⁺	12-4	19-1	20-0 ⁺	11-11	18-5	20-0 ⁺	11-6	17-10	20-0 ⁺
	SPF	No.1	12-6	19-4	20-0 ⁺	12-0	18-8	20-0 ⁺	11-7	18-0	20-0 ⁺	11-3	17-4	20-0 ⁺
	SPF	No.2	12-6	19-4	20-0 ⁺	12-0	18-8	20-0 ⁺	11-7	18-0	20-0 ⁺	11-3	17-4	20-0 ⁺
	SPF	No.3/Stud	11-10	17-5	20-0 ⁺	11-5	16-5	20-0 ⁺	11-0	15-7	19-3	10-5	14-9	18-3
	SPF	Standard	10-5	-	-	9-10	-	-	9-3	-	-	8-10	-	-

See Table 3.20B footnotes.

Table 3.20B4 Maximum Exterior Loadbearing¹ and Non-Loadbearing Stud Lengths for Common Lumber Species Resisting Interior Zone Wind Loads - Stud Deflection Limit = H/180
(Fully Sheathed with a Minimum of 3/8" Wood Structural Panels)^a

Exposure C
H/180
3/8" WSP

Wind Speed 3-second gust (mph) (See Figure 1.1)			110			115			120			130			140		
Stud Spacing (in.)	Species	Grade	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8
Maximum Allowable Stud Length (ft.-in.) ¹																	
12	DFL	SS	14-0+	20-0+	20-0+	14-0+	20-0+	20-0+	14-0+	20-0+	20-0+	13-8	20-0+	20-0+	13-0	20-0+	20-0+
	DFL	No.1	14-0+	20-0+	20-0+	14-0+	20-0+	20-0+	13-11	20-0+	20-0+	13-2	20-0+	20-0+	12-6	19-4	20-0+
	DFL	No.2	14-0+	20-0+	20-0+	14-0+	20-0+	20-0+	13-8	20-0+	20-0+	12-11	20-0	20-0+	12-3	19-0	20-0+
	DFL	No.3/Stud	13-10	20-0+	20-0+	13-5	19-11	20-0+	13-0	19-1	20-0+	12-4	17-6	20-0+	11-4	16-2	20-0
	DFL	Standard	12-5	-	-	11-10	-	-	11-4	-	-	10-5	-	-	9-7	-	-
	HF	SS	14-0+	20-0+	20-0+	14-0+	20-0+	20-0+	13-8	20-0+	20-0+	12-11	20-0	20-0+	12-3	19-0	20-0+
	HF	No.1	14-0+	20-0+	20-0+	13-9	20-0+	20-0+	13-4	20-0+	20-0+	12-7	19-6	20-0+	12-0	18-6	20-0+
	HF	No.2	13-6	20-0+	20-0+	13-1	20-0+	20-0+	12-8	19-8	20-0+	12-0	18-7	20-0+	11-5	17-8	20-0+
	HF	No.3/Stud	13-1	20-0+	20-0+	12-9	19-5	20-0+	12-4	18-7	20-0+	11-8	17-0	20-0+	11-1	15-9	19-5
	HF	Standard	12-2	-	-	11-7	-	-	11-1	-	-	10-2	-	-	9-5	-	-
	SP	SS	14-0+	20-0+	20-0+	14-0+	20-0+	20-0+	14-0+	20-0+	20-0+	13-5	20-0+	20-0+	12-9	19-9	20-0+
	SP	No.1	14-0+	20-0+	20-0+	14-0+	20-0+	20-0+	13-8	20-0+	20-0+	12-11	20-0	20-0+	12-3	19-0	20-0+
	SP	No.2	13-10	20-0+	20-0+	13-5	20-0+	20-0+	13-0	20-0+	20-0+	12-4	19-1	20-0+	11-8	18-1	20-0+
	SP	No.3	13-3	19-1	20-0+	12-8	18-2	20-0+	12-1	17-5	20-0+	11-1	15-11	19-7	10-3	14-9	18-1
	SP	Stud	13-3	19-1	20-0+	12-8	18-2	20-0+	12-1	17-5	20-0+	11-1	15-11	19-7	10-3	14-9	18-1
	SP	Standard	11-3	-	-	10-8	-	-	10-3	-	-	9-5	-	-	8-8	-	-
	SPF	SS	14-0+	20-0+	20-0+	13-9	20-0+	20-0+	13-4	20-0+	20-0+	12-7	19-6	20-0+	12-0	18-6	20-0+
	SPF	No.1	13-10	20-0+	20-0+	13-5	20-0+	20-0+	13-0	20-0+	20-0+	12-4	19-1	20-0+	11-8	18-1	20-0+
	SPF	No.2	13-10	20-0+	20-0+	13-5	20-0+	20-0+	13-0	20-0+	20-0+	12-4	19-1	20-0+	11-8	18-1	20-0+
	SPF	No.3/Stud	13-1	20-0+	20-0+	12-9	19-5	20-0+	12-4	18-7	20-0+	11-8	17-0	20-0+	11-1	15-9	19-5
	SPF	Standard	12-2	-	-	11-7	-	-	11-1	-	-	10-2	-	-	9-5	-	-
16	DFL	SS	13-11	20-0+	20-0+	13-6	20-0+	20-0+	13-1	20-0+	20-0+	12-5	19-2	20-0+	11-9	18-3	20-0+
	DFL	No.1	13-5	20-0+	20-0+	13-0	20-0+	20-0+	12-7	19-6	20-0+	11-11	18-5	20-0+	11-4	17-6	20-0+
	DFL	No.2	13-1	20-0+	20-0+	12-9	19-8	20-0+	12-4	19-1	20-0+	11-8	18-1	20-0+	11-1	17-2	20-0+
	DFL	No.3/Stud	12-6	17-11	20-0+	12-0	17-1	20-0+	11-6	16-4	20-0+	10-7	15-0	18-6	9-9	13-10	17-1
	DFL	Standard	10-8	-	-	10-2	-	-	9-9	-	-	8-11	-	-	8-3	-	-
	HF	SS	13-1	20-0+	20-0+	12-9	19-8	20-0+	12-4	19-1	20-0+	11-8	18-1	20-0+	11-1	17-2	20-0+
	HF	No.1	12-10	19-10	20-0+	12-5	19-3	20-0+	12-1	18-8	20-0+	11-5	17-8	20-0+	10-10	16-9	20-0+
	HF	No.2	12-2	18-11	20-0+	11-10	18-4	20-0+	11-6	17-9	20-0+	10-10	16-10	20-0+	10-4	15-11	20-0+
	HF	No.3/Stud	11-10	17-6	20-0+	11-6	16-8	20-0+	11-2	15-11	19-8	10-3	14-7	18-1	9-6	13-6	16-8
	HF	Standard	10-5	-	-	9-11	-	-	9-6	-	-	8-8	-	-	8-1	-	-
	SP	SS	13-8	20-0+	20-0+	13-3	20-0+	20-0+	12-10	19-11	20-0+	12-2	18-10	20-0+	11-7	17-10	20-0+
	SP	No.1	13-1	20-0+	20-0+	12-9	19-8	20-0+	12-4	19-1	20-0+	11-8	18-1	20-0+	11-1	17-2	20-0+
	SP	No.2	12-6	19-4	20-0+	12-2	18-9	20-0+	11-9	18-3	20-0+	11-2	17-3	20-0+	10-7	16-4	20-0+
	SP	No.3	11-5	16-4	20-0+	10-10	15-7	19-2	10-4	14-11	18-4	9-6	13-8	16-10	8-10	12-7	15-6
	SP	Stud	11-5	16-4	20-0+	10-10	15-7	19-2	10-4	14-11	18-4	9-6	13-8	16-10	8-10	12-7	15-6
	SP	Standard	9-7	-	-	9-2	-	-	8-9	-	-	8-1	-	-	-	-	-
	SPF	SS	12-10	19-10	20-0+	12-5	19-3	20-0+	12-1	18-8	20-0+	11-5	17-8	20-0+	10-10	16-9	20-0+
	SPF	No.1	12-6	19-4	20-0+	12-2	18-9	20-0+	11-9	18-3	20-0+	11-2	17-3	20-0+	10-7	16-4	20-0+
	SPF	No.2	12-6	19-4	20-0+	12-2	18-9	20-0+	11-9	18-3	20-0+	11-2	17-3	20-0+	10-7	16-4	20-0+
	SPF	No.3/Stud	11-10	17-6	20-0+	11-6	16-8	20-0+	11-2	15-11	19-8	10-3	14-7	18-1	9-6	13-6	16-8
	SPF	Standard	10-5	-	-	9-11	-	-	9-6	-	-	8-8	-	-	8-1	-	-
24	DFL	SS	12-1	18-8	20-0+	11-9	18-2	20-0+	11-5	17-7	20-0+	10-9	16-8	20-0+	10-3	15-10	20-0+
	DFL	No.1	11-8	18-0	20-0+	11-3	17-5	20-0+	10-11	16-11	20-0+	10-4	16-0	20-0+	9-10	15-2	19-5
	DFL	No.2	11-5	17-7	20-0+	11-0	17-1	20-0+	10-9	16-7	20-0+	10-2	15-8	19-11	9-7	14-10	18-5
	DFL	No.3/Stud	10-2	14-5	17-10	9-8	13-9	17-0	9-3	13-2	16-3	8-6	12-1	14-11	7-10	11-2	13-9
	DFL	Standard	8-7	-	-	8-2	-	-	7-10	-	-	-	-	-	-	-	-
	HF	SS	11-5	17-7	20-0+	11-0	17-1	20-0+	10-9	16-7	20-0+	10-2	15-8	20-0+	9-7	14-11	19-4
	HF	No.1	11-2	17-3	20-0+	10-9	16-8	20-0+	10-6	16-2	20-0+	9-11	15-4	19-11	9-5	14-7	18-11
	HF	No.2	10-7	16-5	20-0+	10-3	15-11	20-0+	10-0	15-5	20-0+	9-5	14-7	19-0	9-0	13-10	17-10
	HF	No.3/Stud	9-11	14-1	17-4	9-5	13-5	16-7	9-0	12-10	15-10	8-3	11-9	14-6	-	10-10	13-5
	HF	Standard	8-5	-	-	8-0	-	-	-	-	-	-	-	-	-	-	-
	SP	SS	11-10	18-4	20-0+	11-6	17-10	20-0+	11-2	17-3	20-0+	10-7	16-4	20-0+	10-0	15-6	20-0+
	SP	No.1	11-5	17-7	20-0+	11-0	17-1	20-0+	10-9	16-7	20-0+	10-2	15-8	20-0+	9-7	14-11	19-4
	SP	No.2	10-10	16-10	20-0+	10-6	16-4	20-0+	10-3	15-10	20-0	9-8	14-10	18-4	9-2	13-8	16-11
	SP	No.3	9-2	13-2	16-2	8-9	12-6	15-5	8-4	12-0	14-9	-	11-0	13-6	-	10-2	12-6
	SP	Stud	9-2	13-2	16-2	8-9	12-6	15-5	8-4	12-0	14-9	-	11-0	13-6	-	10-2	12-6
	SP	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SPF	SS	11-2	17-3	20-0+	10-9	16-8	20-0+	10-6	16-2	20-0+	9-11	15-4	19-11	9-5	14-7	18-11
	SPF	No.1	10-10	16-10	20-0+	10-6	16-4	20-0+	10-3	15-10	20-0+	9-8	15-0	19-5	9-2	14-2	18-1
	SPF	No.2	10-10	16-10	20-0+	10-6	16-4	20-0+	10-3	15-10	20-0+	9-8	15-0	19-5	9-2	14-2	18-1
	SPF	No.3/Stud	9-11	14-1	17-4	9-5	13-5	16-7	9-0	12-10	15-10	8-3	11-9	14-6	-	10-10	13-5
	SPF	Standard	8-5	-	-	8-0	-	-	-	-	-	-	-	-	-	-	-

See Table 3.20B footnotes.

Table 3.20B4 Maximum Exterior Loadbearing¹ and Non-Loadbearing Stud Lengths for Common Lumber Species Resisting Interior Zone Wind Loads - Stud Deflection Limit = H/180
(Fully Sheathed with a Minimum of 3/8" Wood Structural Panels)^a

Exposure C
H/180
3/8" WSP

Wind Speed 3-second gust (mph) (See Figure 1.1)			150			160			170			180			195		
Stud Spacing (in.)	Species	Grade	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8
Maximum Allowable Stud Length (ft.-in.) ¹																	
12	DFL	SS	12-5	19-2	20-0 ⁺	11-10	18-4	20-0 ⁺	11-4	17-7	20-0 ⁺	10-11	16-11	20-0 ⁺	10-4	16-0	20-0 ⁺
	DFL	No.1	11-11	18-5	20-0 ⁺	11-5	17-8	20-0 ⁺	10-11	16-11	20-0 ⁺	10-6	16-3	20-0 ⁺	9-11	15-4	19-9
	DFL	No.2	11-8	18-1	20-0 ⁺	11-2	17-3	20-0 ⁺	10-8	16-7	20-0 ⁺	10-3	15-11	20-0 ⁺	9-9	15-1	18-8
	DFL	No.3/Stud	10-7	15-0	18-6	9-10	14-0	17-4	9-3	13-1	16-2	8-8	12-4	15-3	8-0	11-4	14-0
	DFL	Standard	8-11	-	-	8-4	-	-	7-10	-	-	-	-	-	-	-	-
	HF	SS	11-8	18-1	20-0 ⁺	11-2	17-3	20-0 ⁺	10-8	16-7	20-0 ⁺	10-3	15-11	20-0 ⁺	9-9	15-1	19-7
	HF	No.1	11-5	17-8	20-0 ⁺	10-11	16-11	20-0 ⁺	10-6	16-2	20-0 ⁺	10-1	15-7	20-0 ⁺	9-6	14-8	19-2
	HF	No.2	10-10	16-10	20-0 ⁺	10-5	16-1	20-0 ⁺	10-0	15-5	20-0 ⁺	9-7	14-10	19-3	9-1	14-0	18-1
	HF	No.3/Stud	10-3	14-7	18-1	9-7	13-8	16-10	9-0	12-9	15-9	8-6	12-0	14-10	7-9	11-0	13-8
	HF	Standard	8-9	-	-	8-2	-	-	-	-	-	-	-	-	-	-	-
	SP	SS	12-2	18-10	20-0 ⁺	11-8	18-0	20-0 ⁺	11-2	17-3	20-0 ⁺	10-9	16-7	20-0 ⁺	10-2	15-8	20-0 ⁺
	SP	No.1	11-8	18-1	20-0 ⁺	11-2	17-3	20-0 ⁺	10-8	16-7	20-0 ⁺	10-3	15-11	20-0 ⁺	9-9	15-1	19-7
	SP	No.2	11-2	17-3	20-0 ⁺	10-8	16-6	20-0 ⁺	10-3	15-10	19-11	9-10	15-2	18-9	9-3	13-11	17-2
	SP	No.3	9-6	13-8	16-10	8-11	12-9	15-8	8-4	12-0	14-8	7-10	11-3	13-10	-	10-4	12-8
	SP	Stud	9-6	13-8	16-10	8-11	12-9	15-8	8-4	12-0	14-8	7-10	11-3	13-10	-	10-4	12-8
	SP	Standard	8-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SPF	SS	11-5	17-8	20-0 ⁺	10-11	16-11	20-0 ⁺	10-6	16-2	20-0 ⁺	10-1	15-7	20-0 ⁺	9-6	14-8	19-2
	SPF	No.1	11-2	17-3	20-0 ⁺	10-8	16-6	20-0 ⁺	10-3	15-10	20-0 ⁺	9-10	15-2	19-9	9-3	14-4	18-5
	SPF	No.2	11-2	17-3	20-0 ⁺	10-8	16-6	20-0 ⁺	10-3	15-10	20-0 ⁺	9-10	15-2	19-9	9-3	14-4	18-5
	SPF	No.3/Stud	10-3	14-7	18-1	9-7	13-8	16-10	9-0	12-9	15-9	8-6	12-0	14-10	7-9	11-0	13-8
	SPF	Standard	8-9	-	-	8-2	-	-	-	-	-	-	-	-	-	-	-
16	DFL	SS	11-3	17-4	20-0 ⁺	10-9	16-7	20-0 ⁺	10-3	15-11	20-0 ⁺	9-11	15-3	19-10	9-4	14-5	18-9
	DFL	No.1	10-9	16-8	20-0 ⁺	10-4	16-0	20-0 ⁺	9-11	15-4	19-8	9-6	14-8	18-6	9-0	13-8	16-11
	DFL	No.2	10-7	16-4	20-0 ⁺	10-1	15-7	19-10	9-8	15-0	18-7	9-4	14-1	17-5	8-10	12-11	16-0
	DFL	No.3/Stud	9-1	12-10	15-11	8-5	12-0	14-10	7-11	11-3	13-11	-	10-7	13-1	-	9-8	12-0
	DFL	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	HF	SS	10-7	16-4	20-0 ⁺	10-1	15-7	20-0 ⁺	9-8	15-0	19-6	9-4	14-5	18-9	8-10	13-7	17-8
	HF	No.1	10-4	16-0	20-0 ⁺	9-10	15-3	19-10	9-6	14-8	19-0	9-1	14-1	18-3	8-7	13-4	16-9
	HF	No.2	9-10	15-2	19-9	9-5	14-6	18-11	9-0	13-11	18-0	8-8	13-5	16-11	8-2	12-7	15-6
	HF	No.3/Stud	8-10	12-6	15-6	8-3	11-8	14-5	-	10-11	13-6	-	10-4	12-9	-	9-5	11-8
	HF	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SP	SS	11-0	17-0	20-0 ⁺	10-6	16-3	20-0 ⁺	10-1	15-7	20-0 ⁺	9-8	15-0	19-6	9-2	14-2	18-5
	SP	No.1	10-7	16-4	20-0 ⁺	10-1	15-7	20-0 ⁺	9-8	15-0	19-6	9-4	14-5	18-9	8-10	13-7	17-4
	SP	No.2	10-1	15-7	19-6	9-8	14-9	18-3	9-3	13-9	17-1	8-11	13-0	16-1	8-2	11-11	14-9
	SP	No.3	8-2	11-9	14-5	-	10-11	13-5	-	10-3	12-7	-	9-8	11-10	-	8-10	10-11
	SP	Stud	8-2	11-9	14-5	-	10-11	13-5	-	10-3	12-7	-	9-8	11-10	-	8-10	10-11
	SP	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SPF	SS	10-4	16-0	20-0 ⁺	9-10	15-3	19-10	9-6	14-8	19-0	9-1	14-1	18-4	8-7	13-4	17-4
	SPF	No.1	10-1	15-7	20-0 ⁺	9-8	14-11	19-5	9-3	14-3	18-3	8-11	13-9	17-2	8-5	12-9	15-9
	SPF	No.2	10-1	15-7	20-0 ⁺	9-8	14-11	19-5	9-3	14-3	18-3	8-11	13-9	17-2	8-5	12-9	15-9
	SPF	No.3/Stud	8-10	12-6	15-6	8-3	11-8	14-5	-	10-11	13-6	-	10-4	12-9	-	9-5	11-8
	SPF	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	DFL	SS	9-9	15-1	19-7	9-4	14-5	18-9	8-11	13-10	17-11	8-7	13-3	17-3	8-1	12-6	16-4
	DFL	No.1	9-4	14-6	18-1	9-0	13-8	16-10	8-7	12-9	15-9	8-3	12-0	14-10	7-9	11-0	13-8
	DFL	No.2	9-2	13-10	17-1	8-9	12-11	15-11	8-5	12-1	14-11	8-0	11-4	14-0	-	10-5	12-11
	DFL	No.3/Stud	-	10-4	12-9	-	9-8	11-11	-	9-1	11-2	-	8-6	10-6	-	7-10	9-8
	DFL	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	HF	SS	9-2	14-2	18-5	8-9	13-7	17-8	8-5	13-0	16-11	8-1	12-6	16-3	-	11-10	15-4
	HF	No.1	9-0	13-10	17-10	8-7	13-3	16-7	8-3	12-7	15-7	7-11	11-10	14-8	-	10-11	13-5
	HF	No.2	8-6	13-2	16-7	8-2	12-6	15-5	7-10	11-8	14-6	-	11-0	13-7	-	10-1	12-6
	HF	No.3/Stud	-	10-1	12-5	-	9-5	11-7	-	8-10	10-11	-	8-4	10-3	-	-	9-5
	HF	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SP	SS	9-7	14-9	19-3	9-2	14-2	18-4	8-9	13-7	17-7	8-5	13-0	16-11	8-0	12-4	16-0
	SP	No.1	9-2	14-2	18-5	8-9	13-7	17-3	8-5	13-0	16-2	8-1	12-3	15-2	-	11-3	13-11
	SP	No.2	8-9	12-8	15-8	8-2	11-10	14-8	-	11-1	13-9	-	10-5	12-11	-	9-7	11-10
	SP	No.3	-	9-5	11-7	-	8-10	10-10	-	8-3	10-2	-	7-9	9-6	-	-	8-9
	SP	Stud	-	9-5	11-7	-	8-10	10-10	-	8-3	10-2	-	7-9	9-6	-	-	8-9
	SP	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SPF	SS	9-0	13-10	18-0	8-7	13-3	17-3	8-3	12-8	16-6	7-11	12-3	15-11	-	11-7	15-0
	SPF	No.1	8-9	13-6	16-10	8-4	12-8	15-8	8-0	11-11	14-8	-	11-2	13-10	-	10-3	12-8
	SPF	No.2	8-9	13-6	16-10	8-4	12-8	15-8	8-0	11-11	14-8	-	11-2	13-10	-	10-3	12-8
	SPF	No.3/Stud	-	10-1	12-5	-	9-5	11-7	-	8-10	10-11	-	8-4	10-3	-	-	9-5
	SPF	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

See Table 3.20B footnotes.

Table 3.20B5 Maximum Exterior Loadbearing¹ and Non-Loadbearing Stud Lengths for Common Lumber Species Resisting Interior Zone Wind Loads - Stud Deflection Limit = H/240
(Fully Sheathed with a Minimum of 3/8" Wood Structural Panels)^a

Exposure C
H/240
3/8" WSP

Wind Speed 3-second gust (mph) (See Figure 1.1)			90			95			100			105		
Stud Spacing (in.)	Species	Grade	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8
Maximum Allowable Stud Length (ft.-in.) ¹														
12	DFL	SS	14-0+	20-0+	20-0+	14-0+	20-0+	20-0+	14-0+	20-0+	20-0+	14-0+	20-0+	20-0+
	DFL	No.1	14-0+	20-0+	20-0+	14-0+	20-0+	20-0+	14-0+	20-0+	20-0+	13-10	20-0+	20-0+
	DFL	No.2	14-0+	20-0+	20-0+	14-0+	20-0+	20-0+	14-0+	20-0+	20-0+	13-7	20-0+	20-0+
	DFL	No.3/Stud	14-0+	20-0+	20-0+	13-10	20-0+	20-0+	13-5	20-0+	20-0+	12-11	20-0+	20-0+
	DFL	Standard	14-0+	-	-	13-10	-	-	13-5	-	-	12-11	-	-
	HF	SS	14-0+	20-0+	20-0+	14-0+	20-0+	20-0+	14-0+	20-0+	20-0+	13-7	20-0+	20-0+
	HF	No.1	14-0+	20-0+	20-0+	14-0+	20-0+	20-0+	13-8	20-0+	20-0+	13-3	20-0+	20-0+
	HF	No.2	14-0+	20-0+	20-0+	13-6	20-0+	20-0+	13-0	20-0+	20-0+	12-7	19-6	20-0+
	HF	No.3/Stud	13-8	20-0+	20-0+	13-2	20-0+	20-0+	12-8	19-7	20-0+	12-3	19-0	20-0+
	HF	Standard	13-8	-	-	13-2	-	-	12-8	-	-	12-3	-	-
	SP	SS	14-0+	20-0+	20-0+	14-0+	20-0+	20-0+	14-0+	20-0+	20-0+	14-0+	20-0+	20-0+
	SP	No.1	14-0+	20-0+	20-0+	14-0+	20-0+	20-0+	14-0+	20-0+	20-0+	13-7	20-0+	20-0+
	SP	No.2	14-0+	20-0+	20-0+	13-10	20-0+	20-0+	13-5	20-0+	20-0+	12-11	20-0+	20-0+
	SP	No.3	14-0+	20-0+	20-0+	13-6	20-0+	20-0+	13-0	20-0+	20-0+	12-7	19-6	20-0+
	SP	Stud	14-0+	20-0+	20-0+	13-6	20-0+	20-0+	13-0	20-0+	20-0+	12-7	19-6	20-0+
	SP	Standard	13-8	-	-	13-2	-	-	12-5	-	-	11-10	-	-
	SPF	SS	14-0+	20-0+	20-0+	14-0+	20-0+	20-0+	13-8	20-0+	20-0+	13-3	20-0+	20-0+
	SPF	No.1	14-0+	20-0+	20-0+	13-10	20-0+	20-0+	13-5	20-0+	20-0+	12-11	20-0+	20-0+
	SPF	No.2	14-0+	20-0+	20-0+	13-10	20-0+	20-0+	13-5	20-0+	20-0+	12-11	20-0+	20-0+
	SPF	No.3/Stud	13-8	20-0+	20-0+	13-2	20-0+	20-0+	12-8	19-7	20-0+	12-3	19-0	20-0+
	SPF	Standard	13-8	-	-	13-2	-	-	12-8	-	-	12-3	-	-
16	DFL	SS	14-0+	20-0+	20-0+	14-0	20-0+	20-0+	13-6	20-0+	20-0+	13-0	20-0+	20-0+
	DFL	No.1	13-11	20-0+	20-0+	13-5	20-0+	20-0+	12-11	20-0+	20-0+	12-6	19-4	20-0+
	DFL	No.2	13-8	20-0+	20-0+	13-2	20-0+	20-0+	12-8	19-7	20-0+	12-3	19-0	20-0+
	DFL	No.3/Stud	13-0	20-0+	20-0+	12-6	19-5	20-0+	12-1	18-9	20-0+	11-8	18-1	20-0+
	DFL	Standard	13-0	-	-	12-6	-	-	11-10	-	-	11-2	-	-
	HF	SS	13-8	20-0+	20-0+	13-2	20-0+	20-0+	12-8	19-7	20-0+	12-3	19-0	20-0+
	HF	No.1	13-4	20-0+	20-0+	12-10	19-11	20-0+	12-5	19-2	20-0+	12-0	18-6	20-0+
	HF	No.2	12-8	19-8	20-0+	12-3	18-11	20-0+	11-9	18-3	20-0+	11-5	17-8	20-0+
	HF	No.3/Stud	12-4	19-1	20-0+	11-11	18-5	20-0+	11-6	17-9	20-0+	11-1	17-2	20-0+
	HF	Standard	12-4	-	-	11-11	-	-	11-6	-	-	10-11	-	-
	SP	SS	14-0+	20-0+	20-0+	13-8	20-0+	20-0+	13-2	20-0+	20-0+	12-9	19-9	20-0+
	SP	No.1	13-8	20-0+	20-0+	13-2	20-0+	20-0+	12-8	19-7	20-0+	12-3	19-0	20-0+
	SP	No.2	13-0	20-0+	20-0+	12-6	19-5	20-0+	12-1	18-9	20-0+	11-8	18-1	20-0+
	SP	No.3	12-8	19-8	20-0+	12-3	18-11	20-0+	11-9	18-1	20-0+	11-5	17-2	20-0+
	SP	Stud	12-8	19-8	20-0+	12-3	18-11	20-0+	11-9	18-1	20-0+	11-5	17-2	20-0+
	SP	Standard	11-11	-	-	11-3	-	-	10-8	-	-	10-1	-	-
	SPF	SS	13-4	20-0+	20-0+	12-10	19-11	20-0+	12-5	19-2	20-0+	12-0	18-6	20-0+
	SPF	No.1	13-0	20-0+	20-0+	12-6	19-5	20-0+	12-1	18-9	20-0+	11-8	18-1	20-0+
	SPF	No.2	13-0	20-0+	20-0+	12-6	19-5	20-0+	12-1	18-9	20-0+	11-8	18-1	20-0+
	SPF	No.3/Stud	12-4	19-1	20-0+	11-11	18-5	20-0+	11-6	17-9	20-0+	11-1	17-2	20-0+
	SPF	Standard	12-4	-	-	11-11	-	-	11-6	-	-	10-11	-	-
24	DFL	SS	12-7	19-6	20-0+	12-1	18-9	20-0+	11-8	18-1	20-0+	11-4	17-6	20-0+
	DFL	No.1	12-1	18-9	20-0+	11-8	18-0	20-0+	11-3	17-5	20-0+	10-10	16-10	20-0+
	DFL	No.2	11-10	18-4	20-0+	11-5	17-8	20-0+	11-0	17-0	20-0+	10-8	16-5	20-0+
	DFL	No.3/Stud	11-4	17-6	20-0+	10-11	16-10	20-0+	10-6	16-0	19-9	10-2	15-2	18-9
	DFL	Standard	10-8	-	-	10-0	-	-	9-6	-	-	9-0	-	-
	HF	SS	11-10	18-4	20-0+	11-5	17-8	20-0+	11-0	17-0	20-0+	10-8	16-5	20-0+
	HF	No.1	11-7	17-11	20-0+	11-2	17-3	20-0+	10-9	16-8	20-0+	10-5	16-1	20-0+
	HF	No.2	11-0	17-1	20-0+	10-7	16-5	20-0+	10-3	15-10	20-0+	9-11	15-4	19-11
	HF	No.3/Stud	10-9	16-7	20-0+	10-4	16-0	20-0+	10-0	15-5	19-3	9-7	14-9	18-3
	HF	Standard	10-5	-	-	9-10	-	-	9-3	-	-	8-10	-	-
	SP	SS	12-4	19-1	20-0+	11-11	18-5	20-0+	11-6	17-9	20-0+	11-1	17-2	20-0+
	SP	No.1	11-10	18-4	20-0+	11-5	17-8	20-0+	11-0	17-0	20-0+	10-8	16-5	20-0+
	SP	No.2	11-4	17-6	20-0+	10-11	16-10	20-0+	10-6	16-3	20-0+	10-2	15-8	20-0+
	SP	No.3	11-0	16-4	20-0+	10-7	15-5	18-11	10-2	14-7	17-11	9-8	13-10	17-0
	SP	Stud	11-0	16-4	20-0+	10-7	15-5	18-11	10-2	14-7	17-11	9-8	13-10	17-0
	SP	Standard	9-7	-	-	9-1	-	-	8-7	-	-	8-2	-	-
	SPF	SS	11-7	17-11	20-0+	11-2	17-3	20-0+	10-9	16-8	20-0+	10-5	16-1	20-0+
	SPF	No.1	11-4	17-6	20-0+	10-11	16-10	20-0+	10-6	16-3	20-0+	10-2	15-8	20-0+
	SPF	No.2	11-4	17-6	20-0+	10-11	16-10	20-0+	10-6	16-3	20-0+	10-2	15-8	20-0+
	SPF	No.3/Stud	10-9	16-7	20-0+	10-4	16-0	20-0+	10-0	15-5	19-3	9-7	14-9	18-3
	SPF	Standard	10-5	-	-	9-10	-	-	9-3	-	-	8-10	-	-

See Table 3.20B footnotes.

Table 3.20B5 Maximum Exterior Loadbearing¹ and Non-Loadbearing Stud Lengths for Common Lumber Species Resisting Interior Zone Wind Loads - Stud Deflection Limit = H/240
(Fully Sheathed with a Minimum of 3/8" Wood Structural Panels)^a

Exposure C
H/240
3/8" WSP

Wind Speed 3-second gust (mph) (See Figure 1.1)			110			115			120			130			140		
Stud Spacing (in.)	Species	Grade	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8
Maximum Allowable Stud Length (ft.-in.) ¹																	
12	DFL	SS	13 - 11	20-0†	20-0†	13 - 6	20-0†	20-0†	13 - 1	20-0†	20-0†	12 - 5	19 - 2	20-0†	11 - 9	18 - 3	20-0†
	DFL	No.1	13 - 5	20-0†	20-0†	13 - 0	20-0†	20-0†	12 - 7	19 - 6	20-0†	11 - 11	18 - 5	20-0†	11 - 4	17 - 6	20-0†
	DFL	No.2	13 - 1	20-0†	20-0†	12 - 9	19 - 8	20-0†	12 - 4	19 - 1	20-0†	11 - 8	18 - 1	20-0†	11 - 1	17 - 2	20-0†
	DFL	No.3/Stud	12 - 6	19 - 4	20-0†	12 - 2	18 - 9	20-0†	11 - 9	18 - 3	20-0†	11 - 2	17 - 3	20-0†	10 - 7	16 - 2	20 - 0
	DFL	Standard	12 - 5	-	-	11 - 10	-	-	11 - 4	-	-	10 - 5	-	-	9 - 7	-	-
	HF	SS	13 - 1	20-0†	20-0†	12 - 9	19 - 8	20-0†	12 - 4	19 - 1	20-0†	11 - 8	18 - 1	20-0†	11 - 1	17 - 2	20-0†
	HF	No.1	12 - 10	19 - 10	20-0†	12 - 5	19 - 3	20-0†	12 - 1	18 - 8	20-0†	11 - 5	17 - 8	20-0†	10 - 10	16 - 9	20-0†
	HF	No.2	12 - 2	18 - 11	20-0†	11 - 10	18 - 4	20-0†	11 - 6	17 - 9	20-0†	10 - 10	16 - 10	20-0†	10 - 4	15 - 11	20-0†
	HF	No.3/Stud	11 - 10	18 - 4	20-0†	11 - 6	17 - 10	20-0†	11 - 2	17 - 3	20-0†	10 - 7	16 - 4	20-0†	10 - 0	15 - 6	19 - 5
	HF	Standard	11 - 10	-	-	11 - 6	-	-	11 - 1	-	-	10 - 2	-	-	9 - 5	-	-
	SP	SS	13 - 8	20-0†	20-0†	13 - 3	20-0†	20-0†	12 - 10	19 - 11	20-0†	12 - 2	18 - 10	20-0†	11 - 7	17 - 10	20-0†
	SP	No.1	13 - 1	20-0†	20-0†	12 - 9	19 - 8	20-0†	12 - 4	19 - 1	20-0†	11 - 8	18 - 1	20-0†	11 - 1	17 - 2	20-0†
	SP	No.2	12 - 6	19 - 4	20-0†	12 - 2	18 - 9	20-0†	11 - 9	18 - 3	20-0†	11 - 2	17 - 3	20-0†	10 - 7	16 - 4	20-0†
	SP	No.3	12 - 2	18 - 11	20-0†	11 - 10	18 - 2	20-0†	11 - 6	17 - 5	20-0†	10 - 10	15 - 11	19 - 7	10 - 3	14 - 9	18 - 1
	SP	Stud	12 - 2	18 - 11	20-0†	11 - 10	18 - 2	20-0†	11 - 6	17 - 5	20-0†	10 - 10	15 - 11	19 - 7	10 - 3	14 - 9	18 - 1
	SP	Standard	11 - 3	-	-	10 - 8	-	-	10 - 3	-	-	9 - 5	-	-	8 - 8	-	-
16	SPF	SS	12 - 10	19 - 10	20-0†	12 - 5	19 - 3	20-0†	12 - 1	18 - 8	20-0†	11 - 5	17 - 8	20-0†	10 - 10	16 - 9	20-0†
	SPF	No.1	12 - 6	19 - 4	20-0†	12 - 2	18 - 9	20-0†	11 - 9	18 - 3	20-0†	11 - 2	17 - 3	20-0†	10 - 7	16 - 4	20-0†
	SPF	No.2	12 - 6	19 - 4	20-0†	12 - 2	18 - 9	20-0†	11 - 9	18 - 3	20-0†	11 - 2	17 - 3	20-0†	10 - 7	16 - 4	20-0†
	SPF	No.3/Stud	11 - 10	18 - 4	20-0†	11 - 6	17 - 10	20-0†	11 - 2	17 - 3	20-0†	10 - 7	16 - 4	20-0†	10 - 0	15 - 6	19 - 5
	SPF	Standard	11 - 10	-	-	11 - 6	-	-	11 - 1	-	-	10 - 2	-	-	9 - 5	-	-
	DFL	SS	12 - 7	19 - 6	20-0†	12 - 3	18 - 11	20-0†	11 - 10	18 - 4	20-0†	11 - 3	17 - 4	20-0†	10 - 8	16 - 6	20-0†
	DFL	No.1	12 - 1	18 - 9	20-0†	11 - 9	18 - 2	20-0†	11 - 5	17 - 8	20-0†	10 - 9	16 - 8	20-0†	10 - 3	15 - 10	20-0†
	DFL	No.2	11 - 10	18 - 4	20-0†	11 - 6	17 - 10	20-0†	11 - 2	17 - 3	20-0†	10 - 7	16 - 4	20-0†	10 - 0	15 - 6	20-0†
	DFL	No.3/Stud	11 - 4	17 - 6	20-0†	11 - 0	17 - 0	20-0†	10 - 8	16 - 4	20-0†	10 - 1	15 - 0	18 - 6	9 - 7	13 - 10	17 - 1
	DFL	Standard	10 - 8	-	-	10 - 2	-	-	9 - 9	-	-	8 - 11	-	-	8 - 3	-	-
	HF	SS	11 - 10	18 - 4	20-0†	11 - 6	17 - 10	20-0†	11 - 2	17 - 3	20-0†	10 - 7	16 - 4	20-0†	10 - 0	15 - 6	20-0†
	HF	No.1	11 - 7	17 - 11	20-0†	11 - 3	17 - 5	20-0†	10 - 11	16 - 11	20-0†	10 - 4	16 - 0	20-0†	9 - 10	15 - 2	19 - 9
	HF	No.2	11 - 0	17 - 1	20-0†	10 - 8	16 - 7	20-0†	10 - 5	16 - 1	20-0†	9 - 10	15 - 2	19 - 9	9 - 4	14 - 5	18 - 9
	HF	No.3/Stud	10 - 9	16 - 7	20-0†	10 - 5	16 - 1	20-0†	10 - 1	15 - 7	19 - 8	9 - 7	14 - 7	18 - 1	9 - 1	13 - 6	16 - 8
	HF	Standard	10 - 5	-	-	9 - 11	-	-	9 - 6	-	-	8 - 8	-	-	8 - 1	-	-
	SP	SS	12 - 4	19 - 2	20-0†	12 - 0	18 - 7	20-0†	11 - 8	18 - 0	20-0†	11 - 0	17 - 0	20-0†	10 - 5	16 - 2	20-0†
	SP	No.1	11 - 10	18 - 4	20-0†	11 - 6	17 - 10	20-0†	11 - 2	17 - 3	20-0†	10 - 7	16 - 4	20-0†	10 - 0	15 - 6	20-0†
24	SP	No.2	11 - 4	17 - 6	20-0†	11 - 0	17 - 0	20-0†	10 - 8	16 - 6	20-0†	10 - 1	15 - 7	20-0†	9 - 7	14 - 10	19 - 3
	SP	No.3	11 - 0	16 - 4	20-0†	10 - 8	15 - 7	19 - 2	10 - 4	14 - 11	18 - 4	9 - 6	13 - 8	16 - 10	8 - 10	12 - 7	15 - 6
	SP	Stud	11 - 0	16 - 4	20-0†	10 - 8	15 - 7	19 - 2	10 - 4	14 - 11	18 - 4	9 - 6	13 - 8	16 - 10	8 - 10	12 - 7	15 - 6
	SP	Standard	9 - 7	-	-	9 - 2	-	-	8 - 9	-	-	8 - 1	-	-	-	-	-
	SPF	SS	11 - 7	17 - 11	20-0†	11 - 3	17 - 5	20-0†	10 - 11	16 - 11	20-0†	10 - 4	16 - 0	20-0†	9 - 10	15 - 2	19 - 9
	SPF	No.1	11 - 4	17 - 6	20-0†	11 - 0	17 - 0	20-0†	10 - 8	16 - 6	20-0†	10 - 1	15 - 7	20-0†	9 - 7	14 - 10	19 - 3
	SPF	No.2	11 - 4	17 - 6	20-0†	11 - 0	17 - 0	20-0†	10 - 8	16 - 6	20-0†	10 - 1	15 - 7	20-0†	9 - 7	14 - 10	19 - 3
	SPF	No.3/Stud	10 - 9	16 - 7	20-0†	10 - 5	16 - 1	20-0†	10 - 1	15 - 7	19 - 8	9 - 7	14 - 7	18 - 1	9 - 1	13 - 6	16 - 8
	SPF	Standard	10 - 5	-	-	9 - 11	-	-	9 - 6	-	-	8 - 8	-	-	8 - 1	-	-
	DFL	SS	10 - 11	16 - 11	20-0†	10 - 7	16 - 5	20-0†	10 - 3	15 - 11	20-0†	9 - 9	15 - 1	19 - 7	9 - 3	14 - 4	18 - 7
	DFL	No.1	10 - 6	16 - 3	20-0†	10 - 2	15 - 9	20-0†	9 - 11	15 - 4	19 - 11	9 - 4	14 - 6	18 - 10	8 - 11	13 - 9	17 - 11
	DFL	No.2	10 - 4	15 - 11	20-0†	10 - 0	15 - 5	20-0†	9 - 8	15 - 0	19 - 6	9 - 2	14 - 2	18 - 5	8 - 8	13 - 6	17 - 6
	DFL	No.3/Stud	9 - 10	14 - 5	17 - 10	9 - 6	13 - 9	17 - 0	9 - 3	13 - 2	16 - 3	8 - 6	12 - 1	14 - 11	7 - 10	11 - 2	13 - 9
	DFL	Standard	8 - 7	-	-	8 - 2	-	-	7 - 10	-	-	-	-	-	-	-	-
	HF	SS	10 - 4	15 - 11	20-0†	10 - 0	15 - 5	20-0†	9 - 8	15 - 0	19 - 6	9 - 2	14 - 2	18 - 5	8 - 8	13 - 6	17 - 6
	HF	No.1	10 - 1	15 - 7	20-0†	9 - 9	15 - 1	19 - 8	9 - 6	14 - 8	19 - 1	9 - 0	13 - 10	18 - 0	8 - 6	13 - 2	17 - 1
	HF	No.2	9 - 7	14 - 10	19 - 3	9 - 3	14 - 4	18 - 8	9 - 0	13 - 11	18 - 2	8 - 6	13 - 2	17 - 2	8 - 1	12 - 6	16 - 3
	HF	No.3/Stud	9 - 4	14 - 1	17 - 4	9 - 0	13 - 5	16 - 7	8 - 9	12 - 10	15 - 10	8 - 3	11 - 9	14 - 6	-	10 - 10	13 - 5
	HF	Standard	8 - 5	-	-	8 - 0	-	-	-	-	-	-	-	-	-	-	-
	SP	SS	10 - 9	16 - 7	20-0†	10 - 5	16 - 1	20-0†	10 - 1	15 - 7	20-0†	9 - 7	14 - 9	19 - 3	9 - 1	14 - 0	18 - 3
	SP	No.1	10 - 4	15 - 11	20-0†	10 - 0	15 - 5	20-0†	9 - 8	15 - 0	19 - 6	9 - 2	14 - 2	18 - 5	8 - 8	13 - 6	17 - 6
	SP	No.2	9 - 10	15 - 2	19 - 9	9 - 6	14 - 9	19 - 2	9 - 3	14 - 4	18 - 7	8 - 9	13 - 6	17 - 7	8 - 4	12 - 10	16 - 8
	SP	No.3	9 - 2	13 - 2	16 - 2	8 - 9	12 - 6	15 - 5	8 - 4	12 - 0	14 - 9	-	11 - 0	13 - 6	-	10 - 2	12 - 6
	SP	Stud	9 - 2	13 - 2	16 - 2	8 - 9	12 - 6	15 - 5	8 - 4	12 - 0	14 - 9	-	11 - 0	13 - 6	-	10 - 2	12 - 6
	SP	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SPF	SS	10 - 1	15 - 7	20-0†	9 - 9	15 - 1	19 - 8	9 - 6	14 - 8	19 - 1	9 - 0	13 - 10	18 - 0	8 - 6	13 - 2	17 - 1
	SPF	No.1	9 - 10	15 - 2	19 - 9	9 - 6	14 - 9	19 - 2	9 - 3	14 - 4	18 - 7	8 - 9	13 - 6	17 - 7	8 - 4	12 - 10	16 - 8
	SPF	No.2	9 - 10	15 - 2	19 - 9	9 - 6	14 - 9	19 - 2	9 - 3	14 - 4	18 - 7	8 - 9	13 - 6	17 - 7	8 - 4	12 - 10	16 - 8
	SPF	No.3/Stud	9 - 4	14 - 1	17 - 4	9 - 0	13 - 5	16 - 7	8 - 9	12 - 10	15 - 10	8 - 3	11 - 9	14 - 6	-	10 - 10	13 - 5
	SPF	Standard	8 - 5	-	-	8 - 0	-	-	-	-	-	-	-	-	-	-	-

See Table 3.20B footnotes.

Table 3.20B5 Maximum Exterior Loadbearing¹ and Non-Loadbearing Stud Lengths for Common Lumber Species Resisting Interior Zone Wind Loads - Stud Deflection Limit = H/240
(Fully Sheathed with a Minimum of 3/8" Wood Structural Panels)^a

Exposure C
H/240
3/8" WSP

Wind Speed 3-second gust (mph) (See Figure 1.1)			150			160			170			180			195		
Stud Spacing (in.)	Species	Grade	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8
Maximum Allowable Stud Length (ft.-in.) ¹																	
12	DFL	SS	11-3	17-4	20-0†	10-9	16-7	20-0†	10-3	15-11	20-0†	9-11	15-3	19-10	9-4	14-5	18-9
	DFL	No.1	10-9	16-8	20-0†	10-4	16-0	20-0†	9-11	15-4	19-11	9-6	14-8	19-1	9-0	13-11	18-1
	DFL	No.2	10-7	16-4	20-0†	10-1	15-7	20-0†	9-8	15-0	19-6	9-4	14-5	18-9	8-10	13-7	17-8
	DFL	No.3/Stud Standard	10-1	15-0	18-6	9-8	14-0	17-4	9-3	13-1	16-2	8-8	12-4	15-3	8-0	11-4	14-0
	DFL	Standard	8-11	-	-	8-4	-	-	7-10	-	-	-	-	-	-	-	-
	HF	SS	10-7	16-4	20-0†	10-1	15-7	20-0†	9-8	15-0	19-6	9-4	14-5	18-9	8-10	13-7	17-8
	HF	No.1	10-4	16-0	20-0†	9-10	15-3	19-10	9-6	14-8	19-0	9-1	14-1	18-4	8-7	13-4	17-4
	HF	No.2	9-10	15-2	19-9	9-5	14-6	18-11	9-0	13-11	18-1	8-8	13-5	17-5	8-2	12-8	16-5
	HF	No.3/Stud Standard	9-7	14-7	18-1	9-2	13-8	16-10	8-9	12-9	15-9	8-5	12-0	14-10	7-9	11-0	13-8
	HF	Standard	8-9	-	-	8-2	-	-	-	-	-	-	-	-	-	-	-
	SP	SS	11-0	17-0	20-0†	10-6	16-3	20-0†	10-1	15-7	20-0†	9-8	15-0	19-6	9-2	14-2	18-5
	SP	No.1	10-7	16-4	20-0†	10-1	15-7	20-0†	9-8	15-0	19-6	9-4	14-5	18-9	8-10	13-7	17-8
	SP	No.2	10-1	15-7	20-0†	9-8	14-11	19-5	9-3	14-3	18-7	8-11	13-9	17-10	8-5	13-0	16-11
	SP	No.3	9-6	13-8	16-10	8-11	12-9	15-8	8-4	12-0	14-8	7-10	11-3	13-10	-	10-4	12-8
	SP	Stud Standard	9-6	13-8	16-10	8-11	12-9	15-8	8-4	12-0	14-8	7-10	11-3	13-10	-	10-4	12-8
	SP	Standard	8-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	SPF	SS	10-4	16-0	20-0†	9-10	15-3	19-10	9-6	14-8	19-0	9-1	14-1	18-4	8-7	13-4	17-4
	SPF	No.1	10-1	15-7	20-0†	9-8	14-11	19-5	9-3	14-3	18-7	8-11	13-9	17-10	8-5	13-0	16-11
	SPF	No.2	10-1	15-7	20-0†	9-8	14-11	19-5	9-3	14-3	18-7	8-11	13-9	17-10	8-5	13-0	16-11
	SPF	No.3/Stud Standard	9-7	14-7	18-1	9-2	13-8	16-10	8-9	12-9	15-9	8-5	12-0	14-10	7-9	11-0	13-8
	SPF	Standard	8-9	-	-	8-2	-	-	-	-	-	-	-	-	-	-	-
	DFL	SS	10-2	15-8	20-0†	9-8	15-0	19-6	9-4	14-5	18-8	8-11	13-10	18-0	8-5	13-1	17-0
	DFL	No.1	9-9	15-1	19-8	9-4	14-5	18-9	8-11	13-10	18-0	8-7	13-3	17-3	8-2	12-7	16-4
	DFL	No.2	9-7	14-9	19-3	9-2	14-2	18-4	8-9	13-7	17-7	8-5	13-0	16-11	8-0	12-4	16-0
	DFL	No.3/Stud Standard	9-1	12-10	15-11	8-5	12-0	14-10	7-11	11-3	13-11	-	10-7	13-1	-	9-8	12-0
	DFL	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	HF	SS	9-7	14-9	19-3	9-2	14-2	18-4	8-9	13-7	17-7	8-5	13-0	16-11	8-0	12-4	16-0
	HF	No.1	9-4	14-5	18-9	8-11	13-10	18-0	8-7	13-3	17-3	8-3	12-9	16-7	7-9	12-0	15-8
	HF	No.2	8-11	13-9	17-10	8-6	13-2	17-1	8-2	12-7	16-5	7-10	12-1	15-9	-	11-5	14-11
	HF	No.3/Stud Standard	8-8	12-6	15-6	8-3	11-8	14-5	-	10-11	13-6	-	10-4	12-9	-	9-5	11-8
	HF	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SP	SS	10-0	15-5	20-0†	9-6	14-9	19-2	9-1	14-1	18-4	8-9	13-7	17-8	8-4	12-10	16-8
	SP	No.1	9-7	14-9	19-3	9-2	14-2	18-4	8-9	13-7	17-7	8-5	13-0	16-11	8-0	12-4	16-0
	SP	No.2	9-1	14-1	18-4	8-9	13-6	17-6	8-4	12-11	16-10	8-0	12-5	16-1	-	11-9	14-9
	SP	No.3	8-2	11-9	14-5	-	10-11	13-5	-	10-3	12-7	-	9-8	11-10	-	8-10	10-11
	SP	Stud Standard	8-2	11-9	14-5	-	10-11	13-5	-	10-3	12-7	-	9-8	11-10	-	8-10	10-11
	SP	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	SPF	SS	9-4	14-5	18-9	8-11	13-10	18-0	8-7	13-3	17-3	8-3	12-9	16-7	7-9	12-0	15-8
	SPF	No.1	9-1	14-1	18-4	8-9	13-6	17-6	8-4	12-11	16-10	8-0	12-5	16-2	-	11-9	15-3
	SPF	No.2	9-1	14-1	18-4	8-9	13-6	17-6	8-4	12-11	16-10	8-0	12-5	16-2	-	11-9	15-3
	SPF	No.3/Stud Standard	8-8	12-6	15-6	8-3	11-8	14-5	-	10-11	13-6	-	10-4	12-9	-	9-5	11-8
	SPF	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DFL	SS	8-10	13-7	17-9	8-5	13-0	16-11	8-1	12-6	16-3	7-9	12-0	15-7	-	11-4	14-9
	DFL	No.1	8-6	13-1	17-0	8-1	12-6	16-3	7-9	12-0	15-7	-	11-6	14-10	-	10-11	13-8
	DFL	No.2	8-4	12-10	16-8	7-11	12-3	15-11	-	11-9	14-11	-	11-4	14-0	-	10-5	12-11
	DFL	No.3/Stud Standard	-	10-4	12-9	-	9-8	11-11	-	9-1	11-2	-	8-6	10-6	-	7-10	9-8
	DFL	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	HF	SS	8-4	12-10	16-8	7-11	12-3	15-11	-	11-9	15-3	-	11-4	14-8	-	10-8	13-11
	HF	No.1	8-1	12-7	16-4	7-9	12-0	15-7	-	11-6	14-11	-	11-1	14-4	-	10-5	13-5
	HF	No.2	-	11-11	15-6	-	11-5	14-10	-	10-11	14-3	-	10-6	13-7	-	9-11	12-6
	HF	No.3/Stud Standard	-	10-1	12-5	-	9-5	11-7	-	8-10	10-11	-	8-4	10-3	-	-	9-5
	HF	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SP	SS	8-8	13-4	17-5	8-3	12-9	16-7	7-11	12-3	15-11	-	11-9	15-4	-	11-2	14-6
	SP	No.1	8-4	12-10	16-8	7-11	12-3	15-11	-	11-9	15-3	-	11-4	14-8	-	10-8	13-11
	SP	No.2	7-11	12-3	15-8	-	11-8	14-8	-	11-1	13-9	-	10-5	12-11	-	9-7	11-10
	SP	No.3	-	9-5	11-7	-	8-10	10-10	-	8-3	10-2	-	7-9	9-6	-	-	8-9
	SP	Stud Standard	-	9-5	11-7	-	8-10	10-10	-	8-3	10-2	-	7-9	9-6	-	-	8-9
	SP	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SPF	SS	8-1	12-7	16-4	7-9	12-0	15-7	-	11-6	14-11	-	11-1	14-4	-	10-5	13-7
	SPF	No.1	7-11	12-3	15-11	-	11-8	15-3	-	11-3	14-7	-	10-9	13-10	-	10-2	12-8
	SPF	No.2	7-11	12-3	15-11	-	11-8	15-3	-	11-3	14-7	-	10-9	13-10	-	10-2	12-8
	SPF	No.3/Stud Standard	-	10-1	12-5	-	9-5	11-7	-	8-10	10-11	-	8-4	10-3	-	-	9-5
	SPF	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

See Table 3.20B footnotes.

Table 3.20B6 Maximum Exterior Loadbearing¹ and Non-Loadbearing Stud Lengths for Common Lumber Species Resisting Interior Zone Wind Loads - Stud Deflection Limit = H/360
(Fully Sheathed with a Minimum of 3/8" Wood Structural Panels)^a

Exposure C
H/360
3/8" WSP

Wind Speed 3-second gust (mph) (See Figure 1.1)			90			95			100			105		
Stud Spacing (in.)	Species	Grade	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8
Maximum Allowable Stud Length (ft.-in.) ¹														
12	DFL	SS	13 - 11	20-0†	20-0†	13 - 5	20-0†	20-0†	12 - 11	20 - 0	20-0†	12 - 6	19 - 4	20-0†
	DFL	No.1	13 - 4	20-0†	20-0†	12 - 11	19 - 11	20-0†	12 - 5	19 - 3	20-0†	12 - 0	18 - 7	20-0†
	DFL	No.2	13 - 1	20-0†	20-0†	12 - 7	19 - 6	20-0†	12 - 2	18 - 10	20-0†	11 - 9	18 - 2	20-0†
	DFL	No.3/Stud	12 - 6	19 - 4	20-0†	12 - 0	18 - 8	20-0†	11 - 7	18 - 0	20-0†	11 - 3	17 - 4	20-0†
	DFL	Standard	12 - 6	-	-	12 - 0	-	-	11 - 7	-	-	11 - 3	-	-
	HF	SS	13 - 1	20-0†	20-0†	12 - 7	19 - 6	20-0†	12 - 2	18 - 10	20-0†	11 - 9	18 - 2	20-0†
	HF	No.1	12 - 10	19 - 10	20-0†	12 - 4	19 - 1	20-0†	11 - 11	18 - 5	20-0†	11 - 6	17 - 10	20-0†
	HF	No.2	12 - 2	18 - 10	20-0†	11 - 9	18 - 2	20-0†	11 - 4	17 - 6	20-0†	10 - 11	16 - 11	20-0†
	HF	No.3/Stud	11 - 10	18 - 4	20-0†	11 - 5	17 - 8	20-0†	11 - 0	17 - 0	20-0†	10 - 8	16 - 5	20-0†
	HF	Standard	11 - 10	-	-	11 - 5	-	-	11 - 0	-	-	10 - 8	-	-
	SP	SS	13 - 8	20-0†	20-0†	13 - 2	20-0†	20-0†	12 - 8	19 - 7	20-0†	12 - 3	19 - 0	20-0†
	SP	No.1	13 - 1	20-0†	20-0†	12 - 7	19 - 6	20-0†	12 - 2	18 - 10	20-0†	11 - 9	18 - 2	20-0†
	SP	No.2	12 - 6	19 - 4	20-0†	12 - 0	18 - 8	20-0†	11 - 7	18 - 0	20-0†	11 - 3	17 - 4	20-0†
	SP	No.3	12 - 2	18 - 10	20-0†	11 - 9	18 - 2	20-0†	11 - 4	17 - 6	20-0†	10 - 11	16 - 11	20-0†
	SP	Stud	12 - 2	18 - 10	20-0†	11 - 9	18 - 2	20-0†	11 - 4	17 - 6	20-0†	10 - 11	16 - 11	20-0†
	SP	Standard	11 - 10	-	-	11 - 5	-	-	11 - 0	-	-	10 - 8	-	-
	SPF	SS	12 - 10	19 - 10	20-0†	12 - 4	19 - 1	20-0†	11 - 11	18 - 5	20-0†	11 - 6	17 - 10	20-0†
	SPF	No.1	12 - 6	19 - 4	20-0†	12 - 0	18 - 8	20-0†	11 - 7	18 - 0	20-0†	11 - 3	17 - 4	20-0†
	SPF	No.2	12 - 6	19 - 4	20-0†	12 - 0	18 - 8	20-0†	11 - 7	18 - 0	20-0†	11 - 3	17 - 4	20-0†
	SPF	No.3/Stud	11 - 10	18 - 4	20-0†	11 - 5	17 - 8	20-0†	11 - 0	17 - 0	20-0†	10 - 8	16 - 5	20-0†
	SPF	Standard	11 - 10	-	-	11 - 5	-	-	11 - 0	-	-	10 - 8	-	-
16	DFL	SS	12 - 7	19 - 6	20-0†	12 - 1	18 - 9	20-0†	11 - 8	18 - 1	20-0†	11 - 4	17 - 6	20-0†
	DFL	No.1	12 - 1	18 - 9	20-0†	11 - 8	18 - 0	20-0†	11 - 3	17 - 5	20-0†	10 - 10	16 - 10	20-0†
	DFL	No.2	11 - 10	18 - 4	20-0†	11 - 5	17 - 8	20-0†	11 - 0	17 - 0	20-0†	10 - 8	16 - 5	20-0†
	DFL	No.3/Stud	11 - 4	17 - 6	20-0†	10 - 11	16 - 10	20-0†	10 - 6	16 - 3	20-0†	10 - 2	15 - 8	20-0†
	DFL	Standard	11 - 4	-	-	10 - 11	-	-	10 - 6	-	-	10 - 2	-	-
	HF	SS	11 - 10	18 - 4	20-0†	11 - 5	17 - 8	20-0†	11 - 0	17 - 0	20-0†	10 - 8	16 - 5	20-0†
	HF	No.1	11 - 7	17 - 11	20-0†	11 - 2	17 - 3	20-0†	10 - 9	16 - 8	20-0†	10 - 5	16 - 1	20-0†
	HF	No.2	11 - 0	17 - 1	20-0†	10 - 7	16 - 5	20-0†	10 - 3	15 - 10	20-0†	9 - 11	15 - 4	19 - 11
	HF	No.3/Stud	10 - 9	16 - 7	20-0†	10 - 4	16 - 0	20-0†	10 - 0	15 - 5	20-0†	9 - 7	14 - 11	19 - 4
	HF	Standard	10 - 9	-	-	10 - 4	-	-	10 - 0	-	-	9 - 7	-	-
	SP	SS	12 - 4	19 - 1	20-0†	11 - 11	18 - 5	20-0†	11 - 6	17 - 9	20-0†	11 - 1	17 - 2	20-0†
	SP	No.1	11 - 10	18 - 4	20-0†	11 - 5	17 - 8	20-0†	11 - 0	17 - 0	20-0†	10 - 8	16 - 5	20-0†
	SP	No.2	11 - 4	17 - 6	20-0†	10 - 11	16 - 10	20-0†	10 - 6	16 - 3	20-0†	10 - 2	15 - 8	20-0†
	SP	No.3	11 - 0	17 - 1	20-0†	10 - 7	16 - 5	20-0†	10 - 3	15 - 10	20-0†	9 - 11	15 - 4	19 - 11
	SP	Stud	11 - 0	17 - 1	20-0†	10 - 7	16 - 5	20-0†	10 - 3	15 - 10	20-0†	9 - 11	15 - 4	19 - 11
	SP	Standard	10 - 9	-	-	10 - 4	-	-	10 - 0	-	-	9 - 7	-	-
	SPF	SS	11 - 7	17 - 11	20-0†	11 - 2	17 - 3	20-0†	10 - 9	16 - 8	20-0†	10 - 5	16 - 1	20-0†
	SPF	No.1	11 - 4	17 - 6	20-0†	10 - 11	16 - 10	20-0†	10 - 6	16 - 3	20-0†	10 - 2	15 - 8	20-0†
	SPF	No.2	11 - 4	17 - 6	20-0†	10 - 11	16 - 10	20-0†	10 - 6	16 - 3	20-0†	10 - 2	15 - 8	20-0†
	SPF	No.3/Stud	10 - 9	16 - 7	20-0†	10 - 4	16 - 0	20-0†	10 - 0	15 - 5	20-0†	9 - 7	14 - 11	19 - 4
	SPF	Standard	10 - 9	-	-	10 - 4	-	-	10 - 0	-	-	9 - 7	-	-
24	DFL	SS	10 - 11	16 - 11	20-0†	10 - 6	16 - 3	20-0†	10 - 2	15 - 8	20-0†	9 - 10	15 - 2	19 - 9
	DFL	No.1	10 - 6	16 - 3	20-0†	10 - 1	15 - 8	20-0†	9 - 9	15 - 1	19 - 8	9 - 5	14 - 7	19 - 0
	DFL	No.2	10 - 3	15 - 11	20-0†	9 - 11	15 - 4	19 - 11	9 - 7	14 - 9	19 - 3	9 - 3	14 - 3	18 - 7
	DFL	No.3/Stud	9 - 10	15 - 2	19 - 9	9 - 5	14 - 7	19 - 0	9 - 1	14 - 1	18 - 4	8 - 10	13 - 8	17 - 9
	DFL	Standard	9 - 10	-	-	9 - 5	-	-	9 - 1	-	-	8 - 10	-	-
	HF	SS	10 - 3	15 - 11	20-0†	9 - 11	15 - 4	19 - 11	9 - 7	14 - 9	19 - 3	9 - 3	14 - 3	18 - 7
	HF	No.1	10 - 1	15 - 7	20-0†	9 - 8	15 - 0	19 - 6	9 - 4	14 - 5	18 - 9	9 - 0	14 - 0	18 - 2
	HF	No.2	9 - 7	14 - 10	19 - 3	9 - 3	14 - 3	18 - 6	8 - 11	13 - 9	17 - 10	8 - 7	13 - 3	17 - 3
	HF	No.3/Stud	9 - 4	14 - 5	18 - 9	9 - 0	13 - 10	18 - 0	8 - 8	13 - 4	17 - 5	8 - 4	12 - 11	16 - 10
	HF	Standard	9 - 4	-	-	9 - 0	-	-	8 - 8	-	-	8 - 4	-	-
	SP	SS	10 - 9	16 - 7	20-0†	10 - 4	16 - 0	20-0†	10 - 0	15 - 5	20-0†	9 - 7	14 - 11	19 - 4
	SP	No.1	10 - 3	15 - 11	20-0†	9 - 11	15 - 4	19 - 11	9 - 7	14 - 9	19 - 3	9 - 3	14 - 3	18 - 7
	SP	No.2	9 - 10	15 - 2	19 - 9	9 - 5	14 - 7	19 - 0	9 - 1	14 - 1	18 - 4	8 - 10	13 - 8	17 - 9
	SP	No.3	9 - 7	14 - 10	19 - 3	9 - 3	14 - 3	18 - 6	8 - 11	13 - 9	17 - 10	8 - 7	13 - 3	17 - 0
	SP	Stud	9 - 7	14 - 10	19 - 3	9 - 3	14 - 3	18 - 6	8 - 11	13 - 9	17 - 10	8 - 7	13 - 3	17 - 0
	SP	Standard	9 - 4	-	-	9 - 0	-	-	8 - 7	-	-	8 - 2	-	-
	SPF	SS	10 - 1	15 - 7	20-0†	9 - 8	15 - 0	19 - 6	9 - 4	14 - 5	18 - 9	9 - 0	14 - 0	18 - 2
	SPF	No.1	9 - 10	15 - 2	19 - 9	9 - 5	14 - 7	19 - 0	9 - 1	14 - 1	18 - 4	8 - 10	13 - 8	17 - 9
	SPF	No.2	9 - 10	15 - 2	19 - 9	9 - 5	14 - 7	19 - 0	9 - 1	14 - 1	18 - 4	8 - 10	13 - 8	17 - 9
	SPF	No.3/Stud	9 - 4	14 - 5	18 - 9	9 - 0	13 - 10	18 - 0	8 - 8	13 - 4	17 - 5	8 - 4	12 - 11	16 - 10
	SPF	Standard	9 - 4	-	-	9 - 0	-	-	8 - 8	-	-	8 - 4	-	-

See Table 3.20B footnotes.

Table 3.20B6 Maximum Exterior Loadbearing¹ and Non-Loadbearing Stud Lengths for Common Lumber Species Resisting Interior Zone Wind Loads - Stud Deflection Limit = H/360
(Fully Sheathed with a Minimum of 3/8" Wood Structural Panels)^a

Exposure C
H/360
3/8" WSP

Wind Speed 3-second gust (mph) (See Figure 1.1)			110			115			120			130			140		
Stud Spacing (in.)	Species	Grade	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8
Maximum Allowable Stud Length (ft.-in.) ¹																	
12	DFL	SS	12 - 1	18 - 8	20 - 0†	11 - 9	18 - 2	20 - 0†	11 - 5	17 - 7	20 - 0†	10 - 9	16 - 8	20 - 0†	10 - 3	15 - 10	20 - 0†
	DFL	No.1	11 - 8	18 - 0	20 - 0†	11 - 3	17 - 5	20 - 0†	10 - 11	16 - 11	20 - 0†	10 - 4	16 - 0	20 - 0†	9 - 10	15 - 2	19 - 9
	DFL	No.2	11 - 5	17 - 7	20 - 0†	11 - 0	17 - 1	20 - 0†	10 - 9	16 - 7	20 - 0†	10 - 2	15 - 8	20 - 0†	9 - 7	14 - 11	19 - 4
	DFL	No.3/Stud	10 - 10	16 - 10	20 - 0†	10 - 6	16 - 4	20 - 0†	10 - 3	15 - 10	20 - 0†	9 - 8	15 - 0	19 - 5	9 - 2	14 - 2	18 - 6
	DFL	Standard	10 - 10	-	-	10 - 6	-	-	10 - 3	-	-	9 - 8	-	-	9 - 2	-	-
	HF	SS	11 - 5	17 - 7	20 - 0†	11 - 0	17 - 1	20 - 0†	10 - 9	16 - 7	20 - 0†	10 - 2	15 - 8	20 - 0†	9 - 7	14 - 11	19 - 4
	HF	No.1	11 - 2	17 - 3	20 - 0†	10 - 9	16 - 8	20 - 0†	10 - 6	16 - 2	20 - 0†	9 - 11	15 - 4	19 - 11	9 - 5	14 - 7	18 - 11
	HF	No.2	10 - 7	16 - 5	20 - 0†	10 - 3	15 - 11	20 - 0†	10 - 0	15 - 5	20 - 0†	9 - 5	14 - 7	19 - 0	9 - 0	13 - 10	18 - 0
	HF	No.3/Stud	10 - 4	15 - 11	20 - 0†	10 - 0	15 - 5	20 - 0†	9 - 8	15 - 0	19 - 6	9 - 2	14 - 2	18 - 5	8 - 8	13 - 6	17 - 6
	HF	Standard	10 - 4	-	-	10 - 0	-	-	9 - 8	-	-	9 - 2	-	-	8 - 8	-	-
	SP	SS	11 - 10	18 - 4	20 - 0†	11 - 6	17 - 10	20 - 0†	11 - 2	17 - 3	20 - 0†	10 - 7	16 - 4	20 - 0†	10 - 0	15 - 6	20 - 0†
	SP	No.1	11 - 5	17 - 7	20 - 0†	11 - 0	17 - 1	20 - 0†	10 - 9	16 - 7	20 - 0†	10 - 2	15 - 8	20 - 0†	9 - 7	14 - 11	19 - 4
	SP	No.2	10 - 10	16 - 10	20 - 0†	10 - 6	16 - 4	20 - 0†	10 - 3	15 - 10	20 - 0†	9 - 8	15 - 0	19 - 5	9 - 2	14 - 2	18 - 6
	SP	No.3	10 - 7	16 - 5	20 - 0†	10 - 3	15 - 11	20 - 0†	10 - 0	15 - 5	20 - 0†	9 - 5	14 - 7	19 - 0	9 - 0	13 - 10	18 - 0
	SP	Stud	10 - 7	16 - 5	20 - 0†	10 - 3	15 - 11	20 - 0†	10 - 0	15 - 5	20 - 0†	9 - 5	14 - 7	19 - 0	9 - 0	13 - 10	18 - 0
	SP	Standard	10 - 4	-	-	10 - 0	-	-	9 - 8	-	-	9 - 2	-	-	8 - 8	-	-
	SPF	SS	11 - 2	17 - 3	20 - 0†	10 - 9	16 - 8	20 - 0†	10 - 6	16 - 2	20 - 0†	9 - 11	15 - 4	19 - 11	9 - 5	14 - 7	18 - 11
	SPF	No.1	10 - 10	16 - 10	20 - 0†	10 - 6	16 - 4	20 - 0†	10 - 3	15 - 10	20 - 0†	9 - 8	15 - 0	19 - 5	9 - 2	14 - 2	18 - 6
	SPF	No.2	10 - 10	16 - 10	20 - 0†	10 - 6	16 - 4	20 - 0†	10 - 3	15 - 10	20 - 0†	9 - 8	15 - 0	19 - 5	9 - 2	14 - 2	18 - 6
	SPF	No.3/Stud	10 - 4	15 - 11	20 - 0†	10 - 0	15 - 5	20 - 0†	9 - 8	15 - 0	19 - 6	9 - 2	14 - 2	18 - 5	8 - 8	13 - 6	17 - 6
	SPF	Standard	10 - 4	-	-	10 - 0	-	-	9 - 8	-	-	9 - 2	-	-	8 - 8	-	-
16	DFL	SS	10 - 11	16 - 11	20 - 0†	10 - 7	16 - 5	20 - 0†	10 - 3	15 - 11	20 - 0†	9 - 9	15 - 1	19 - 7	9 - 3	14 - 4	18 - 7
	DFL	No.1	10 - 6	16 - 3	20 - 0†	10 - 2	15 - 9	20 - 0†	9 - 11	15 - 4	19 - 11	9 - 4	14 - 6	18 - 10	8 - 11	13 - 9	17 - 11
	DFL	No.2	10 - 4	15 - 11	20 - 0†	10 - 0	15 - 5	20 - 0†	9 - 8	15 - 0	19 - 6	9 - 2	14 - 2	18 - 5	8 - 8	13 - 6	17 - 6
	DFL	No.3/Stud	9 - 10	15 - 2	19 - 9	9 - 6	14 - 9	19 - 2	9 - 3	14 - 4	18 - 7	8 - 9	13 - 6	17 - 7	8 - 4	12 - 10	16 - 8
	DFL	Standard	9 - 10	-	-	9 - 6	-	-	9 - 3	-	-	8 - 9	-	-	8 - 3	-	-
	HF	SS	10 - 4	15 - 11	20 - 0†	10 - 0	15 - 5	20 - 0†	9 - 8	15 - 0	19 - 6	9 - 2	14 - 2	18 - 5	8 - 8	13 - 6	17 - 6
	HF	No.1	10 - 1	15 - 7	20 - 0†	9 - 9	15 - 1	19 - 8	9 - 6	14 - 8	19 - 1	9 - 0	13 - 10	18 - 0	8 - 6	13 - 2	17 - 1
	HF	No.2	9 - 7	14 - 10	19 - 3	9 - 3	14 - 4	18 - 8	9 - 0	13 - 11	18 - 2	8 - 6	13 - 2	17 - 2	8 - 1	12 - 6	16 - 3
	HF	No.3/Stud	9 - 4	14 - 5	18 - 9	9 - 0	14 - 0	18 - 2	8 - 9	13 - 7	17 - 8	8 - 4	12 - 10	16 - 8	7 - 11	12 - 2	15 - 10
	HF	Standard	9 - 4	-	-	9 - 0	-	-	8 - 9	-	-	8 - 4	-	-	7 - 11	-	-
	SP	SS	10 - 9	16 - 7	20 - 0†	10 - 5	16 - 1	20 - 0†	10 - 1	15 - 7	20 - 0†	9 - 7	14 - 9	19 - 3	9 - 1	14 - 0	18 - 3
	SP	No.1	10 - 4	15 - 11	20 - 0†	10 - 0	15 - 5	20 - 0†	9 - 8	15 - 0	19 - 6	9 - 2	14 - 2	18 - 5	8 - 8	13 - 6	17 - 6
	SP	No.2	9 - 10	15 - 2	19 - 9	9 - 6	14 - 9	19 - 2	9 - 3	14 - 4	18 - 7	8 - 9	13 - 6	17 - 7	8 - 4	12 - 10	16 - 8
	SP	No.3	9 - 7	14 - 10	19 - 3	9 - 3	14 - 4	18 - 8	9 - 0	13 - 11	18 - 2	8 - 6	13 - 2	16 - 10	8 - 1	12 - 6	15 - 6
	SP	Stud	9 - 7	14 - 10	19 - 3	9 - 3	14 - 4	18 - 8	9 - 0	13 - 11	18 - 2	8 - 6	13 - 2	16 - 10	8 - 1	12 - 6	15 - 6
	SP	Standard	9 - 4	-	-	9 - 0	-	-	8 - 9	-	-	8 - 1	-	-	-	-	-
	SPF	SS	10 - 1	15 - 7	20 - 0†	9 - 9	15 - 1	19 - 8	9 - 6	14 - 8	19 - 1	9 - 0	13 - 10	18 - 0	8 - 6	13 - 2	17 - 1
	SPF	No.1	9 - 10	15 - 2	19 - 9	9 - 6	14 - 9	19 - 2	9 - 3	14 - 4	18 - 7	8 - 9	13 - 6	17 - 7	8 - 4	12 - 10	16 - 8
	SPF	No.2	9 - 10	15 - 2	19 - 9	9 - 6	14 - 9	19 - 2	9 - 3	14 - 4	18 - 7	8 - 9	13 - 6	17 - 7	8 - 4	12 - 10	16 - 8
	SPF	No.3/Stud	9 - 4	14 - 5	18 - 9	9 - 0	14 - 0	18 - 2	8 - 9	13 - 7	17 - 8	8 - 4	12 - 10	16 - 8	7 - 11	12 - 2	15 - 10
	SPF	Standard	9 - 4	-	-	9 - 0	-	-	8 - 9	-	-	8 - 4	-	-	7 - 11	-	-
24	DFL	SS	9 - 6	14 - 8	19 - 1	9 - 2	14 - 3	18 - 6	8 - 11	13 - 10	18 - 0	8 - 5	13 - 1	17 - 0	8 - 0	12 - 5	16 - 2
	DFL	No.1	9 - 2	14 - 1	18 - 4	8 - 10	13 - 8	17 - 10	8 - 7	13 - 3	17 - 3	8 - 2	12 - 7	16 - 4	-	11 - 11	15 - 6
	DFL	No.2	8 - 11	13 - 10	18 - 0	8 - 8	13 - 5	17 - 5	8 - 5	13 - 0	16 - 11	8 - 0	12 - 4	16 - 0	-	11 - 8	15 - 2
	DFL	No.3/Stud	8 - 6	13 - 2	17 - 2	8 - 3	12 - 10	16 - 8	8 - 0	12 - 5	16 - 2	-	11 - 9	14 - 11	-	11 - 2	13 - 9
	DFL	Standard	8 - 6	-	-	8 - 2	-	-	7 - 10	-	-	-	-	-	-	-	-
	HF	SS	8 - 11	13 - 10	18 - 0	8 - 8	13 - 5	17 - 5	8 - 5	13 - 0	16 - 11	8 - 0	12 - 4	16 - 0	-	11 - 8	15 - 2
	HF	No.1	8 - 9	13 - 6	17 - 7	8 - 6	13 - 1	17 - 1	8 - 3	12 - 9	16 - 7	7 - 9	12 - 0	15 - 8	-	11 - 5	14 - 10
	HF	No.2	8 - 4	12 - 10	16 - 9	8 - 1	12 - 6	16 - 3	7 - 10	12 - 1	15 - 9	-	11 - 5	14 - 11	-	10 - 10	14 - 2
	HF	No.3/Stud	8 - 1	12 - 6	16 - 3	7 - 10	12 - 1	15 - 9	-	11 - 9	15 - 4	-	11 - 2	14 - 6	-	10 - 7	13 - 5
	HF	Standard	8 - 1	-	-	7 - 10	-	-	-	-	-	-	-	-	-	-	-
	SP	SS	9 - 4	14 - 5	18 - 9	9 - 0	14 - 0	18 - 2	8 - 9	13 - 7	17 - 8	8 - 4	12 - 10	16 - 8	7 - 11	12 - 2	15 - 10
	SP	No.1	8 - 11	13 - 10	18 - 0	8 - 8	13 - 5	17 - 5	8 - 5	13 - 0	16 - 11	8 - 0	12 - 4	16 - 0	-	11 - 8	15 - 2
	SP	No.2	8 - 6	13 - 2	17 - 2	8 - 3	12 - 10	16 - 8	8 - 0	12 - 5	16 - 2	-	11 - 9	15 - 3	-	11 - 2	14 - 6
	SP	No.3	8 - 4	12 - 10	16 - 2	8 - 1	12 - 6	15 - 5	7 - 10	12 - 0	14 - 9	-	11 - 0	13 - 6	-	10 - 2	12 - 6
	SP	Stud	8 - 4	12 - 10	16 - 2	8 - 1	12 - 6	15 - 5	7 - 10	12 - 0	14 - 9	-	11 - 0	13 - 6	-	10 - 2	12 - 6
	SP	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SPF	SS	8 - 9	13 - 6	17 - 7	8 - 6	13 - 1	17 - 1	8 - 3	12 - 9	16 - 7	7 - 9	12 - 0	15 - 8	-	11 - 5	14 - 10
	SPF	No.1	8 - 6	13 - 2	17 - 2	8 - 3	12 - 10	16 - 8	8 - 0	12 - 5	16 - 2	-	11 - 9	15 - 3	-	11 - 2	14 - 6
	SPF	No.2	8 - 6	13 - 2	17 - 2	8 - 3	12 - 10	16 - 8	8 - 0	12 - 5	16 - 2	-	11 - 9	15 - 3	-	11 - 2	14 - 6
	SPF	No.3/Stud	8 - 1	12 - 6	16 - 3	7 - 10	12 - 1	15 - 9	-	11 - 9	15 - 4	-	11 - 2	14 - 6	-	10 - 7	13 - 5
	SPF	Standard	8 - 1	-	-	7 - 10	-	-	-	-	-	-	-	-	-	-	-

See Table 3.20B footnotes.

Table 3.20B6 Maximum Exterior Loadbearing¹ and Non-Loadbearing Stud Lengths for Common Lumber Species Resisting Interior Zone Wind Loads - Stud Deflection Limit = H/360
(Fully Sheathed with a Minimum of 3/8" Wood Structural Panels)^a

Exposure C
H/360
3/8" WSP

Wind Speed 3-second gust (mph) (See Figure 1.1)			150			160			170			180			195		
Stud Spacing (in.)	Species	Grade	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8	2x4	2x6	2x8
Maximum Allowable Stud Length (ft.-in.) ¹																	
12	DFL	SS	9-9	15-1	19-7	9-4	14-5	18-9	8-11	13-10	17-11	8-7	13-3	17-3	8-1	12-6	16-4
	DFL	No.1	9-4	14-6	18-10	9-0	13-10	18-0	8-7	13-3	17-3	8-3	12-9	16-7	7-10	12-1	15-8
	DFL	No.2	9-2	14-2	18-5	8-9	13-7	17-8	8-5	13-0	16-11	8-1	12-6	16-3	-	11-10	15-4
	DFL	No.3/Stud	8-9	13-6	17-7	8-4	12-11	16-10	8-0	12-5	16-2	-	11-11	15-3	-	11-3	14-0
	DFL	Standard	8-9	-	-	8-4	-	-	7-10	-	-	-	-	-	-	-	-
	HF	SS	9-2	14-2	18-5	8-9	13-7	17-8	8-5	13-0	16-11	8-1	12-6	16-3	-	11-10	15-4
	HF	No.1	9-0	13-10	18-0	8-7	13-3	17-3	8-3	12-8	16-6	7-11	12-3	15-11	-	11-7	15-0
	HF	No.2	8-6	13-2	17-2	8-2	12-7	16-5	7-10	12-1	15-9	-	11-7	15-1	-	11-0	14-3
	HF	No.3/Stud	8-4	12-10	16-8	7-11	12-3	15-11	-	11-9	15-3	-	11-4	14-8	-	10-8	13-8
	HF	Standard	8-4	-	-	7-11	-	-	-	-	-	-	-	-	-	-	-
	SP	SS	9-7	14-9	19-3	9-2	14-2	18-4	8-9	13-7	17-7	8-5	13-0	16-11	8-0	12-4	16-0
	SP	No.1	9-2	14-2	18-5	8-9	13-7	17-8	8-5	13-0	16-11	8-1	12-6	16-3	-	11-10	15-4
	SP	No.2	8-9	13-6	17-7	8-4	12-11	16-10	8-0	12-5	16-2	-	11-11	15-6	-	11-3	14-8
	SP	No.3	8-6	13-2	16-10	8-2	12-7	15-8	7-10	12-0	14-8	-	11-3	13-10	-	10-4	12-8
	SP	Stud	8-6	13-2	16-10	8-2	12-7	15-8	7-10	12-0	14-8	-	11-3	13-10	-	10-4	12-8
	SP	Standard	8-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SPF	SS	9-0	13-10	18-0	8-7	13-3	17-3	8-3	12-8	16-6	7-11	12-3	15-11	-	11-7	15-0
	SPF	No.1	8-9	13-6	17-7	8-4	12-11	16-10	8-0	12-5	16-2	-	11-11	15-6	-	11-3	14-8
	SPF	No.2	8-9	13-6	17-7	8-4	12-11	16-10	8-0	12-5	16-2	-	11-11	15-6	-	11-3	14-8
	SPF	No.3/Stud	8-4	12-10	16-8	7-11	12-3	15-11	-	11-9	15-3	-	11-4	14-8	-	10-8	13-8
	SPF	Standard	8-4	-	-	7-11	-	-	-	-	-	-	-	-	-	-	-
16	DFL	SS	8-10	13-7	17-9	8-5	13-0	16-11	8-1	12-6	16-3	7-9	12-0	15-7	-	11-4	14-9
	DFL	No.1	8-6	13-1	17-0	8-1	12-6	16-3	7-9	12-0	15-7	-	11-6	15-0	-	10-11	14-2
	DFL	No.2	8-4	12-10	16-8	7-11	12-3	15-11	-	11-9	15-3	-	11-4	14-8	-	10-8	13-11
	DFL	No.3/Stud	7-11	12-3	15-11	-	11-8	14-10	-	11-3	13-11	-	10-7	13-1	-	9-8	12-0
	DFL	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	HF	SS	8-4	12-10	16-8	7-11	12-3	15-11	-	11-9	15-3	-	11-4	14-8	-	10-8	13-11
	HF	No.1	8-1	12-7	16-4	7-9	12-0	15-7	-	11-6	14-11	-	11-1	14-4	-	10-5	13-7
	HF	No.2	-	11-11	15-6	-	11-5	14-10	-	10-11	14-3	-	10-6	13-8	-	9-11	12-11
	HF	No.3/Stud	-	11-7	15-1	-	11-1	14-5	-	10-8	13-6	-	10-3	12-9	-	9-5	11-8
	HF	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SP	SS	8-8	13-4	17-5	8-3	12-9	16-7	7-11	12-3	15-11	-	11-9	15-4	-	11-2	14-6
	SP	No.1	8-4	12-10	16-8	7-11	12-3	15-11	-	11-9	15-3	-	11-4	14-8	-	10-8	13-11
	SP	No.2	7-11	12-3	15-11	-	11-8	15-3	-	11-3	14-7	-	10-9	14-0	-	10-2	13-3
	SP	No.3	-	11-9	14-5	-	10-11	13-5	-	10-3	12-7	-	9-8	11-10	-	8-10	10-11
	SP	Stud	-	11-9	14-5	-	10-11	13-5	-	10-3	12-7	-	9-8	11-10	-	8-10	10-11
	SP	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SPF	SS	8-1	12-7	16-4	7-9	12-0	15-7	-	11-6	14-11	-	11-1	14-4	-	10-5	13-7
	SPF	No.1	7-11	12-3	15-11	-	11-8	15-3	-	11-3	14-7	-	10-9	14-0	-	10-2	13-3
	SPF	No.2	7-11	12-3	15-11	-	11-8	15-3	-	11-3	14-7	-	10-9	14-0	-	10-2	13-3
	SPF	No.3/Stud	-	11-7	15-1	-	11-1	14-5	-	10-8	13-6	-	10-3	12-9	-	9-5	11-8
	SPF	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	DFL	SS	-	11-10	15-4	-	11-4	14-8	-	10-10	14-1	-	10-5	13-6	-	9-10	12-10
	DFL	No.1	-	11-5	14-9	-	10-10	14-2	-	10-5	13-7	-	10-0	13-0	-	9-6	12-4
	DFL	No.2	-	11-2	14-6	-	10-8	13-10	-	10-2	13-3	-	9-10	12-9	-	9-3	12-1
	DFL	No.3/Stud	-	10-4	12-9	-	9-8	11-11	-	9-1	11-2	-	8-6	10-6	-	7-10	9-8
	DFL	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	HF	SS	-	11-2	14-6	-	10-8	13-10	-	10-2	13-3	-	9-10	12-9	-	9-3	12-1
	HF	No.1	-	10-11	14-2	-	10-5	13-6	-	10-0	13-0	-	9-7	12-6	-	9-1	11-9
	HF	No.2	-	10-4	13-6	-	9-11	12-10	-	9-6	12-4	-	9-1	11-10	-	8-8	11-3
	HF	No.3/Stud	-	10-1	12-5	-	9-5	11-7	-	8-10	10-11	-	8-4	10-3	-	-	9-5
	HF	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SP	SS	-	11-7	15-1	-	11-1	14-5	-	10-8	13-10	-	10-3	13-3	-	9-8	12-7
	SP	No.1	-	11-2	14-6	-	10-8	13-10	-	10-2	13-3	-	9-10	12-9	-	9-3	12-1
	SP	No.2	-	10-8	13-10	-	10-2	13-3	-	9-9	12-8	-	9-4	12-2	-	8-10	11-6
	SP	No.3	-	9-5	11-7	-	8-10	10-10	-	8-3	10-2	-	7-9	9-6	-	-	8-9
	SP	Stud	-	9-5	11-7	-	8-10	10-10	-	8-3	10-2	-	7-9	9-6	-	-	8-9
	SP	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SPF	SS	-	10-11	14-2	-	10-5	13-6	-	10-0	13-0	-	9-7	12-6	-	9-1	11-9
	SPF	No.1	-	10-8	13-10	-	10-2	13-3	-	9-9	12-8	-	9-4	12-2	-	8-10	11-6
	SPF	No.2	-	10-8	13-10	-	10-2	13-3	-	9-9	12-8	-	9-4	12-2	-	8-10	11-6
	SPF	No.3/Stud	-	10-1	12-5	-	9-5	11-7	-	8-10	10-11	-	8-4	10-3	-	-	9-5
	SPF	Standard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

See Table 3.20B footnotes.

Table 3.20B Footnotes

- † Allowable stud length exceeds 20 feet.
- †† Maximum stud length for 2x4's is limited to 14 feet per Table 3.20C.
- Lumber grade not available or allowable stud length is less than 7 ft - 9 in. (for 8 ft wall height).
- a Maximum stud lengths in Table 3.20B are based on interior zone loads and assume that all studs are covered on the inside with a minimum of 1/2 inch gypsum wallboard, attached in accordance with minimum building code requirements and sheathed on the exterior side with a minimum of 3/8 inch wood structural panel sheathing with all panel joints occurring over studs or blocking and attached using a minimum 8d common nails spaced a maximum of 6" on center at panel edges and 12" on center at intermediate framing members. To address additional end zone loading requirements, end zone stud spacings shall be multiplied by 0.80 for framing located within 4 feet of corners. The additional bending capacity provided by the reduced stud spacing is assumed to be sufficient to resist the additional end zone loading requirements.
- 1 Exterior studs shall be limited to a height between horizontal supports per Table 3.20C. DFL = Douglas Fir-Larch, HF = Hem-Fir, SP = Southern Pine, SPF = Spruce-Pine-Fir.

Table 3.20C Size, Height, and Spacing Limits for Wood Studs^{1, 2}

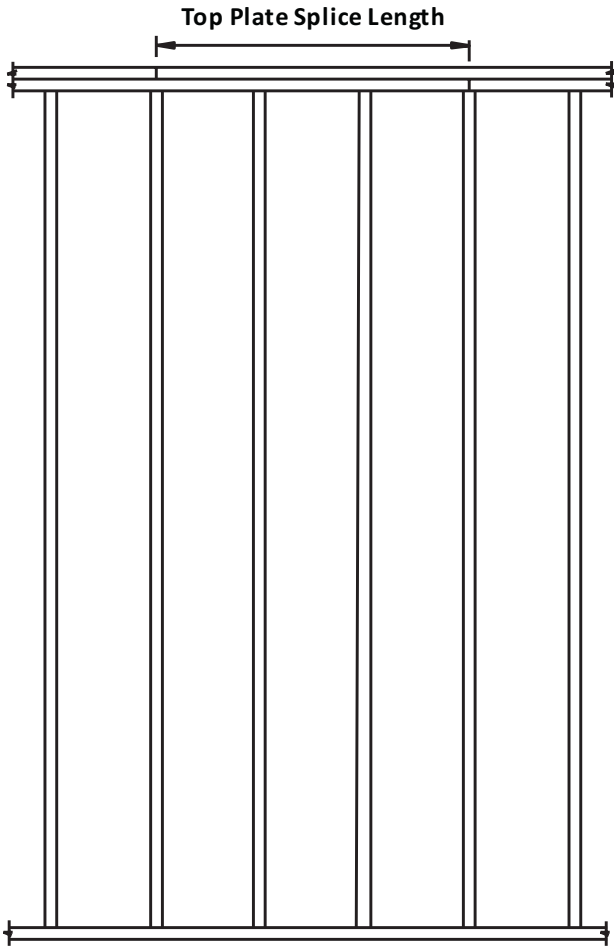
	2x3	2x4	2x5	2x6	2x8
Loadbearing Studs Supporting	Maximum Unsupported Stud Length (ft)				
	-	10	10	10	10
	Maximum Stud Spacing (in. o.c.)				
Roof & Ceiling Only	-	24	24	24	24
1 Floor Only	-	24	24	24	24
Roof, Ceiling, & 1 Floor Only	-	16	16	24	24
2 Floors Only	-	16	16	24	24
Roof, Ceiling, & 2 Floors	-	-	-	16	24
Non-loadbearing Studs	Maximum Unsupported Stud Length (ft)				
	10	14	16	20	20
	Maximum Stud Spacing (in. o.c.)				
	16	24	24	24	24

- 1 Maximum stud lengths in Tables 3.20A and B are based on wind loads. For dead and live loads, stud lengths shall be limited to the requirements in this table.
- 2 Habitable attics shall be considered an additional floor for purposes of determining gravity and seismic loads in accordance with Section 3.1.3.1.

Table 3.21 Top Plate Requirements for Wind Exposures B & C

Building Dimension of Wall Containing Top Plate Splice (ft)	Numer of 16d Common Nails per Each Side of Splice ^{1,2,3}
12	5
16	6
20	8
24	10
28	11
32	13
36	14
40	16
50	20
60	24
70	28
80	32

- 1 Tabulated splice top plate to top plate connection shall not have more than 2-16d nails per 6".
- 2 Tabulated splice assume a building located in Exposure B or C.
- 3 Top plates shall be a minimum of stud grade material.

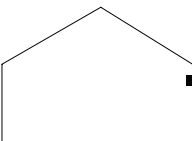


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Table 3.22A1 Laterally Unsupported (Dropped) Header Spans for Exterior Loadbearing Walls

(Supporting a Roof and Ceiling)

Dead Load Assumptions: Roof/Ceiling Assembly = 20 psf, $L/\Delta_{LL}=240$ **Dropped Exterior**

		Roof Live Load			Ground Snow Load									
		20 psf			30 psf			50 psf			70 psf			
		Building Width (ft)												
		12	24	36	12	24	36	12	24	36	12	24	36	
Headers Supporting	Size	Maximum Header/Girder Spans (ft-in.) for Common Lumber Species ^{1,3,4}												
	Roof and Ceiling	1-2x6	4 - 4	3 - 4	2 - 9	3 - 11	3 - 0	2 - 7	3 - 4	2 - 7	2 - 2	3 - 0	2 - 4	2 - 0
	1-2x8	5 - 3	4 - 1	3 - 6	4 - 10	3 - 9	3 - 3	4 - 2	3 - 3	2 - 9	3 - 9	2 - 11	2 - 6	
	1-2x10	6 - 0	4 - 9	4 - 0	5 - 7	4 - 5	3 - 9	4 - 10	3 - 10	3 - 3	4 - 4	3 - 5	2 - 1	
	1-2x12	6 - 6	5 - 3	4 - 7	6 - 2	5 - 0	4 - 4	5 - 5	4 - 5	3 - 9	4 - 11	4 - 0	3 - 4	
	2-2x4	4 - 4	3 - 3	2 - 9	3 - 11	3 - 0	2 - 7	3 - 4	2 - 7	2 - 2	3 - 0	2 - 4	1 - 11	
	2-2x6	6 - 2	4 - 10	4 - 1	5 - 8	4 - 5	3 - 9	4 - 11	3 - 10	3 - 3	4 - 5	3 - 5	2 - 11	
	2-2x8	7 - 2	5 - 9	4 - 11	6 - 9	5 - 5	4 - 8	5 - 11	4 - 8	4 - 0	5 - 4	4 - 3	3 - 7	
	2-2x10	7 - 10	6 - 4	5 - 6	7 - 6	6 - 1	5 - 3	6 - 7	5 - 4	4 - 8	6 - 0	4 - 10	4 - 2	
	2-2x12	8 - 5	6 - 10	6 - 0	8 - 1	6 - 7	5 - 10	7 - 2	5 - 11	5 - 2	6 - 6	5 - 5	4 - 9	
	3-2x8	8 - 5	6 - 10	5 - 11	8 - 0	6 - 6	5 - 7	7 - 1	5 - 8	4 - 11	6 - 5	5 - 2	4 - 5	
	3-2x10	9 - 2	7 - 5	6 - 6	8 - 9	7 - 2	6 - 3	7 - 9	6 - 4	5 - 6	7 - 1	5 - 9	5 - 0	
	3-2x12	9 - 9	8 - 0	7 - 0	9 - 4	7 - 8	6 - 9	8 - 4	6 - 10	6 - 1	7 - 8	6 - 3	5 - 7	
	4-2x8	9 - 4	7 - 7	6 - 8	8 - 11	7 - 3	6 - 4	7 - 11	6 - 5	5 - 7	7 - 2	5 - 10	5 - 0	
	4-2x10	10 - 2	8 - 3	7 - 3	9 - 8	8 - 0	7 - 0	8 - 8	7 - 1	6 - 3	7 - 11	6 - 6	5 - 8	
	4-2x12	10 - 10	8 - 10	7 - 9	10 - 4	8 - 7	7 - 6	9 - 3	7 - 8	6 - 9	8 - 6	7 - 0	6 - 2	
	Size	Maximum Header/Girder Spans (ft-in.) for Glued Laminated Timber Beams ^{2,3,4}												
	3.125x5.500	8 - 5	6 - 10	5 - 8	8 - 1	6 - 3	5 - 3	7 - 0	5 - 4	4 - 6	6 - 2	4 - 9	4 - 0	
	3.125x6.875	10 - 7	8 - 5	7 - 1	10 - 1	7 - 9	6 - 7	8 - 8	6 - 8	5 - 7	7 - 8	5 - 11	5 - 0	
	3.125x8.250	12 - 8	10 - 1	8 - 5	12 - 0	9 - 3	7 - 10	10 - 3	8 - 0	6 - 9	9 - 2	7 - 1	6 - 0	
	3.125x9.625	14 - 9	11 - 6	9 - 9	13 - 8	10 - 8	9 - 0	11 - 10	9 - 2	7 - 9	10 - 7	8 - 3	6 - 11	
3.125x11.000	16 - 1	12 - 10	10 - 11	15 - 1	12 - 0	10 - 2	13 - 2	10 - 4	8 - 10	11 - 10	9 - 3	7 - 10		
3.125x12.375	17 - 1	13 - 9	11 - 11	16 - 2	13 - 1	11 - 3	14 - 3	11 - 5	9 - 9	12 - 11	10 - 3	8 - 9		
3.125x13.750	17 - 10	14 - 7	12 - 8	17 - 0	13 - 11	12 - 1	15 - 1	12 - 3	10 - 7	13 - 9	11 - 1	9 - 6		
3.125x15.125	18 - 7	15 - 2	13 - 3	17 - 9	14 - 7	12 - 9	15 - 9	12 - 11	11 - 3	14 - 5	11 - 9	10 - 2		
3.125x16.500	19 - 2	15 - 8	13 - 9	18 - 4	15 - 1	13 - 3	16 - 4	13 - 5	11 - 9	15 - 0	12 - 3	10 - 9		
3.125x17.875	19 - 8	16 - 2	14 - 2	18 - 10	15 - 7	13 - 8	16 - 10	13 - 11	12 - 2	15 - 5	12 - 9	11 - 2		
3.125x19.250	20-0†	16 - 7	14 - 6	19 - 4	16 - 0	14 - 1	17 - 3	14 - 3	12 - 7	15 - 10	13 - 1	11 - 6		
3.125x20.625	20-0†	16 - 11	14 - 11	19 - 9	16 - 4	14 - 5	17 - 8	14 - 7	12 - 11	16 - 3	13 - 5	11 - 10		
3.125x22.000	20-0†	17 - 3	15 - 2	20-0†	16 - 8	14 - 9	18 - 1	14 - 11	13 - 2	16 - 7	13 - 9	12 - 1		
3.125x23.375	20-0†	17 - 7	15 - 6	20-0†	17 - 0	15 - 0	18 - 5	15 - 3	13 - 5	16 - 11	14 - 0	12 - 5		
3.125x24.750	20-0†	17 - 11	15 - 9	20-0†	17 - 4	15 - 4	18 - 9	15 - 6	13 - 9	17 - 2	14 - 3	12 - 8		
5.125x5.500	10 - 0	8 - 3	7 - 4	9 - 7	8 - 0	6 - 9	8 - 7	6 - 11	5 - 9	7 - 11	6 - 1	5 - 2		
5.125x6.875	12 - 5	10 - 4	9 - 2	12 - 0	10 - 0	8 - 5	10 - 9	8 - 7	7 - 3	9 - 11	7 - 8	6 - 5		
5.125x8.250	14 - 11	12 - 5	10 - 11	14 - 4	12 - 0	10 - 1	12 - 11	10 - 3	8 - 8	11 - 10	9 - 2	7 - 8		
5.125x9.625	17 - 5	14 - 5	12 - 9	16 - 9	13 - 11	11 - 9	15 - 1	12 - 0	10 - 1	13 - 9	10 - 8	9 - 0		
5.125x11.000	19 - 11	16 - 6	14 - 6	19 - 2	15 - 10	13 - 5	17 - 3	13 - 8	11 - 6	15 - 8	12 - 2	10 - 3		
5.125x12.375	20-0†	18 - 7	16 - 2	20-0†	17 - 9	15 - 0	19 - 5	15 - 3	12 - 11	17 - 7	13 - 7	11 - 6		
5.125x13.750	20-0†	20-0†	17 - 10	20-0†	19 - 7	16 - 7	20-0†	16 - 10	14 - 3	19 - 4	15 - 1	12 - 9		
5.125x15.125	20-0†	20-0†	19 - 5	20-0†	20-0†	18 - 1	20-0†	18 - 5	15 - 7	20-0†	16 - 5	13 - 11		
5.125x16.500	20-0†	20-0†	20-0†	20-0†	20-0†	19 - 6	20-0†	19 - 10	16 - 11	20-0†	17 - 9	15 - 1		
5.125x17.875	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	18 - 1	20-0†	19 - 0	16 - 3		
5.125x19.250	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	19 - 3	20-0†	20-0†	17 - 3		
5.125x20.625	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	18 - 3		
5.125x22.000	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	19 - 1		
5.125x23.375	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	19 - 10		
5.125x24.750	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†		

† Spans are limited to 20 feet in length.

1 Tabulated spans are based on the lowest F_b , F_v , and E for #2 Grade Douglas Fir-Larch, Hem-Fir, Southern Pine, and Spruce-Pine-Fir. For #3 Grade lumber, spans shall be multiplied by 0.75.2 Tabulated spans assume 20F combination glulam with a minimum $F_b=2,000$ psi, $F_v=210$ psi, and $E=1,500,000$ psi.

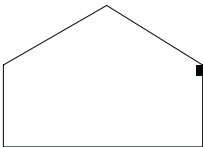
3 The number of jack studs required at each end of the header shall be determined from Table 3.22F.

4 Spans checked for live load deflection only.

Table 3.22A2 Laterally Supported (Raised) Header Spans for Exterior Loadbearing Walls

(Supporting a Roof and Ceiling)

Dead Load Assumptions: Roof/Ceiling Assembly = 20 psf, $L/\Delta_{LL}=240$ **Raised Exterior**

		Roof Live Load			Ground Snow Load								
		20 psf			30 psf			50 psf			70 psf		
		Building Width (ft)											
		12	24	36	12	24	36	12	24	36	12	24	36
Headers Supporting	Size	Maximum Header/Girder Spans (ft-in.) for Common Lumber Species ^{1,3,4}											
	1-2x6	4 - 5	3 - 4	2 - 10	4 - 0	3 - 1	2 - 7	3 - 5	2 - 8	2 - 3	3 - 0	2 - 4	2 - 0
	1-2x8	5 - 8	4 - 3	3 - 7	5 - 1	3 - 11	3 - 3	4 - 4	3 - 4	2 - 10	3 - 10	3 - 0	2 - 6
	1-2x10	6 - 8	5 - 1	4 - 3	6 - 0	4 - 8	3 - 11	5 - 2	4 - 0	3 - 4	4 - 7	3 - 6	3 - 0
	1-2x12	7 - 10	5 - 11	5 - 0	7 - 1	5 - 5	4 - 7	6 - 1	4 - 8	3 - 11	5 - 5	4 - 2	3 - 6
	2-2x4	4 - 5	3 - 4	2 - 9	4 - 0	3 - 1	2 - 7	3 - 5	2 - 7	2 - 2	3 - 0	2 - 4	2 - 0
	2-2x6	6 - 7	5 - 0	4 - 2	6 - 0	4 - 7	3 - 10	5 - 1	3 - 11	3 - 3	4 - 6	3 - 6	2 - 11
	2-2x8	8 - 4	6 - 4	5 - 3	7 - 7	5 - 9	4 - 10	6 - 5	5 - 0	4 - 2	5 - 9	4 - 5	3 - 9
	2-2x10	9 - 11	7 - 6	6 - 3	9 - 0	6 - 10	5 - 9	7 - 8	5 - 11	4 - 11	6 - 9	5 - 3	4 - 5
	2-2x12	11 - 8	8 - 10	7 - 4	10 - 7	8 - 1	6 - 10	9 - 0	6 - 11	5 - 10	8 - 0	6 - 2	5 - 2
	3-2x8	10 - 5	7 - 11	6 - 7	9 - 5	7 - 3	6 - 1	8 - 1	6 - 3	5 - 3	7 - 2	5 - 6	4 - 8
	3-2x10	12 - 5	9 - 4	7 - 10	11 - 3	8 - 7	7 - 3	9 - 7	7 - 4	6 - 2	8 - 6	6 - 7	5 - 6
	3-2x12	14 - 7	11 - 0	9 - 3	13 - 2	10 - 1	8 - 6	11 - 3	8 - 8	7 - 4	10 - 0	7 - 9	6 - 6
	4-2x8	12 - 1	9 - 1	7 - 8	10 - 11	8 - 4	7 - 0	9 - 4	7 - 2	6 - 0	8 - 3	6 - 4	5 - 4
	4-2x10	14 - 4	10 - 10	9 - 1	12 - 11	9 - 11	8 - 4	11 - 1	8 - 6	7 - 2	9 - 10	7 - 7	6 - 4
	4-2x12	16 - 10	12 - 9	10 - 8	15 - 3	11 - 8	9 - 10	13 - 0	10 - 0	8 - 5	11 - 7	8 - 11	7 - 6
Size	Maximum Header/Girder Spans (ft-in.) for Glued Laminated Timber Beams ^{2,3,4}												
3.125x5.500	8 - 5	6 - 10	5 - 9	8 - 1	6 - 3	5 - 3	7 - 0	5 - 5	4 - 6	6 - 2	4 - 9	4 - 0	
3.125x6.875	10 - 7	8 - 7	7 - 2	10 - 2	7 - 10	6 - 7	8 - 9	6 - 9	5 - 8	7 - 9	6 - 0	5 - 0	
3.125x8.250	12 - 8	10 - 3	8 - 7	12 - 2	9 - 5	7 - 11	10 - 6	8 - 1	6 - 10	9 - 4	7 - 2	6 - 1	
3.125x9.625	14 - 9	12 - 0	10 - 0	14 - 2	11 - 0	9 - 3	12 - 3	9 - 5	7 - 11	10 - 10	8 - 4	7 - 1	
3.125x11.000	16 - 11	13 - 8	11 - 6	16 - 3	12 - 7	10 - 7	14 - 0	10 - 9	9 - 1	12 - 5	9 - 7	8 - 1	
3.125x12.375	19 - 0	15 - 5	12 - 11	18 - 3	14 - 1	11 - 11	15 - 9	12 - 1	10 - 2	14 - 0	10 - 9	9 - 1	
3.125x13.750	20-0†	17 - 1	14 - 4	20-0†	15 - 8	13 - 2	17 - 6	13 - 5	11 - 4	15 - 6	12 - 0	10 - 1	
3.125x15.125	20-0†	18 - 10	15 - 9	20-0†	17 - 3	14 - 6	19 - 3	14 - 10	12 - 5	17 - 1	13 - 2	11 - 1	
3.125x16.500	20-0†	20-0†	17 - 2	20-0†	18 - 10	15 - 10	20-0†	16 - 2	13 - 7	18 - 7	14 - 4	12 - 1	
3.125x17.875	20-0†	20-0†	18 - 7	20-0†	20-0†	17 - 2	20-0†	17 - 6	14 - 9	20-0†	15 - 7	13 - 1	
3.125x19.250	20-0†	20-0†	20-0†	20-0†	20-0†	18 - 6	20-0†	18 - 10	15 - 10	20-0†	16 - 9	14 - 1	
3.125x20.625	20-0†	20-0†	20-0†	20-0†	20-0†	19 - 10	20-0†	20-0†	17 - 0	20-0†	17 - 11	15 - 1	
3.125x22.000	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	18 - 1	20-0†	19 - 1	16 - 1	
3.125x23.375	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	19 - 2	20-0†	20-0†	17 - 1	
3.125x24.750	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	18 - 1	
5.125x5.500	10 - 0	8 - 3	7 - 4	9 - 7	8 - 0	6 - 9	8 - 7	6 - 11	5 - 10	7 - 11	6 - 2	5 - 2	
5.125x6.875	12 - 5	10 - 4	9 - 2	12 - 0	10 - 0	8 - 5	10 - 9	8 - 7	7 - 3	9 - 11	7 - 8	6 - 5	
5.125x8.250	14 - 11	12 - 5	11 - 0	14 - 4	12 - 0	10 - 2	12 - 11	10 - 4	8 - 8	11 - 11	9 - 2	7 - 9	
5.125x9.625	17 - 5	14 - 5	12 - 10	16 - 9	14 - 0	11 - 10	15 - 1	12 - 1	10 - 2	13 - 11	10 - 9	9 - 0	
5.125x11.000	19 - 11	16 - 6	14 - 8	19 - 2	16 - 0	13 - 6	17 - 3	13 - 9	11 - 7	15 - 11	12 - 3	10 - 4	
5.125x12.375	20-0†	18 - 7	16 - 6	20-0†	18 - 0	15 - 3	19 - 5	15 - 6	13 - 1	17 - 11	13 - 9	11 - 7	
5.125x13.750	20-0†	20-0†	18 - 4	20-0†	20-0†	16 - 11	20-0†	17 - 3	14 - 6	19 - 10	15 - 4	12 - 11	
5.125x15.125	20-0†	20-0†	20 - 0	20-0†	20-0†	18 - 6	20-0†	18 - 10	15 - 11	20-0†	16 - 10	14 - 2	
5.125x16.500	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	17 - 3	20-0†	18 - 3	15 - 6	
5.125x17.875	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	18 - 7	20-0†	19 - 7	16 - 8	
5.125x19.250	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	19 - 11	20-0†	20-0†	17 - 9	
5.125x20.625	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	18 - 11	
5.125x22.000	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	
5.125x23.375	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	
5.125x24.750	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	

† Spans are limited to 20 feet in length.

1 Tabulated spans are based on the lowest F_b , F_v , and E for #2 Grade Douglas Fir-Larch, Hem-Fir, Southern Pine, and Spruce-Pine-Fir. For #3 Grade lumber, spans shall be multiplied by 0.75.2 Tabulated spans assume 20F combination glulam with a minimum $F_b=2,000$ psi, $F_v=210$ psi, and $E=1,500,000$ psi.

3 The number of jack studs required at each end of the header shall be determined from Table 3.22F.

4 Spans checked for live load deflection only.

Table 3.22B1 Laterally Unsupported (Dropped) Header Spans for Exterior Loadbearing Walls

(Supporting a Roof, Ceiling, and One Center Bearing Floor) Dead Load Assumptions:

Roof/Ceiling Assembly = 20 psf, Floor Assembly = 10psf, Wall Assembly = 121plf, $L/\Delta_{LL}=360$ **Dropped
Exterior**

		Roof Live Load						Ground Snow Load					
		20 psf			30 psf			50 psf			70 psf		
		Building Width (ft)											
		12	24	36	12	24	36	12	24	36	12	24	36
		Maximum Header/Girder Spans (ft-in.) for Common Lumber Species ^{1,3,4}											
Headers Supporting	Size	Maximum Header/Girder Spans (ft-in.) for Common Lumber Species ^{1,3,4}											
Roof, Ceiling, and One Center Bearing Floor	1-2x6	3 - 5	2 - 8	2 - 3	3 - 2	2 - 6	2 - 2	2 - 11	2 - 4	2 - 0	2 - 8	2 - 2	1 - 10
	1-2x8	4 - 3	3 - 4	2 - 10	4 - 0	3 - 2	2 - 8	3 - 8	2 - 11	2 - 6	3 - 5	2 - 8	2 - 4
	1-2x10	4 - 10	3 - 11	3 - 4	4 - 8	3 - 9	3 - 2	4 - 4	3 - 5	2 - 11	4 - 0	3 - 2	2 - 9
	1-2x12	5 - 5	4 - 5	3 - 10	5 - 3	4 - 3	3 - 8	4 - 10	3 - 11	3 - 5	4 - 6	3 - 8	3 - 2
	2-2x4	3 - 4	2 - 8	2 - 3	3 - 2	2 - 6	2 - 2	2 - 11	2 - 4	2 - 0	2 - 8	2 - 2	1 - 10
	2-2x6	4 - 11	3 - 11	3 - 4	4 - 8	3 - 8	3 - 2	4 - 4	3 - 5	2 - 11	4 - 0	3 - 2	2 - 8
	2-2x8	5 - 11	4 - 10	4 - 2	5 - 8	4 - 7	3 - 11	5 - 3	4 - 3	3 - 8	4 - 10	3 - 11	3 - 5
	2-2x10	6 - 7	5 - 5	4 - 9	6 - 4	5 - 3	4 - 7	5 - 11	4 - 10	4 - 3	5 - 6	4 - 6	3 - 11
	2-2x12	7 - 1	5 - 11	5 - 3	6 - 10	5 - 9	5 - 1	6 - 5	5 - 5	4 - 9	6 - 1	5 - 1	4 - 6
	3-2x8	7 - 0	5 - 9	5 - 0	6 - 9	5 - 7	4 - 10	6 - 4	5 - 2	4 - 5	5 - 11	4 - 10	4 - 2
	3-2x10	7 - 8	6 - 4	5 - 7	7 - 5	6 - 2	5 - 5	7 - 0	5 - 9	5 - 1	6 - 6	5 - 5	4 - 9
	3-2x12	8 - 2	6 - 10	6 - 1	8 - 0	6 - 8	6 - 0	7 - 6	6 - 3	5 - 7	7 - 0	5 - 11	5 - 3
	4-2x8	7 - 10	6 - 6	5 - 8	7 - 7	6 - 3	5 - 6	7 - 1	5 - 10	5 - 1	6 - 7	5 - 5	4 - 9
	4-2x10	8 - 6	7 - 1	6 - 3	8 - 4	6 - 11	6 - 1	7 - 10	6 - 6	5 - 8	7 - 4	6 - 1	5 - 4
	4-2x12	9 - 1	7 - 7	6 - 9	8 - 11	7 - 5	6 - 7	8 - 4	7 - 0	6 - 2	7 - 10	6 - 7	5 - 10
		Size	Maximum Header/Girder Spans (ft-in.) for Glued Laminated Timber Beams ^{2,3,4}										
	3.125x5.500	6 - 11	5 - 5	4 - 8	6 - 7	5 - 2	4 - 5	6 - 1	4 - 9	4 - 1	5 - 7	4 - 5	3 - 9
	3.125x6.875	8 - 8	6 - 10	5 - 9	8 - 2	6 - 5	5 - 6	7 - 6	5 - 11	5 - 1	6 - 11	5 - 6	4 - 8
	3.125x8.250	10 - 4	8 - 1	6 - 11	9 - 9	7 - 8	6 - 7	9 - 0	7 - 1	6 - 0	8 - 3	6 - 7	5 - 7
	3.125x9.625	11 - 11	9 - 5	8 - 0	11 - 3	8 - 11	7 - 7	10 - 4	8 - 2	7 - 0	9 - 6	7 - 7	6 - 6
	3.125x11.000	13 - 2	10 - 7	9 - 1	12 - 7	10 - 1	8 - 7	11 - 8	9 - 3	7 - 11	10 - 9	8 - 7	7 - 5
	3.125x12.375	14 - 2	11 - 7	10 - 0	13 - 8	11 - 1	9 - 7	12 - 9	10 - 3	8 - 10	11 - 9	9 - 6	8 - 2
	3.125x13.750	15 - 0	12 - 4	10 - 9	14 - 6	11 - 11	10 - 4	13 - 7	11 - 1	9 - 7	12 - 7	10 - 4	9 - 0
	3.125x15.125	15 - 7	12 - 11	11 - 5	15 - 2	12 - 7	11 - 0	14 - 3	11 - 9	10 - 3	13 - 3	11 - 0	9 - 7
	3.125x16.500	16 - 1	13 - 5	11 - 10	15 - 8	13 - 1	11 - 7	14 - 9	12 - 3	10 - 9	13 - 10	11 - 6	10 - 2
	3.125x17.875	16 - 7	13 - 10	12 - 3	16 - 2	13 - 7	12 - 0	15 - 3	12 - 8	11 - 3	14 - 3	12 - 0	10 - 7
	3.125x19.250	17 - 0	14 - 3	12 - 7	16 - 7	13 - 11	12 - 4	15 - 7	13 - 1	11 - 7	14 - 8	12 - 4	10 - 11
	3.125x20.625	17 - 4	14 - 7	12 - 11	17 - 0	14 - 3	12 - 8	16 - 0	13 - 5	11 - 11	15 - 0	12 - 8	11 - 3
	3.125x22.000	17 - 9	14 - 10	13 - 2	17 - 4	14 - 7	13 - 0	16 - 4	13 - 8	12 - 2	15 - 4	12 - 11	11 - 7
	3.125x23.375	18 - 1	15 - 2	13 - 6	17 - 8	14 - 11	13 - 3	16 - 8	14 - 0	12 - 6	15 - 8	13 - 3	11 - 10
	3.125x24.750	18 - 5	15 - 5	13 - 9	18 - 0	15 - 2	13 - 6	17 - 0	14 - 3	12 - 9	15 - 11	13 - 6	12 - 1
	5.125x5.500	8 - 6	7 - 0	5 - 11	8 - 4	6 - 8	5 - 8	7 - 9	6 - 1	5 - 2	7 - 0	5 - 8	4 - 10
	5.125x6.875	10 - 7	8 - 9	7 - 5	10 - 5	8 - 4	7 - 1	9 - 8	7 - 8	6 - 6	8 - 9	7 - 1	6 - 0
	5.125x8.250	12 - 8	10 - 6	8 - 11	12 - 6	10 - 0	8 - 6	11 - 7	9 - 2	7 - 9	10 - 5	8 - 5	7 - 3
	5.125x9.625	14 - 10	12 - 2	10 - 4	14 - 6	11 - 7	9 - 10	13 - 6	10 - 8	9 - 1	12 - 2	9 - 10	8 - 5
	5.125x11.000	16 - 11	13 - 11	11 - 10	16 - 7	13 - 2	11 - 3	15 - 5	12 - 2	10 - 4	13 - 11	11 - 3	9 - 7
	5.125x12.375	19 - 1	15 - 7	13 - 3	18 - 8	14 - 10	12 - 7	17 - 3	13 - 7	11 - 7	15 - 8	12 - 7	10 - 9
	5.125x13.750	20-0†	17 - 3	14 - 8	20-0†	16 - 4	14 - 0	19 - 0	15 - 1	12 - 10	17 - 5	13 - 11	11 - 11
	5.125x15.125	20-0†	18 - 10	16 - 1	20-0†	17 - 10	15 - 3	20-0†	16 - 5	14 - 0	19 - 0	15 - 3	13 - 1
	5.125x16.500	20-0†	20-0†	17 - 5	20-0†	19 - 3	16 - 6	20-0†	17 - 9	15 - 3	20-0†	16 - 6	14 - 2
	5.125x17.875	20-0†	20-0†	18 - 8	20-0†	20-0†	17 - 9	20-0†	19 - 0	16 - 4	20-0†	17 - 8	15 - 3
	5.125x19.250	20-0†	20-0†	19 - 8	20-0†	20-0†	18 - 10	20-0†	20-0†	17 - 5	20-0†	18 - 10	16 - 3
	5.125x20.625	20-0†	20-0†	20-0†	20-0†	20-0†	19 - 10	20-0†	20-0†	18 - 4	20-0†	19 - 9	17 - 2
	5.125x22.000	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	19 - 3	20-0†	20-0†	18 - 0
	5.125x23.375	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20 - 0	20-0†	20-0†	18 - 9
	5.125x24.750	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	19 - 5

† Spans are limited to 20 feet in length.

1 Tabulated spans are based on the lowest F_b , F_v , and E for #2 Grade Douglas Fir-Larch, Hem-Fir, Southern Pine, and Spruce-Pine-Fir. For #3 Grade lumber, spans shall be multiplied by 0.75.2 Tabulated spans assume 20F combination glulam with a minimum $F_b=2,000$ psi, $F_v=210$ psi, and $E=1,500,000$ psi.

3 The number of jack studs required at each end of the header shall be determined from Table 3.22F.

4 Spans checked for live load deflection only.

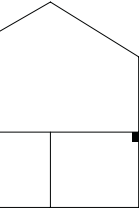
Table 3.22B2 Laterally Supported (Raised) Header Spans for Exterior Loadbearing Walls

(Supporting a Roof, Ceiling, and One Center Bearing Floor) Dead Load Assumptions:

Roof/Ceiling Assembly = 20 psf, Floor Assembly = 10psf, Wall Assembly = 121plf, $L/\Delta_{LL}=360$ **Raised Exterior**

3

PRESCRIPTIVE DESIGN

		Roof Live Load			Ground Snow Load								
		20 psf			30 psf			50 psf			70 psf		
		Building Width (ft)											
		12	24	36	12	24	36	12	24	36	12	24	36
Headers Supporting	Size	Maximum Header/Girder Spans (ft-in.) for Common Lumber Species ^{1,3,4}											
	1-2x6	3 - 5	2 - 8	2 - 3	3 - 3	2 - 7	2 - 2	3 - 0	2 - 4	2 - 0	2 - 9	2 - 2	1 - 10
	1-2x8	4 - 4	3 - 5	2 - 11	4 - 1	3 - 3	2 - 9	3 - 9	3 - 0	2 - 6	3 - 6	2 - 9	2 - 4
	1-2x10	5 - 2	4 - 0	3 - 5	4 - 11	3 - 10	3 - 3	4 - 6	3 - 6	3 - 0	4 - 1	3 - 3	2 - 9
	1-2x12	6 - 1	4 - 9	4 - 0	5 - 9	4 - 6	3 - 10	5 - 3	4 - 2	3 - 6	4 - 10	3 - 10	3 - 3
	2-2x4	3 - 5	2 - 8	2 - 3	3 - 3	2 - 6	2 - 2	3 - 0	2 - 4	2 - 0	2 - 8	2 - 2	1 - 10
	2-2x6	5 - 1	4 - 0	3 - 5	4 - 10	3 - 9	3 - 3	4 - 5	3 - 6	3 - 0	4 - 1	3 - 3	2 - 9
	2-2x8	6 - 5	5 - 1	4 - 3	6 - 1	4 - 10	4 - 1	5 - 7	4 - 5	3 - 9	5 - 2	4 - 1	3 - 6
	2-2x10	7 - 8	6 - 0	5 - 1	7 - 3	5 - 8	4 - 10	6 - 8	5 - 3	4 - 5	6 - 1	4 - 10	4 - 1
	2-2x12	9 - 0	7 - 1	6 - 0	8 - 6	6 - 8	5 - 8	7 - 10	6 - 2	5 - 3	7 - 2	5 - 8	4 - 10
	3-2x8	8 - 1	6 - 4	5 - 4	7 - 8	6 - 0	5 - 1	7 - 0	5 - 6	4 - 8	6 - 5	5 - 1	4 - 4
	3-2x10	9 - 7	7 - 6	6 - 4	9 - 1	7 - 2	6 - 1	8 - 4	6 - 7	5 - 7	7 - 8	6 - 1	5 - 2
	3-2x12	11 - 3	8 - 10	7 - 6	10 - 8	8 - 5	7 - 2	9 - 10	7 - 8	6 - 7	9 - 0	7 - 1	6 - 1
	4-2x8	9 - 4	7 - 4	6 - 2	8 - 10	6 - 11	5 - 11	8 - 1	6 - 4	5 - 5	7 - 5	5 - 11	5 - 0
	4-2x10	11 - 0	8 - 8	7 - 4	10 - 6	8 - 3	7 - 0	9 - 8	7 - 7	6 - 5	8 - 10	7 - 0	6 - 0
	4-2x12	13 - 0	10 - 2	8 - 8	12 - 4	9 - 8	8 - 3	11 - 4	8 - 11	7 - 7	10 - 4	8 - 3	7 - 0
		Size	Maximum Header/Girder Spans (ft-in.) for Glued Laminated Timber Beams ^{2,3,4}										
	3.125x5.500	7 - 0	5 - 6	4 - 8	6 - 7	5 - 3	4 - 5	6 - 1	4 - 9	4 - 1	5 - 7	4 - 5	3 - 9
	3.125x6.875	8 - 9	6 - 10	5 - 10	8 - 3	6 - 6	5 - 6	7 - 7	6 - 0	5 - 1	7 - 0	5 - 6	4 - 9
	3.125x8.250	10 - 6	8 - 3	7 - 0	9 - 11	7 - 10	6 - 8	9 - 2	7 - 2	6 - 1	8 - 4	6 - 8	5 - 8
	3.125x9.625	12 - 3	9 - 7	8 - 2	11 - 7	9 - 1	7 - 9	10 - 8	8 - 4	7 - 1	9 - 9	7 - 9	6 - 7
	3.125x11.000	14 - 0	10 - 11	9 - 4	13 - 3	10 - 5	8 - 10	12 - 2	9 - 7	8 - 1	11 - 2	8 - 10	7 - 6
	3.125x12.375	15 - 8	12 - 4	10 - 6	14 - 11	11 - 9	10 - 0	13 - 8	10 - 9	9 - 2	12 - 6	9 - 11	8 - 6
	3.125x13.750	17 - 5	13 - 8	11 - 8	16 - 7	13 - 0	11 - 1	15 - 3	12 - 0	10 - 2	13 - 11	11 - 1	9 - 5
	3.125x15.125	19 - 2	15 - 1	12 - 9	18 - 3	14 - 4	12 - 2	16 - 9	13 - 2	11 - 2	15 - 4	12 - 2	10 - 4
	3.125x16.500	20-0†	16 - 5	14 - 0	19 - 10	15 - 8	13 - 3	18 - 3	14 - 4	12 - 2	16 - 9	13 - 3	11 - 4
	3.125x17.875	20-0†	17 - 9	15 - 1	20-0†	16 - 11	14 - 5	19 - 10	15 - 6	13 - 2	18 - 1	14 - 4	12 - 3
	3.125x19.250	20-0†	19 - 2	16 - 3	20-0†	18 - 3	15 - 6	20-0†	16 - 9	14 - 3	19 - 6	15 - 6	13 - 2
	3.125x20.625	20-0†	20-0†	17 - 5	20-0†	19 - 6	16 - 7	20-0†	17 - 11	15 - 3	20-0†	16 - 7	14 - 2
	3.125x22.000	20-0†	20-0†	18 - 7	20-0†	20-0†	17 - 9	20-0†	19 - 1	16 - 3	20-0†	17 - 8	15 - 1
	3.125x23.375	20-0†	20-0†	19 - 8	20-0†	20-0†	18 - 9	20-0†	20-0†	17 - 3	20-0†	18 - 9	16 - 0
	3.125x24.750	20-0†	20-0†	20-0†	20-0†	20-0†	19 - 9	20-0†	20-0†	18 - 2	20-0†	19 - 9	17 - 0
	5.125x5.500	8 - 6	7 - 0	6 - 0	8 - 4	6 - 8	5 - 8	7 - 9	6 - 1	5 - 2	7 - 0	5 - 8	4 - 10
	5.125x6.875	10 - 7	8 - 9	7 - 5	10 - 5	8 - 4	7 - 1	9 - 8	7 - 8	6 - 6	8 - 9	7 - 1	6 - 0
	5.125x8.250	12 - 8	10 - 6	8 - 11	12 - 6	10 - 0	8 - 6	11 - 7	9 - 2	7 - 10	10 - 5	8 - 6	7 - 3
	5.125x9.625	14 - 10	12 - 3	10 - 5	14 - 6	11 - 8	9 - 11	13 - 7	10 - 9	9 - 1	12 - 2	9 - 11	8 - 5
	5.125x11.000	16 - 11	14 - 0	11 - 11	16 - 7	13 - 4	11 - 4	15 - 6	12 - 3	10 - 5	13 - 11	11 - 4	9 - 8
	5.125x12.375	19 - 1	15 - 9	13 - 5	18 - 8	15 - 0	12 - 9	17 - 5	13 - 9	11 - 8	15 - 8	12 - 9	10 - 10
	5.125x13.750	20-0†	17 - 6	14 - 11	20-0†	16 - 8	14 - 2	19 - 4	15 - 4	13 - 0	17 - 5	14 - 2	12 - 1
	5.125x15.125	20-0†	19 - 2	16 - 5	20-0†	18 - 3	15 - 7	20-0†	16 - 10	14 - 4	19 - 2	15 - 7	13 - 3
	5.125x16.500	20-0†	20-0†	17 - 9	20-0†	19 - 9	16 - 11	20-0†	18 - 3	15 - 7	20-0†	16 - 11	14 - 6
	5.125x17.875	20-0†	20-0†	19 - 1	20-0†	20-0†	18 - 2	20-0†	19 - 7	16 - 9	20-0†	18 - 2	15 - 7
	5.125x19.250	20-0†	20-0†	20-0†	20-0†	20-0†	19 - 6	20-0†	20-0†	17 - 11	20-0†	19 - 5	16 - 8
	5.125x20.625	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	19 - 1	20-0†	20-0†	17 - 9
	5.125x22.000	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	18 - 10
	5.125x23.375	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	19 - 11
	5.125x24.750	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†

† Spans are limited to 20 feet in length.

1 Tabulated spans are based on the lowest F_b , F_v , and E for #2 Grade Douglas Fir-Larch, Hem-Fir, Southern Pine, and Spruce-Pine-Fir. For #3 Grade lumber, spans shall be multiplied by 0.75.2 Tabulated spans assume 20F combination glulam with a minimum $F_b=2,000$ psi, $F_v=210$ psi, and $E=1,500,000$ psi.

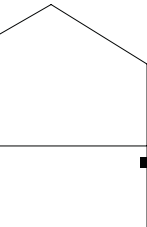
3 The number of jack studs required at each end of the header shall be determined from Table 3.22F.

4 Spans checked for live load deflection only.

Table 3.22C1 Laterally Unsupported (Dropped) Header Spans for Exterior Loadbearing Walls

(Supporting a Roof, Ceiling, and One Clear Span Floor) Dead Load Assumptions:

Roof/Ceiling Assembly = 20 psf, Floor Assembly = 10psf, Wall Assembly = 121plf, $L/\Delta_{LL}=360$ **Dropped Exterior**

		Roof Live Load			Ground Snow Load								
		20 psf			30 psf			50 psf			70 psf		
		Building Width (ft)											
		12	24	36	12	24	36	12	24	36	12	24	36
Headers Supporting	Size	Maximum Header/Girder Spans (ft-in.) for Common Lumber Species ^{1,3,4}											
	1-2x6	2 - 11	2 - 3	1 - 10	2 - 11	2 - 3	1 - 10	2 - 9	2 - 1	1 - 9	2 - 7	2 - 0	1 - 8
	1-2x8	3 - 8	2 - 10	2 - 4	3 - 8	2 - 10	2 - 4	3 - 5	2 - 8	2 - 3	3 - 2	2 - 6	2 - 1
	1-2x10	4 - 3	3 - 4	2 - 9	4 - 3	3 - 4	2 - 9	4 - 0	3 - 1	2 - 8	3 - 9	2 - 11	2 - 6
	1-2x12	4 - 11	3 - 10	3 - 3	4 - 10	3 - 10	3 - 3	4 - 6	3 - 7	3 - 1	4 - 4	3 - 5	2 - 11
	2-2x4	2 - 11	2 - 3	1 - 10	2 - 11	2 - 3	1 - 10	2 - 8	2 - 1	1 - 9	2 - 6	2 - 0	1 - 8
	2-2x6	4 - 3	3 - 3	2 - 9	4 - 3	3 - 3	2 - 9	4 - 0	3 - 1	2 - 7	3 - 9	2 - 11	2 - 6
	2-2x8	5 - 3	4 - 1	3 - 6	5 - 2	4 - 1	3 - 6	4 - 11	3 - 10	3 - 3	4 - 7	3 - 8	3 - 1
	2-2x10	6 - 0	4 - 9	4 - 1	5 - 10	4 - 9	4 - 1	5 - 6	4 - 5	3 - 10	5 - 3	4 - 3	3 - 7
	2-2x12	6 - 6	5 - 4	4 - 8	6 - 5	5 - 3	4 - 7	6 - 1	5 - 0	4 - 4	5 - 10	4 - 9	4 - 1
	3-2x8	6 - 5	5 - 0	4 - 3	6 - 3	5 - 0	4 - 3	5 - 11	4 - 8	4 - 0	5 - 7	4 - 5	3 - 10
	3-2x10	7 - 1	5 - 9	4 - 11	6 - 11	5 - 8	4 - 11	6 - 7	5 - 4	4 - 8	6 - 3	5 - 1	4 - 5
	3-2x12	7 - 7	6 - 3	5 - 6	7 - 5	6 - 2	5 - 5	7 - 1	5 - 10	5 - 2	6 - 9	5 - 7	4 - 11
	4-2x8	7 - 3	5 - 9	4 - 11	7 - 0	5 - 8	4 - 11	6 - 8	5 - 4	4 - 7	6 - 4	5 - 1	4 - 4
	4-2x10	7 - 11	6 - 6	5 - 7	7 - 9	6 - 4	5 - 6	7 - 4	6 - 0	5 - 3	7 - 0	5 - 8	5 - 0
	4-2x12	8 - 5	6 - 11	6 - 2	8 - 3	6 - 10	6 - 0	7 - 10	6 - 6	5 - 9	7 - 6	6 - 2	5 - 6
Size	Maximum Header/Girder Spans (ft-in.) for Glued Laminated Timber Beams ^{2,3,4}												
3.125x5.500	6 - 0	4 - 7	3 - 10	6 - 0	4 - 7	3 - 10	5 - 7	4 - 4	3 - 8	5 - 3	4 - 1	3 - 5	
3.125x6.875	7 - 5	5 - 8	4 - 9	7 - 5	5 - 8	4 - 9	6 - 11	5 - 4	4 - 6	6 - 6	5 - 1	4 - 3	
3.125x8.250	8 - 11	6 - 10	5 - 9	8 - 10	6 - 10	5 - 9	8 - 3	6 - 5	5 - 5	7 - 10	6 - 0	5 - 1	
3.125x9.625	10 - 4	7 - 11	6 - 8	10 - 3	7 - 11	6 - 8	9 - 7	7 - 5	6 - 3	9 - 0	7 - 0	5 - 11	
3.125x11.000	11 - 7	9 - 0	7 - 7	11 - 6	9 - 0	7 - 7	10 - 9	8 - 5	7 - 2	10 - 2	7 - 11	6 - 9	
3.125x12.375	12 - 10	10 - 0	8 - 5	12 - 7	9 - 11	8 - 5	11 - 10	9 - 4	7 - 11	11 - 2	8 - 10	7 - 6	
3.125x13.750	13 - 10	10 - 10	9 - 3	13 - 5	10 - 9	9 - 3	12 - 8	10 - 2	8 - 8	12 - 0	9 - 7	8 - 2	
3.125x15.125	14 - 5	11 - 8	10 - 0	14 - 1	11 - 5	9 - 11	13 - 4	10 - 10	9 - 4	12 - 8	10 - 3	8 - 10	
3.125x16.500	14 - 11	12 - 3	10 - 7	14 - 7	12 - 0	10 - 5	13 - 10	11 - 4	9 - 10	13 - 3	10 - 9	9 - 5	
3.125x17.875	15 - 4	12 - 8	11 - 1	15 - 1	12 - 5	10 - 10	14 - 4	11 - 9	10 - 3	13 - 8	11 - 3	9 - 10	
3.125x19.250	15 - 9	13 - 0	11 - 5	15 - 5	12 - 9	11 - 2	14 - 8	12 - 1	10 - 8	14 - 1	11 - 7	10 - 2	
3.125x20.625	16 - 1	13 - 4	11 - 9	15 - 10	13 - 1	11 - 6	15 - 1	12 - 5	11 - 0	14 - 5	11 - 11	10 - 6	
3.125x22.000	16 - 6	13 - 7	12 - 0	16 - 2	13 - 4	11 - 10	15 - 5	12 - 9	11 - 3	14 - 9	12 - 2	10 - 10	
3.125x23.375	16 - 9	13 - 10	12 - 4	16 - 6	13 - 8	12 - 2	15 - 8	13 - 0	11 - 7	15 - 0	12 - 6	11 - 1	
3.125x24.750	17 - 1	14 - 1	12 - 7	16 - 9	13 - 11	12 - 5	16 - 0	13 - 3	11 - 10	15 - 3	12 - 9	11 - 4	
5.125x5.500	7 - 8	5 - 10	4 - 11	7 - 8	5 - 10	4 - 11	7 - 2	5 - 6	4 - 8	6 - 8	5 - 2	4 - 5	
5.125x6.875	9 - 7	7 - 4	6 - 2	9 - 7	7 - 4	6 - 2	8 - 11	6 - 11	5 - 10	8 - 4	6 - 6	5 - 6	
5.125x8.250	11 - 6	8 - 9	7 - 4	11 - 5	8 - 9	7 - 4	10 - 8	8 - 3	7 - 0	10 - 0	7 - 9	6 - 7	
5.125x9.625	13 - 5	10 - 3	8 - 7	13 - 4	10 - 3	8 - 7	12 - 5	9 - 7	8 - 1	11 - 8	9 - 1	7 - 8	
5.125x11.000	15 - 3	11 - 8	9 - 9	15 - 2	11 - 8	9 - 9	14 - 2	11 - 0	9 - 3	13 - 4	10 - 4	8 - 9	
5.125x12.375	17 - 1	13 - 1	11 - 0	17 - 0	13 - 1	11 - 0	15 - 10	12 - 4	10 - 5	15 - 0	11 - 7	9 - 9	
5.125x13.750	18 - 10	14 - 6	12 - 2	18 - 9	14 - 6	12 - 2	17 - 6	13 - 7	11 - 6	16 - 6	12 - 10	10 - 10	
5.125x15.125	20-0†	15 - 10	13 - 4	20-0†	15 - 10	13 - 4	19 - 1	14 - 11	12 - 7	18 - 0	14 - 1	11 - 11	
5.125x16.500	20-0†	17 - 2	14 - 6	20-0†	17 - 2	14 - 6	20-0†	16 - 2	13 - 8	19 - 6	15 - 3	12 - 11	
5.125x17.875	20-0†	18 - 6	15 - 7	20-0†	18 - 5	15 - 7	20-0†	17 - 4	14 - 9	20-0†	16 - 4	13 - 11	
5.125x19.250	20-0†	19 - 8	16 - 8	20-0†	19 - 7	16 - 8	20-0†	18 - 5	15 - 9	20-0†	17 - 5	14 - 10	
5.125x20.625	20-0†	20-0†	17 - 9	20-0†	20-0†	17 - 8	20-0†	19 - 4	16 - 8	20-0†	18 - 4	15 - 9	
5.125x22.000	20-0†	20-0†	18 - 8	20-0†	20-0†	18 - 6	20-0†	20-0†	17 - 6	20-0†	19 - 3	16 - 7	
5.125x23.375	20-0†	20-0†	19 - 6	20-0†	20-0†	19 - 3	20-0†	20-0†	18 - 2	20-0†	20 - 0	17 - 3	
5.125x24.750	20-0†	20-0†	20-0†	20-0†	20-0†	19 - 11	20-0†	20-0†	18 - 10	20-0†	20-0†	17 - 11	

† Spans are limited to 20 feet in length.

1 Tabulated spans are based on the lowest F_b , F_v , and E for #2 Grade Douglas Fir-Larch, Hem-Fir, Southern Pine, and Spruce-Pine-Fir. For #3 Grade lumber, spans shall be multiplied by 0.75.2 Tabulated spans assume 20F combination glulam with a minimum $F_b=2,000$ psi, $F_v=210$ psi, and $E=1,500,000$ psi.

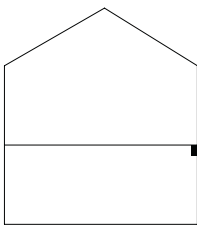
3 The number of jack studs required at each end of the header shall be determined from Table 3.22F.

4 Spans checked for live load deflection only.

Table 3.22C2 Laterally Supported (Raised) Header Spans for Exterior Loadbearing Walls

(Supporting a Roof, Ceiling, and One Clear Span Floor) Dead Load Assumptions:

Roof/Ceiling Assembly = 20 psf, Floor Assembly = 10psf, Wall Assembly = 121plf, $L/\Delta_{LL}=360$ **Raised Exterior**

		Roof Live Load			Ground Snow Load									
		20 psf			30 psf			50 psf			70 psf			
		Building Width (ft)												
		12	24	36	12	24	36	12	24	36	12	24	36	
Headers Supporting	Size	Maximum Header/Girder Spans (ft-in.) for Common Lumber Species ^{1,3,4}												
	Roof, Ceiling, and One Clear Span Floor	1-2x6	2 - 11	2 - 3	1 - 11	2 - 11	2 - 3	1 - 11	2 - 9	2 - 1	1 - 9	2 - 7	2 - 0	1 - 8
	1-2x8	3 - 9	2 - 10	2 - 5	3 - 9	2 - 10	2 - 5	3 - 6	2 - 8	2 - 3	3 - 3	2 - 6	2 - 2	
	1-2x10	4 - 5	3 - 5	2 - 10	4 - 5	3 - 5	2 - 10	4 - 2	3 - 2	2 - 8	3 - 11	3 - 0	2 - 6	
	1-2x12	5 - 3	4 - 0	3 - 4	5 - 2	4 - 0	3 - 4	4 - 10	3 - 9	3 - 2	4 - 7	3 - 6	3 - 0	
	2-2x4	2 - 11	2 - 3	1 - 10	2 - 11	2 - 3	1 - 10	2 - 9	2 - 1	1 - 9	2 - 7	2 - 0	1 - 8	
	2-2x6	4 - 4	3 - 4	2 - 10	4 - 4	3 - 4	2 - 10	4 - 1	3 - 2	2 - 8	3 - 10	3 - 0	2 - 6	
	2-2x8	5 - 6	4 - 3	3 - 7	5 - 6	4 - 3	3 - 7	5 - 2	4 - 0	3 - 4	4 - 10	3 - 9	3 - 2	
	2-2x10	6 - 7	5 - 0	4 - 2	6 - 7	5 - 0	4 - 2	6 - 1	4 - 9	4 - 0	5 - 9	4 - 5	3 - 9	
	2-2x12	7 - 9	5 - 11	4 - 11	7 - 9	5 - 11	4 - 11	7 - 2	5 - 7	4 - 8	6 - 9	5 - 3	4 - 5	
	3-2x8	6 - 11	5 - 3	4 - 5	6 - 11	5 - 3	4 - 5	6 - 5	5 - 0	4 - 2	6 - 1	4 - 8	4 - 0	
	3-2x10	8 - 3	6 - 3	5 - 3	8 - 3	6 - 3	5 - 3	7 - 8	5 - 11	5 - 0	7 - 3	5 - 7	4 - 8	
	3-2x12	9 - 8	7 - 5	6 - 2	9 - 8	7 - 5	6 - 2	9 - 0	7 - 0	5 - 10	8 - 6	6 - 7	5 - 6	
	4-2x8	8 - 0	6 - 1	5 - 1	8 - 0	6 - 1	5 - 1	7 - 5	5 - 9	4 - 10	7 - 0	5 - 5	4 - 7	
	4-2x10	9 - 6	7 - 3	6 - 1	9 - 6	7 - 3	6 - 1	8 - 10	6 - 10	5 - 9	8 - 4	6 - 5	5 - 5	
	4-2x12	11 - 2	8 - 6	7 - 2	11 - 2	8 - 6	7 - 2	10 - 5	8 - 0	6 - 9	9 - 10	7 - 7	6 - 5	
	Size	Maximum Header/Girder Spans (ft-in.) for Glued Laminated Timber Beams ^{2,3,4}												
	3.125x5.500	6 - 0	4 - 7	3 - 10	6 - 0	4 - 7	3 - 10	5 - 7	4 - 4	3 - 8	5 - 3	4 - 1	3 - 5	
	3.125x6.875	7 - 6	5 - 9	4 - 10	7 - 6	5 - 9	4 - 10	7 - 0	5 - 5	4 - 7	6 - 7	5 - 1	4 - 3	
	3.125x8.250	9 - 0	6 - 10	5 - 9	9 - 0	6 - 10	5 - 9	8 - 5	6 - 6	5 - 6	7 - 11	6 - 1	5 - 2	
3.125x9.625	10 - 6	8 - 0	6 - 9	10 - 6	8 - 0	6 - 9	9 - 10	7 - 7	6 - 4	9 - 3	7 - 1	6 - 0		
3.125x11.000	12 - 0	9 - 2	7 - 8	12 - 0	9 - 2	7 - 8	11 - 2	8 - 8	7 - 3	10 - 6	8 - 2	6 - 10		
3.125x12.375	13 - 6	10 - 4	8 - 8	13 - 6	10 - 4	8 - 8	12 - 7	9 - 9	8 - 2	11 - 10	9 - 2	7 - 9		
3.125x13.750	15 - 0	11 - 5	9 - 7	15 - 0	11 - 5	9 - 7	14 - 0	10 - 9	9 - 1	13 - 2	10 - 2	8 - 7		
3.125x15.125	16 - 6	12 - 7	10 - 7	16 - 6	12 - 7	10 - 7	15 - 5	11 - 10	10 - 0	14 - 6	11 - 2	9 - 5		
3.125x16.500	18 - 0	13 - 9	11 - 6	18 - 0	13 - 9	11 - 6	16 - 10	12 - 11	10 - 11	15 - 10	12 - 2	10 - 3		
3.125x17.875	19 - 7	14 - 11	12 - 6	19 - 6	14 - 11	12 - 6	18 - 2	14 - 0	11 - 10	17 - 1	13 - 2	11 - 2		
3.125x19.250	20-0†	16 - 0	13 - 5	20-0†	16 - 0	13 - 5	19 - 7	15 - 1	12 - 9	18 - 5	14 - 3	12 - 0		
3.125x20.625	20-0†	17 - 2	14 - 5	20-0†	17 - 2	14 - 5	20-0†	16 - 2	13 - 8	19 - 9	15 - 3	12 - 10		
3.125x22.000	20-0†	18 - 4	15 - 5	20-0†	18 - 4	15 - 5	20-0†	17 - 3	14 - 7	20-0†	16 - 3	13 - 8		
3.125x23.375	20-0†	19 - 5	16 - 4	20-0†	19 - 5	16 - 4	20-0†	18 - 4	15 - 6	20-0†	17 - 3	14 - 7		
3.125x24.750	20-0†	20-0†	17 - 3	20-0†	20-0†	17 - 3	20-0†	19 - 3	16 - 5	20-0†	18 - 2	15 - 5		
5.125x5.500	7 - 8	5 - 10	4 - 11	7 - 8	5 - 10	4 - 11	7 - 2	5 - 6	4 - 8	6 - 8	5 - 2	4 - 5		
5.125x6.875	9 - 8	7 - 4	6 - 2	9 - 7	7 - 4	6 - 2	9 - 0	6 - 11	5 - 10	8 - 4	6 - 6	5 - 6		
5.125x8.250	11 - 7	8 - 10	7 - 5	11 - 6	8 - 10	7 - 5	10 - 9	8 - 3	7 - 0	10 - 0	7 - 10	6 - 7		
5.125x9.625	13 - 6	10 - 3	8 - 7	13 - 5	10 - 3	8 - 7	12 - 6	9 - 8	8 - 2	11 - 8	9 - 1	7 - 8		
5.125x11.000	15 - 5	11 - 9	9 - 10	15 - 4	11 - 9	9 - 10	14 - 4	11 - 1	9 - 4	13 - 4	10 - 5	8 - 9		
5.125x12.375	17 - 4	13 - 2	11 - 1	17 - 3	13 - 2	11 - 1	16 - 1	12 - 5	10 - 6	15 - 0	11 - 9	9 - 10		
5.125x13.750	19 - 2	14 - 8	12 - 4	19 - 2	14 - 8	12 - 4	17 - 11	13 - 10	11 - 8	16 - 8	13 - 0	11 - 0		
5.125x15.125	20-0†	16 - 2	13 - 6	20-0†	16 - 2	13 - 6	19 - 7	15 - 2	12 - 10	18 - 4	14 - 4	12 - 1		
5.125x16.500	20-0†	17 - 6	14 - 9	20-0†	17 - 6	14 - 9	20-0†	16 - 6	14 - 0	20 - 0	15 - 7	13 - 2		
5.125x17.875	20-0†	18 - 10	15 - 11	20-0†	18 - 10	15 - 11	20-0†	17 - 9	15 - 1	20-0†	16 - 9	14 - 3		
5.125x19.250	20-0†	20-0†	17 - 0	20-0†	20-0†	17 - 0	20-0†	19 - 0	16 - 2	20-0†	17 - 11	15 - 3		
5.125x20.625	20-0†	20-0†	18 - 1	20-0†	20-0†	18 - 1	20-0†	20-0†	17 - 2	20-0†	19 - 1	16 - 3		
5.125x22.000	20-0†	20-0†	19 - 2	20-0†	20-0†	19 - 2	20-0†	20-0†	18 - 3	20-0†	20-0†	17 - 2		
5.125x23.375	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	19 - 3	20-0†	20-0†	18 - 2		
5.125x24.750	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	19 - 2		

† Spans are limited to 20 feet in length.

1 Tabulated spans are based on the lowest F_b , F_v , and E for #2 Grade Douglas Fir-Larch, Hem-Fir, Southern Pine, and Spruce-Pine-Fir. For #3 Grade lumber, spans shall be multiplied by 0.75.2 Tabulated spans assume 20F combination glulam with a minimum $F_b=2,000$ psi, $F_v=210$ psi, and $E=1,500,000$ psi.

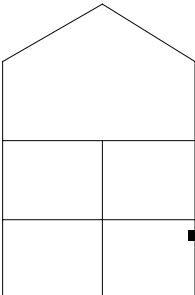
3 The number of jack studs required at each end of the header shall be determined from Table 3.22F.

4 Spans checked for live load deflection only.

Table 3.22D1 Laterally Unsupported (Dropped) Header Spans for Exterior Loadbearing Walls**Dropped Exterior**

(Supporting a Roof, Ceiling, and Two Center Bearing Floors) Dead Load Assumptions:

Roof/Ceiling Assembly = 20 psf, Floor Assembly = 10psf, Wall Assembly = 121plf, $L/\Delta_{LL}=360$

		Roof Live Load			Ground Snow Load								
		20 psf			30 psf			50 psf			70 psf		
		Building Width (ft)											
		12	24	36	12	24	36	12	24	36	12	24	36
Headers Supporting	Size	Maximum Header/Girder Spans (ft-in.) for Common Lumber Species ^{1,3,4}											
Roof, Ceiling, and Two Center Bearing Floors 	1-2x6	2-8	2-1	1-10	2-8	2-1	1-10	2-6	2-0	1-9	2-5	1-11	1-7
	1-2x8	3-4	2-8	2-3	3-4	2-8	2-3	3-2	2-6	2-2	3-0	2-5	2-1
	1-2x10	3-11	3-2	2-8	3-11	3-2	2-8	3-9	3-0	2-7	3-6	2-10	2-5
	1-2x12	4-6	3-8	3-2	4-6	3-8	3-2	4-3	3-5	3-0	4-1	3-3	2-10
	2-2x4	2-8	2-1	1-9	2-8	2-1	1-9	2-6	2-0	1-8	2-5	1-11	1-7
	2-2x6	3-11	3-1	2-8	3-11	3-1	2-8	3-8	3-0	2-6	3-6	2-10	2-5
	2-2x8	4-10	3-11	3-4	4-10	3-11	3-4	4-7	3-8	3-2	4-4	3-6	3-0
	2-2x10	5-7	4-6	3-11	5-6	4-6	3-11	5-2	4-3	3-8	5-0	4-1	3-6
	2-2x12	6-2	5-1	4-6	6-0	5-1	4-5	5-9	4-10	4-3	5-6	4-7	4-0
	3-2x8	5-11	4-9	4-1	5-10	4-9	4-1	5-7	4-6	3-11	5-4	4-4	3-8
	3-2x10	6-8	5-6	4-9	6-6	5-5	4-9	6-2	5-2	4-6	5-11	4-11	4-3
	3-2x12	7-2	6-0	5-4	7-0	5-11	5-3	6-8	5-8	5-0	6-5	5-5	4-10
	4-2x8	6-8	5-5	4-9	6-7	5-5	4-9	6-3	5-2	4-5	6-0	4-11	4-3
	4-2x10	7-5	6-2	5-5	7-3	6-1	5-4	6-11	5-9	5-1	6-8	5-6	4-10
	4-2x12	7-11	6-8	6-0	7-9	6-7	5-10	7-5	6-3	5-7	7-2	6-0	5-4
Size		Maximum Header/Girder Spans (ft-in.) for Glued Laminated Timber Beams ^{2,3,4}											
3.125x5.500		5-5	4-4	3-8	5-5	4-4	3-8	5-2	4-1	3-6	4-11	3-11	3-4
3.125x6.875		6-9	5-5	4-7	6-9	5-5	4-7	6-5	5-2	4-5	6-1	4-10	4-2
3.125x8.250		8-1	6-5	5-6	8-1	6-5	5-6	7-8	6-2	5-3	7-4	5-10	5-0
3.125x9.625		9-5	7-6	6-5	9-5	7-6	6-5	8-11	7-1	6-1	8-6	6-9	5-9
3.125x11.000		10-8	8-6	7-3	10-8	8-6	7-3	10-1	8-1	6-11	9-7	7-8	6-6
3.125x12.375		11-9	9-5	8-1	11-8	9-5	8-1	11-1	8-11	7-8	10-7	8-6	7-3
3.125x13.750		12-9	10-4	8-11	12-6	10-3	8-11	11-11	9-9	8-5	11-5	9-3	8-0
3.125x15.125		13-6	11-1	9-7	13-2	11-0	9-7	12-7	10-5	9-1	12-1	9-11	8-7
3.125x16.500		14-0	11-9	10-3	13-8	11-6	10-1	13-1	10-11	9-7	12-7	10-5	9-2
3.125x17.875		14-5	12-2	10-9	14-2	11-11	10-7	13-6	11-4	10-0	13-0	10-10	9-7
3.125x19.250		14-10	12-6	11-1	14-7	12-3	10-11	13-11	11-9	10-5	13-5	11-3	10-0
3.125x20.625		15-2	12-9	11-5	14-11	12-7	11-3	14-3	12-0	10-9	13-9	11-7	10-4
3.125x22.000		15-6	13-1	11-8	15-3	12-11	11-7	14-7	12-4	11-0	14-0	11-10	10-7
3.125x23.375		15-9	13-4	12-0	15-6	13-2	11-10	14-10	12-7	11-4	14-4	12-2	10-10
3.125x24.750		16-1	13-7	12-3	15-10	13-5	12-1	15-2	12-11	11-7	14-7	12-5	11-1
5.125x5.500		7-0	5-6	4-9	7-0	5-6	4-9	6-8	5-3	4-6	6-4	5-0	4-3
5.125x6.875		8-9	6-11	5-11	8-9	6-11	5-11	8-4	6-7	5-8	7-10	6-3	5-4
5.125x8.250		10-6	8-3	7-1	10-6	8-3	7-1	9-11	7-11	6-9	9-5	7-6	6-5
5.125x9.625		12-2	9-8	8-3	12-2	9-8	8-3	11-7	9-2	7-10	11-0	8-8	7-5
5.125x11.000		13-11	11-0	9-5	13-11	11-0	9-5	13-2	10-6	9-0	12-6	9-11	8-6
5.125x12.375		15-7	12-4	10-7	15-7	12-4	10-7	14-9	11-9	10-1	14-0	11-2	9-6
5.125x13.750		17-3	13-8	11-8	17-3	13-8	11-8	16-4	13-0	11-2	15-6	12-4	10-7
5.125x15.125		18-10	15-0	12-10	18-10	15-0	12-10	17-10	14-3	12-3	16-11	13-6	11-7
5.125x16.500		20-0†	16-3	13-11	20-0†	16-3	13-11	19-3	15-5	13-3	18-4	14-8	12-7
5.125x17.875		20-0†	17-6	15-0	20-0†	17-6	15-0	20-0†	16-7	14-3	19-7	15-9	13-6
5.125x19.250		20-0†	18-8	16-1	20-0†	18-8	16-1	20-0†	17-8	15-3	20-0†	16-9	14-5
5.125x20.625		20-0†	19-9	17-1	20-0†	19-8	17-1	20-0†	18-8	16-2	20-0†	17-9	15-4
5.125x22.000		20-0†	20-0†	18-0	20-0†	20-0†	18-0	20-0†	19-6	17-0	20-0†	18-7	16-2
5.125x23.375		20-0†	20-0†	18-10	20-0†	20-0†	18-8	20-0†	20-0†	17-8	20-0†	19-4	16-10
5.125x24.750		20-0†	20-0†	19-7	20-0†	20-0†	19-4	20-0†	20-0†	18-4	20-0†	20-0	17-6

† Spans are limited to 20 feet in length.

1 Tabulated spans are based on the lowest F_b , F_v , and E for #2 Grade Douglas Fir-Larch, Hem-Fir, Southern Pine, and Spruce-Pine-Fir. For #3 Grade lumber, spans shall be multiplied by 0.75.2 Tabulated spans assume 20F combination glulam with a minimum F_{b*} =2,000psi, F_{v*} =210psi, and E =1,500,000psi.

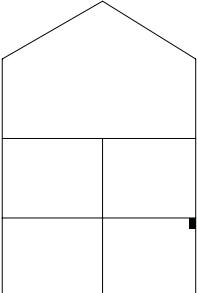
3 The number of jack studs required at each end of the header shall be determined from Table 3.22F.

4 Spans checked for live load deflection only.

Table 3.22D2 Laterally Supported (Raised) Header Spans for Exterior Loadbearing Walls**Raised Exterior**

(Supporting a Roof, Ceiling, and Two Center Bearing Floors) Dead Load Assumptions:

Roof/Ceiling Assembly = 20 psf, Floor Assembly = 10psf, Wall Assembly = 121plf, $L/\Delta_{LL}=360$

		Roof Live Load			Ground Snow Load								
		20 psf			30 psf			50 psf			70 psf		
		Building Width (ft)											
		12	24	36	12	24	36	12	24	36	12	24	36
		Maximum Header/Girder Spans (ft-in.) for Common Lumber Species ^{1,3,4}											
Roof, Ceiling, and Two Center Bearing Floors 	1-2x6	2-8	2-1	1-10	2-8	2-1	1-10	2-7	2-0	1-9	2-5	1-11	1-8
	1-2x8	3-5	2-8	2-4	3-5	2-8	2-4	3-3	2-7	2-2	3-1	2-5	2-1
	1-2x10	4-0	3-2	2-9	4-0	3-2	2-9	3-10	3-1	2-7	3-8	2-11	2-5
	1-2x12	4-9	3-9	3-2	4-9	3-9	3-2	4-6	3-7	3-1	4-3	3-5	2-11
	2-2x4	2-8	2-1	1-9	2-8	2-1	1-9	2-6	2-0	1-8	2-5	1-11	1-7
	2-2x6	4-0	3-2	2-8	4-0	3-2	2-8	3-9	3-0	2-7	3-7	2-10	2-5
	2-2x8	5-0	4-0	3-5	5-0	4-0	3-5	4-10	3-10	3-3	4-7	3-7	3-1
	2-2x10	6-0	4-9	4-0	6-0	4-9	4-0	5-8	4-6	3-10	5-5	4-3	3-8
	2-2x12	7-0	5-7	4-9	7-0	5-7	4-9	6-8	5-4	4-6	6-4	5-0	4-3
	3-2x8	6-4	5-0	4-3	6-4	5-0	4-3	6-0	4-9	4-1	5-8	4-6	3-10
	3-2x10	7-6	5-11	5-1	7-6	5-11	5-1	7-1	5-8	4-10	6-9	5-4	4-7
	3-2x12	8-10	7-0	5-11	8-10	7-0	5-11	8-5	6-8	5-8	8-0	6-4	5-4
	4-2x8	7-3	5-9	4-11	7-3	5-9	4-11	6-11	5-6	4-8	6-7	5-2	4-5
	4-2x10	8-8	6-10	5-10	8-8	6-10	5-10	8-3	6-6	5-7	7-10	6-2	5-3
	4-2x12	10-2	8-1	6-10	10-2	8-1	6-10	9-8	7-8	6-7	9-2	7-3	6-2
Size		Maximum Header/Girder Spans (ft-in.) for Glued Laminated Timber Beams ^{2,3,4}											
3.125x5.500		5-6	4-4	3-8	5-6	4-4	3-8	5-2	4-2	3-6	4-11	3-11	3-4
3.125x6.875		6-10	5-5	4-7	6-10	5-5	4-7	6-6	5-2	4-5	6-2	4-11	4-2
3.125x8.250		8-2	6-6	5-6	8-2	6-6	5-6	7-10	6-2	5-3	7-5	5-10	5-0
3.125x9.625		9-7	7-7	6-6	9-7	7-7	6-6	9-1	7-3	6-2	8-8	6-10	5-10
3.125x11.000		10-11	8-8	7-5	10-11	8-8	7-5	10-5	8-3	7-1	9-10	7-10	6-8
3.125x12.375		12-4	9-9	8-4	12-4	9-9	8-4	11-9	9-3	7-11	11-1	8-9	7-6
3.125x13.750		13-8	10-10	9-3	13-8	10-10	9-3	13-0	10-4	8-10	12-4	9-9	8-4
3.125x15.125		15-1	11-11	10-2	15-1	11-11	10-2	14-4	11-4	9-8	13-7	10-9	9-2
3.125x16.500		16-5	13-0	11-1	16-5	13-0	11-1	15-7	12-5	10-7	14-10	11-9	10-0
3.125x17.875		17-9	14-1	12-0	17-9	14-1	12-0	16-11	13-5	11-5	16-0	12-8	10-10
3.125x19.250		19-2	15-2	12-11	19-2	15-2	12-11	18-3	14-5	12-4	17-3	13-8	11-8
3.125x20.625		20-0†	16-3	13-10	20-0†	16-3	13-10	19-6	15-6	13-3	18-6	14-8	12-6
3.125x22.000		20-0†	17-4	14-9	20-0†	17-4	14-9	20-0†	16-6	14-1	19-8	15-7	13-4
3.125x23.375		20-0†	18-4	15-8	20-0†	18-4	15-8	20-0†	17-7	15-0	20-0†	16-7	14-2
3.125x24.750		20-0†	19-4	16-7	20-0†	19-4	16-7	20-0†	18-6	15-10	20-0†	17-6	15-0
5.125x5.500		7-0	5-6	4-9	7-0	5-6	4-9	6-8	5-3	4-6	6-4	5-0	4-3
5.125x6.875		8-9	6-11	5-11	8-9	6-11	5-11	8-4	6-7	5-8	7-11	6-3	5-4
5.125x8.250		10-6	8-4	7-1	10-6	8-4	7-1	10-0	7-11	6-9	9-6	7-6	6-5
5.125x9.625		12-3	9-8	8-3	12-3	9-8	8-3	11-8	9-3	7-11	11-1	8-9	7-6
5.125x11.000		14-0	11-1	9-5	14-0	11-1	9-5	13-4	10-7	9-0	12-8	10-0	8-6
5.125x12.375		15-9	12-6	10-8	15-9	12-6	10-8	15-0	11-11	10-2	14-3	11-3	9-7
5.125x13.750		17-6	13-10	11-10	17-6	13-10	11-10	16-8	13-3	11-3	15-10	12-6	10-8
5.125x15.125		19-2	15-3	13-0	19-2	15-3	13-0	18-3	14-6	12-5	17-4	13-9	11-9
5.125x16.500		20-0†	16-7	14-2	20-0†	16-7	14-2	19-9	15-10	13-6	18-9	15-0	12-10
5.125x17.875		20-0†	17-10	15-4	20-0†	17-10	15-4	20-0†	17-0	14-8	20-0†	16-2	13-10
5.125x19.250		20-0†	19-0	16-4	20-0†	19-0	16-4	20-0†	18-2	15-8	20-0†	17-3	14-10
5.125x20.625		20-0†	20-0†	17-5	20-0†	20-0†	17-5	20-0†	19-4	16-8	20-0†	18-5	15-9
5.125x22.000		20-0†	20-0†	18-6	20-0†	20-0†	18-6	20-0†	20-0†	17-8	20-0†	19-6	16-9
5.125x23.375		20-0†	20-0†	19-6	20-0†	20-0†	19-6	20-0†	20-0†	18-8	20-0†	20-0†	17-8
5.125x24.750		20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	19-8	20-0†	20-0†	18-7

† Spans are limited to 20 feet in length.

1 Tabulated spans are based on the lowest F_b , F_v , and E for #2 Grade Douglas Fir-Larch, Hem-Fir, Southern Pine, and Spruce-Pine-Fir. For #3 Grade lumber, spans shall be multiplied by 0.75.2 Tabulated spans assume 20F combination glulam with a minimum $F_b=2,000$ psi, $F_v=210$ psi, and $E=1,500,000$ psi.

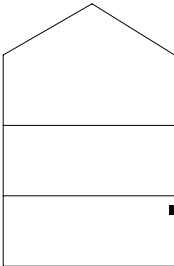
3 The number of jack studs required at each end of the header shall be determined from Table 3.22F.

4 Spans checked for live load deflection only.

Table 3.22E1 Laterally Unsupported (Dropped) Header Spans for Exterior Loadbearing Walls**Dropped Exterior**

(Supporting a Roof, Ceiling, and Two Clear Span Floors) Dead Load Assumptions:

Roof/Ceiling Assembly = 20 psf, Floor Assembly = 10psf, Wall Assembly = 121plf, $L/\Delta_{LL}=360$

		Roof Live Load						Ground Snow Load					
		20 psf			30 psf			50 psf			70 psf		
		Building Width (ft)											
		12	24	36	12	24	36	12	24	36	12	24	36
Headers Supporting	Size	Maximum Header/Girder Spans (ft-in.) for Common Lumber Species ^{1,3,4}											
	1-2x6	2 - 3	1 - 8	1 - 5	2 - 3	1 - 8	1 - 5	2 - 3	1 - 8	1 - 5	2 - 2	1 - 8	1 - 5
	1-2x8	2 - 10	2 - 2	1 - 10	2 - 10	2 - 2	1 - 10	2 - 10	2 - 2	1 - 10	2 - 8	2 - 1	1 - 9
	1-2x10	3 - 4	2 - 6	2 - 2	3 - 4	2 - 6	2 - 2	3 - 4	2 - 6	2 - 2	3 - 2	2 - 6	2 - 1
	1-2x12	3 - 10	3 - 0	2 - 6	3 - 10	3 - 0	2 - 6	3 - 10	3 - 0	2 - 6	3 - 8	2 - 11	2 - 5
	2-2x4	2 - 3	1 - 8	1 - 4	2 - 3	1 - 8	1 - 4	2 - 3	1 - 8	1 - 4	2 - 2	1 - 8	1 - 4
	2-2x6	3 - 3	2 - 6	2 - 1	3 - 3	2 - 6	2 - 1	3 - 3	2 - 6	2 - 1	3 - 2	2 - 5	2 - 1
	2-2x8	4 - 1	3 - 2	2 - 8	4 - 1	3 - 2	2 - 8	4 - 1	3 - 2	2 - 8	3 - 11	3 - 1	2 - 7
	2-2x10	4 - 9	3 - 8	3 - 2	4 - 9	3 - 8	3 - 2	4 - 9	3 - 8	3 - 2	4 - 7	3 - 7	3 - 1
	2-2x12	5 - 4	4 - 3	3 - 8	5 - 4	4 - 3	3 - 8	5 - 3	4 - 3	3 - 8	5 - 1	4 - 1	3 - 6
	3-2x8	5 - 0	3 - 11	3 - 4	5 - 0	3 - 11	3 - 4	5 - 0	3 - 11	3 - 4	4 - 10	3 - 10	3 - 3
	3-2x10	5 - 9	4 - 7	3 - 10	5 - 9	4 - 7	3 - 10	5 - 7	4 - 7	3 - 10	5 - 5	4 - 5	3 - 9
	3-2x12	6 - 4	5 - 2	4 - 5	6 - 4	5 - 2	4 - 5	6 - 2	5 - 1	4 - 5	5 - 11	4 - 11	4 - 3
	4-2x8	5 - 9	4 - 6	3 - 10	5 - 9	4 - 6	3 - 10	5 - 8	4 - 6	3 - 10	5 - 6	4 - 4	3 - 9
	4-2x10	6 - 6	5 - 2	4 - 5	6 - 6	5 - 2	4 - 5	6 - 4	5 - 2	4 - 5	6 - 1	5 - 0	4 - 3
	4-2x12	7 - 1	5 - 9	5 - 0	7 - 1	5 - 9	5 - 0	6 - 10	5 - 8	5 - 0	6 - 7	5 - 6	4 - 10
Size	Maximum Header/Girder Spans (ft-in.) for Glued Laminated Timber Beams ^{2,3,4}												
3.125x5.500	4 - 7	3 - 6	2 - 11	4 - 7	3 - 6	2 - 11	4 - 7	3 - 6	2 - 11	4 - 5	3 - 5	2 - 10	
3.125x6.875	5 - 8	4 - 4	3 - 7	5 - 8	4 - 4	3 - 7	5 - 8	4 - 4	3 - 7	5 - 6	4 - 3	3 - 6	
3.125x8.250	6 - 10	5 - 2	4 - 4	6 - 10	5 - 2	4 - 4	6 - 10	5 - 2	4 - 4	6 - 7	5 - 1	4 - 3	
3.125x9.625	7 - 11	6 - 1	5 - 1	7 - 11	6 - 1	5 - 1	7 - 11	6 - 1	5 - 1	7 - 7	5 - 11	4 - 11	
3.125x11.000	9 - 0	6 - 11	5 - 9	9 - 0	6 - 11	5 - 9	9 - 0	6 - 11	5 - 9	8 - 7	6 - 9	5 - 8	
3.125x12.375	10 - 0	7 - 8	6 - 6	10 - 0	7 - 8	6 - 6	9 - 11	7 - 8	6 - 6	9 - 7	7 - 6	6 - 4	
3.125x13.750	10 - 10	8 - 5	7 - 2	10 - 10	8 - 5	7 - 2	10 - 9	8 - 5	7 - 2	10 - 4	8 - 2	7 - 0	
3.125x15.125	11 - 8	9 - 2	7 - 9	11 - 8	9 - 2	7 - 9	11 - 5	9 - 2	7 - 9	11 - 0	8 - 10	7 - 7	
3.125x16.500	12 - 3	9 - 9	8 - 4	12 - 3	9 - 9	8 - 4	11 - 11	9 - 8	8 - 4	11 - 7	9 - 4	8 - 1	
3.125x17.875	12 - 9	10 - 3	8 - 11	12 - 9	10 - 3	8 - 11	12 - 5	10 - 2	8 - 10	12 - 0	9 - 10	8 - 7	
3.125x19.250	13 - 2	10 - 9	9 - 4	13 - 2	10 - 9	9 - 4	12 - 9	10 - 6	9 - 3	12 - 4	10 - 2	9 - 0	
3.125x20.625	13 - 7	11 - 1	9 - 9	13 - 6	11 - 1	9 - 9	13 - 1	10 - 10	9 - 7	12 - 8	10 - 6	9 - 3	
3.125x22.000	13 - 11	11 - 5	10 - 1	13 - 10	11 - 5	10 - 1	13 - 4	11 - 2	9 - 10	13 - 0	10 - 10	9 - 7	
3.125x23.375	14 - 2	11 - 9	10 - 4	14 - 1	11 - 9	10 - 4	13 - 8	11 - 5	10 - 2	13 - 3	11 - 1	9 - 10	
3.125x24.750	14 - 6	12 - 0	10 - 7	14 - 4	12 - 0	10 - 7	13 - 11	11 - 8	10 - 4	13 - 6	11 - 4	10 - 1	
5.125x5.500	5 - 10	4 - 6	3 - 9	5 - 10	4 - 6	3 - 9	5 - 10	4 - 6	3 - 9	5 - 8	4 - 5	3 - 8	
5.125x6.875	7 - 4	5 - 7	4 - 8	7 - 4	5 - 7	4 - 8	7 - 4	5 - 7	4 - 8	7 - 1	5 - 6	4 - 7	
5.125x8.250	8 - 9	6 - 8	5 - 7	8 - 9	6 - 8	5 - 7	8 - 9	6 - 8	5 - 7	8 - 6	6 - 7	5 - 6	
5.125x9.625	10 - 2	7 - 10	6 - 7	10 - 2	7 - 10	6 - 7	10 - 2	7 - 10	6 - 7	9 - 10	7 - 8	6 - 5	
5.125x11.000	11 - 8	8 - 11	7 - 6	11 - 8	8 - 11	7 - 6	11 - 8	8 - 11	7 - 6	11 - 3	8 - 8	7 - 4	
5.125x12.375	13 - 1	10 - 0	8 - 5	13 - 1	10 - 0	8 - 5	13 - 1	10 - 0	8 - 5	12 - 7	9 - 9	8 - 3	
5.125x13.750	14 - 6	11 - 1	9 - 4	14 - 6	11 - 1	9 - 4	14 - 6	11 - 1	9 - 4	14 - 0	10 - 10	9 - 2	
5.125x15.125	15 - 10	12 - 2	10 - 3	15 - 10	12 - 2	10 - 3	15 - 10	12 - 2	10 - 3	15 - 3	11 - 10	10 - 1	
5.125x16.500	17 - 2	13 - 2	11 - 1	17 - 2	13 - 2	11 - 1	17 - 2	13 - 2	11 - 1	16 - 6	12 - 11	10 - 11	
5.125x17.875	18 - 6	14 - 3	12 - 0	18 - 6	14 - 3	12 - 0	18 - 5	14 - 3	12 - 0	17 - 9	13 - 10	11 - 9	
5.125x19.250	19 - 8	15 - 3	12 - 10	19 - 8	15 - 3	12 - 10	19 - 7	15 - 3	12 - 10	18 - 10	14 - 10	12 - 7	
5.125x20.625	20-0†	16 - 2	13 - 9	20-0†	16 - 2	13 - 9	20-0†	16 - 2	13 - 9	19 - 10	15 - 9	13 - 5	
5.125x22.000	20-0†	17 - 1	14 - 6	20-0†	17 - 1	14 - 6	20-0†	17 - 1	14 - 6	20-0†	16 - 6	14 - 2	
5.125x23.375	20-0†	17 - 11	15 - 3	20-0†	17 - 11	15 - 3	20-0†	17 - 11	15 - 3	20-0†	17 - 3	14 - 10	
5.125x24.750	20-0†	18 - 8	16 - 0	20-0†	18 - 8	16 - 0	20-0†	18 - 6	16 - 0	20-0†	17 - 11	15 - 6	

† Spans are limited to 20 feet in length.

1 Tabulated spans are based on the lowest F_b , F_v , and E for #2 Grade Douglas Fir-Larch, Hem-Fir, Southern Pine, and Spruce-Pine-Fir. For #3 Grade lumber, spans shall be multiplied by 0.75.2 Tabulated spans assume 20F combination glulam with a minimum $F_{b0}=2,000$ psi, $F_{v0}=210$ psi, and $E=1,500,000$ psi.

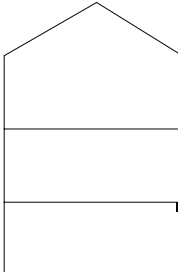
3 The number of jack studs required at each end of the header shall be determined from Table 3.22F.

4 Spans checked for live load deflection only.

Table 3.22E2 Laterally Supported (Raised) Header Spans for Exterior Loadbearing Walls**Raised Exterior**

(Supporting a Roof, Ceiling, and Two Clear Span Floors) Dead Load Assumptions:

Roof/Ceiling Assembly = 20 psf, Floor Assembly = 10psf, Wall Assembly = 121plf, $L/\Delta_{LL}=360$

		Roof Live Load			Ground Snow Load								
		20 psf			30 psf			50 psf			70 psf		
		Building Width (ft)											
		12	24	36	12	24	36	12	24	36	12	24	36
		Maximum Header/Girder Spans (ft-in.) for Common Lumber Species ^{1,3,4}											
Headers Supporting Roof, Ceiling, and Two Clear Span Floors 	1-2x6	2 - 3	1 - 9	1 - 5	2 - 3	1 - 9	1 - 5	2 - 3	1 - 9	1 - 5	2 - 2	1 - 8	1 - 5
	1-2x8	2 - 10	2 - 2	1 - 10	2 - 10	2 - 2	1 - 10	2 - 10	2 - 2	1 - 10	2 - 9	2 - 1	1 - 10
	1-2x10	3 - 4	2 - 7	2 - 2	3 - 4	2 - 7	2 - 2	3 - 4	2 - 7	2 - 2	3 - 3	2 - 6	2 - 2
	1-2x12	4 - 0	3 - 0	2 - 7	4 - 0	3 - 0	2 - 7	4 - 0	3 - 0	2 - 7	3 - 10	3 - 0	2 - 6
	2-2x4	2 - 3	1 - 8	1 - 4	2 - 3	1 - 8	1 - 4	2 - 3	1 - 8	1 - 4	2 - 2	1 - 8	1 - 4
	2-2x6	3 - 4	2 - 6	2 - 2	3 - 4	2 - 6	2 - 2	3 - 4	2 - 6	2 - 2	3 - 3	2 - 6	2 - 1
	2-2x8	4 - 3	3 - 3	2 - 8	4 - 3	3 - 3	2 - 8	4 - 3	3 - 3	2 - 8	4 - 1	3 - 2	2 - 8
	2-2x10	5 - 0	3 - 10	3 - 2	5 - 0	3 - 10	3 - 2	5 - 0	3 - 10	3 - 2	4 - 10	3 - 9	3 - 2
	2-2x12	5 - 11	4 - 6	3 - 9	5 - 11	4 - 6	3 - 9	5 - 11	4 - 6	3 - 9	5 - 8	4 - 5	3 - 9
	3-2x8	5 - 3	4 - 0	3 - 5	5 - 3	4 - 0	3 - 5	5 - 3	4 - 0	3 - 5	5 - 1	3 - 11	3 - 4
	3-2x10	6 - 3	4 - 9	4 - 0	6 - 3	4 - 9	4 - 0	6 - 3	4 - 9	4 - 0	6 - 1	4 - 8	4 - 0
	3-2x12	7 - 5	5 - 8	4 - 9	7 - 5	5 - 8	4 - 9	7 - 5	5 - 8	4 - 9	7 - 2	5 - 6	4 - 8
	4-2x8	6 - 1	4 - 8	3 - 11	6 - 1	4 - 8	3 - 11	6 - 1	4 - 8	3 - 11	5 - 11	4 - 7	3 - 10
	4-2x10	7 - 3	5 - 6	4 - 8	7 - 3	5 - 6	4 - 8	7 - 3	5 - 6	4 - 8	7 - 0	5 - 5	4 - 7
	4-2x12	8 - 6	6 - 6	5 - 6	8 - 6	6 - 6	5 - 6	8 - 6	6 - 6	5 - 6	8 - 3	6 - 4	5 - 4
	Size	Maximum Header/Girder Spans (ft-in.) for Glued Laminated Timber Beams ^{2,3,4}											
	3.125x5.500	4 - 7	3 - 6	2 - 11	4 - 7	3 - 6	2 - 11	4 - 7	3 - 6	2 - 11	4 - 5	3 - 5	2 - 10
	3.125x6.875	5 - 9	4 - 4	3 - 7	5 - 9	4 - 4	3 - 7	5 - 9	4 - 4	3 - 7	5 - 6	4 - 3	3 - 6
	3.125x8.250	6 - 10	5 - 3	4 - 4	6 - 10	5 - 3	4 - 4	6 - 10	5 - 3	4 - 4	6 - 8	5 - 2	4 - 3
	3.125x9.625	8 - 0	6 - 1	5 - 1	8 - 0	6 - 1	5 - 1	8 - 0	6 - 1	5 - 1	7 - 9	6 - 0	4 - 11
3.125x11.000	9 - 2	7 - 0	5 - 9	9 - 2	7 - 0	5 - 9	9 - 2	7 - 0	5 - 9	8 - 10	6 - 10	5 - 8	
3.125x12.375	10 - 4	7 - 10	6 - 6	10 - 4	7 - 10	6 - 6	10 - 4	7 - 10	6 - 6	10 - 0	7 - 8	6 - 4	
3.125x13.750	11 - 5	8 - 9	7 - 3	11 - 5	8 - 9	7 - 3	11 - 5	8 - 9	7 - 3	11 - 1	8 - 7	7 - 1	
3.125x15.125	12 - 7	9 - 7	7 - 11	12 - 7	9 - 7	7 - 11	12 - 7	9 - 7	7 - 11	12 - 2	9 - 5	7 - 9	
3.125x16.500	13 - 9	10 - 6	8 - 8	13 - 9	10 - 6	8 - 8	13 - 9	10 - 6	8 - 8	13 - 3	10 - 3	8 - 6	
3.125x17.875	14 - 11	11 - 4	9 - 5	14 - 11	11 - 4	9 - 5	14 - 11	11 - 4	9 - 5	14 - 5	11 - 1	9 - 2	
3.125x19.250	16 - 0	12 - 3	10 - 1	16 - 0	12 - 3	10 - 1	16 - 0	12 - 3	10 - 1	15 - 6	12 - 0	9 - 11	
3.125x20.625	17 - 2	13 - 1	10 - 10	17 - 2	13 - 1	10 - 10	17 - 2	13 - 1	10 - 10	16 - 7	12 - 10	10 - 7	
3.125x22.000	18 - 4	14 - 0	11 - 7	18 - 4	14 - 0	11 - 7	18 - 4	14 - 0	11 - 7	17 - 9	13 - 8	11 - 4	
3.125x23.375	19 - 4	14 - 10	12 - 3	19 - 4	14 - 10	12 - 3	19 - 4	14 - 10	12 - 3	18 - 9	14 - 6	12 - 0	
3.125x24.750	20-0†	15 - 9	13 - 0	20-0†	15 - 9	13 - 0	20-0†	15 - 9	13 - 0	19 - 9	15 - 5	12 - 9	
5.125x5.500	5 - 10	4 - 6	3 - 9	5 - 10	4 - 6	3 - 9	5 - 10	4 - 6	3 - 9	5 - 8	4 - 5	3 - 8	
5.125x6.875	7 - 4	5 - 7	4 - 8	7 - 4	5 - 7	4 - 8	7 - 4	5 - 7	4 - 8	7 - 1	5 - 6	4 - 7	
5.125x8.250	8 - 10	6 - 9	5 - 8	8 - 10	6 - 9	5 - 8	8 - 10	6 - 9	5 - 8	8 - 6	6 - 7	5 - 7	
5.125x9.625	10 - 3	7 - 10	6 - 7	10 - 3	7 - 10	6 - 7	10 - 3	7 - 10	6 - 7	9 - 11	7 - 8	6 - 6	
5.125x11.000	11 - 9	8 - 11	7 - 6	11 - 9	8 - 11	7 - 6	11 - 9	8 - 11	7 - 6	11 - 4	8 - 9	7 - 5	
5.125x12.375	13 - 2	10 - 1	8 - 5	13 - 2	10 - 1	8 - 5	13 - 2	10 - 1	8 - 5	12 - 9	9 - 10	8 - 4	
5.125x13.750	14 - 8	11 - 2	9 - 5	14 - 8	11 - 2	9 - 5	14 - 8	11 - 2	9 - 5	14 - 2	11 - 0	9 - 3	
5.125x15.125	16 - 2	12 - 4	10 - 4	16 - 2	12 - 4	10 - 4	16 - 2	12 - 4	10 - 4	15 - 7	12 - 1	10 - 2	
5.125x16.500	17 - 6	13 - 5	11 - 3	17 - 6	13 - 5	11 - 3	17 - 6	13 - 5	11 - 3	16 - 11	13 - 2	11 - 1	
5.125x17.875	18 - 9	14 - 6	12 - 2	18 - 9	14 - 6	12 - 2	18 - 9	14 - 6	12 - 2	18 - 2	14 - 3	12 - 0	
5.125x19.250	20-0†	15 - 6	13 - 2	20-0†	15 - 6	13 - 2	20-0†	15 - 6	13 - 2	19 - 6	15 - 3	12 - 11	
5.125x20.625	20-0†	16 - 6	14 - 0	20-0†	16 - 6	14 - 0	20-0†	16 - 6	14 - 0	20-0†	16 - 2	13 - 9	
5.125x22.000	20-0†	17 - 6	14 - 10	20-0†	17 - 6	14 - 10	20-0†	17 - 6	14 - 10	20-0†	17 - 2	14 - 7	
5.125x23.375	20-0†	18 - 6	15 - 8	20-0†	18 - 6	15 - 8	20-0†	18 - 6	15 - 8	20-0†	18 - 2	15 - 5	
5.125x24.750	20-0†	19 - 6	16 - 6	20-0†	19 - 6	16 - 6	20-0†	19 - 6	16 - 6	20-0†	19 - 1	16 - 3	

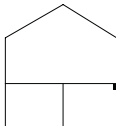
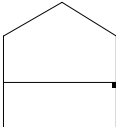
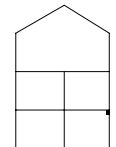
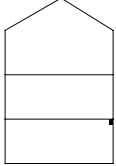
† Spans are limited to 20 feet in length.

1 Tabulated spans are based on the lowest F_b , F_v , and E for #2 Grade Douglas Fir-Larch, Hem-Fir, Southern Pine, and Spruce-Pine-Fir. For #3 Grade lumber, spans shall be multiplied by 0.75.2 Tabulated spans assume 20F combination glulam with a minimum $F_b=2,000$ psi, $F_v=210$ psi, and $E=1,500,000$ psi.

3 The number of jack studs required at each end of the header shall be determined from Table 3.22F.

4 Spans checked for live load deflection only.

Table 3.22F Jack Stud Requirements for Headers in Exterior Loadbearing Walls

		Roof Live Load				Ground Snow Load											
		20 psf				30 psf				50 psf				70 psf			
		Header Width															
		3" (2-2x)	4.5" (3-2x)	5"	6" (4-2x)	3" (2-2x)	4.5" (3-2x)	5"	6" (4-2x)	3" (2-2x)	4.5" (3-2x)	5"	6" (4-2x)	3" (2-2x)	4.5" (3-2x)	5"	6" (4-2x)
Header Supporting	Header Span (ft)	Number of Jack Studs Required at Each End of the Header ^{1,2,3}															
Roof and Ceiling 	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	4	1	1	1	1	1	1	1	1	2	1	1	1	2	2	1	1
	6	2	1	1	1	2	1	1	1	2	2	2	1	3	2	2	2
	8	2	2	2	1	2	2	2	1	3	2	2	2	4	3	2	2
	10	3	2	2	2	3	2	2	2	4	3	2	2	5	3	3	3
	12	3	2	2	2	3	2	2	2	4	3	3	2	5	4	3	3
	14	4	3	2	2	4	3	2	2	5	4	3	3	6	4	4	3
	16	4	3	3	2	4	3	3	2	6	4	4	3	7	5	4	4
	18	4	3	3	2	5	3	3	3	6	4	4	3	8	5	5	4
20	5	3	3	3	5	4	3	3	7	5	4	4	9	6	5	5	
Roof, Ceiling, and One Center Bearing Floor 	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	4	2	1	1	1	2	1	1	1	2	2	1	1	2	2	2	1
	6	2	2	2	1	3	2	2	2	3	2	2	2	3	2	2	2
	8	3	2	2	2	3	2	2	2	4	3	2	2	4	3	3	2
	10	4	3	2	2	4	3	3	2	5	3	3	3	5	4	3	3
	12	4	3	3	2	5	3	3	3	5	4	3	3	6	4	4	3
	14	5	4	3	3	5	4	3	3	6	4	4	3	7	5	4	4
	16	6	4	4	3	6	4	4	3	7	5	4	4	8	5	5	4
	18	6	4	4	3	7	5	4	4	8	5	5	4	9	6	6	5
20	7	5	4	4	7	5	5	4	9	6	5	5	10	7	6	5	
Roof, Ceiling, and One Clear Span Floor 	2	1	1	1	1	1	1	1	1	2	1	1	1	2	1	1	1
	4	2	2	2	1	2	2	2	1	3	2	2	2	3	2	2	2
	6	3	2	2	2	3	2	2	2	4	3	2	2	4	3	3	2
	8	4	3	3	2	4	3	3	2	5	3	3	3	5	4	3	3
	10	5	3	3	3	5	3	3	3	6	4	4	3	6	4	4	3
	12	6	4	4	3	6	4	4	3	7	5	4	4	7	5	5	4
	14	6	4	4	3	7	5	4	4	8	5	5	4	8	6	5	4
	16	7	5	5	4	7	5	5	4	9	6	5	5	10	7	6	5
	18	8	6	5	4	8	6	5	4	10	7	6	5	11	7	7	6
20	9	6	6	5	9	6	6	5	11	7	7	6	12	8	7	6	
Roof, Ceiling, and Two Center Bearing Floors 	2	1	1	1	1	1	1	1	1	2	1	1	1	2	1	1	1
	4	2	2	2	1	2	2	2	1	3	2	2	2	3	2	2	2
	6	3	2	2	2	3	2	2	2	4	3	2	2	4	3	3	2
	8	4	3	3	2	4	3	3	2	5	3	3	3	5	4	3	3
	10	5	4	3	3	5	4	3	3	6	4	4	3	6	4	4	3
	12	6	4	4	3	6	4	4	3	7	5	4	4	8	5	5	4
	14	7	5	4	4	7	5	4	4	8	5	5	4	9	6	6	5
	16	8	5	5	4	8	6	5	4	9	6	6	5	10	7	6	5
	18	9	6	5	5	9	6	6	5	10	7	6	5	11	8	7	6
20	10	7	6	5	10	7	6	5	11	8	7	6	12	8	8	6	
Roof, Ceiling, and Two Clear Span Floors 	2	2	1	1	1	2	1	1	1	2	1	1	1	2	2	1	1
	4	3	2	2	2	3	2	2	2	3	2	2	2	4	3	2	2
	6	5	3	3	3	5	3	3	3	5	3	3	3	5	4	3	3
	8	6	4	4	3	6	4	4	3	6	4	4	3	7	5	4	4
	10	7	5	5	4	7	5	5	4	8	5	5	4	8	6	5	4
	12	9	6	5	5	9	6	5	5	9	6	6	5	10	7	6	5
	14	10	7	6	5	10	7	6	5	11	7	7	6	12	8	7	6
	16	11	8	7	6	11	8	7	6	12	8	8	6	13	9	8	7
	18	13	9	8	7	13	9	8	7	14	9	8	7	15	10	9	8
20	14	9	9	7	14	9	9	7	15	10	9	8	16	11	10	8	

1 Jack stud requirements are based on a roof span (W) of 36 feet. For other roof spans, the tabulated number of jack studs required at each end of the header shall be multiplied by $(W + 12)/48$.

2 Where the number of jack studs equals 1, the header shall be permitted to be supported by a framing anchor attached to the full-height wall stud.

3 An equivalent number of full height studs are permitted to replace jack studs, when adequate gravity connections are provided.

Table 3.23A Laterally Unsupported (Dropped) Header Spans for Exterior Loadbearing Walls Resisting Wind Loads**Exposure B
Dropped**

Wind Speed 3-second gust (mph) (See Figure 1.1)	90	95	100	105	110	115	120	130	140	150	160	170	180	195
Size	Maximum Header/Girder Spans (ft.-in.) for Common Lumber Species ^{1,2,3,5}													
1-2x6	6 - 11	6 - 6	6 - 3	5 - 11	5 - 8	5 - 5	5 - 2	4 - 9	4 - 5	4 - 2	3 - 11	3 - 8	3 - 5	3 - 2
1-2x8	7 - 7	7 - 3	6 - 10	6 - 6	6 - 3	6 - 0	5 - 9	5 - 3	4 - 11	4 - 7	4 - 3	4 - 0	3 - 10	3 - 6
1-2x10	8 - 2	7 - 9	7 - 4	7 - 0	6 - 8	6 - 5	6 - 2	5 - 8	5 - 3	4 - 11	4 - 7	4 - 4	4 - 1	3 - 9
1-2x12	8 - 9	8 - 3	7 - 10	7 - 6	7 - 2	6 - 10	6 - 7	6 - 1	5 - 7	5 - 3	4 - 11	4 - 7	4 - 4	4 - 0
2-2x4	8 - 0	7 - 7	7 - 2	6 - 10	6 - 6	6 - 3	6 - 0	5 - 6	5 - 2	4 - 9	4 - 6	4 - 3	4 - 0	3 - 8
2-2x6	9 - 9	9 - 3	8 - 9	8 - 4	8 - 0	7 - 8	7 - 4	6 - 9	6 - 3	5 - 10	5 - 6	5 - 2	4 - 11	4 - 6
2-2x8	10 - 9	10 - 3	9 - 8	9 - 3	8 - 10	8 - 5	8 - 1	7 - 6	6 - 11	6 - 6	6 - 1	5 - 8	5 - 5	5 - 0
2-2x10	11 - 7	11 - 0	10 - 5	9 - 11	9 - 6	9 - 1	8 - 8	8 - 0	7 - 5	6 - 11	6 - 6	6 - 1	5 - 9	5 - 4
2-2x12	12 - 4	11 - 8	11 - 1	10 - 7	10 - 1	9 - 8	9 - 3	8 - 7	7 - 11	7 - 5	6 - 11	6 - 6	6 - 2	5 - 8
3-2x8	13 - 2	12 - 6	11 - 11	11 - 4	10 - 10	10 - 4	9 - 11	9 - 2	8 - 6	7 - 11	7 - 5	7 - 0	6 - 7	6 - 1
3-2x10	14 - 2	13 - 5	12 - 9	12 - 2	11 - 7	11 - 1	10 - 7	9 - 10	9 - 1	8 - 6	8 - 0	7 - 6	7 - 1	6 - 6
3-2x12	15 - 1	14 - 4	13 - 7	13 - 0	12 - 4	11 - 10	11 - 4	10 - 6	9 - 9	9 - 1	8 - 6	8 - 0	7 - 7	7 - 0
4-2x8	15 - 3	14 - 5	13 - 9	13 - 1	12 - 6	11 - 11	11 - 5	10 - 7	9 - 10	9 - 2	8 - 7	8 - 1	7 - 7	7 - 0
4-2x10	16 - 4	15 - 6	14 - 9	14 - 0	13 - 5	12 - 10	12 - 3	11 - 4	10 - 6	9 - 10	9 - 2	8 - 8	8 - 2	7 - 7
4-2x12	17 - 6	16 - 7	15 - 9	15 - 0	14 - 3	13 - 8	13 - 1	12 - 1	11 - 3	10 - 6	9 - 10	9 - 3	8 - 9	8 - 1
Size	Maximum Header/Girder Spans (ft.-in.) for Glued Laminated Timber Beams ^{1,2,4,5}													
3.125x5.500	12 - 11	12 - 3	11 - 7	11 - 1	10 - 7	10 - 1	9 - 8	8 - 11	8 - 4	7 - 9	7 - 3	6 - 10	6 - 5	6 - 0
3.125x6.875	14 - 5	13 - 8	13 - 0	12 - 5	11 - 10	11 - 4	10 - 10	10 - 0	9 - 3	8 - 8	8 - 1	7 - 8	7 - 3	6 - 8
3.125x8.250	15 - 10	15 - 0	14 - 3	13 - 7	12 - 11	12 - 5	11 - 10	11 - 0	10 - 2	9 - 6	8 - 11	8 - 4	7 - 11	7 - 4
3.125x9.625	17 - 1	16 - 2	15 - 5	14 - 8	14 - 0	13 - 4	12 - 10	11 - 10	11 - 0	10 - 3	9 - 7	9 - 1	8 - 7	7 - 11
3.125x11.000	18 - 3	17 - 4	16 - 5	15 - 8	14 - 11	14 - 4	13 - 8	12 - 8	11 - 9	11 - 0	10 - 3	9 - 8	9 - 2	8 - 5
3.125x12.375	19 - 4	18 - 4	17 - 5	16 - 7	15 - 10	15 - 2	14 - 6	13 - 5	12 - 5	11 - 7	10 - 11	10 - 3	9 - 8	8 - 11
3.125x13.750	20-0†	19 - 4	18 - 5	17 - 6	16 - 8	16 - 0	15 - 4	14 - 2	13 - 2	12 - 3	11 - 6	10 - 10	10 - 3	9 - 5
3.125x15.125	20-0†	20-0†	19 - 3	18 - 4	17 - 6	16 - 9	16 - 1	14 - 10	13 - 9	12 - 10	12 - 1	11 - 4	10 - 9	9 - 11
3.125x16.500	20-0†	20-0†	20-0†	19 - 2	18 - 4	17 - 6	16 - 9	15 - 6	14 - 5	13 - 5	12 - 7	11 - 10	11 - 2	10 - 4
3.125x17.875	20-0†	20-0†	20-0†	20 - 0	19 - 1	18 - 3	17 - 6	16 - 1	15 - 0	14 - 0	13 - 1	12 - 4	11 - 8	10 - 9
3.125x19.250	20-0†	20-0†	20-0†	20-0†	19 - 9	18 - 11	18 - 1	16 - 9	15 - 6	14 - 6	13 - 7	12 - 10	12 - 1	11 - 2
3.125x20.625	20-0†	20-0†	20-0†	20-0†	20-0†	19 - 7	18 - 9	17 - 4	16 - 1	15 - 0	14 - 1	13 - 3	12 - 6	11 - 7
3.125x22.000	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	19 - 4	17 - 11	16 - 7	15 - 6	14 - 6	13 - 8	12 - 11	11 - 11
3.125x23.375	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20 - 0	18 - 5	17 - 1	16 - 0	15 - 0	14 - 1	13 - 4	12 - 3
3.125x24.750	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	19 - 0	17 - 7	16 - 5	15 - 5	14 - 6	13 - 8	12 - 8
5.125x5.500	20-0†	19 - 6	18 - 7	17 - 8	16 - 11	16 - 2	15 - 6	14 - 3	13 - 3	12 - 5	11 - 7	10 - 11	10 - 4	9 - 6
5.125x6.875	20-0†	20-0†	20-0†	19 - 9	18 - 10	18 - 1	17 - 4	16 - 0	14 - 10	13 - 10	13 - 0	12 - 3	11 - 6	10 - 8
5.125x8.250	20-0†	20-0†	20-0†	20-0†	20-0†	19 - 9	18 - 11	17 - 6	16 - 3	15 - 2	14 - 3	13 - 4	12 - 8	11 - 8
5.125x9.625	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	18 - 11	17 - 6	16 - 4	15 - 4	14 - 5	13 - 8	12 - 7
5.125x11.000	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	18 - 9	17 - 6	16 - 5	15 - 5	14 - 7	13 - 6
5.125x12.375	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	19 - 11	18 - 7	17 - 5	16 - 5	15 - 6	14 - 3
5.125x13.750	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	19 - 7	18 - 4	17 - 3	16 - 4	15 - 1
5.125x15.125	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	19 - 3	18 - 1	17 - 1	15 - 9
5.125x16.500	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	18 - 11	17 - 10	16 - 6
5.125x17.875	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	19 - 8	18 - 7	17 - 2
5.125x19.250	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	19 - 4	17 - 10
5.125x20.625	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20 - 0	18 - 5
5.125x22.000	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	19 - 0
5.125x23.375	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	19 - 8
5.125x24.750	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†

† Spans are limited to 20 feet in length.

1 Tabulated header spans shall be permitted to be divided by 0.96, for framing not located within 8 feet of building corners.

2 The number of jack studs required at each end of the header shall be determined from Table 3.22F.

3 Tabulated spans are based on the lowest F_b , F_v , and E for #2 Grade Douglas Fir-Larch, Hem-Fir, Southern Pine, and Spruce-Pine-Fir.4 Tabulated spans assume 20F combination glulam with a minimum $F_{by} = 800$ psi.

5 The number of full height studs required at each end of the header shall be determined in accordance with Table 3.23C.

Table 3.23A Laterally Unsupported (Dropped) Header Spans for Exterior Loadbearing Walls Resisting Wind Loads**Exposure C
Dropped**

Wind Speed 3-second gust (mph) (See Figure 1.1)	90	95	100	105	110	115	120	130	140	150	160	170	180	195
Size	Maximum Header/Girder Spans (ft.-in.) for Common Lumber Species ^{1,2,3,5}													
1-2x6	5-10	5-7	5-3	5-0	4-9	4-7	4-5	4-1	3-9	3-6	3-4	3-1	2-11	2-8
1-2x8	6-6	6-2	5-10	5-7	5-3	5-1	4-10	4-6	4-2	3-11	3-8	3-5	3-3	3-0
1-2x10	6-11	6-7	6-3	5-11	5-8	5-5	5-2	4-10	4-6	4-2	3-11	3-8	3-6	3-2
1-2x12	7-5	7-0	6-8	6-4	6-1	5-10	5-7	5-2	4-9	4-5	4-2	3-11	3-8	3-5
2-2x4	6-9	6-5	6-1	5-10	5-7	5-4	5-1	4-8	4-4	4-1	3-10	3-7	3-5	3-2
2-2x6	8-3	7-10	7-5	7-1	6-9	6-6	6-3	5-9	5-4	5-0	4-8	4-5	4-2	3-10
2-2x8	9-2	8-8	8-3	7-10	7-6	7-2	6-10	6-4	5-11	5-6	5-2	4-10	4-7	4-3
2-2x10	9-10	9-4	8-10	8-5	8-0	7-8	7-4	6-10	6-4	5-11	5-6	5-2	4-11	4-6
2-2x12	10-6	9-11	9-5	9-0	8-7	8-2	7-10	7-3	6-9	6-3	5-11	5-7	5-3	4-10
3-2x8	11-2	10-7	10-1	9-7	9-2	8-9	8-5	7-9	7-2	6-9	6-4	5-11	5-7	5-2
3-2x10	12-0	11-5	10-10	10-4	9-10	9-5	9-0	8-4	7-9	7-3	6-9	6-4	6-0	5-7
3-2x12	12-10	12-2	11-7	11-0	10-6	10-1	9-7	8-11	8-3	7-8	7-3	6-10	6-5	5-11
4-2x8	12-11	12-3	11-8	11-1	10-7	10-1	9-8	9-0	8-4	7-9	7-3	6-10	6-6	6-0
4-2x10	13-11	13-2	12-6	11-11	11-4	10-10	10-5	9-7	8-11	8-4	7-10	7-4	6-11	6-5
4-2x12	14-10	14-0	13-4	12-8	12-1	11-7	11-1	10-3	9-6	8-11	8-4	7-10	7-5	6-10
Size	Maximum Header/Girder Spans (ft.-in.) for Glued Laminated Timber Beams ^{1,2,4,5}													
3.125x5.500	11-0	10-5	9-10	9-5	9-0	8-7	8-3	7-7	7-1	6-7	6-2	5-10	5-6	5-1
3.125x6.875	12-3	11-7	11-0	10-6	10-0	9-7	9-2	8-6	7-11	7-4	6-11	6-6	6-2	5-8
3.125x8.250	13-5	12-9	12-1	11-6	11-0	10-6	10-1	9-4	8-8	8-1	7-7	7-1	6-9	6-2
3.125x9.625	14-6	13-9	13-1	12-5	11-10	11-4	10-10	10-0	9-4	8-8	8-2	7-8	7-3	6-8
3.125x11.000	15-6	14-8	13-11	13-3	12-8	12-2	11-7	10-9	10-0	9-4	8-9	8-2	7-9	7-2
3.125x12.375	16-5	15-7	14-10	14-1	13-5	12-10	12-4	11-5	10-7	9-10	9-3	8-8	8-3	7-7
3.125x13.750	17-4	16-5	15-7	14-10	14-2	13-7	13-0	12-0	11-2	10-5	9-9	9-2	8-8	8-0
3.125x15.125	18-2	17-3	16-4	15-7	14-10	14-3	13-8	12-7	11-8	10-11	10-3	9-7	9-1	8-5
3.125x16.500	19-0	18-0	17-1	16-3	15-6	14-10	14-3	13-2	12-2	11-5	10-8	10-1	9-6	8-9
3.125x17.875	19-9	18-9	17-9	16-11	16-2	15-6	14-10	13-8	12-8	11-10	11-1	10-6	9-11	9-1
3.125x19.250	20-0†	19-5	18-5	17-7	16-9	16-1	15-5	14-2	13-2	12-4	11-6	10-10	10-3	9-6
3.125x20.625	20-0†	20-0†	19-1	18-2	17-4	16-7	15-11	14-8	13-8	12-9	11-11	11-3	10-7	9-10
3.125x22.000	20-0†	20-0†	19-9	18-9	17-11	17-2	16-5	15-2	14-1	13-2	12-4	11-7	11-0	10-1
3.125x23.375	20-0†	20-0†	20-0†	19-4	18-6	17-8	16-11	15-8	14-6	13-7	12-8	12-0	11-4	10-5
3.125x24.750	20-0†	20-0†	20-0†	19-11	19-0	18-2	17-5	16-1	14-11	13-11	13-1	12-4	11-7	10-9
5.125x5.500	17-6	16-7	15-9	15-0	14-4	13-8	13-2	12-1	11-3	10-6	9-10	9-3	8-9	8-1
5.125x6.875	19-7	18-6	17-7	16-9	16-0	15-4	14-8	13-7	12-7	11-9	11-0	10-4	9-9	9-0
5.125x8.250	20-0†	20-0†	19-4	18-4	17-6	16-9	16-1	14-10	13-9	12-10	12-1	11-4	10-9	9-11
5.125x9.625	20-0†	20-0†	20-0†	19-10	18-11	18-1	17-4	16-0	14-11	13-11	13-0	12-3	11-7	10-8
5.125x11.000	20-0†	20-0†	20-0†	20-0†	20-0†	19-4	18-7	17-2	15-11	14-10	13-11	13-1	12-5	11-5
5.125x12.375	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	19-8	18-2	16-11	15-9	14-9	13-11	13-2	12-1
5.125x13.750	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	19-2	17-9	16-7	15-7	14-8	13-10	12-9
5.125x15.125	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	18-8	17-5	16-4	15-4	14-6	13-5
5.125x16.500	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	19-6	18-2	17-1	16-1	15-2	14-0
5.125x17.875	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	18-11	17-9	16-8	15-9	14-7
5.125x19.250	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	19-8	18-5	17-4	16-4	15-1
5.125x20.625	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	19-1	17-11	16-11	15-8
5.125x22.000	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	19-8	18-6	17-6	16-2
5.125x23.375	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	19-1	18-0	16-8
5.125x24.750	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	20-0†	19-8	18-7	17-2

† Spans are limited to 20 feet in length.

1 Tabulated header spans shall be permitted to be divided by 0.96, for framing not located within 8 feet of building corners.

2 The number of jack studs required at each end of the header shall be determined from Table 3.22F.

3 Tabulated spans are based on the lowest F_b , F_w , and E for #2 Grade Douglas Fir-Larch, Hem-Fir, Southern Pine, and Spruce-Pine-Fir.4 Tabulated spans assume 20F combination glulam with a minimum $F_{by} = 800$ psi.

5 The number of full height studs required at each end of the header shall be determined in accordance with Table 3.23C.

Table 3.23B Laterally Unsupported (Dropped) Header Spans for Exterior Non-Loadbearing Walls and Window Sill Plate Spans Resisting Wind Loads

Exposure B

Wind Speed 3-second gust (mph) (See Figure 1.1)	90	95	100	105	110	115	120	130	140	150	160	170	180	195
Maximum Header/Girder Spans for Common Lumber Species ^{1,2,3,4}														
Size	(ft-in.)	(ft-in.)	(ft-in.)	(ft-in.)	(ft-in.)	(ft-in.)	(ft-in.)	(ft-in.)	(ft-in.)	(ft-in.)	(ft-in.)	(ft-in.)	(ft-in.)	(ft-in.)
1-2x4 (flat)	8 - 3	7 - 9	7 - 5	7 - 1	6 - 9	6 - 5	6 - 2	5 - 8	5 - 3	4 - 11	4 - 8	4 - 4	4 - 1	3 - 10
1-2x6 (flat)	12 - 4	11 - 8	11 - 1	10 - 7	10 - 1	9 - 8	9 - 3	8 - 6	7 - 11	7 - 5	6 - 11	6 - 6	6 - 2	5 - 8
2-2x4 (flat)	12 - 2	11 - 7	11 - 0	10 - 5	10 - 0	9 - 7	9 - 2	8 - 5	7 - 10	7 - 4	6 - 10	6 - 5	6 - 1	5 - 8
2-2x6 (flat)	16 - 0*	16 - 0*	16 - 0*	15 - 8	15 - 0	14 - 4	13 - 8	12 - 8	11 - 9	11 - 0	10 - 3	9 - 8	9 - 2	8 - 5

¹ Tabulated header spans shall be permitted to be divided by 0.96, for framing not located within 8 feet of building corners.

² Tabulated header spans are based on 10 foot wall heights. For other wall heights, H, the tabulated header spans shall be divided by $(H/10)^{1/2}$.

³ Tabulated spans are based on the lowest $F_{b\parallel}$, $F_{v\parallel}$, and E for #2 Grade Douglas Fir-Larch, Hem-Fir, Southern Pine, and Spruce-Pine-Fir.

⁴ The number of full height studs required at each end of the header shall be determined in accordance with Table 3.23C.

* Maximum span limited to 16 ft.

Table 3.23B Laterally Unsupported (Dropped) Header Spans for Exterior Non-Loadbearing Walls and Window Sill Plate Spans Resisting Wind Loads

Exposure C

Wind Speed 3-second gust (mph) (See Figure 1.1)	90	95	100	105	110	115	120	130	140	150	160	170	180	195
Maximum Header/Girder Spans for Common Lumber Species ^{1,2,3,4}														
Size	(ft-in.)	(ft-in.)	(ft-in.)	(ft-in.)	(ft-in.)	(ft-in.)	(ft-in.)	(ft-in.)	(ft-in.)	(ft-in.)	(ft-in.)	(ft-in.)	(ft-in.)	(ft-in.)
1-2x4 (flat)	7 - 0	6 - 7	6 - 3	6 - 0	5 - 9	5 - 6	5 - 3	4 - 10	4 - 6	4 - 2	3 - 11	3 - 8	3 - 6	3 - 3
1-2x6 (flat)	10 - 5	9 - 11	9 - 5	9 - 0	8 - 7	8 - 2	7 - 10	7 - 3	6 - 9	6 - 3	5 - 11	5 - 6	5 - 3	4 - 10
2-2x4 (flat)	10 - 4	9 - 10	9 - 4	8 - 10	8 - 6	8 - 1	7 - 9	7 - 2	6 - 8	6 - 3	5 - 10	5 - 6	5 - 2	4 - 9
2-2x6 (flat)	15 - 6	14 - 8	14 - 0	13 - 4	12 - 8	12 - 2	11 - 8	10 - 9	10 - 0	9 - 4	8 - 9	8 - 3	7 - 9	7 - 2

¹ Tabulated header spans shall be permitted to be divided by 0.96, for framing not located within 8 feet of building corners.

² Tabulated header spans are based on 10 foot wall heights. For other wall heights, H, the tabulated header spans shall be divided by $(H/10)^{1/2}$.

³ Tabulated spans are based on the lowest $F_{b\parallel}$, $F_{v\parallel}$, and E for #2 Grade Douglas Fir-Larch, Hem-Fir, Southern Pine, and Spruce-Pine-Fir.

⁴ The number of full height studs required at each end of the header shall be determined in accordance with Table 3.23C.

3

PRESCRIPTIVE DESIGN

Exposures
B & C

Table 3.23C Full Height Stud Requirements for Headers or Window Sill Plates in Exterior Walls Resisting Wind Loads

Header Span (ft)	Wall Stud Spacing (in.)		
	12	16	24
	Number of Full Height Stud Required at Each End of the Header ¹		
2	1	1	1
4	2	2	1
6	3	3	2
8	4	3	2
10	5	4	3
12	6	5	3
14	7	6	4
16	8	6	4
18	9	7	5
20	10	8	5

1 The number of full height studs required at each end of the header shall be permitted to be reduced in accordance with the requirements of Section 3.4.1.4.2 and Table 3.23D.

Table 3.23D Reduced Full Height Stud Requirements for Headers or Window Sill Plates in Exterior Walls Resisting Wind Loads**Exposures
B & C**

		Distance from Top Plate Down to Header (a) or Distance from Bottom Plate Up to Window Sill Plate (b) to Wall Height (x/h), where x is the larger of a or b										
		0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
Wall Stud Spacing (in.)	Header Span (ft)	Number of Full Height Stud Required at Each End of the Header ¹										
12	2	1	1	1	1	1	1	1	1	1	1	1
	4	1	1	2	2	2	2	2	2	2	1	1
	6	1	2	2	3	3	3	3	3	2	2	1
	8	1	2	3	4	4	4	4	4	3	2	1
	10	1	2	4	5	5	5	5	5	4	2	1
	12	1	3	4	6	6	6	6	6	4	3	1
	14	1	3	5	6	7	7	7	6	5	3	1
	16	1	3	6	7	8	8	8	7	6	3	1
	18	1	4	6	8	9	9	9	8	6	4	1
	20	1	4	7	9	10	10	10	9	7	4	1
16	2	1	1	1	1	1	1	1	1	1	1	1
	4	1	1	1	2	2	2	2	2	1	1	1
	6	1	1	2	2	3	3	3	2	2	1	1
	8	1	2	2	3	3	3	3	3	2	2	1
	10	1	2	3	4	4	4	4	4	3	2	1
	12	1	2	3	4	5	5	5	4	3	2	1
	14	1	2	4	5	6	6	6	5	4	2	1
	16	1	3	4	6	6	6	6	6	4	3	1
	18	1	3	5	6	7	7	7	6	5	3	1
	20	1	3	5	7	8	8	8	7	5	3	1
24	2	1	1	1	1	1	1	1	1	1	1	1
	4	1	1	1	1	1	1	1	1	1	1	1
	6	1	1	1	2	2	2	2	2	1	1	1
	8	1	1	2	2	2	2	2	2	2	1	1
	10	1	1	2	3	3	3	3	3	2	1	1
	12	1	2	2	3	3	3	3	3	2	2	1
	14	1	2	3	3	4	4	4	3	3	2	1
	16	1	2	3	4	4	4	4	4	3	2	1
	18	1	2	3	4	5	5	5	4	3	2	1
	20	1	2	4	5	5	5	5	5	4	2	1

1 The capacity of the connection of the top or bottom plate to each full height stud shall be equal to the unit lateral load (w) given on Table 3.5 times half of the header span (L/2) divided by the required number of full height studs (NFH) selected from 3.23D.

Top or Bottom Plate to Each Full Height Stud Connection = $w \cdot (L/2) / NFH$

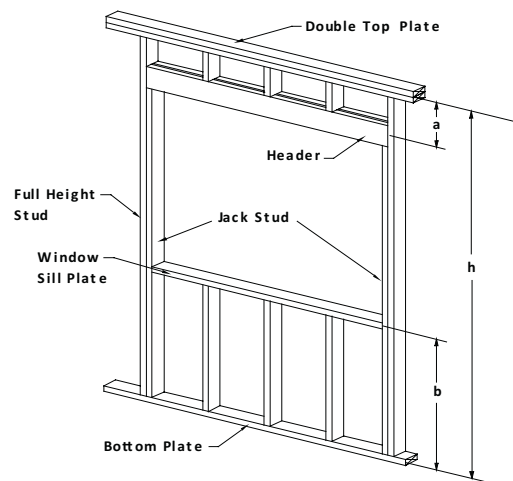
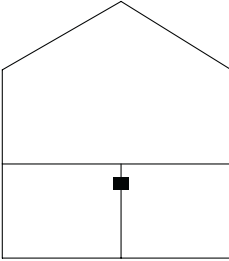


Table 3.24A1 Laterally Unsupported (Dropped) Header Spans for Interior Loadbearing Walls

(Supporting One Center Bearing Floor)

Floor Live Load = 40 psf, $L/\Delta_{LL}=360$, Floor Assembly Dead Load = 10 psf**Dropped Interior**

		Building Width (ft)		
		12	24	36
Headers Supporting	Size	Maximum Header/Girder Spans (ft-in.) for Common Lumber Species ^{1,3,4,5}		
One Floor Only (Center Bearing) 	1-2x6	4 - 0	2 - 10	2 - 4
	1-2x8	5 - 0	3 - 7	3 - 0
	1-2x10	5 - 10	4 - 3	3 - 6
	1-2x12	6 - 6	4 - 10	4 - 0
	2-2x4	4 - 0	2 - 10	2 - 4
	2-2x6	5 - 11	4 - 3	3 - 5
	2-2x8	7 - 1	5 - 2	4 - 4
	2-2x10	7 - 11	6 - 0	5 - 0
	2-2x12	8 - 6	6 - 7	5 - 7
	3-2x8	8 - 5	6 - 4	5 - 3
	3-2x10	9 - 3	7 - 1	6 - 0
	3-2x12	9 - 11	7 - 8	6 - 7
	4-2x8	9 - 5	7 - 2	6 - 0
	4-2x10	10 - 3	7 - 11	6 - 9
	4-2x12	11 - 0	8 - 7	7 - 4
	Size	Maximum Header/Girder Spans (ft-in.) for Glued Laminated Timber Beams ^{2,3,4,5}		
	3.125x5.500	7 - 5	5 - 10	4 - 10
	3.125x6.875	9 - 3	7 - 4	6 - 0
	3.125x8.250	11 - 1	8 - 9	7 - 2
	3.125x9.625	12 - 11	10 - 2	8 - 4
	3.125x11.000	14 - 9	11 - 5	9 - 5
	3.125x12.375	16 - 7	12 - 7	10 - 6
	3.125x13.750	17 - 11	13 - 7	11 - 5
	3.125x15.125	18 - 9	14 - 5	12 - 2
	3.125x16.500	19 - 5	15 - 0	12 - 10
	3.125x17.875	20-0†	15 - 7	13 - 4
	3.125x19.250	20-0†	16 - 0	13 - 9
	3.125x20.625	20-0†	16 - 5	14 - 2
	3.125x22.000	20-0†	16 - 9	14 - 6
	3.125x23.375	20-0†	17 - 1	14 - 9
	3.125x24.750	20-0†	17 - 5	15 - 1
	5.125x5.500	8 - 8	6 - 11	6 - 0
	5.125x6.875	10 - 10	8 - 8	7 - 6
	5.125x8.250	13 - 1	10 - 4	9 - 1
	5.125x9.625	15 - 3	12 - 1	10 - 7
	5.125x11.000	17 - 5	13 - 10	12 - 1
	5.125x12.375	19 - 7	15 - 6	13 - 7
	5.125x13.750	20-0†	17 - 3	15 - 1
	5.125x15.125	20-0†	19 - 0	16 - 7
	5.125x16.5	20-0†	20-0†	18 - 1
	5.125x17.875	20-0†	20-0†	19 - 5

† Spans are limited to 20 feet in length.

1 Tabulated spans are based on the lowest F_w , F_w , and E for #2 Grade Douglas Fir-Larch, Hem-Fir, Southern Pine, and Spruce-Pine-Fir. For #3 Grade lumber, spans shall be multiplied by 0.75.2 Tabulated spans assume 20F combination glulam with a minimum $F_w=2,000$ psi, $F_w=210$ psi, and $E=1,500,000$ psi.

3 Tabulated spans assume headers supporting single span floor joists. For headers supporting continuous two span floor joists, tabulated spans shall be multiplied by 0.89.

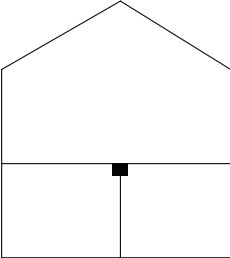
4 The number of jack studs required at each end of the header shall be determined from Table 3.24C.

5 Spans checked for live load deflection only.

Table 3.24A2 Laterally Supported (Raised) Header Spans for Interior Loadbearing Walls

(Supporting One Center Bearing Floor)

Floor Live Load = 40 psf, $L/\Delta_{LL}=360$, Floor Assembly Dead Load = 10 psf**Raised Interior**

Headers Supporting	Size	Building Width (ft)		
		12	24	36
		Maximum Header/Girder Spans (ft-in.) for Common Lumber Species ^{1,3,4,5}		
One Floor Only (Center Bearing) 	1-2x6	4 - 1	2 - 11	2 - 4
	1-2x8	5 - 2	3 - 8	3 - 0
	1-2x10	6 - 2	4 - 4	3 - 7
	1-2x12	7 - 3	5 - 2	4 - 2
	2-2x4	4 - 1	2 - 10	2 - 4
	2-2x6	6 - 1	4 - 4	3 - 6
	2-2x8	7 - 9	5 - 5	4 - 5
	2-2x10	9 - 2	6 - 6	5 - 3
	2-2x12	10 - 9	7 - 7	6 - 3
	3-2x8	9 - 8	6 - 10	5 - 7
	3-2x10	11 - 5	8 - 1	6 - 7
	3-2x12	13 - 6	9 - 6	7 - 9
	4-2x8	11 - 2	7 - 11	6 - 5
	4-2x10	13 - 3	9 - 4	7 - 8
	4-2x12	15 - 7	11 - 0	9 - 0
	Size	Maximum Header/Girder Spans (ft-in.) for Glued Laminated Timber Beams ^{2,3,4,5}		
	3.125x5.500	7 - 5	5 - 10	4 - 10
	3.125x6.875	9 - 3	7 - 4	6 - 0
	3.125x8.250	11 - 1	8 - 9	7 - 3
	3.125x9.625	12 - 11	10 - 3	8 - 5
	3.125x11.000	14 - 9	11 - 8	9 - 8
	3.125x12.375	16 - 7	13 - 2	10 - 10
	3.125x13.750	18 - 5	14 - 8	12 - 1
	3.125x15.125	20-0†	16 - 1	13 - 3
	3.125x16.500	20-0†	17 - 7	14 - 6
	3.125x17.875	20-0†	19 - 0	15 - 8
	3.125x19.250	20-0†	20-0†	16 - 11
	3.125x20.625	20-0†	20-0†	18 - 1
	5.125x5.500	8 - 8	6 - 11	6 - 0
	5.125x6.875	10 - 10	8 - 8	7 - 6
	5.125x8.25	13 - 1	10 - 4	9 - 1
	5.125x9.625	15 - 3	12 - 1	10 - 7
	5.125x11.000	17 - 5	13 - 10	12 - 1
	5.125x12.375	19 - 7	15 - 6	13 - 7
	5.125x13.750	20-0†	17 - 3	15 - 1
	5.125x15.125	20-0†	19 - 0	16 - 7
	5.125x16.500	20-0†	20-0†	18 - 1
	5.125x17.875	20-0†	20-0†	19 - 7

† Spans are limited to 20 feet in length.

1 Tabulated spans are based on the lowest F_b , F_v , and E for #2 Grade Douglas Fir-Larch, Hem-Fir, Southern Pine, and Spruce-Pine-Fir. For #3 Grade lumber, spans shall be multiplied by 0.75.2 Tabulated spans assume 20F combination glulam with a minimum $F_b=2,000$ psi, $F_v=210$ psi, and $E=1,500,000$ psi.

3 Tabulated spans assume headers supporting single span floor joists. For headers supporting continuous two span floor joists, tabulated spans shall be multiplied by 0.89.

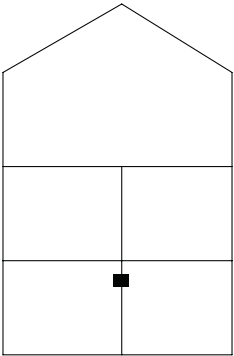
4 The number of jack studs required at each end of the header shall be determined from Table 3.24C.

5 Spans checked for live load deflection only.

Table 3.24B1 Laterally Unsupported (Dropped) Header Spans for Interior Loadbearing Walls

(Supporting Two Center Bearing Floors)

Floor Live Load = 40 psf, $L/\Delta_{LL}=360$, Floor Assembly Dead Load = 10 psf**Dropped Interior**

		Building Width (ft)		
		12	24	36
Headers Supporting	Size	Maximum Header/Girder Spans (ft.-in.) for Common Lumber Species ^{1,3,4,5}		
Two Floors Only (Center Bearing) 	1-2x6	2 - 7	1 - 11	1 - 7
	1-2x8	3 - 4	2 - 5	2 - 0
	1-2x10	3 - 10	2 - 11	2 - 5
	1-2x12	4 - 6	3 - 4	2 - 10
	2-2x4	2 - 7	1 - 11	1 - 7
	2-2x6	3 - 10	2 - 10	2 - 5
	2-2x8	4 - 9	3 - 7	3 - 0
	2-2x10	5 - 6	4 - 2	3 - 6
	2-2x12	6 - 1	4 - 9	4 - 1
	3-2x8	5 - 10	4 - 5	3 - 9
	3-2x10	6 - 7	5 - 1	4 - 4
	3-2x12	7 - 2	5 - 8	4 - 11
	4-2x8	6 - 7	5 - 1	4 - 3
	4-2x10	7 - 5	5 - 9	4 - 11
	4-2x12	8 - 0	6 - 4	5 - 6
	Size	Maximum Header/Girder Spans (ft.-in.) for Glued Laminated Timber Beams ^{2,3,4,5}		
	3.125x5.500	5 - 6	4 - 0	3 - 4
	3.125x6.875	6 - 10	5 - 0	4 - 2
	3.125x8.250	8 - 2	6 - 0	5 - 0
	3.125x9.625	9 - 5	6 - 11	5 - 9
	3.125x11.000	10 - 8	7 - 11	6 - 7
	3.125x12.375	11 - 9	8 - 10	7 - 4
	3.125x13.750	12 - 9	9 - 8	8 - 1
	3.125x15.125	13 - 6	10 - 5	8 - 9
	3.125x16.500	14 - 2	11 - 0	9 - 4
	3.125x17.875	14 - 8	11 - 6	9 - 11
	3.125x19.250	15 - 1	12 - 0	10 - 4
	3.125x20.625	15 - 6	12 - 4	10 - 8
	3.125x22.000	15 - 10	12 - 8	11 - 0
	3.125x23.375	16 - 2	12 - 11	11 - 4
	3.125x24.750	16 - 6	13 - 3	11 - 7
	5.125x5.500	6 - 11	5 - 2	4 - 3
	5.125x6.875	8 - 8	6 - 5	5 - 4
	5.125x8.250	10 - 4	7 - 8	6 - 4
	5.125x9.625	12 - 1	9 - 0	7 - 5
	5.125x11.000	13 - 10	10 - 3	8 - 6
	5.125x12.375	15 - 6	11 - 6	9 - 6
	5.125x13.750	17 - 3	12 - 9	10 - 7
	5.125x15.125	18 - 10	14 - 0	11 - 7
	5.125x16.500	20-0†	15 - 2	12 - 7
	5.125x17.875	20-0†	16 - 4	13 - 7
	5.125x19.250	20-0†	17 - 5	14 - 6
	5.125x20.625	20-0†	18 - 6	15 - 6
	5.125x22.000	20-0†	19 - 5	16 - 4
	5.125x23.375	20-0†	20-0†	17 - 2
	5.125x24.75	20-0†	20-0†	17 - 11

† Spans are limited to 20 feet in length.

1 Tabulated spans are based on the lowest F_b , F_v , and E for #2 Grade Douglas Fir-Larch, Hem-Fir, Southern Pine, and Spruce-Pine-Fir. For #3 Grade lumber, spans shall be multiplied by 0.75.2 Tabulated spans assume 20F combination glulam with a minimum $F_b=2,000$ psi, $F_v=210$ psi, and $E=1,500,000$ psi.

3 Tabulated spans assume headers supporting single span floor joists. For headers supporting continuous two span floor joists, tabulated spans shall be multiplied by 0.89.

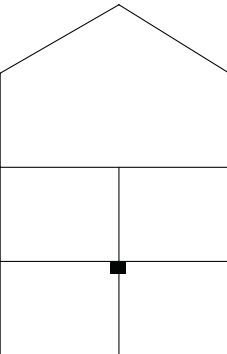
4 The number of jack studs required at each end of the header shall be determined from Table 3.24C.

5 Spans checked for live load deflection only.

Table 3.24B2 Laterally Supported (Raised) Header Spans for Interior Loadbearing Walls

(Supporting Two Center Bearing Floors)

Floor Live Load = 40 psf, $L/\Delta_{LL}=360$, Floor Assembly Dead Load = 10 psf**Raised Interior**

		Building Width (ft)		
		12	24	36
Headers Supporting	Size	Maximum Header/Girder Spans (ft.-in.) for Common Lumber Species ^{1,3,4,5}		
Two Floors Only (Center Bearing) 	1-2x6	2 - 8	2 - 0	1 - 7
	1-2x8	3 - 4	2 - 6	2 - 1
	1-2x10	4 - 0	2 - 11	2 - 5
	1-2x12	4 - 8	3 - 6	2 - 10
	2-2x4	2 - 7	1 - 11	1 - 7
	2-2x6	3 - 11	2 - 11	2 - 5
	2-2x8	5 - 0	3 - 8	3 - 1
	2-2x10	5 - 11	4 - 4	3 - 7
	2-2x12	6 - 11	5 - 2	4 - 3
	3-2x8	6 - 3	4 - 7	3 - 10
	3-2x10	7 - 5	5 - 6	4 - 6
	3-2x12	8 - 8	6 - 5	5 - 4
	4-2x8	7 - 2	5 - 4	4 - 5
	4-2x10	8 - 6	6 - 4	5 - 3
	4-2x12	10 - 1	7 - 5	6 - 2
Size	Maximum Header/Girder Spans (ft.-in.) for Glued Laminated Timber Beams ^{2,3,4,5}			
3.125x5.500	5 - 5	4 - 0	3 - 4	
3.125x6.875	6 - 9	5 - 0	4 - 2	
3.125x8.250	8 - 1	6 - 0	5 - 0	
3.125x9.625	9 - 5	7 - 0	5 - 9	
3.125x11.000	10 - 10	8 - 0	6 - 7	
3.125x12.375	12 - 2	9 - 0	7 - 5	
3.125x13.750	13 - 6	10 - 0	8 - 3	
3.125x15.125	14 - 10	11 - 0	9 - 1	
3.125x16.500	16 - 2	12 - 0	9 - 11	
3.125x17.875	17 - 7	13 - 0	10 - 9	
3.125x19.250	18 - 11	14 - 0	11 - 7	
3.125x20.625	20-0†	15 - 0	12 - 5	
3.125x22.000	20-0†	16 - 0	13 - 3	
3.125x23.375	20-0†	16 - 11	14 - 1	
3.125x24.750	20-0†	17 - 11	14 - 11	
5.125x5.500	6 - 11	5 - 1	4 - 3	
5.125x6.875	8 - 8	6 - 5	5 - 4	
5.125x8.25	10 - 4	7 - 8	6 - 4	
5.125x9.625	12 - 1	8 - 11	7 - 5	
5.125x11.000	13 - 10	10 - 3	8 - 6	
5.125x12.375	15 - 6	11 - 6	9 - 6	
5.125x13.750	17 - 3	12 - 9	10 - 7	
5.125x15.125	18 - 11	14 - 1	11 - 8	
5.125x16.500	20-0†	15 - 4	12 - 8	
5.125x17.875	20-0†	16 - 6	13 - 9	
5.125x19.250	20-0†	17 - 7	14 - 9	
5.125x20.625	20-0†	18 - 9	15 - 8	
5.125x22.000	20-0†	19 - 10	16 - 8	
5.125x23.375	20-0†	20-0†	17 - 7	

† Spans are limited to 20 feet in length.

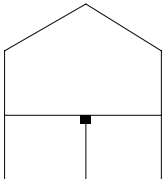
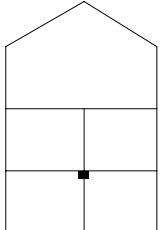
1 Tabulated spans are based on the lowest F_b , F_v , and E for #2 Grade Douglas Fir-Larch, Hem-Fir, Southern Pine, and Spruce-Pine-Fir. For #3 Grade lumber, spans shall be multiplied by 0.75.2 Tabulated spans assume 20F combination glulam with a minimum $F_b=2,000\text{psi}$, $F_v=210\text{psi}$, and $E=1,500,000\text{psi}$.

3 Tabulated spans assume headers supporting single span floor joists. For headers supporting continuous two span floor joists, tabulated spans shall be multiplied by 0.89.

4 The number of jack studs required at each end of the header shall be determined from Table 3.24C.

5 Spans checked for live load deflection only.

Table 3.24C Jack Stud Requirements for Headers in Interior Loadbearing Walls

		Roof Span (ft)											
		12				24				36			
		Header Width											
		3" (2-2x)	4.5" (3-2x)	5"	6" (4-2x)	3" (2-2x)	4.5" (3-2x)	5"	6" (4-2x)	3" (2-2x)	4.5" (3-2x)	5"	6" (4-2x)
Header Supporting	Header Span (ft)	Number of Jack Studs Required at Each End of the Header ^{1,2}											
One Floor Only (Center Bearing) 	2	1	1	1	1	1	1	1	1	1	1	1	1
	4	1	1	1	1	1	1	1	1	1	1	1	1
	6	1	1	1	1	1	1	1	1	2	1	1	1
	8	1	1	1	1	2	1	1	1	2	2	2	1
	10	1	1	1	1	2	2	1	1	3	2	2	2
	12	1	1	1	1	2	2	2	1	3	2	2	2
	14	2	1	1	1	3	2	2	2	4	3	3	2
	16	2	1	1	1	3	2	2	2	4	3	3	2
	18	2	1	1	1	3	2	2	2	5	3	3	3
20	2	2	1	1	4	3	2	2	5	4	3	3	
Two Floors (Center Bearing) 	2	1	1	1	1	1	1	1	1	2	1	1	1
	4	1	1	1	1	2	1	1	1	3	2	2	2
	6	2	1	1	1	3	2	2	2	4	3	2	2
	8	2	2	1	1	3	2	2	2	5	3	3	3
	10	2	2	2	1	4	3	3	2	6	4	4	3
	12	3	2	2	2	5	3	3	3	7	5	4	4
	14	3	2	2	2	6	4	4	3	8	5	5	4
	16	4	3	2	2	6	4	4	3	9	6	6	5
	18	4	3	3	2	7	5	4	4	10	7	6	5
20	4	3	3	2	8	5	5	4	11	8	7	6	

- Where the number of jack studs equals 1, the header shall be permitted to be supported by a framing anchor attached to the full-height wall stud.
- An equivalent number of full height studs are permitted to replace jack studs, when adequate gravity connections are provided.

Table 3.25A1 Ceiling Joist Spans for Common Lumber Species

(Uninhabitable Attics Without Storage) Live Load = 10 psf, $L/\Delta_{LL}=240$,
Dead Load = 5 psf, Flexible Finish (including gypsum board)

LL = 10 psf
 $L/\Delta_{LL} = 240$

Joist Spacing (in.)	Species	Grade	Maximum Ceiling Joist Spans ^{1,2}			
			2x4	2x6	2x8	2x10
			(ft-in.)	(ft-in.)	(ft-in.)	(ft-in.)
12	Douglas Fir-Larch	SS	13 - 2	20 - 8	26 - 0	26 - 0
	Douglas Fir-Larch	No.1	12 - 8	19 - 11	26 - 0	26 - 0
	Douglas Fir-Larch	No.2	12 - 5	19 - 6	25 - 8	26 - 0
	Douglas Fir-Larch	No.3	11 - 1	16 - 3	20 - 7	25 - 2
	Hem-Fir	SS	12 - 5	19 - 6	25 - 8	26 - 0
	Hem-Fir	No.1	12 - 2	19 - 1	25 - 2	26 - 0
	Hem-Fir	No.2	11 - 7	18 - 2	24 - 0	26 - 0
	Hem-Fir	No.3	10 - 10	15 - 10	20 - 1	24 - 6
	Southern Pine	SS	12 - 11	20 - 3	26 - 0	26 - 0
	Southern Pine	No.1	12 - 5	19 - 6	25 - 8	26 - 0
	Southern Pine	No.2	11 - 10	18 - 8	24 - 7	26 - 0
	Southern Pine	No.3	10 - 1	14 - 11	18 - 9	22 - 9
	Spruce-Pine Fir	SS	12 - 2	19 - 1	25 - 2	26 - 0
	Spruce-Pine Fir	No.1	11 - 10	18 - 8	24 - 7	26 - 0
	Spruce-Pine Fir	No.2	11 - 10	18 - 8	24 - 7	26 - 0
	Spruce-Pine Fir	No.3	10 - 10	15 - 10	20 - 1	24 - 6
16	Douglas Fir-Larch	SS	11 - 11	18 - 9	24 - 8	26 - 0
	Douglas Fir-Larch	No.1	11 - 6	18 - 1	23 - 10	26 - 0
	Douglas Fir-Larch	No.2	11 - 3	17 - 8	23 - 4	26 - 0
	Douglas Fir-Larch	No.3	9 - 7	14 - 1	17 - 10	21 - 9
	Hem-Fir	SS	11 - 3	17 - 8	23 - 4	26 - 0
	Hem-Fir	No.1	11 - 0	17 - 4	22 - 10	26 - 0
	Hem-Fir	No.2	10 - 6	16 - 6	21 - 9	26 - 0
	Hem-Fir	No.3	9 - 5	13 - 9	17 - 5	21 - 3
	Southern Pine	SS	11 - 9	18 - 5	24 - 3	26 - 0
	Southern Pine	No.1	11 - 3	17 - 8	23 - 4	26 - 0
	Southern Pine	No.2	10 - 9	16 - 11	21 - 7	25 - 7
	Southern Pine	No.3	8 - 9	12 - 11	16 - 3	19 - 9
	Spruce-Pine Fir	SS	11 - 0	17 - 4	22 - 10	26 - 0
	Spruce-Pine Fir	No.1	10 - 9	16 - 11	22 - 4	26 - 0
	Spruce-Pine Fir	No.2	10 - 9	16 - 11	22 - 4	26 - 0
	Spruce-Pine Fir	No.3	9 - 5	13 - 9	17 - 5	21 - 3
19.2	Douglas Fir-Larch	SS	11 - 3	17 - 8	23 - 3	26 - 0
	Douglas Fir-Larch	No.1	10 - 10	17 - 0	22 - 5	26 - 0
	Douglas Fir-Larch	No.2	10 - 7	16 - 8	21 - 4	26 - 0
	Douglas Fir-Larch	No.3	8 - 9	12 - 10	16 - 3	19 - 10
	Hem-Fir	SS	10 - 7	16 - 8	22 - 0	26 - 0
	Hem-Fir	No.1	10 - 4	16 - 4	21 - 6	26 - 0
	Hem-Fir	No.2	9 - 11	15 - 7	20 - 6	25 - 3
	Hem-Fir	No.3	8 - 7	12 - 6	15 - 10	19 - 5
	Southern Pine	SS	11 - 0	17 - 4	22 - 10	26 - 0
	Southern Pine	No.1	10 - 7	16 - 8	22 - 0	26 - 0
	Southern Pine	No.2	10 - 2	15 - 7	19 - 8	23 - 5
	Southern Pine	No.3	8 - 0	11 - 9	14 - 10	18 - 0
	Spruce-Pine Fir	SS	10 - 4	16 - 4	21 - 6	26 - 0
	Spruce-Pine Fir	No.1	10 - 2	15 - 11	21 - 0	25 - 8
	Spruce-Pine Fir	No.2	10 - 2	15 - 11	21 - 0	25 - 8
	Spruce-Pine Fir	No.3	8 - 7	12 - 6	15 - 10	19 - 5
24	Douglas Fir-Larch	SS	10 - 5	16 - 4	21 - 7	26 - 0
	Douglas Fir-Larch	No.1	10 - 0	15 - 9	20 - 1	24 - 6
	Douglas Fir-Larch	No.2	9 - 10	15 - 0	19 - 1	23 - 3
	Douglas Fir-Larch	No.3	7 - 10	11 - 6	14 - 7	17 - 9
	Hem-Fir	SS	9 - 10	15 - 6	20 - 5	26 - 0
	Hem-Fir	No.1	9 - 8	15 - 2	19 - 10	24 - 3
	Hem-Fir	No.2	9 - 2	14 - 5	18 - 6	22 - 7
	Hem-Fir	No.3	7 - 8	11 - 2	14 - 2	17 - 4
	Southern Pine	SS	10 - 3	16 - 1	21 - 2	26 - 0
	Southern Pine	No.1	9 - 10	15 - 6	20 - 5	24 - 0
	Southern Pine	No.2	9 - 3	13 - 11	17 - 7	20 - 11
	Southern Pine	No.3	7 - 2	10 - 6	13 - 3	16 - 1
	Spruce-Pine Fir	SS	9 - 8	15 - 2	19 - 11	25 - 5
	Spruce-Pine Fir	No.1	9 - 5	14 - 9	18 - 9	22 - 11
	Spruce-Pine Fir	No.2	9 - 5	14 - 9	18 - 9	22 - 11
	Spruce-Pine Fir	No.3	7 - 8	11 - 2	14 - 2	17 - 4

1 Bracing shall be provided in accordance with 3.3.1.4.

2 Spans checked for live load deflection only.

NOTE: Spans are limited to 26 feet in length. Check sources for availability of lumber in lengths greater than 20 feet.

Table 3.25A2 Ceiling Joist Spans for Common Lumber Species

(Uninhabitable Attics Without Storage) Live Load = 10 psf, $L/\Delta_{LL}=360$,
Dead Load = 5 psf, Brittle Finish (including plaster and stucco)

LL = 10 psf
 $L/\Delta_{LL} = 360$

Joist Spacing (in.)	Species	Grade	2x4	2x6	2x8	2x10
			Maximum Ceiling Joist Spans ^{1,2}			
			(ft-in.)	(ft-in.)	(ft-in.)	(ft-in.)
12	Douglas Fir-Larch	SS	11 - 6	18 - 0	23 - 9	26 - 0
	Douglas Fir-Larch	No.1	11 - 1	17 - 4	22 - 11	26 - 0
	Douglas Fir-Larch	No.2	10 - 10	17 - 0	22 - 5	26 - 0
	Douglas Fir-Larch	No.3	10 - 4	16 - 3	20 - 7	25 - 2
	Hem-Fir	SS	10 - 10	17 - 0	22 - 5	26 - 0
	Hem-Fir	No.1	10 - 7	16 - 8	22 - 0	26 - 0
	Hem-Fir	No.2	10 - 1	15 - 11	20 - 11	26 - 0
	Hem-Fir	No.3	9 - 10	15 - 6	20 - 1	24 - 6
	Southern Pine	SS	11 - 3	17 - 8	23 - 4	26 - 0
	Southern Pine	No.1	10 - 10	17 - 0	22 - 5	26 - 0
	Southern Pine	No.2	10 - 4	16 - 3	21 - 5	26 - 0
	Southern Pine	No.3	10 - 1	14 - 11	18 - 9	22 - 9
	Spruce-Pine Fir	SS	10 - 7	16 - 8	22 - 0	26 - 0
	Spruce-Pine Fir	No.1	10 - 4	16 - 3	21 - 5	26 - 0
	Spruce-Pine Fir	No.2	10 - 4	16 - 3	21 - 5	26 - 0
	Spruce-Pine Fir	No.3	9 - 10	15 - 6	20 - 1	24 - 6
16	Douglas Fir-Larch	SS	10 - 5	16 - 4	21 - 7	26 - 0
	Douglas Fir-Larch	No.1	10 - 0	15 - 9	20 - 10	26 - 0
	Douglas Fir-Larch	No.2	9 - 10	15 - 6	20 - 5	26 - 0
	Douglas Fir-Larch	No.3	9 - 5	14 - 1	17 - 10	21 - 9
	Hem-Fir	SS	9 - 10	15 - 6	20 - 5	26 - 0
	Hem-Fir	No.1	9 - 8	15 - 2	19 - 11	25 - 5
	Hem-Fir	No.2	9 - 2	14 - 5	19 - 0	24 - 3
	Hem-Fir	No.3	8 - 11	13 - 9	17 - 5	21 - 3
	Southern Pine	SS	10 - 3	16 - 1	21 - 2	26 - 0
	Southern Pine	No.1	9 - 10	15 - 6	20 - 5	26 - 0
	Southern Pine	No.2	9 - 5	14 - 9	19 - 6	24 - 10
	Southern Pine	No.3	8 - 9	12 - 11	16 - 3	19 - 9
	Spruce-Pine Fir	SS	9 - 8	15 - 2	19 - 11	25 - 5
	Spruce-Pine Fir	No.1	9 - 5	14 - 9	19 - 6	24 - 10
	Spruce-Pine Fir	No.2	9 - 5	14 - 9	19 - 6	24 - 10
	Spruce-Pine Fir	No.3	8 - 11	13 - 9	17 - 5	21 - 3
19.2	Douglas Fir-Larch	SS	9 - 10	15 - 5	20 - 4	25 - 11
	Douglas Fir-Larch	No.1	9 - 5	14 - 10	19 - 7	25 - 0
	Douglas Fir-Larch	No.2	9 - 3	14 - 7	19 - 2	24 - 6
	Douglas Fir-Larch	No.3	8 - 9	12 - 10	16 - 3	19 - 10
	Hem-Fir	SS	9 - 3	14 - 7	19 - 2	24 - 6
	Hem-Fir	No.1	9 - 1	14 - 3	18 - 9	24 - 0
	Hem-Fir	No.2	8 - 8	13 - 7	17 - 11	22 - 10
	Hem-Fir	No.3	8 - 5	12 - 6	15 - 10	19 - 5
	Southern Pine	SS	9 - 8	15 - 2	19 - 11	25 - 5
	Southern Pine	No.1	9 - 3	14 - 7	19 - 2	24 - 6
	Southern Pine	No.2	8 - 10	13 - 11	18 - 4	23 - 5
	Southern Pine	No.3	8 - 0	11 - 9	14 - 10	18 - 0
	Spruce-Pine Fir	SS	9 - 1	14 - 3	18 - 9	24 - 0
	Spruce-Pine Fir	No.1	8 - 10	13 - 11	18 - 4	23 - 5
	Spruce-Pine Fir	No.2	8 - 10	13 - 11	18 - 4	23 - 5
	Spruce-Pine Fir	No.3	8 - 5	12 - 6	15 - 10	19 - 5
24	Douglas Fir-Larch	SS	9 - 1	14 - 4	18 - 10	24 - 1
	Douglas Fir-Larch	No.1	8 - 9	13 - 9	18 - 2	23 - 2
	Douglas Fir-Larch	No.2	8 - 7	13 - 6	17 - 10	22 - 9
	Douglas Fir-Larch	No.3	7 - 10	11 - 6	14 - 7	17 - 9
	Hem-Fir	SS	8 - 7	13 - 6	17 - 10	22 - 9
	Hem-Fir	No.1	8 - 5	13 - 3	17 - 5	22 - 3
	Hem-Fir	No.2	8 - 0	12 - 7	16 - 7	21 - 2
	Hem-Fir	No.3	7 - 8	11 - 2	14 - 2	17 - 4
	Southern Pine	SS	8 - 11	14 - 1	18 - 6	23 - 8
	Southern Pine	No.1	8 - 7	13 - 6	17 - 10	22 - 9
	Southern Pine	No.2	8 - 3	12 - 11	17 - 0	20 - 11
	Southern Pine	No.3	7 - 2	10 - 6	13 - 3	16 - 1
	Spruce-Pine Fir	SS	8 - 5	13 - 3	17 - 5	22 - 3
	Spruce-Pine Fir	No.1	8 - 3	12 - 11	17 - 0	21 - 9
	Spruce-Pine Fir	No.2	8 - 3	12 - 11	17 - 0	21 - 9
	Spruce-Pine Fir	No.3	7 - 8	11 - 2	14 - 2	17 - 4

1 Bracing shall be provided in accordance with 3.3.1.4.

2 Spans checked for live load deflection only.

NOTE: Spans are limited to 26 feet in length. Check sources for availability of lumber in lengths greater than 20 feet.

Table 3.25B1 Ceiling Joist Spans for Common Lumber Species

(Uninhabitable Attics With Limited Storage) Live Load = 20 psf, $L/\Delta_{LL}=240$,
Dead Load = 10 psf, Flexible Finish (including gypsum board)

LL = 20 psf
 $L/\Delta_{LL} = 240$

Joist Spacing (in.)	Species	Grade	Maximum Ceiling Joist Spans ^{1,2}			
			2x4	2x6	2x8	2x10
			(ft-in.)	(ft-in.)	(ft-in.)	(ft-in.)
12	Douglas Fir-Larch	SS	10 - 5	16 - 4	21 - 7	26 - 0
	Douglas Fir-Larch	No.1	10 - 0	15 - 9	20 - 1	24 - 6
	Douglas Fir-Larch	No.2	9 - 10	15 - 0	19 - 1	23 - 3
	Douglas Fir-Larch	No.3	7 - 10	11 - 6	14 - 7	17 - 9
	Hem-Fir	SS	9 - 10	15 - 6	20 - 5	26 - 0
	Hem-Fir	No.1	9 - 8	15 - 2	19 - 10	24 - 3
	Hem-Fir	No.2	9 - 2	14 - 5	18 - 6	22 - 7
	Hem-Fir	No.3	7 - 8	11 - 2	14 - 2	17 - 4
	Southern Pine	SS	10 - 3	16 - 1	21 - 2	26 - 0
	Southern Pine	No.1	9 - 10	15 - 6	20 - 5	24 - 0
	Southern Pine	No.2	9 - 3	13 - 11	17 - 7	20 - 11
	Southern Pine	No.3	7 - 2	10 - 6	13 - 3	16 - 1
	Spruce-Pine Fir	SS	9 - 8	15 - 2	19 - 11	25 - 5
	Spruce-Pine Fir	No.1	9 - 5	14 - 9	18 - 9	22 - 11
	Spruce-Pine Fir	No.2	9 - 5	14 - 9	18 - 9	22 - 11
	Spruce-Pine Fir	No.3	7 - 8	11 - 2	14 - 2	17 - 4
16	Douglas Fir-Larch	SS	9 - 6	14 - 11	19 - 7	25 - 0
	Douglas Fir-Larch	No.1	9 - 1	13 - 9	17 - 5	21 - 3
	Douglas Fir-Larch	No.2	8 - 11	13 - 0	16 - 6	20 - 2
	Douglas Fir-Larch	No.3	6 - 10	9 - 11	12 - 7	15 - 5
	Hem-Fir	SS	8 - 11	14 - 1	18 - 6	23 - 8
	Hem-Fir	No.1	8 - 9	13 - 7	17 - 2	21 - 0
	Hem-Fir	No.2	8 - 4	12 - 8	16 - 0	19 - 7
	Hem-Fir	No.3	6 - 8	9 - 8	12 - 4	15 - 0
	Southern Pine	SS	9 - 4	14 - 7	19 - 3	24 - 7
	Southern Pine	No.1	8 - 11	14 - 0	17 - 9	20 - 9
	Southern Pine	No.2	8 - 0	12 - 0	15 - 3	18 - 1
	Southern Pine	No.3	6 - 2	9 - 2	11 - 6	14 - 0
	Spruce-Pine Fir	SS	8 - 9	13 - 9	18 - 2	23 - 1
	Spruce-Pine Fir	No.1	8 - 7	12 - 10	16 - 3	19 - 10
	Spruce-Pine Fir	No.2	8 - 7	12 - 10	16 - 3	19 - 10
	Spruce-Pine Fir	No.3	6 - 8	9 - 8	12 - 4	15 - 0
19.2	Douglas Fir-Larch	SS	8 - 11	14 - 0	18 - 5	23 - 7
	Douglas Fir-Larch	No.1	8 - 7	12 - 6	15 - 10	19 - 5
	Douglas Fir-Larch	No.2	8 - 2	11 - 11	15 - 1	18 - 5
	Douglas Fir-Larch	No.3	6 - 2	9 - 1	11 - 6	14 - 1
	Hem-Fir	SS	8 - 5	13 - 3	17 - 5	22 - 3
	Hem-Fir	No.1	8 - 3	12 - 4	15 - 8	19 - 2
	Hem-Fir	No.2	7 - 10	11 - 7	14 - 8	17 - 10
	Hem-Fir	No.3	6 - 1	8 - 10	11 - 3	13 - 8
	Southern Pine	SS	8 - 9	13 - 9	18 - 2	23 - 1
	Southern Pine	No.1	8 - 5	12 - 9	16 - 2	18 - 11
	Southern Pine	No.2	7 - 4	11 - 0	13 - 11	16 - 6
	Southern Pine	No.3	5 - 8	8 - 4	10 - 6	12 - 9
	Spruce-Pine Fir	SS	8 - 3	12 - 11	17 - 1	21 - 8
	Spruce-Pine Fir	No.1	8 - 0	11 - 9	14 - 10	18 - 2
	Spruce-Pine Fir	No.2	8 - 0	11 - 9	14 - 10	18 - 2
	Spruce-Pine Fir	No.3	6 - 1	8 - 10	11 - 3	13 - 8
24	Douglas Fir-Larch	SS	8 - 3	13 - 0	17 - 2	21 - 3
	Douglas Fir-Larch	No.1	7 - 8	11 - 2	14 - 2	17 - 4
	Douglas Fir-Larch	No.2	7 - 3	10 - 8	13 - 6	16 - 5
	Douglas Fir-Larch	No.3	5 - 7	8 - 1	10 - 3	12 - 7
	Hem-Fir	SS	7 - 10	12 - 3	16 - 2	20 - 6
	Hem-Fir	No.1	7 - 7	11 - 1	14 - 0	17 - 1
	Hem-Fir	No.2	7 - 1	10 - 4	13 - 1	16 - 0
	Hem-Fir	No.3	5 - 5	7 - 11	10 - 0	12 - 3
	Southern Pine	SS	8 - 1	12 - 9	16 - 10	21 - 6
	Southern Pine	No.1	7 - 8	11 - 5	14 - 6	16 - 11
	Southern Pine	No.2	6 - 7	9 - 10	12 - 6	14 - 9
	Southern Pine	No.3	5 - 1	7 - 5	9 - 5	11 - 5
	Spruce-Pine Fir	SS	7 - 8	12 - 0	15 - 10	19 - 5
	Spruce-Pine Fir	No.1	7 - 2	10 - 6	13 - 3	16 - 3
	Spruce-Pine Fir	No.2	7 - 2	10 - 6	13 - 3	16 - 3
	Spruce-Pine Fir	No.3	5 - 5	7 - 11	10 - 0	12 - 3

1 Bracing shall be provided in accordance with 3.3.1.4.

2 Spans checked for live load deflection only.

NOTE: Spans are limited to 26 feet in length. Check sources for availability of lumber in lengths greater than 20 feet.

Table 3.25B2 Ceiling Joist Spans for Common Lumber Species

(Uninhabitable Attics With Limited Storage) Live Load = 20 psf, $L/\Delta_{LL}=360$,
Dead Load = 10 psf, Brittle Finish (including plaster and stucco)

LL = 20 psf
 $L/\Delta_{LL} = 360$

			Dead Load = 10 psf			
			2x4	2x6	2x8	2x10
Maximum Ceiling Joist Spans ^{1,2}						
Joist Spacing (in.)	Species	Grade	(ft-in.)	(ft-in.)	(ft-in.)	(ft-in.)
12	Douglas Fir-Larch	SS	9 - 1	14 - 4	18 - 10	24 - 1
	Douglas Fir-Larch	No.1	8 - 9	13 - 9	18 - 2	23 - 2
	Douglas Fir-Larch	No.2	8 - 7	13 - 6	17 - 10	22 - 9
	Douglas Fir-Larch	No.3	7 - 10	11 - 6	14 - 7	17 - 9
	Hem-Fir	SS	8 - 7	13 - 6	17 - 10	22 - 9
	Hem-Fir	No.1	8 - 5	13 - 3	17 - 5	22 - 3
	Hem-Fir	No.2	8 - 0	12 - 7	16 - 7	21 - 2
	Hem-Fir	No.3	7 - 8	11 - 2	14 - 2	17 - 4
	Southern Pine	SS	8 - 11	14 - 1	18 - 6	23 - 8
	Southern Pine	No.1	8 - 7	13 - 6	17 - 10	22 - 9
	Southern Pine	No.2	8 - 3	12 - 11	17 - 0	20 - 11
	Southern Pine	No.3	7 - 2	10 - 6	13 - 3	16 - 1
	Spruce-Pine Fir	SS	8 - 5	13 - 3	17 - 5	22 - 3
	Spruce-Pine Fir	No.1	8 - 3	12 - 11	17 - 0	21 - 9
	Spruce-Pine Fir	No.2	8 - 3	12 - 11	17 - 0	21 - 9
	Spruce-Pine Fir	No.3	7 - 8	11 - 2	14 - 2	17 - 4
16	Douglas Fir-Larch	SS	8 - 3	13 - 0	17 - 2	21 - 10
	Douglas Fir-Larch	No.1	8 - 0	12 - 6	16 - 6	21 - 1
	Douglas Fir-Larch	No.2	7 - 10	12 - 3	16 - 2	20 - 2
	Douglas Fir-Larch	No.3	6 - 10	9 - 11	12 - 7	15 - 5
	Hem-Fir	SS	7 - 10	12 - 3	16 - 2	20 - 8
	Hem-Fir	No.1	7 - 8	12 - 0	15 - 10	20 - 2
	Hem-Fir	No.2	7 - 3	11 - 5	15 - 1	19 - 3
	Hem-Fir	No.3	6 - 8	9 - 8	12 - 4	15 - 0
	Southern Pine	SS	8 - 1	12 - 9	16 - 10	21 - 6
	Southern Pine	No.1	7 - 10	12 - 3	16 - 2	20 - 8
	Southern Pine	No.2	7 - 6	11 - 9	15 - 3	18 - 1
	Southern Pine	No.3	6 - 2	9 - 2	11 - 6	14 - 0
	Spruce-Pine Fir	SS	7 - 8	12 - 0	15 - 10	20 - 2
	Spruce-Pine Fir	No.1	7 - 6	11 - 9	15 - 6	19 - 9
	Spruce-Pine Fir	No.2	7 - 6	11 - 9	15 - 6	19 - 9
	Spruce-Pine Fir	No.3	6 - 8	9 - 8	12 - 4	15 - 0
19.2	Douglas Fir-Larch	SS	7 - 9	12 - 3	16 - 1	20 - 7
	Douglas Fir-Larch	No.1	7 - 6	11 - 9	15 - 6	19 - 5
	Douglas Fir-Larch	No.2	7 - 4	11 - 7	15 - 1	18 - 5
	Douglas Fir-Larch	No.3	6 - 2	9 - 1	11 - 6	14 - 1
	Hem-Fir	SS	7 - 4	11 - 7	15 - 3	19 - 5
	Hem-Fir	No.1	7 - 2	11 - 4	14 - 11	19 - 0
	Hem-Fir	No.2	6 - 10	10 - 9	14 - 2	17 - 10
	Hem-Fir	No.3	6 - 1	8 - 10	11 - 3	13 - 8
	Southern Pine	SS	7 - 8	12 - 0	15 - 10	20 - 2
	Southern Pine	No.1	7 - 4	11 - 7	15 - 3	18 - 11
	Southern Pine	No.2	7 - 0	11 - 0	13 - 11	16 - 6
	Southern Pine	No.3	5 - 8	8 - 4	10 - 6	12 - 9
	Spruce-Pine Fir	SS	7 - 2	11 - 4	14 - 11	19 - 0
	Spruce-Pine Fir	No.1	7 - 0	11 - 1	14 - 7	18 - 2
	Spruce-Pine Fir	No.2	7 - 0	11 - 1	14 - 7	18 - 2
	Spruce-Pine Fir	No.3	6 - 1	8 - 10	11 - 3	13 - 8
24	Douglas Fir-Larch	SS	7 - 3	11 - 4	15 - 0	19 - 1
	Douglas Fir-Larch	No.1	7 - 0	10 - 11	14 - 2	17 - 4
	Douglas Fir-Larch	No.2	6 - 10	10 - 8	13 - 6	16 - 5
	Douglas Fir-Larch	No.3	5 - 7	8 - 1	10 - 3	12 - 7
	Hem-Fir	SS	6 - 10	10 - 9	14 - 2	18 - 0
	Hem-Fir	No.1	6 - 8	10 - 6	13 - 10	17 - 1
	Hem-Fir	No.2	6 - 4	10 - 0	13 - 1	16 - 0
	Hem-Fir	No.3	5 - 5	7 - 11	10 - 0	12 - 3
	Southern Pine	SS	7 - 1	11 - 2	14 - 8	18 - 9
	Southern Pine	No.1	6 - 10	10 - 9	14 - 2	16 - 11
	Southern Pine	No.2	6 - 6	9 - 10	12 - 6	14 - 9
	Southern Pine	No.3	5 - 1	7 - 5	9 - 5	11 - 5
	Spruce-Pine Fir	SS	6 - 8	10 - 6	13 - 10	17 - 8
	Spruce-Pine Fir	No.1	6 - 6	10 - 3	13 - 3	16 - 3
	Spruce-Pine Fir	No.2	6 - 6	10 - 3	13 - 3	16 - 3
	Spruce-Pine Fir	No.3	5 - 5	7 - 11	10 - 0	12 - 3

1 Bracing shall be provided in accordance with 3.3.1.4.

2 Spans checked for live load deflection only.

NOTE: Spans are limited to 26 feet in length. Check sources for availability of lumber in lengths greater than 20 feet.

Table 3.26A Rafter Spans for Common Lumber Species(Ceiling Not Attached to Rafters) Live Load = 20 psf, $L/\Delta_{LL} = 180$ **LL = 20 psf**
 $L/\Delta_{LL} = 180$

Joist Spacing (in.)	Species	Grade	Dead Load = 10 psf					Dead Load = 20 psf				
			2x4	2x6	2x8	2x10	2x12	2x4	2x6	2x8	2x10	2x12
			Maximum Rafter Spans ^{1,2,3}									
(in.)			(ft-in.)	(ft-in.)	(ft-in.)	(ft-in.)	(ft-in.)	(ft-in.)	(ft-in.)	(ft-in.)	(ft-in.)	(ft-in.)
12	Douglas Fir-Larch	SS	11 - 6	18 - 0	23 - 9	26-0†	26-0†	11 - 6	18 - 0	23 - 9	26-0†	26-0†
	Douglas Fir-Larch	No.1	11 - 1	17 - 4	22 - 5	26-0†	26-0†	10 - 6	15 - 4	19 - 5	23 - 9	26-0†
	Douglas Fir-Larch	No.2	10 - 10	16 - 10	21 - 4	26-0†	26-0†	10 - 0	14 - 7	18 - 5	22 - 6	26-0†
	Douglas Fir-Larch	No.3	8 - 9	12 - 10	16 - 3	19 - 10	23 - 0	7 - 7	11 - 1	14 - 1	17 - 2	19 - 11
	Hem-Fir	SS	10 - 10	17 - 0	22 - 5	26-0†	26-0†	10 - 10	17 - 0	22 - 5	26-0†	26-0†
	Hem-Fir	No.1	10 - 7	16 - 8	22 - 0	26-0†	26-0†	10 - 4	15 - 2	19 - 2	23 - 5	26-0†
	Hem-Fir	No.2	10 - 1	15 - 11	20 - 8	25 - 3	26-0†	9 - 8	14 - 2	17 - 11	21 - 11	25 - 5
	Hem-Fir	No.3	8 - 7	12 - 6	15 - 10	19 - 5	22 - 6	7 - 5	10 - 10	13 - 9	16 - 9	19 - 6
	Southern Pine	SS	11 - 3	17 - 8	23 - 4	26-0†	26-0†	11 - 3	17 - 8	23 - 4	26-0†	26-0†
	Southern Pine	No.1	10 - 10	17 - 0	22 - 5	26-0†	26-0†	10 - 6	15 - 8	19 - 10	23 - 2	26-0†
	Southern Pine	No.2	10 - 4	15 - 7	19 - 8	23 - 5	26-0†	9 - 0	13 - 6	17 - 1	20 - 3	23 - 10
	Southern Pine	No.3	8 - 0	11 - 9	14 - 10	18 - 0	21 - 4	6 - 11	10 - 2	12 - 10	15 - 7	18 - 6
	Spruce-Pine Fir	SS	10 - 7	16 - 8	22 - 0	26-0†	26-0†	10 - 7	16 - 8	21 - 9	26-0†	26-0†
	Spruce-Pine Fir	No.1	10 - 4	16 - 3	21 - 0	25 - 8	26-0†	9 - 10	14 - 4	18 - 2	22 - 3	25 - 9
	Spruce-Pine Fir	No.2	10 - 4	16 - 3	21 - 0	25 - 8	26-0†	9 - 10	14 - 4	18 - 2	22 - 3	25 - 9
	Spruce-Pine Fir	No.3	8 - 7	12 - 6	15 - 10	19 - 5	22 - 6	7 - 5	10 - 10	13 - 9	16 - 9	19 - 6
16	Douglas Fir-Larch	SS	10 - 5	16 - 4	21 - 7	26-0†	26-0†	10 - 5	16 - 3	20 - 7	25 - 2	26-0†
	Douglas Fir-Larch	No.1	10 - 0	15 - 4	19 - 5	23 - 9	26-0†	9 - 1	13 - 3	16 - 10	20 - 7	23 - 10
	Douglas Fir-Larch	No.2	9 - 10	14 - 7	18 - 5	22 - 6	26-0†	8 - 7	12 - 7	16 - 0	19 - 6	22 - 7
	Douglas Fir-Larch	No.3	7 - 7	11 - 1	14 - 1	17 - 2	19 - 11	6 - 7	9 - 8	12 - 2	14 - 11	17 - 3
	Hem-Fir	SS	9 - 10	15 - 6	20 - 5	26-0†	26-0†	9 - 10	15 - 6	19 - 11	24 - 4	26-0†
	Hem-Fir	No.1	9 - 8	15 - 2	19 - 2	23 - 5	26-0†	9 - 0	13 - 1	16 - 7	20 - 4	23 - 7
	Hem-Fir	No.2	9 - 2	14 - 2	17 - 11	21 - 11	25 - 5	8 - 5	12 - 3	15 - 6	19 - 0	22 - 0
	Hem-Fir	No.3	7 - 5	10 - 10	13 - 9	16 - 9	19 - 6	6 - 5	9 - 5	11 - 11	14 - 6	16 - 10
	Southern Pine	SS	10 - 3	16 - 1	21 - 2	26-0†	26-0†	10 - 3	16 - 1	21 - 2	25 - 7	26-0†
	Southern Pine	No.1	9 - 10	15 - 6	19 - 10	23 - 2	26-0†	9 - 1	13 - 7	17 - 2	20 - 1	23 - 10
	Southern Pine	No.2	9 - 0	13 - 6	17 - 1	20 - 3	23 - 10	7 - 9	11 - 8	14 - 9	17 - 6	20 - 8
	Southern Pine	No.3	6 - 11	10 - 2	12 - 10	15 - 7	18 - 6	6 - 0	8 - 10	11 - 2	13 - 6	16 - 0
	Spruce-Pine Fir	SS	9 - 8	15 - 2	19 - 11	25 - 5	26-0†	9 - 8	14 - 10	18 - 10	23 - 0	26-0†
	Spruce-Pine Fir	No.1	9 - 5	14 - 4	18 - 2	22 - 3	25 - 9	8 - 6	12 - 5	15 - 9	19 - 3	22 - 4
	Spruce-Pine Fir	No.2	9 - 5	14 - 4	18 - 2	22 - 3	25 - 9	8 - 6	12 - 5	15 - 9	19 - 3	22 - 4
	Spruce-Pine Fir	No.3	7 - 5	10 - 10	13 - 9	16 - 9	19 - 6	6 - 5	9 - 5	11 - 11	14 - 6	16 - 10
19.2	Douglas Fir-Larch	SS	9 - 10	15 - 5	20 - 4	25 - 11	26-0†	9 - 10	14 - 10	18 - 10	23 - 0	26-0†
	Douglas Fir-Larch	No.1	9 - 5	14 - 0	17 - 9	21 - 8	25 - 2	8 - 4	12 - 2	15 - 4	18 - 9	21 - 9
	Douglas Fir-Larch	No.2	9 - 1	13 - 3	16 - 10	20 - 7	23 - 10	7 - 10	11 - 6	14 - 7	17 - 10	20 - 8
	Douglas Fir-Larch	No.3	6 - 11	10 - 2	12 - 10	15 - 8	18 - 3	6 - 0	8 - 9	11 - 2	13 - 7	15 - 9
	Hem-Fir	SS	9 - 3	14 - 7	19 - 2	24 - 6	26-0†	9 - 3	14 - 4	18 - 2	22 - 3	25 - 9
	Hem-Fir	No.1	9 - 1	13 - 10	17 - 6	21 - 5	24 - 10	8 - 2	12 - 0	15 - 2	18 - 6	21 - 6
	Hem-Fir	No.2	8 - 8	12 - 11	16 - 4	20 - 0	23 - 2	7 - 8	11 - 2	14 - 2	17 - 4	20 - 1
	Hem-Fir	No.3	6 - 9	9 - 11	12 - 7	15 - 4	17 - 9	5 - 10	8 - 7	10 - 10	13 - 3	15 - 5
	Southern Pine	SS	9 - 8	15 - 2	19 - 11	25 - 5	26-0†	9 - 8	15 - 2	19 - 7	23 - 4	26-0†
	Southern Pine	No.1	9 - 3	14 - 3	18 - 1	21 - 2	25 - 2	8 - 4	12 - 4	15 - 8	18 - 4	21 - 9
	Southern Pine	No.2	8 - 2	12 - 3	15 - 7	18 - 6	21 - 9	7 - 1	10 - 8	13 - 6	16 - 0	18 - 10
	Southern Pine	No.3	6 - 4	9 - 4	11 - 9	14 - 3	16 - 10	5 - 6	8 - 1	10 - 2	12 - 4	14 - 7
	Spruce-Pine Fir	SS	9 - 1	14 - 3	18 - 9	24 - 0	26-0†	9 - 1	13 - 7	17 - 2	21 - 0	24 - 4
	Spruce-Pine Fir	No.1	8 - 10	13 - 1	16 - 7	20 - 3	23 - 6	7 - 9	11 - 4	14 - 4	17 - 7	20 - 4
	Spruce-Pine Fir	No.2	8 - 10	13 - 1	16 - 7	20 - 3	23 - 6	7 - 9	11 - 4	14 - 4	17 - 7	20 - 4
	Spruce-Pine Fir	No.3	6 - 9	9 - 11	12 - 7	15 - 4	17 - 9	5 - 10	8 - 7	10 - 10	13 - 3	15 - 5
24	Douglas Fir-Larch	SS	9 - 1	14 - 4	18 - 10	23 - 9	26-0†	9 - 1	13 - 3	16 - 10	20 - 7	23 - 10
	Douglas Fir-Larch	No.1	8 - 7	12 - 6	15 - 10	19 - 5	22 - 6	7 - 5	10 - 10	13 - 9	16 - 9	19 - 6
	Douglas Fir-Larch	No.2	8 - 2	11 - 11	15 - 1	18 - 5	21 - 4	7 - 0	10 - 4	13 - 0	15 - 11	18 - 6
	Douglas Fir-Larch	No.3	6 - 2	9 - 1	11 - 6	14 - 1	16 - 3	5 - 4	7 - 10	10 - 0	12 - 2	14 - 1
	Hem-Fir	SS	8 - 7	13 - 6	17 - 10	22 - 9	26-0†	8 - 7	12 - 10	16 - 3	19 - 10	23 - 0
	Hem-Fir	No.1	8 - 5	12 - 4	15 - 8	19 - 2	22 - 2	7 - 4	10 - 9	13 - 7	16 - 7	19 - 3
	Hem-Fir	No.2	7 - 11	11 - 7	14 - 8	17 - 10	20 - 9	6 - 10	10 - 0	12 - 8	15 - 6	17 - 11
	Hem-Fir	No.3	6 - 1	8 - 10	11 - 3	13 - 8	15 - 11	5 - 3	7 - 8	9 - 9	11 - 10	13 - 9
	Southern Pine	SS	8 - 11	14 - 1	18 - 6	23 - 8	26-0†	8 - 11	13 - 10	17 - 6	20 - 10	24 - 8
	Southern Pine	No.1	8 - 7	12 - 9	16 - 2	18 - 11	22 - 6	7 - 5	11 - 1	14 - 0	16 - 5	19 - 6
	Southern Pine	No.2	7 - 4	11 - 0	13 - 11	16 - 6	19 - 6	6 - 4	9 - 6	12 - 1	14 - 4	16 - 10
	Southern Pine	No.3	5 - 8	8 - 4	10 - 6	12 - 9	15 - 1	4 - 11	7 - 3	9 - 1	11 - 0	13 - 1
	Spruce-Pine Fir	SS	8 - 5	13 - 3	17 - 5	21 - 8	25 - 2	8 - 4	12 - 2	15 - 4	18 - 9	21 - 9
	Spruce-Pine Fir	No.1	8 - 0	11 - 9	14 - 10	18 - 2	21 - 0	6 - 11	10 - 2	12 - 10	15 - 8	18 - 3
	Spruce-Pine Fir	No.2	8 - 0	11 - 9	14 - 10	18 - 2	21 - 0	6 - 11	10 - 2	12 - 10	15 - 8	18 - 3
	Spruce-Pine Fir	No.3	6 - 1	8 - 10	11 - 3	13 - 8	15 - 11	5 - 3	7 - 8	9 - 9	11 - 10	13 - 9

† Spans are limited to 26 feet in length.

See footnotes 1-3.

Table 3.26B Rafter Spans for Common Lumber Species(Ceiling Attached to Rafters) Live Load = 20 psf, $L/\Delta_{LL} = 240$, Flexible Finish (including gypsum board)**LL = 20 psf**
 $L/\Delta_{LL} = 240$

Joist Spacing (in.)	Species	Grade	Dead Load = 10 psf					Dead Load = 20 psf				
			2x4	2x6	2x8	2x10	2x12	2x4	2x6	2x8	2x10	2x12
			Maximum Rafter Spans ^{1,2,3}									
			(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)
12	Douglas Fir-Larch	SS	10 - 5	16 - 4	21 - 7	26-0†	26-0†	10 - 5	16 - 4	21 - 7	26-0†	26-0†
	Douglas Fir-Larch	No.1	10 - 0	15 - 9	20 - 10	26-0†	26-0†	10 - 0	15 - 4	19 - 5	23 - 9	26-0†
	Douglas Fir-Larch	No.2	9 - 10	15 - 6	20 - 5	26-0†	26-0†	9 - 10	14 - 7	18 - 5	22 - 6	26-0†
	Douglas Fir-Larch	No.3	8 - 9	12 - 10	16 - 3	19 - 10	23 - 0	7 - 7	11 - 1	14 - 1	17 - 2	19 - 11
	Hem-Fir	SS	9 - 10	15 - 6	20 - 5	26-0†	26-0†	9 - 10	15 - 6	20 - 5	26-0†	26-0†
	Hem-Fir	No.1	9 - 8	15 - 2	19 - 11	25 - 5	26-0†	9 - 8	15 - 2	19 - 2	23 - 5	26-0†
	Hem-Fir	No.2	9 - 2	14 - 5	19 - 0	24 - 3	26-0†	9 - 2	14 - 2	17 - 11	21 - 11	25 - 5
	Hem-Fir	No.3	8 - 7	12 - 6	15 - 10	19 - 5	22 - 6	7 - 5	10 - 10	13 - 9	16 - 9	19 - 6
	Southern Pine	SS	10 - 3	16 - 1	21 - 2	26-0†	26-0†	10 - 3	16 - 1	21 - 2	26-0†	26-0†
	Southern Pine	No.1	9 - 10	15 - 6	20 - 5	26-0†	26-0†	9 - 10	15 - 6	19 - 10	23 - 2	26-0†
	Southern Pine	No.2	9 - 5	14 - 9	19 - 6	23 - 5	26-0†	9 - 0	13 - 6	17 - 1	20 - 3	23 - 10
	Southern Pine	No.3	8 - 0	11 - 9	14 - 10	18 - 0	21 - 4	6 - 11	10 - 2	12 - 10	15 - 7	18 - 6
	Spruce-Pine Fir	SS	9 - 8	15 - 2	19 - 11	25 - 5	26-0†	9 - 8	15 - 2	19 - 11	25 - 5	26-0†
	Spruce-Pine Fir	No.1	9 - 5	14 - 9	19 - 6	24 - 10	26-0†	9 - 5	14 - 4	18 - 2	22 - 3	25 - 9
	Spruce-Pine Fir	No.2	9 - 5	14 - 9	19 - 6	24 - 10	26-0†	9 - 5	14 - 4	18 - 2	22 - 3	25 - 9
	Spruce-Pine Fir	No.3	8 - 7	12 - 6	15 - 10	19 - 5	22 - 6	7 - 5	10 - 10	13 - 9	16 - 9	19 - 6
16	Douglas Fir-Larch	SS	9 - 6	14 - 11	19 - 7	25 - 0	26-0†	9 - 6	14 - 11	19 - 7	25 - 0	26-0†
	Douglas Fir-Larch	No.1	9 - 1	14 - 4	18 - 11	23 - 9	26-0†	9 - 1	13 - 3	16 - 10	20 - 7	23 - 10
	Douglas Fir-Larch	No.2	8 - 11	14 - 1	18 - 5	22 - 6	26-0†	8 - 7	12 - 7	16 - 0	19 - 6	22 - 7
	Douglas Fir-Larch	No.3	7 - 7	11 - 1	14 - 1	17 - 2	19 - 11	6 - 7	9 - 8	12 - 2	14 - 11	17 - 3
	Hem-Fir	SS	8 - 11	14 - 1	18 - 6	23 - 8	26-0†	8 - 11	14 - 1	18 - 6	23 - 8	26-0†
	Hem-Fir	No.1	8 - 9	13 - 9	18 - 2	23 - 1	26-0†	8 - 9	13 - 1	16 - 7	20 - 4	23 - 7
	Hem-Fir	No.2	8 - 4	13 - 1	17 - 3	21 - 11	25 - 5	8 - 4	12 - 3	15 - 6	19 - 0	22 - 0
	Hem-Fir	No.3	7 - 5	10 - 10	13 - 9	16 - 9	19 - 6	6 - 5	9 - 5	11 - 11	14 - 6	16 - 10
	Southern Pine	SS	9 - 4	14 - 7	19 - 3	24 - 7	26-0†	9 - 4	14 - 7	19 - 3	24 - 7	26-0†
	Southern Pine	No.1	8 - 11	14 - 1	18 - 6	23 - 2	26-0†	8 - 11	13 - 7	17 - 2	20 - 1	23 - 10
	Southern Pine	No.2	8 - 7	13 - 5	17 - 1	20 - 3	23 - 10	7 - 9	11 - 8	14 - 9	17 - 6	20 - 8
	Southern Pine	No.3	6 - 11	10 - 2	12 - 10	15 - 7	18 - 6	6 - 0	8 - 10	11 - 2	13 - 6	16 - 0
	Spruce-Pine Fir	SS	8 - 9	13 - 9	18 - 2	23 - 1	26-0†	8 - 9	13 - 9	18 - 2	23 - 0	26-0†
	Spruce-Pine Fir	No.1	8 - 7	13 - 5	17 - 9	22 - 3	25 - 9	8 - 6	12 - 5	15 - 9	19 - 3	22 - 4
	Spruce-Pine Fir	No.2	8 - 7	13 - 5	17 - 9	22 - 3	25 - 9	8 - 6	12 - 5	15 - 9	19 - 3	22 - 4
	Spruce-Pine Fir	No.3	7 - 5	10 - 10	13 - 9	16 - 9	19 - 6	6 - 5	9 - 5	11 - 11	14 - 6	16 - 10
19.2	Douglas Fir-Larch	SS	8 - 11	14 - 0	18 - 5	23 - 7	26-0†	8 - 11	14 - 0	18 - 5	23 - 0	26-0†
	Douglas Fir-Larch	No.1	8 - 7	13 - 6	17 - 9	21 - 8	25 - 2	8 - 4	12 - 2	15 - 4	18 - 9	21 - 9
	Douglas Fir-Larch	No.2	8 - 5	13 - 3	16 - 10	20 - 7	23 - 10	7 - 10	11 - 6	14 - 7	17 - 10	20 - 8
	Douglas Fir-Larch	No.3	6 - 11	10 - 2	12 - 10	15 - 8	18 - 3	6 - 0	8 - 9	11 - 2	13 - 7	15 - 9
	Hem-Fir	SS	8 - 5	13 - 3	17 - 5	22 - 3	26-0†	8 - 5	13 - 3	17 - 5	22 - 3	25 - 9
	Hem-Fir	No.1	8 - 3	12 - 11	17 - 1	21 - 5	24 - 10	8 - 2	12 - 0	15 - 2	18 - 6	21 - 6
	Hem-Fir	No.2	7 - 10	12 - 4	16 - 3	20 - 0	23 - 2	7 - 8	11 - 2	14 - 2	17 - 4	20 - 1
	Hem-Fir	No.3	6 - 9	9 - 11	12 - 7	15 - 4	17 - 9	5 - 10	8 - 7	10 - 10	13 - 3	15 - 5
	Southern Pine	SS	8 - 9	13 - 9	18 - 2	23 - 1	26-0†	8 - 9	13 - 9	18 - 2	23 - 1	26-0†
	Southern Pine	No.1	8 - 5	13 - 3	17 - 5	21 - 2	25 - 2	8 - 4	12 - 4	15 - 8	18 - 4	21 - 9
	Southern Pine	No.2	8 - 1	12 - 3	15 - 7	18 - 6	21 - 9	7 - 1	10 - 8	13 - 6	16 - 0	18 - 10
	Southern Pine	No.3	6 - 4	9 - 4	11 - 9	14 - 3	16 - 10	5 - 6	8 - 1	10 - 2	12 - 4	14 - 7
	Spruce-Pine Fir	SS	8 - 3	12 - 11	17 - 1	21 - 9	26-0†	8 - 3	12 - 11	17 - 1	21 - 0	24 - 4
	Spruce-Pine Fir	No.1	8 - 1	12 - 8	16 - 7	20 - 3	23 - 6	7 - 9	11 - 4	14 - 4	17 - 7	20 - 4
	Spruce-Pine Fir	No.2	8 - 1	12 - 8	16 - 7	20 - 3	23 - 6	7 - 9	11 - 4	14 - 4	17 - 7	20 - 4
	Spruce-Pine Fir	No.3	6 - 9	9 - 11	12 - 7	15 - 4	17 - 9	5 - 10	8 - 7	10 - 10	13 - 3	15 - 5
24	Douglas Fir-Larch	SS	8 - 3	13 - 0	17 - 2	21 - 10	26-0†	8 - 3	13 - 0	16 - 10	20 - 7	23 - 10
	Douglas Fir-Larch	No.1	8 - 0	12 - 6	15 - 10	19 - 5	22 - 6	7 - 5	10 - 10	13 - 9	16 - 9	19 - 6
	Douglas Fir-Larch	No.2	7 - 10	11 - 11	15 - 1	18 - 5	21 - 4	7 - 0	10 - 4	13 - 0	15 - 11	18 - 6
	Douglas Fir-Larch	No.3	6 - 2	9 - 1	11 - 6	14 - 1	16 - 3	5 - 4	7 - 10	10 - 0	12 - 2	14 - 1
	Hem-Fir	SS	7 - 10	12 - 3	16 - 2	20 - 8	25 - 1	7 - 10	12 - 3	16 - 2	19 - 10	23 - 0
	Hem-Fir	No.1	7 - 8	12 - 0	15 - 8	19 - 2	22 - 2	7 - 4	10 - 9	13 - 7	16 - 7	19 - 3
	Hem-Fir	No.2	7 - 3	11 - 5	14 - 8	17 - 10	20 - 9	6 - 10	10 - 0	12 - 8	15 - 6	17 - 11
	Hem-Fir	No.3	6 - 1	8 - 10	11 - 3	13 - 8	15 - 11	5 - 3	7 - 8	9 - 9	11 - 10	13 - 9
	Southern Pine	SS	8 - 1	12 - 9	16 - 10	21 - 6	26-0†	8 - 1	12 - 9	16 - 10	20 - 10	24 - 8
	Southern Pine	No.1	7 - 10	12 - 3	16 - 2	18 - 11	22 - 6	7 - 5	11 - 1	14 - 0	16 - 5	19 - 6
	Southern Pine	No.2	7 - 4	11 - 0	13 - 11	16 - 6	19 - 6	6 - 4	9 - 6	12 - 1	14 - 4	16 - 10
	Southern Pine	No.3	5 - 8	8 - 4	10 - 6	12 - 9	15 - 1	4 - 11	7 - 3	9 - 1	11 - 0	13 - 1
	Spruce-Pine Fir	SS	7 - 8	12 - 0	15 - 10	20 - 2	24 - 7	7 - 8	12 - 0	15 - 4	18 - 9	21 - 9
	Spruce-Pine Fir	No.1	7 - 6	11 - 9	14 - 10	18 - 2	21 - 0	6 - 11	10 - 2	12 - 10	15 - 8	18 - 3
	Spruce-Pine Fir	No.2	7 - 6	11 - 9	14 - 10	18 - 2	21 - 0	6 - 11	10 - 2	12 - 10	15 - 8	18 - 3
	Spruce-Pine Fir	No.3	6 - 1	8 - 10	11 - 3	13 - 8	15 - 11	5 - 3	7 - 8	9 - 9	11 - 10	13 - 9

† Spans are limited to 26 feet in length.

See footnotes 1-3.

Table 3.26C Rafter Spans for Common Lumber Species(Ceiling Attached to Rafters) Live Load = 20 psf, $L/\Delta_{LL} = 360$, Brittle Finish (including plaster and stucco)**LL = 20 psf**
 $L/\Delta_{LL} = 360$

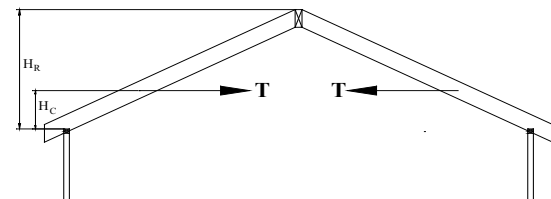
Joist Spacing (in.)	Species	Grade	Dead Load = 10 psf					Dead Load = 20 psf				
			2x4	2x6	2x8	2x10	2x12	2x4	2x6	2x8	2x10	2x12
			Maximum Rafter Spans ^{1,2,3}									
			(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)
12	Douglas Fir-Larch	SS	9 - 1	14 - 4	18 - 10	24 - 1	26-0†	9 - 1	14 - 4	18 - 10	24 - 1	26-0†
	Douglas Fir-Larch	No.1	8 - 9	13 - 9	18 - 2	23 - 2	26-0†	8 - 9	13 - 9	18 - 2	23 - 2	26-0†
	Douglas Fir-Larch	No.2	8 - 7	13 - 6	17 - 10	22 - 9	26-0†	8 - 7	13 - 6	17 - 10	22 - 6	26-0†
	Douglas Fir-Larch	No.3	8 - 3	12 - 10	16 - 3	19 - 10	23 - 0	7 - 7	11 - 1	14 - 1	17 - 2	19 - 11
	Hem-Fir	SS	8 - 7	13 - 6	17 - 10	22 - 9	26-0†	8 - 7	13 - 6	17 - 10	22 - 9	26-0†
	Hem-Fir	No.1	8 - 5	13 - 3	17 - 5	22 - 3	26-0†	8 - 5	13 - 3	17 - 5	22 - 3	26-0†
	Hem-Fir	No.2	8 - 0	12 - 7	16 - 7	21 - 2	25 - 9	8 - 0	12 - 7	16 - 7	21 - 2	25 - 5
	Hem-Fir	No.3	7 - 10	12 - 3	15 - 10	19 - 5	22 - 6	7 - 5	10 - 10	13 - 9	16 - 9	19 - 6
	Southern Pine	SS	8 - 11	14 - 1	18 - 6	23 - 8	26-0†	8 - 11	14 - 1	18 - 6	23 - 8	26-0†
	Southern Pine	No.1	8 - 7	13 - 6	17 - 10	22 - 9	26-0†	8 - 7	13 - 6	17 - 10	22 - 9	26-0†
	Southern Pine	No.2	8 - 3	12 - 11	17 - 0	21 - 9	26-0†	8 - 3	12 - 11	17 - 0	20 - 3	23 - 10
	Southern Pine	No.3	8 - 0	11 - 9	14 - 10	18 - 0	21 - 4	6 - 11	10 - 2	12 - 10	15 - 7	18 - 6
	Spruce-Pine Fir	SS	8 - 5	13 - 3	17 - 5	22 - 3	26-0†	8 - 5	13 - 3	17 - 5	22 - 3	26-0†
	Spruce-Pine Fir	No.1	8 - 3	12 - 11	17 - 0	21 - 9	26-0†	8 - 3	12 - 11	17 - 0	21 - 9	25 - 9
	Spruce-Pine Fir	No.2	8 - 3	12 - 11	17 - 0	21 - 9	26-0†	8 - 3	12 - 11	17 - 0	21 - 9	25 - 9
	Spruce-Pine Fir	No.3	7 - 10	12 - 3	15 - 10	19 - 5	22 - 6	7 - 5	10 - 10	13 - 9	16 - 9	19 - 6
16	Douglas Fir-Larch	SS	8 - 3	13 - 0	17 - 2	21 - 10	26-0†	8 - 3	13 - 0	17 - 2	21 - 10	26-0†
	Douglas Fir-Larch	No.1	8 - 0	12 - 6	16 - 6	21 - 1	25 - 7	8 - 0	12 - 6	16 - 6	20 - 7	23 - 10
	Douglas Fir-Larch	No.2	7 - 10	12 - 3	16 - 2	20 - 8	25 - 1	7 - 10	12 - 3	16 - 0	19 - 6	22 - 7
	Douglas Fir-Larch	No.3	7 - 6	11 - 1	14 - 1	17 - 2	19 - 11	6 - 7	9 - 8	12 - 2	14 - 11	17 - 3
	Hem-Fir	SS	7 - 10	12 - 3	16 - 2	20 - 8	25 - 1	7 - 10	12 - 3	16 - 2	20 - 8	25 - 1
	Hem-Fir	No.1	7 - 8	12 - 0	15 - 10	20 - 2	24 - 7	7 - 8	12 - 0	15 - 10	20 - 2	23 - 7
	Hem-Fir	No.2	7 - 3	11 - 5	15 - 1	19 - 3	23 - 5	7 - 3	11 - 5	15 - 1	19 - 0	22 - 0
	Hem-Fir	No.3	7 - 1	10 - 10	13 - 9	16 - 9	19 - 6	6 - 5	9 - 5	11 - 11	14 - 6	16 - 10
	Southern Pine	SS	8 - 1	12 - 9	16 - 10	21 - 6	26-0†	8 - 1	12 - 9	16 - 10	21 - 6	26-0†
	Southern Pine	No.1	7 - 10	12 - 3	16 - 2	20 - 8	25 - 1	7 - 10	12 - 3	16 - 2	20 - 1	23 - 10
	Southern Pine	No.2	7 - 6	11 - 9	15 - 6	19 - 9	23 - 10	7 - 6	11 - 8	14 - 9	17 - 6	20 - 8
	Southern Pine	No.3	6 - 11	10 - 2	12 - 10	15 - 7	18 - 6	6 - 0	8 - 10	11 - 2	13 - 6	16 - 0
	Spruce-Pine Fir	SS	7 - 8	12 - 0	15 - 10	20 - 2	24 - 7	7 - 8	12 - 0	15 - 10	20 - 2	24 - 7
	Spruce-Pine Fir	No.1	7 - 6	11 - 9	15 - 6	19 - 9	24 - 0	7 - 6	11 - 9	15 - 6	19 - 3	22 - 4
	Spruce-Pine Fir	No.2	7 - 6	11 - 9	15 - 6	19 - 9	24 - 0	7 - 6	11 - 9	15 - 6	19 - 3	22 - 4
	Spruce-Pine Fir	No.3	7 - 1	10 - 10	13 - 9	16 - 9	19 - 6	6 - 5	9 - 5	11 - 11	14 - 6	16 - 10
19.2	Douglas Fir-Larch	SS	7 - 9	12 - 3	16 - 1	20 - 7	25 - 0	7 - 9	12 - 3	16 - 1	20 - 7	25 - 0
	Douglas Fir-Larch	No.1	7 - 6	11 - 9	15 - 6	19 - 10	24 - 1	7 - 6	11 - 9	15 - 4	18 - 9	21 - 9
	Douglas Fir-Larch	No.2	7 - 4	11 - 7	15 - 3	19 - 5	23 - 7	7 - 4	11 - 6	14 - 7	17 - 10	20 - 8
	Douglas Fir-Larch	No.3	6 - 11	10 - 2	12 - 10	15 - 8	18 - 3	6 - 0	8 - 9	11 - 2	13 - 7	15 - 9
	Hem-Fir	SS	7 - 4	11 - 7	15 - 3	19 - 5	23 - 7	7 - 4	11 - 7	15 - 3	19 - 5	23 - 7
	Hem-Fir	No.1	7 - 2	11 - 4	14 - 11	19 - 0	23 - 1	7 - 2	11 - 4	14 - 11	18 - 6	21 - 6
	Hem-Fir	No.2	6 - 10	10 - 9	14 - 2	18 - 1	22 - 1	6 - 10	10 - 9	14 - 2	17 - 4	20 - 1
	Hem-Fir	No.3	6 - 8	9 - 11	12 - 7	15 - 4	17 - 9	5 - 10	8 - 7	10 - 10	13 - 3	15 - 5
	Southern Pine	SS	7 - 8	12 - 0	15 - 10	20 - 2	24 - 7	7 - 8	12 - 0	15 - 10	20 - 2	24 - 7
	Southern Pine	No.1	7 - 4	11 - 7	15 - 3	19 - 5	23 - 7	7 - 4	11 - 7	15 - 3	18 - 4	21 - 9
	Southern Pine	No.2	7 - 0	11 - 1	14 - 7	18 - 6	21 - 9	7 - 0	10 - 8	13 - 6	16 - 0	18 - 10
	Southern Pine	No.3	6 - 4	9 - 4	11 - 9	14 - 3	16 - 10	5 - 6	8 - 1	10 - 2	12 - 4	14 - 7
	Spruce-Pine Fir	SS	7 - 2	11 - 4	14 - 11	19 - 0	23 - 1	7 - 2	11 - 4	14 - 11	19 - 0	23 - 1
	Spruce-Pine Fir	No.1	7 - 0	11 - 1	14 - 7	18 - 7	22 - 7	7 - 0	11 - 1	14 - 4	17 - 7	20 - 4
	Spruce-Pine Fir	No.2	7 - 0	11 - 1	14 - 7	18 - 7	22 - 7	7 - 0	11 - 1	14 - 4	17 - 7	20 - 4
	Spruce-Pine Fir	No.3	6 - 8	9 - 11	12 - 7	15 - 4	17 - 9	5 - 10	8 - 7	10 - 10	13 - 3	15 - 5
24	Douglas Fir-Larch	SS	7 - 3	11 - 4	15 - 0	19 - 1	23 - 3	7 - 3	11 - 4	15 - 0	19 - 1	23 - 3
	Douglas Fir-Larch	No.1	7 - 0	10 - 11	14 - 5	18 - 5	22 - 5	7 - 0	10 - 10	13 - 9	16 - 9	19 - 6
	Douglas Fir-Larch	No.2	6 - 10	10 - 9	14 - 2	18 - 0	21 - 4	6 - 10	10 - 4	13 - 0	15 - 11	18 - 6
	Douglas Fir-Larch	No.3	6 - 2	9 - 1	11 - 6	14 - 1	16 - 3	5 - 4	7 - 10	10 - 0	12 - 2	14 - 1
	Hem-Fir	SS	6 - 10	10 - 9	14 - 2	18 - 0	21 - 11	6 - 10	10 - 9	14 - 2	18 - 0	21 - 11
	Hem-Fir	No.1	6 - 8	10 - 6	13 - 10	17 - 8	21 - 6	6 - 8	10 - 6	13 - 7	16 - 7	19 - 3
	Hem-Fir	No.2	6 - 4	10 - 0	13 - 2	16 - 10	20 - 6	6 - 4	10 - 0	12 - 8	15 - 6	17 - 11
	Hem-Fir	No.3	6 - 1	8 - 10	11 - 3	13 - 8	15 - 11	5 - 3	7 - 8	9 - 9	11 - 10	13 - 9
	Southern Pine	SS	7 - 1	11 - 2	14 - 8	18 - 9	22 - 10	7 - 1	11 - 2	14 - 8	18 - 9	22 - 10
	Southern Pine	No.1	6 - 10	10 - 9	14 - 2	18 - 0	21 - 11	6 - 10	10 - 9	14 - 0	16 - 5	19 - 6
	Southern Pine	No.2	6 - 6	10 - 3	13 - 6	16 - 6	19 - 6	6 - 4	9 - 6	12 - 1	14 - 4	16 - 10
	Southern Pine	No.3	5 - 8	8 - 4	10 - 6	12 - 9	15 - 1	4 - 11	7 - 3	9 - 1	11 - 0	13 - 1
	Spruce-Pine Fir	SS	6 - 8	10 - 6	13 - 10	17 - 8	21 - 6	6 - 8	10 - 6	13 - 10	17 - 8	21 - 6
	Spruce-Pine Fir	No.1	6 - 6	10 - 3	13 - 6	17 - 3	21 - 0	6 - 6	10 - 2	12 - 10	15 - 8	18 - 3
	Spruce-Pine Fir	No.2	6 - 6	10 - 3	13 - 6	17 - 3	21 - 0	6 - 6	10 - 2	12 - 10	15 - 8	18 - 3
	Spruce-Pine Fir	No.3	6 - 1	8 - 10	11 - 3	13 - 8	15 - 11	5 - 3	7 - 8	9 - 9	11 - 10	13 - 9

† Spans are limited to 26 feet in length.

See footnotes 1-3.

Footnotes to Tables 3.26A, B and C

- 1 Tabulated rafter spans assume ceiling joists or rafter ties are located at the bottom of the attic space to resist thrust. When ceiling joists or rafter ties are located higher in the attic space and are used to resist thrust, the rafter spans shall be reduced using the factors given in the following table:



The diagram shows a cross-section of a gable roof. Two rafters meet at a ridge. At the base of each rafter, there is a vertical line representing a wall. A horizontal arrow labeled 'T' points from the ridge towards the wall, representing the thrust. Two vertical dimensions are indicated: H_R is the height from the base of the rafter to the ridge, and H_C is the height from the base of the rafter to the ceiling joist or rafter tie location.

Ceiling Height/Top Plate-to-Roof Ridge Height (H_C/H_R)	Rafter Span Adjustment Factors
1/2	0.58
1/3	0.67
1/4	0.76
1/5	0.83
1/6	0.90
1/7.5 and less	1.00

Note: Lateral deflection of the rafter below the rafter ties may exceed 3/4 inch when rafter ties are located above one-third of the top plate-to- roof ridge height, H_R , or when H_C is greater than 2 feet and may require additional consideration.

- 2 Tabulated rafter spans in Tables 3.26A, B and C shall be permitted to be multiplied by the sloped roof adjustment factors in the following table for roof pitches greater than 4:12:

	10 psf Dead	20 psf Dead
Roof Pitch	Adjustment Factor For Sloped Roofs	
5:12	1.02	1.01
6:12	1.04	1.03
7:12	1.05	1.04
8:12	1.07	1.05
9:12	1.10	1.07
10:12	1.12	1.08
11:12	1.14	1.10
12:12	1.17	1.12

- 3 Spans checked for live load deflection only.

Table 3.26D Rafter Spans for Common Lumber Species

(Ceiling Not Attached to Rafters)

Ground Snow Load = 30 psf, $L/\Delta_{LL} = 180$ **GSL = 30 psf**
 $L/\Delta_{LL} = 180$

Joist Spacing (in.)	Species	Grade	Dead Load = 10 psf					Dead Load = 20 psf				
			2x4	2x6	2x8	2x10	2x12	2x4	2x6	2x8	2x10	2x12
			Maximum Rafter Spans ^{1,2}									
			(ft-in.)	(ft-in.)	(ft-in.)	(ft-in.)	(ft-in.)	(ft-in.)	(ft-in.)	(ft-in.)	(ft-in.)	(ft-in.)
12	Douglas Fir-Larch	SS	10-0	15-9	20-0†	20-0†	20-0†	10-0	15-9	20-0†	20-0†	20-0†
	Douglas Fir-Larch	No.1	9-8	14-9	18-8	20-0†	20-0†	9-0	13-2	16-8	20-0†	20-0†
	Douglas Fir-Larch	No.2	9-6	14-0	17-8	20-0†	20-0†	8-6	12-6	15-10	19-4	20-0†
	Douglas Fir-Larch	No.3	7-3	10-8	13-6	16-6	19-2	6-6	9-6	12-1	14-9	17-1
	Hem-Fir	SS	9-6	14-10	19-7	20-0†	20-0†	9-6	14-10	19-7	20-0†	20-0†
	Hem-Fir	No.1	9-3	14-6	18-5	20-0†	20-0†	8-11	13-0	16-6	20-0†	20-0†
	Hem-Fir	No.2	8-10	13-7	17-2	20-0†	20-0†	8-4	12-2	15-4	18-9	20-0†
	Hem-Fir	No.3	7-1	10-5	13-2	16-1	18-8	6-4	9-4	11-9	14-5	16-8
	Southern Pine	SS	9-10	15-6	20-0†	20-0†	20-0†	9-10	15-6	20-0†	20-0†	20-0†
	Southern Pine	No.1	9-6	14-10	19-0	20-0†	20-0†	9-0	13-5	17-0	19-11	20-0†
	Southern Pine	No.2	8-7	12-11	16-4	19-5	20-0†	7-8	11-7	14-8	17-4	20-0†
	Southern Pine	No.3	6-7	9-9	12-4	15-0	17-9	5-11	8-9	11-0	13-5	15-10
	Spruce-Pine Fir	SS	9-3	14-7	19-2	20-0†	20-0†	9-3	14-7	18-8	20-0†	20-0†
	Spruce-Pine Fir	No.1	9-1	13-9	17-5	20-0†	20-0†	8-5	12-4	15-7	19-1	20-0†
	Spruce-Pine Fir	No.2	9-1	13-9	17-5	20-0†	20-0†	8-5	12-4	15-7	19-1	20-0†
	Spruce-Pine Fir	No.3	7-1	10-5	13-2	16-1	18-8	6-4	9-4	11-9	14-5	16-8
16	Douglas Fir-Larch	SS	9-1	14-4	18-10	20-0†	20-0†	9-1	14-0	17-8	20-0†	20-0†
	Douglas Fir-Larch	No.1	8-9	12-9	16-2	19-9	20-0†	7-10	11-5	14-5	17-8	20-0†
	Douglas Fir-Larch	No.2	8-3	12-1	15-4	18-9	20-0†	7-5	10-10	13-8	16-9	19-5
	Douglas Fir-Larch	No.3	6-4	9-3	11-8	14-3	16-7	5-8	8-3	10-6	12-9	14-10
	Hem-Fir	SS	8-7	13-6	17-10	20-0†	20-0†	8-7	13-6	17-1	20-0†	20-0†
	Hem-Fir	No.1	8-5	12-7	15-11	19-6	20-0†	7-8	11-3	14-3	17-5	20-0†
	Hem-Fir	No.2	8-0	11-9	14-11	18-2	20-0†	7-2	10-6	13-4	16-3	18-10
	Hem-Fir	No.3	6-2	9-0	11-5	13-11	16-2	5-6	8-1	10-3	12-6	14-6
	Southern Pine	SS	8-11	14-1	18-6	20-0†	20-0†	8-11	14-1	18-5	20-0†	20-0†
	Southern Pine	No.1	8-7	13-0	16-6	19-3	20-0†	7-10	11-7	14-9	17-3	20-0†
	Southern Pine	No.2	7-6	11-2	14-2	16-10	19-10	6-8	10-0	12-8	15-1	17-9
	Southern Pine	No.3	5-9	8-6	10-8	13-0	15-4	5-2	7-7	9-7	11-7	13-9
	Spruce-Pine Fir	SS	8-5	13-3	17-5	20-0†	20-0†	8-5	12-9	16-2	19-9	20-0†
	Spruce-Pine Fir	No.1	8-2	11-11	15-1	18-5	20-0†	7-3	10-8	13-6	16-6	19-2
	Spruce-Pine Fir	No.2	8-2	11-11	15-1	18-5	20-0†	7-3	10-8	13-6	16-6	19-2
	Spruce-Pine Fir	No.3	6-2	9-0	11-5	13-11	16-2	5-6	8-1	10-3	12-6	14-6
19.2	Douglas Fir-Larch	SS	8-7	13-6	17-9	20-0†	20-0†	8-7	12-9	16-2	19-9	20-0†
	Douglas Fir-Larch	No.1	8-0	11-8	14-9	18-0	20-0†	7-1	10-5	13-2	16-1	18-8
	Douglas Fir-Larch	No.2	7-7	11-0	14-0	17-1	19-10	6-9	9-10	12-6	15-3	17-9
	Douglas Fir-Larch	No.3	5-9	8-5	10-8	13-1	15-2	5-2	7-7	9-7	11-8	13-6
	Hem-Fir	SS	8-1	12-9	16-9	20-0†	20-0†	8-1	12-4	15-7	19-1	20-0†
	Hem-Fir	No.1	7-10	11-6	14-7	17-9	20-0†	7-0	10-3	13-0	15-11	18-5
	Hem-Fir	No.2	7-4	10-9	13-7	16-7	19-3	6-7	9-7	12-2	14-10	17-3
	Hem-Fir	No.3	5-8	8-3	10-5	12-9	14-9	5-0	7-4	9-4	11-5	13-2
	Southern Pine	SS	8-5	13-3	17-5	20-0†	20-0†	8-5	13-3	16-10	20-0†	20-0†
	Southern Pine	No.1	8-0	11-10	15-1	17-7	20-0†	7-1	10-7	13-5	15-9	18-8
	Southern Pine	No.2	6-10	10-2	12-11	15-4	18-1	6-1	9-2	11-7	13-9	16-2
	Southern Pine	No.3	5-3	7-9	9-9	11-10	14-0	4-8	6-11	8-9	10-7	12-6
	Spruce-Pine Fir	SS	7-11	12-5	16-5	20-0†	20-0†	7-11	11-8	14-9	18-0	20-0†
	Spruce-Pine Fir	No.1	7-5	10-11	13-9	16-10	19-6	6-8	9-9	12-4	15-1	17-6
	Spruce-Pine Fir	No.2	7-5	10-11	13-9	16-10	19-6	6-8	9-9	12-4	15-1	17-6
	Spruce-Pine Fir	No.3	5-8	8-3	10-5	12-9	14-9	5-0	7-4	9-4	11-5	13-2
24	Douglas Fir-Larch	SS	8-0	12-6	16-2	19-9	20-0†	7-10	11-5	14-5	17-8	20-0†
	Douglas Fir-Larch	No.1	7-1	10-5	13-2	16-1	18-8	6-4	9-4	11-9	14-5	16-8
	Douglas Fir-Larch	No.2	6-9	9-10	12-6	15-3	17-9	6-0	8-10	11-2	13-8	15-10
	Douglas Fir-Larch	No.3	5-2	7-7	9-7	11-8	13-6	4-7	6-9	8-7	10-5	12-1
	Hem-Fir	SS	7-6	11-10	15-7	19-1	20-0†	7-6	11-0	14-0	17-1	19-9
	Hem-Fir	No.1	7-0	10-3	13-0	15-11	18-5	6-3	9-2	11-8	14-3	16-6
	Hem-Fir	No.2	6-7	9-7	12-2	14-10	17-3	5-10	8-7	10-10	13-3	15-5
	Hem-Fir	No.3	5-0	7-4	9-4	11-5	13-2	4-6	6-7	8-4	10-2	11-10
	Southern Pine	SS	7-10	12-3	16-2	20-0†	20-0†	7-10	11-10	15-0	17-11	20-0†
	Southern Pine	No.1	7-1	10-7	13-5	15-9	18-8	6-4	9-6	12-0	14-1	16-8
	Southern Pine	No.2	6-1	9-2	11-7	13-9	16-2	5-5	8-2	10-4	12-3	14-6
	Southern Pine	No.3	4-8	6-11	8-9	10-7	12-6	4-2	6-2	7-10	9-6	11-2
	Spruce-Pine Fir	SS	7-4	11-7	14-9	18-0	20-0†	7-1	10-5	13-2	16-1	18-8
	Spruce-Pine Fir	No.1	6-8	9-9	12-4	15-1	17-6	6-0	8-9	11-0	13-6	15-7
	Spruce-Pine Fir	No.2	6-8	9-9	12-4	15-1	17-6	6-0	8-9	11-0	13-6	15-7
	Spruce-Pine Fir	No.3	5-0	7-4	9-4	11-5	13-2	4-6	6-7	8-4	10-2	11-10

† Spans are limited to 20 feet in length.

See footnotes 1-2.

Table 3.26E Rafter Spans for Common Lumber Species

(Ceiling Attached to Rafters) Ground Snow Load = 30 psf,
 $L/\Delta_{LL} = 240$, Flexible Finish (including gypsum board)

GSL = 30 psf
 $L/\Delta_{LL} = 240$

			Dead Load = 10 psf					Dead Load = 20 psf				
			2x4	2x6	2x8	2x10	2x12	2x4	2x6	2x8	2x10	2x12
Maximum Rafter Spans ^{1,2}												
Joist Spacing (in.)	Species	Grade	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)
12	Douglas Fir-Larch	SS	9 - 1	14 - 4	18 - 10	20-0†	20-0†	9 - 1	14 - 4	18 - 10	20-0†	20-0†
	Douglas Fir-Larch	No.1	8 - 9	13 - 9	18 - 2	20-0†	20-0†	8 - 9	13 - 2	16 - 8	20-0†	20-0†
	Douglas Fir-Larch	No.2	8 - 7	13 - 6	17 - 8	20-0†	20-0†	8 - 6	12 - 6	15 - 10	19 - 4	20-0†
	Douglas Fir-Larch	No.3	7 - 3	10 - 8	13 - 6	16 - 6	19 - 2	6 - 6	9 - 6	12 - 1	14 - 9	17 - 1
	Hem-Fir	SS	8 - 7	13 - 6	17 - 10	20-0†	20-0†	8 - 7	13 - 6	17 - 10	20-0†	20-0†
	Hem-Fir	No.1	8 - 5	13 - 3	17 - 5	20-0†	20-0†	8 - 5	13 - 0	16 - 6	20-0†	20-0†
	Hem-Fir	No.2	8 - 0	12 - 7	16 - 7	20-0†	20-0†	8 - 0	12 - 2	15 - 4	18 - 9	20-0†
	Hem-Fir	No.3	7 - 1	10 - 5	13 - 2	16 - 1	18 - 8	6 - 4	9 - 4	11 - 9	14 - 5	16 - 8
	Southern Pine	SS	8 - 11	14 - 1	18 - 6	20-0†	20-0†	8 - 11	14 - 1	18 - 6	20-0†	20-0†
	Southern Pine	No.1	8 - 7	13 - 6	17 - 10	20-0†	20-0†	8 - 7	13 - 5	17 - 0	19 - 11	20-0†
	Southern Pine	No.2	8 - 3	12 - 11	16 - 4	19 - 5	20-0†	7 - 8	11 - 7	14 - 8	17 - 4	20-0†
	Southern Pine	No.3	6 - 7	9 - 9	12 - 4	15 - 0	17 - 9	5 - 11	8 - 9	11 - 0	13 - 5	15 - 10
	Spruce-Pine Fir	SS	8 - 5	13 - 3	17 - 5	20-0†	20-0†	8 - 5	13 - 3	17 - 5	20-0†	20-0†
	Spruce-Pine Fir	No.1	8 - 3	12 - 11	17 - 0	20-0†	20-0†	8 - 3	12 - 4	15 - 7	19 - 1	20-0†
	Spruce-Pine Fir	No.2	8 - 3	12 - 11	17 - 0	20-0†	20-0†	8 - 3	12 - 4	15 - 7	19 - 1	20-0†
	Spruce-Pine Fir	No.3	7 - 1	10 - 5	13 - 2	16 - 1	18 - 8	6 - 4	9 - 4	11 - 9	14 - 5	16 - 8
16	Douglas Fir-Larch	SS	8 - 3	13 - 0	17 - 2	20-0†	20-0†	8 - 3	13 - 0	17 - 2	20-0†	20-0†
	Douglas Fir-Larch	No.1	8 - 0	12 - 6	16 - 2	19 - 9	20-0†	7 - 10	11 - 5	14 - 5	17 - 8	20-0†
	Douglas Fir-Larch	No.2	7 - 10	12 - 1	15 - 4	18 - 9	20-0†	7 - 5	10 - 10	13 - 8	16 - 9	19 - 5
	Douglas Fir-Larch	No.3	6 - 4	9 - 3	11 - 8	14 - 3	16 - 7	5 - 8	8 - 3	10 - 6	12 - 9	14 - 10
	Hem-Fir	SS	7 - 10	12 - 3	16 - 2	20-0†	20-0†	7 - 10	12 - 3	16 - 2	20-0†	20-0†
	Hem-Fir	No.1	7 - 8	12 - 0	15 - 10	19 - 6	20-0†	7 - 8	11 - 3	14 - 3	17 - 5	20-0†
	Hem-Fir	No.2	7 - 3	11 - 5	14 - 11	18 - 2	20-0†	7 - 2	10 - 6	13 - 4	16 - 3	18 - 10
	Hem-Fir	No.3	6 - 2	9 - 0	11 - 5	13 - 11	16 - 2	5 - 6	8 - 1	10 - 3	12 - 6	14 - 6
	Southern Pine	SS	8 - 1	12 - 9	16 - 10	20-0†	20-0†	8 - 1	12 - 9	16 - 10	20-0†	20-0†
	Southern Pine	No.1	7 - 10	12 - 3	16 - 2	19 - 3	20-0†	7 - 10	11 - 7	14 - 9	17 - 3	20-0†
	Southern Pine	No.2	7 - 6	11 - 2	14 - 2	16 - 10	19 - 10	6 - 8	10 - 0	12 - 8	15 - 1	17 - 9
	Southern Pine	No.3	5 - 9	8 - 6	10 - 8	13 - 0	15 - 4	5 - 2	7 - 7	9 - 7	11 - 7	13 - 9
	Spruce-Pine Fir	SS	7 - 8	12 - 0	15 - 10	20-0†	20-0†	7 - 8	12 - 0	15 - 10	19 - 9	20-0†
	Spruce-Pine Fir	No.1	7 - 6	11 - 9	15 - 1	18 - 5	20-0†	7 - 3	10 - 8	13 - 6	16 - 6	19 - 2
	Spruce-Pine Fir	No.2	7 - 6	11 - 9	15 - 1	18 - 5	20-0†	7 - 3	10 - 8	13 - 6	16 - 6	19 - 2
	Spruce-Pine Fir	No.3	6 - 2	9 - 0	11 - 5	13 - 11	16 - 2	5 - 6	8 - 1	10 - 3	12 - 6	14 - 6
19.2	Douglas Fir-Larch	SS	7 - 9	12 - 3	16 - 1	20-0†	20-0†	7 - 9	12 - 3	16 - 1	19 - 9	20-0†
	Douglas Fir-Larch	No.1	7 - 6	11 - 8	14 - 9	18 - 0	20-0†	7 - 1	10 - 5	13 - 2	16 - 1	18 - 8
	Douglas Fir-Larch	No.2	7 - 4	11 - 0	14 - 0	17 - 1	19 - 10	6 - 9	9 - 10	12 - 6	15 - 3	17 - 9
	Douglas Fir-Larch	No.3	5 - 9	8 - 5	10 - 8	13 - 1	15 - 2	5 - 2	7 - 7	9 - 7	11 - 8	13 - 6
	Hem-Fir	SS	7 - 4	11 - 7	15 - 3	19 - 5	20-0†	7 - 4	11 - 7	15 - 3	19 - 1	20-0†
	Hem-Fir	No.1	7 - 2	11 - 4	14 - 7	17 - 9	20-0†	7 - 0	10 - 3	13 - 0	15 - 11	18 - 5
	Hem-Fir	No.2	6 - 10	10 - 9	13 - 7	16 - 7	19 - 3	6 - 7	9 - 7	12 - 2	14 - 10	17 - 3
	Hem-Fir	No.3	5 - 8	8 - 3	10 - 5	12 - 9	14 - 9	5 - 0	7 - 4	9 - 4	11 - 5	13 - 2
	Southern Pine	SS	7 - 8	12 - 0	15 - 10	20-0†	20-0†	7 - 8	12 - 0	15 - 10	20-0†	20-0†
	Southern Pine	No.1	7 - 4	11 - 7	15 - 1	17 - 7	20-0†	7 - 1	10 - 7	13 - 5	15 - 9	18 - 8
	Southern Pine	No.2	6 - 10	10 - 2	12 - 11	15 - 4	18 - 1	6 - 1	9 - 2	11 - 7	13 - 9	16 - 2
	Southern Pine	No.3	5 - 3	7 - 9	9 - 9	11 - 10	14 - 0	4 - 8	6 - 11	8 - 9	10 - 7	12 - 6
	Spruce-Pine Fir	SS	7 - 2	11 - 4	14 - 11	19 - 0	20-0†	7 - 2	11 - 4	14 - 9	18 - 0	20-0†
	Spruce-Pine Fir	No.1	7 - 0	10 - 11	13 - 9	16 - 10	19 - 6	6 - 8	9 - 9	12 - 4	15 - 1	17 - 6
	Spruce-Pine Fir	No.2	7 - 0	10 - 11	13 - 9	16 - 10	19 - 6	6 - 8	9 - 9	12 - 4	15 - 1	17 - 6
	Spruce-Pine Fir	No.3	5 - 8	8 - 3	10 - 5	12 - 9	14 - 9	5 - 0	7 - 4	9 - 4	11 - 5	13 - 2
24	Douglas Fir-Larch	SS	7 - 3	11 - 4	15 - 0	19 - 1	20-0†	7 - 3	11 - 4	14 - 5	17 - 8	20-0†
	Douglas Fir-Larch	No.1	7 - 0	10 - 5	13 - 2	16 - 1	18 - 8	6 - 4	9 - 4	11 - 9	14 - 5	16 - 8
	Douglas Fir-Larch	No.2	6 - 9	9 - 10	12 - 6	15 - 3	17 - 9	6 - 0	8 - 10	11 - 2	13 - 8	15 - 10
	Douglas Fir-Larch	No.3	5 - 2	7 - 7	9 - 7	11 - 8	13 - 6	4 - 7	6 - 9	8 - 7	10 - 5	12 - 1
	Hem-Fir	SS	6 - 10	10 - 9	14 - 2	18 - 0	20-0†	6 - 10	10 - 9	14 - 0	17 - 1	19 - 9
	Hem-Fir	No.1	6 - 8	10 - 3	13 - 0	15 - 11	18 - 5	6 - 3	9 - 2	11 - 8	14 - 3	16 - 6
	Hem-Fir	No.2	6 - 4	9 - 7	12 - 2	14 - 10	17 - 3	5 - 10	8 - 7	10 - 10	13 - 3	15 - 5
	Hem-Fir	No.3	5 - 0	7 - 4	9 - 4	11 - 5	13 - 2	4 - 6	6 - 7	8 - 4	10 - 2	11 - 10
	Southern Pine	SS	7 - 1	11 - 2	14 - 8	18 - 9	20-0†	7 - 1	11 - 2	14 - 8	17 - 11	20-0†
	Southern Pine	No.1	6 - 10	10 - 7	13 - 5	15 - 9	18 - 8	6 - 4	9 - 6	12 - 0	14 - 1	16 - 8
	Southern Pine	No.2	6 - 1	9 - 2	11 - 7	13 - 9	16 - 2	5 - 5	8 - 2	10 - 4	12 - 3	14 - 6
	Southern Pine	No.3	4 - 8	6 - 11	8 - 9	10 - 7	12 - 6	4 - 2	6 - 2	7 - 10	9 - 6	11 - 2
	Spruce-Pine Fir	SS	6 - 8	10 - 6	13 - 10	17 - 8	20-0†	6 - 8	10 - 5	13 - 2	16 - 1	18 - 8
	Spruce-Pine Fir	No.1	6 - 6	9 - 9	12 - 4	15 - 1	17 - 6	6 - 0	8 - 9	11 - 0	13 - 6	15 - 7
	Spruce-Pine Fir	No.2	6 - 6	9 - 9	12 - 4	15 - 1	17 - 6	6 - 0	8 - 9	11 - 0	13 - 6	15 - 7
	Spruce-Pine Fir	No.3	5 - 0	7 - 4	9 - 4	11 - 5	13 - 2	4 - 6	6 - 7	8 - 4	10 - 2	11 - 10

† Spans are limited to 20 feet in length.
 See footnotes 1-2.

Table 3.26F Rafter Spans for Common Lumber Species
(Ceiling Attached to Rafters) Ground Snow Load = 30 psf,
 $L/\Delta_{LL} = 360$, Brittle Finish (including plaster and stucco)

GSL = 30 psf
 $L/\Delta_{LL} = 360$

			Dead Load = 10 psf					Dead Load = 20 psf				
			2x4	2x6	2x8	2x10	2x12	2x4	2x6	2x8	2x10	2x12
Maximum Rafter Spans ^{1,2}												
Joist Spacing (in.)	Species	Grade	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)
12	Douglas Fir-Larch	SS	8 - 0	12 - 6	16 - 6	20-0†	20-0†	8 - 0	12 - 6	16 - 6	20-0†	20-0†
	Douglas Fir-Larch	No.1	7 - 8	12 - 0	15 - 10	20-0†	20-0†	7 - 8	12 - 0	15 - 10	20-0†	20-0†
	Douglas Fir-Larch	No.2	7 - 6	11 - 10	15 - 7	19 - 10	20-0†	7 - 6	11 - 10	15 - 7	19 - 4	20-0†
	Douglas Fir-Larch	No.3	7 - 2	10 - 8	13 - 6	16 - 6	19 - 2	6 - 6	9 - 6	12 - 1	14 - 9	17 - 1
	Hem-Fir	SS	7 - 6	11 - 10	15 - 7	19 - 10	20-0†	7 - 6	11 - 10	15 - 7	19 - 10	20-0†
	Hem-Fir	No.1	7 - 4	11 - 7	15 - 3	19 - 5	20-0†	7 - 4	11 - 7	15 - 3	19 - 5	20-0†
	Hem-Fir	No.2	7 - 0	11 - 0	14 - 6	18 - 6	20-0†	7 - 0	11 - 0	14 - 6	18 - 6	20-0†
	Hem-Fir	No.3	6 - 10	10 - 5	13 - 2	16 - 1	18 - 8	6 - 4	9 - 4	11 - 9	14 - 5	16 - 8
	Southern Pine	SS	7 - 10	12 - 3	16 - 2	20-0†	20-0†	7 - 10	12 - 3	16 - 2	20-0†	20-0†
	Southern Pine	No.1	7 - 6	11 - 10	15 - 7	19 - 10	20-0†	7 - 6	11 - 10	15 - 7	19 - 10	20-0†
	Southern Pine	No.2	7 - 2	11 - 3	14 - 11	19 - 0	20-0†	7 - 2	11 - 3	14 - 8	17 - 4	20-0†
	Southern Pine	No.3	6 - 7	9 - 9	12 - 4	15 - 0	17 - 9	5 - 11	8 - 9	11 - 0	13 - 5	15 - 10
	Spruce-Pine Fir	SS	7 - 4	11 - 7	15 - 3	19 - 5	20-0†	7 - 4	11 - 7	15 - 3	19 - 5	20-0†
	Spruce-Pine Fir	No.1	7 - 2	11 - 3	14 - 11	19 - 0	20-0†	7 - 2	11 - 3	14 - 11	19 - 0	20-0†
	Spruce-Pine Fir	No.2	7 - 2	11 - 3	14 - 11	19 - 0	20-0†	7 - 2	11 - 3	14 - 11	19 - 0	20-0†
	Spruce-Pine Fir	No.3	6 - 10	10 - 5	13 - 2	16 - 1	18 - 8	6 - 4	9 - 4	11 - 9	14 - 5	16 - 8
16	Douglas Fir-Larch	SS	7 - 3	11 - 4	15 - 0	19 - 1	20-0†	7 - 3	11 - 4	15 - 0	19 - 1	20-0†
	Douglas Fir-Larch	No.1	7 - 0	10 - 11	14 - 5	18 - 5	20-0†	7 - 0	10 - 11	14 - 5	17 - 8	20-0†
	Douglas Fir-Larch	No.2	6 - 10	10 - 9	14 - 2	18 - 0	20-0†	6 - 10	10 - 9	13 - 8	16 - 9	19 - 5
	Douglas Fir-Larch	No.3	6 - 4	9 - 3	11 - 8	14 - 3	16 - 7	5 - 8	8 - 3	10 - 6	12 - 9	14 - 10
	Hem-Fir	SS	6 - 10	10 - 9	14 - 2	18 - 0	20-0†	6 - 10	10 - 9	14 - 2	18 - 0	20-0†
	Hem-Fir	No.1	6 - 8	10 - 6	13 - 10	17 - 8	20-0†	6 - 8	10 - 6	13 - 10	17 - 5	20-0†
	Hem-Fir	No.2	6 - 4	10 - 0	13 - 2	16 - 10	20-0†	6 - 4	10 - 0	13 - 2	16 - 3	18 - 10
	Hem-Fir	No.3	6 - 2	9 - 0	11 - 5	13 - 11	16 - 2	5 - 6	8 - 1	10 - 3	12 - 6	14 - 6
	Southern Pine	SS	7 - 1	11 - 2	14 - 8	18 - 9	20-0†	7 - 1	11 - 2	14 - 8	18 - 9	20-0†
	Southern Pine	No.1	6 - 10	10 - 9	14 - 2	18 - 0	20-0†	6 - 10	10 - 9	14 - 2	17 - 3	20-0†
	Southern Pine	No.2	6 - 6	10 - 3	13 - 6	16 - 10	19 - 10	6 - 6	10 - 0	12 - 8	15 - 1	17 - 9
	Southern Pine	No.3	5 - 9	8 - 6	10 - 8	13 - 0	15 - 4	5 - 2	7 - 7	9 - 7	11 - 7	13 - 9
	Spruce-Pine Fir	SS	6 - 8	10 - 6	13 - 10	17 - 8	20-0†	6 - 8	10 - 6	13 - 10	17 - 8	20-0†
	Spruce-Pine Fir	No.1	6 - 6	10 - 3	13 - 6	17 - 3	20-0†	6 - 6	10 - 3	13 - 6	16 - 6	19 - 2
	Spruce-Pine Fir	No.2	6 - 6	10 - 3	13 - 6	17 - 3	20-0†	6 - 6	10 - 3	13 - 6	16 - 6	19 - 2
	Spruce-Pine Fir	No.3	6 - 2	9 - 0	11 - 5	13 - 11	16 - 2	5 - 6	8 - 1	10 - 3	12 - 6	14 - 6
19.2	Douglas Fir-Larch	SS	6 - 10	10 - 8	14 - 1	18 - 0	20-0†	6 - 10	10 - 8	14 - 1	18 - 0	20-0†
	Douglas Fir-Larch	No.1	6 - 7	10 - 4	13 - 7	17 - 4	20-0†	6 - 7	10 - 4	13 - 2	16 - 1	18 - 8
	Douglas Fir-Larch	No.2	6 - 5	10 - 1	13 - 4	17 - 0	19 - 10	6 - 5	9 - 10	12 - 6	15 - 3	17 - 9
	Douglas Fir-Larch	No.3	5 - 9	8 - 5	10 - 8	13 - 1	15 - 2	5 - 2	7 - 7	9 - 7	11 - 8	13 - 6
	Hem-Fir	SS	6 - 5	10 - 1	13 - 4	17 - 0	20-0†	6 - 5	10 - 1	13 - 4	17 - 0	20-0†
	Hem-Fir	No.1	6 - 3	9 - 10	13 - 0	16 - 7	20-0†	6 - 3	9 - 10	13 - 0	15 - 11	18 - 5
	Hem-Fir	No.2	6 - 0	9 - 5	12 - 5	15 - 10	19 - 3	6 - 0	9 - 5	12 - 2	14 - 10	17 - 3
	Hem-Fir	No.3	5 - 8	8 - 3	10 - 5	12 - 9	14 - 9	5 - 0	7 - 4	9 - 4	11 - 5	13 - 2
	Southern Pine	SS	6 - 8	10 - 6	13 - 10	17 - 8	20-0†	6 - 8	10 - 6	13 - 10	17 - 8	20-0†
	Southern Pine	No.1	6 - 5	10 - 1	13 - 4	17 - 0	20-0†	6 - 5	10 - 1	13 - 4	15 - 9	18 - 8
	Southern Pine	No.2	6 - 2	9 - 8	12 - 9	15 - 4	18 - 1	6 - 1	9 - 2	11 - 7	13 - 9	16 - 2
	Southern Pine	No.3	5 - 3	7 - 9	9 - 9	11 - 10	14 - 0	4 - 8	6 - 11	8 - 9	10 - 7	12 - 6
	Spruce-Pine Fir	SS	6 - 3	9 - 10	13 - 0	16 - 7	20-0†	6 - 3	9 - 10	13 - 0	16 - 7	20-0†
	Spruce-Pine Fir	No.1	6 - 2	9 - 8	12 - 9	16 - 3	19 - 6	6 - 2	9 - 8	12 - 4	15 - 1	17 - 6
	Spruce-Pine Fir	No.2	6 - 2	9 - 8	12 - 9	16 - 3	19 - 6	6 - 2	9 - 8	12 - 4	15 - 1	17 - 6
	Spruce-Pine Fir	No.3	5 - 8	8 - 3	10 - 5	12 - 9	14 - 9	5 - 0	7 - 4	9 - 4	11 - 5	13 - 2
24	Douglas Fir-Larch	SS	6 - 4	9 - 11	13 - 1	16 - 8	20-0†	6 - 4	9 - 11	13 - 1	16 - 8	20-0†
	Douglas Fir-Larch	No.1	6 - 1	9 - 7	12 - 7	16 - 1	18 - 8	6 - 1	9 - 4	11 - 9	14 - 5	16 - 8
	Douglas Fir-Larch	No.2	6 - 0	9 - 4	12 - 4	15 - 3	17 - 9	6 - 0	8 - 10	11 - 2	13 - 8	15 - 10
	Douglas Fir-Larch	No.3	5 - 2	7 - 7	9 - 7	11 - 8	13 - 6	4 - 7	6 - 9	8 - 7	10 - 5	12 - 1
	Hem-Fir	SS	6 - 0	9 - 4	12 - 4	15 - 9	19 - 2	6 - 0	9 - 4	12 - 4	15 - 9	19 - 2
	Hem-Fir	No.1	5 - 10	9 - 2	12 - 1	15 - 5	18 - 5	5 - 10	9 - 2	11 - 8	14 - 3	16 - 6
	Hem-Fir	No.2	5 - 7	8 - 9	11 - 6	14 - 8	17 - 3	5 - 7	8 - 7	10 - 10	13 - 3	15 - 5
	Hem-Fir	No.3	5 - 0	7 - 4	9 - 4	11 - 5	13 - 2	4 - 6	6 - 7	8 - 4	10 - 2	11 - 10
	Southern Pine	SS	6 - 2	9 - 9	12 - 10	16 - 5	19 - 11	6 - 2	9 - 9	12 - 10	16 - 5	19 - 11
	Southern Pine	No.1	6 - 0	9 - 4	12 - 4	15 - 9	18 - 8	6 - 0	9 - 4	12 - 0	14 - 1	16 - 8
	Southern Pine	No.2	5 - 8	9 - 0	11 - 7	13 - 9	16 - 2	5 - 5	8 - 2	10 - 4	12 - 3	14 - 6
	Southern Pine	No.3	4 - 8	6 - 11	8 - 9	10 - 7	12 - 6	4 - 2	6 - 2	7 - 10	9 - 6	11 - 2
	Spruce-Pine Fir	SS	5 - 10	9 - 2	12 - 1	15 - 5	18 - 9	5 - 10	9 - 2	12 - 1	15 - 5	18 - 8
	Spruce-Pine Fir	No.1	5 - 8	9 - 0	11 - 10	15 - 1	17 - 6	5 - 8	8 - 9	11 - 0	13 - 6	15 - 7
	Spruce-Pine Fir	No.2	5 - 8	9 - 0	11 - 10	15 - 1	17 - 6	5 - 8	8 - 9	11 - 0	13 - 6	15 - 7
	Spruce-Pine Fir	No.3	5 - 0	7 - 4	9 - 4	11 - 5	13 - 2	4 - 6	6 - 7	8 - 4	10 - 2	11 - 10

† Spans are limited to 20 feet in length.

See footnotes 1-2.

Table 3.26G Rafter Spans for Common Lumber Species

(Ceiling Not Attached to Rafters)

Ground Snow Load = 50 psf, $L/\Delta_{LL} = 180$ **GSL = 50 psf**
 $L/\Delta_{LL} = 180$

Joist Spacing (in.)	Species	Grade	Dead Load = 10 psf					Dead Load = 20 psf				
			2x4	2x6	2x8	2x10	2x12	2x4	2x6	2x8	2x10	2x12
			Maximum Rafter Spans ^{1,2}									
(ft-in.)	(ft-in.)	(ft-in.)	(ft-in.)	(ft-in.)	(ft-in.)	(ft-in.)	(ft-in.)	(ft-in.)	(ft-in.)	(ft-in.)	(ft-in.)	(ft-in.)
12	Douglas Fir-Larch	SS	8 - 5	13 - 3	17 - 6	20-0†	20-0†	8 - 5	13 - 3	17 - 3	20-0†	20-0†
	Douglas Fir-Larch	No.1	8 - 2	12 - 0	15 - 3	18 - 7	20-0†	7 - 7	11 - 2	14 - 1	17 - 3	20 - 0
	Douglas Fir-Larch	No.2	7 - 10	11 - 5	14 - 5	17 - 8	20-0†	7 - 3	10 - 7	13 - 4	16 - 4	18 - 11
	Douglas Fir-Larch	No.3	6 - 0	8 - 9	11 - 0	13 - 6	15 - 7	5 - 6	8 - 1	10 - 3	12 - 6	14 - 6
	Hem-Fir	SS	8 - 0	12 - 6	16 - 6	20-0†	20-0†	8 - 0	12 - 6	16 - 6	20-0†	20-0†
	Hem-Fir	No.1	7 - 10	11 - 10	15 - 0	18 - 4	20-0†	7 - 6	11 - 0	13 - 11	17 - 0	19 - 9
	Hem-Fir	No.2	7 - 5	11 - 1	14 - 0	17 - 2	19 - 11	7 - 0	10 - 3	13 - 0	15 - 10	18 - 5
	Hem-Fir	No.3	5 - 10	8 - 6	10 - 9	13 - 2	15 - 3	5 - 5	7 - 10	10 - 0	12 - 2	14 - 1
	Southern Pine	SS	8 - 4	13 - 1	17 - 2	20-0†	20-0†	8 - 4	13 - 1	17 - 2	20-0†	20-0†
	Southern Pine	No.1	8 - 0	12 - 3	15 - 6	18 - 2	20-0†	7 - 7	11 - 4	14 - 5	16 - 10	20 - 0
	Southern Pine	No.2	7 - 0	10 - 6	13 - 4	15 - 10	18 - 8	6 - 6	9 - 9	12 - 4	14 - 8	17 - 3
	Southern Pine	No.3	5 - 5	8 - 0	10 - 1	12 - 3	14 - 6	5 - 0	7 - 5	9 - 4	11 - 4	13 - 5
	Spruce-Pine Fir	SS	7 - 10	12 - 3	16 - 2	20-0†	20-0†	7 - 10	12 - 3	15 - 9	19 - 3	20-0†
	Spruce-Pine Fir	No.1	7 - 8	11 - 3	14 - 3	17 - 5	20-0†	7 - 1	10 - 5	13 - 2	16 - 1	18 - 8
	Spruce-Pine Fir	No.2	7 - 8	11 - 3	14 - 3	17 - 5	20-0†	7 - 1	10 - 5	13 - 2	16 - 1	18 - 8
	Spruce-Pine Fir	No.3	5 - 10	8 - 6	10 - 9	13 - 2	15 - 3	5 - 5	7 - 10	10 - 0	12 - 2	14 - 1
16	Douglas Fir-Larch	SS	7 - 8	12 - 1	15 - 11	19 - 9	20-0†	7 - 8	11 - 10	14 - 11	18 - 3	20-0†
	Douglas Fir-Larch	No.1	7 - 1	10 - 5	13 - 2	16 - 1	18 - 8	6 - 7	9 - 8	12 - 2	14 - 11	17 - 3
	Douglas Fir-Larch	No.2	6 - 9	9 - 10	12 - 6	15 - 3	17 - 9	6 - 3	9 - 2	11 - 7	14 - 2	16 - 5
	Douglas Fir-Larch	No.3	5 - 2	7 - 7	9 - 7	11 - 8	13 - 6	4 - 9	7 - 0	8 - 10	10 - 10	12 - 6
	Hem-Fir	SS	7 - 3	11 - 5	15 - 0	19 - 1	20-0†	7 - 3	11 - 5	14 - 5	17 - 8	20-0†
	Hem-Fir	No.1	7 - 0	10 - 3	13 - 0	15 - 11	18 - 5	6 - 6	9 - 6	12 - 1	14 - 9	17 - 1
	Hem-Fir	No.2	6 - 7	9 - 7	12 - 2	14 - 10	17 - 3	6 - 1	8 - 11	11 - 3	13 - 9	15 - 11
	Hem-Fir	No.3	5 - 0	7 - 4	9 - 4	11 - 5	13 - 2	4 - 8	6 - 10	8 - 8	10 - 7	12 - 3
	Southern Pine	SS	7 - 6	11 - 10	15 - 7	19 - 11	20-0†	7 - 6	11 - 10	15 - 7	18 - 6	20-0†
	Southern Pine	No.1	7 - 1	10 - 7	13 - 5	15 - 9	18 - 8	6 - 7	9 - 10	12 - 5	14 - 7	17 - 3
	Southern Pine	No.2	6 - 1	9 - 2	11 - 7	13 - 9	16 - 2	5 - 8	8 - 5	10 - 9	12 - 9	15 - 0
	Southern Pine	No.3	4 - 8	6 - 11	8 - 9	10 - 7	12 - 6	4 - 4	6 - 5	8 - 1	9 - 10	11 - 7
	Spruce-Pine Fir	SS	7 - 1	11 - 2	14 - 8	18 - 0	20-0†	7 - 1	10 - 9	13 - 8	16 - 8	19 - 4
	Spruce-Pine Fir	No.1	6 - 8	9 - 9	12 - 4	15 - 1	17 - 6	6 - 2	9 - 0	11 - 5	13 - 11	16 - 2
	Spruce-Pine Fir	No.2	6 - 8	9 - 9	12 - 4	15 - 1	17 - 6	6 - 2	9 - 0	11 - 5	13 - 11	16 - 2
	Spruce-Pine Fir	No.3	5 - 0	7 - 4	9 - 4	11 - 5	13 - 2	4 - 8	6 - 10	8 - 8	10 - 7	12 - 3
19.2	Douglas Fir-Larch	SS	7 - 3	11 - 4	14 - 9	18 - 0	20-0†	7 - 3	10 - 9	13 - 8	16 - 8	19 - 4
	Douglas Fir-Larch	No.1	6 - 6	9 - 6	12 - 0	14 - 8	17 - 1	6 - 0	8 - 10	11 - 2	13 - 7	15 - 9
	Douglas Fir-Larch	No.2	6 - 2	9 - 0	11 - 5	13 - 11	16 - 2	5 - 8	8 - 4	10 - 7	12 - 11	15 - 0
	Douglas Fir-Larch	No.3	4 - 8	6 - 11	8 - 9	10 - 8	12 - 4	4 - 4	6 - 4	8 - 1	9 - 10	11 - 5
	Hem-Fir	SS	6 - 10	10 - 9	14 - 2	17 - 5	20-0†	6 - 10	10 - 5	13 - 2	16 - 1	18 - 8
	Hem-Fir	No.1	6 - 5	9 - 5	11 - 11	14 - 6	16 - 10	5 - 11	8 - 8	11 - 0	13 - 5	15 - 7
	Hem-Fir	No.2	6 - 0	8 - 9	11 - 1	13 - 7	15 - 9	5 - 7	8 - 1	10 - 3	12 - 7	14 - 7
	Hem-Fir	No.3	4 - 7	6 - 9	8 - 6	10 - 5	12 - 1	4 - 3	6 - 3	7 - 11	9 - 7	11 - 2
	Southern Pine	SS	7 - 1	11 - 2	14 - 8	18 - 3	20-0†	7 - 1	11 - 2	14 - 2	16 - 11	20 - 0
	Southern Pine	No.1	6 - 6	9 - 8	12 - 3	14 - 4	17 - 1	6 - 0	9 - 0	11 - 4	13 - 4	15 - 9
	Southern Pine	No.2	5 - 7	8 - 4	10 - 7	12 - 6	14 - 9	5 - 2	7 - 9	9 - 9	11 - 7	13 - 8
	Southern Pine	No.3	4 - 3	6 - 4	8 - 0	9 - 8	11 - 5	4 - 0	5 - 10	7 - 4	8 - 11	10 - 7
	Spruce-Pine Fir	SS	6 - 8	10 - 6	13 - 5	16 - 5	19 - 1	6 - 8	9 - 10	12 - 5	15 - 3	17 - 8
	Spruce-Pine Fir	No.1	6 - 1	8 - 11	11 - 3	13 - 9	15 - 11	5 - 8	8 - 3	10 - 5	12 - 9	14 - 9
	Spruce-Pine Fir	No.2	6 - 1	8 - 11	11 - 3	13 - 9	15 - 11	5 - 8	8 - 3	10 - 5	12 - 9	14 - 9
	Spruce-Pine Fir	No.3	4 - 7	6 - 9	8 - 6	10 - 5	12 - 1	4 - 3	6 - 3	7 - 11	9 - 7	11 - 2
24	Douglas Fir-Larch	SS	6 - 8	10 - 5	13 - 2	16 - 1	18 - 8	6 - 7	9 - 8	12 - 2	14 - 11	17 - 3
	Douglas Fir-Larch	No.1	5 - 10	8 - 6	10 - 9	13 - 2	15 - 3	5 - 5	7 - 10	10 - 0	12 - 2	14 - 1
	Douglas Fir-Larch	No.2	5 - 6	8 - 1	10 - 3	12 - 6	14 - 6	5 - 1	7 - 6	9 - 5	11 - 7	13 - 5
	Douglas Fir-Larch	No.3	4 - 3	6 - 2	7 - 10	9 - 6	11 - 1	3 - 11	5 - 8	7 - 3	8 - 10	10 - 3
	Hem-Fir	SS	6 - 4	10 - 0	12 - 9	15 - 7	18 - 0	6 - 4	9 - 4	11 - 9	14 - 5	16 - 8
	Hem-Fir	No.1	5 - 9	8 - 5	10 - 8	13 - 0	15 - 1	5 - 4	7 - 9	9 - 10	12 - 0	13 - 11
	Hem-Fir	No.2	5 - 4	7 - 10	9 - 11	12 - 1	14 - 1	5 - 0	7 - 3	9 - 2	11 - 3	13 - 0
	Hem-Fir	No.3	4 - 1	6 - 0	7 - 7	9 - 4	10 - 9	3 - 10	5 - 7	7 - 1	8 - 7	10 - 0
	Southern Pine	SS	6 - 7	10 - 4	13 - 8	16 - 4	19 - 3	6 - 7	10 - 0	12 - 8	15 - 2	17 - 10
	Southern Pine	No.1	5 - 10	8 - 8	11 - 0	12 - 10	15 - 3	5 - 5	8 - 0	10 - 2	11 - 11	14 - 1
	Southern Pine	No.2	5 - 0	7 - 5	9 - 5	11 - 3	13 - 2	4 - 7	6 - 11	8 - 9	10 - 5	12 - 3
	Southern Pine	No.3	3 - 10	5 - 8	7 - 1	8 - 8	10 - 3	3 - 6	5 - 3	6 - 7	8 - 0	9 - 6
	Spruce-Pine Fir	SS	6 - 2	9 - 6	12 - 0	14 - 8	17 - 1	6 - 0	8 - 10	11 - 2	13 - 7	15 - 9
	Spruce-Pine Fir	No.1	5 - 5	8 - 0	10 - 1	12 - 4	14 - 3	5 - 0	7 - 4	9 - 4	11 - 5	13 - 2
	Spruce-Pine Fir	No.2	5 - 5	8 - 0	10 - 1	12 - 4	14 - 3	5 - 0	7 - 4	9 - 4	11 - 5	13 - 2
	Spruce-Pine Fir	No.3	4 - 1	6 - 0	7 - 7	9 - 4	10 - 9	3 - 10	5 - 7	7 - 1	8 - 7	10 - 0

† Spans are limited to 20 feet in length.

See footnotes 1-2.

Table 3.26H Rafter Spans for Common Lumber Species(Ceiling Attached to Rafters) Ground Snow Load = 50 psf,
L/Δ_{LL} = 240, Flexible Finish (including gypsum board)**GSL = 50 psf**
L/Δ_{LL} = 240

Joist Spacing (in.)	Species	Grade	Dead Load = 10 psf					Dead Load = 20 psf				
			2x4	2x6	2x8	2x10	2x12	2x4	2x6	2x8	2x10	2x12
			Maximum Rafter Spans ^{1,2}									
(in.)			(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)
12	Douglas Fir-Larch	SS	7 - 8	12 - 1	15 - 11	20-0†	20-0†	7 - 8	12 - 1	15 - 11	20-0†	20-0†
	Douglas Fir-Larch	No.1	7 - 5	11 - 8	15 - 3	18 - 7	20-0†	7 - 5	11 - 2	14 - 1	17 - 3	20 - 0
	Douglas Fir-Larch	No.2	7 - 3	11 - 5	14 - 5	17 - 8	20-0†	7 - 3	10 - 7	13 - 4	16 - 4	18 - 11
	Douglas Fir-Larch	No.3	6 - 0	8 - 9	11 - 0	13 - 6	15 - 7	5 - 6	8 - 1	10 - 3	12 - 6	14 - 6
	Hem-Fir	SS	7 - 3	11 - 5	15 - 0	19 - 2	20-0†	7 - 3	11 - 5	15 - 0	19 - 2	20-0†
	Hem-Fir	No.1	7 - 1	11 - 2	14 - 8	18 - 4	20-0†	7 - 1	11 - 0	13 - 11	17 - 0	19 - 9
	Hem-Fir	No.2	6 - 9	10 - 8	14 - 0	17 - 2	19 - 11	6 - 9	10 - 3	13 - 0	15 - 10	18 - 5
	Hem-Fir	No.3	5 - 10	8 - 6	10 - 9	13 - 2	15 - 3	5 - 5	7 - 10	10 - 0	12 - 2	14 - 1
	Southern Pine	SS	7 - 6	11 - 10	15 - 7	19 - 11	20-0†	7 - 6	11 - 10	15 - 7	19 - 11	20-0†
	Southern Pine	No.1	7 - 3	11 - 5	15 - 0	18 - 2	20-0†	7 - 3	11 - 4	14 - 5	16 - 10	20 - 0
	Southern Pine	No.2	6 - 11	10 - 6	13 - 4	15 - 10	18 - 8	6 - 6	9 - 9	12 - 4	14 - 8	17 - 3
	Southern Pine	No.3	5 - 5	8 - 0	10 - 1	12 - 3	14 - 6	5 - 0	7 - 5	9 - 4	11 - 4	13 - 5
	Spruce-Pine Fir	SS	7 - 1	11 - 2	14 - 8	18 - 9	20-0†	7 - 1	11 - 2	14 - 8	18 - 9	20-0†
	Spruce-Pine Fir	No.1	6 - 11	10 - 11	14 - 3	17 - 5	20-0†	6 - 11	10 - 5	13 - 2	16 - 1	18 - 8
	Spruce-Pine Fir	No.2	6 - 11	10 - 11	14 - 3	17 - 5	20-0†	6 - 11	10 - 5	13 - 2	16 - 1	18 - 8
	Spruce-Pine Fir	No.3	5 - 10	8 - 6	10 - 9	13 - 2	15 - 3	5 - 5	7 - 10	10 - 0	12 - 2	14 - 1
16	Douglas Fir-Larch	SS	7 - 0	11 - 0	14 - 5	18 - 5	20-0†	7 - 0	11 - 0	14 - 5	18 - 3	20-0†
	Douglas Fir-Larch	No.1	6 - 9	10 - 5	13 - 2	16 - 1	18 - 8	6 - 7	9 - 8	12 - 2	14 - 11	17 - 3
	Douglas Fir-Larch	No.2	6 - 7	9 - 10	12 - 6	15 - 3	17 - 9	6 - 3	9 - 2	11 - 7	14 - 2	16 - 5
	Douglas Fir-Larch	No.3	5 - 2	7 - 7	9 - 7	11 - 8	13 - 6	4 - 9	7 - 0	8 - 10	10 - 10	12 - 6
	Hem-Fir	SS	6 - 7	10 - 4	13 - 8	17 - 5	20-0†	6 - 7	10 - 4	13 - 8	17 - 5	20-0†
	Hem-Fir	No.1	6 - 5	10 - 2	13 - 0	15 - 11	18 - 5	6 - 5	9 - 6	12 - 1	14 - 9	17 - 1
	Hem-Fir	No.2	6 - 2	9 - 7	12 - 2	14 - 10	17 - 3	6 - 1	8 - 11	11 - 3	13 - 9	15 - 11
	Hem-Fir	No.3	5 - 0	7 - 4	9 - 4	11 - 5	13 - 2	4 - 8	6 - 10	8 - 8	10 - 7	12 - 3
	Southern Pine	SS	6 - 10	10 - 9	14 - 2	18 - 1	20-0†	6 - 10	10 - 9	14 - 2	18 - 1	20-0†
	Southern Pine	No.1	6 - 7	10 - 4	13 - 5	15 - 9	18 - 8	6 - 7	9 - 10	12 - 5	14 - 7	17 - 3
	Southern Pine	No.2	6 - 1	9 - 2	11 - 7	13 - 9	16 - 2	5 - 8	8 - 5	10 - 9	12 - 9	15 - 0
	Southern Pine	No.3	4 - 8	6 - 11	8 - 9	10 - 7	12 - 6	4 - 4	6 - 5	8 - 1	9 - 10	11 - 7
	Spruce-Pine Fir	SS	6 - 5	10 - 2	13 - 4	17 - 0	20-0†	6 - 5	10 - 2	13 - 4	16 - 8	19 - 4
	Spruce-Pine Fir	No.1	6 - 4	9 - 9	12 - 4	15 - 1	17 - 6	6 - 2	9 - 0	11 - 5	13 - 11	16 - 2
	Spruce-Pine Fir	No.2	6 - 4	9 - 9	12 - 4	15 - 1	17 - 6	6 - 2	9 - 0	11 - 5	13 - 11	16 - 2
	Spruce-Pine Fir	No.3	5 - 0	7 - 4	9 - 4	11 - 5	13 - 2	4 - 8	6 - 10	8 - 8	10 - 7	12 - 3
19.2	Douglas Fir-Larch	SS	6 - 7	10 - 4	13 - 7	17 - 4	20-0†	6 - 7	10 - 4	13 - 7	16 - 8	19 - 4
	Douglas Fir-Larch	No.1	6 - 4	9 - 6	12 - 0	14 - 8	17 - 1	6 - 0	8 - 10	11 - 2	13 - 7	15 - 9
	Douglas Fir-Larch	No.2	6 - 2	9 - 0	11 - 5	13 - 11	16 - 2	5 - 8	8 - 4	10 - 7	12 - 11	15 - 0
	Douglas Fir-Larch	No.3	4 - 8	6 - 11	8 - 9	10 - 8	12 - 4	4 - 4	6 - 4	8 - 1	9 - 10	11 - 5
	Hem-Fir	SS	6 - 2	9 - 9	12 - 10	16 - 5	19 - 11	6 - 2	9 - 9	12 - 10	16 - 1	18 - 8
	Hem-Fir	No.1	6 - 1	9 - 5	11 - 11	14 - 6	16 - 10	5 - 11	8 - 8	11 - 0	13 - 5	15 - 7
	Hem-Fir	No.2	5 - 9	8 - 9	11 - 1	13 - 7	15 - 9	5 - 7	8 - 1	10 - 3	12 - 7	14 - 7
	Hem-Fir	No.3	4 - 7	6 - 9	8 - 6	10 - 5	12 - 1	4 - 3	6 - 3	7 - 11	9 - 7	11 - 2
	Southern Pine	SS	6 - 5	10 - 2	13 - 4	17 - 0	20-0†	6 - 5	10 - 2	13 - 4	16 - 11	20 - 0
	Southern Pine	No.1	6 - 2	9 - 8	12 - 3	14 - 4	17 - 1	6 - 0	9 - 0	11 - 4	13 - 4	15 - 9
	Southern Pine	No.2	5 - 7	8 - 4	10 - 7	12 - 6	14 - 9	5 - 2	7 - 9	9 - 9	11 - 7	13 - 8
	Southern Pine	No.3	4 - 3	6 - 4	8 - 0	9 - 8	11 - 5	4 - 0	5 - 10	7 - 4	8 - 11	10 - 7
	Spruce-Pine Fir	SS	6 - 1	9 - 6	12 - 7	16 - 0	19 - 1	6 - 1	9 - 6	12 - 5	15 - 3	17 - 8
	Spruce-Pine Fir	No.1	5 - 11	8 - 11	11 - 3	13 - 9	15 - 11	5 - 8	8 - 3	10 - 5	12 - 9	14 - 9
	Spruce-Pine Fir	No.2	5 - 11	8 - 11	11 - 3	13 - 9	15 - 11	5 - 8	8 - 3	10 - 5	12 - 9	14 - 9
	Spruce-Pine Fir	No.3	4 - 7	6 - 9	8 - 6	10 - 5	12 - 1	4 - 3	6 - 3	7 - 11	9 - 7	11 - 2
24	Douglas Fir-Larch	SS	6 - 1	9 - 7	12 - 7	16 - 1	18 - 8	6 - 1	9 - 7	12 - 2	14 - 11	17 - 3
	Douglas Fir-Larch	No.1	5 - 10	8 - 6	10 - 9	13 - 2	15 - 3	5 - 5	7 - 10	10 - 0	12 - 2	14 - 1
	Douglas Fir-Larch	No.2	5 - 6	8 - 1	10 - 3	12 - 6	14 - 6	5 - 1	7 - 6	9 - 5	11 - 7	13 - 5
	Douglas Fir-Larch	No.3	4 - 3	6 - 2	7 - 10	9 - 6	11 - 1	3 - 11	5 - 8	7 - 3	8 - 10	10 - 3
	Hem-Fir	SS	5 - 9	9 - 1	11 - 11	15 - 2	18 - 0	5 - 9	9 - 1	11 - 9	14 - 5	16 - 8
	Hem-Fir	No.1	5 - 8	8 - 5	10 - 8	13 - 0	15 - 1	5 - 4	7 - 9	9 - 10	12 - 0	13 - 11
	Hem-Fir	No.2	5 - 4	7 - 10	9 - 11	12 - 1	14 - 1	5 - 0	7 - 3	9 - 2	11 - 3	13 - 0
	Hem-Fir	No.3	4 - 1	6 - 0	7 - 7	9 - 4	10 - 9	3 - 10	5 - 7	7 - 1	8 - 7	10 - 0
	Southern Pine	SS	6 - 0	9 - 5	12 - 5	15 - 10	19 - 3	6 - 0	9 - 5	12 - 5	15 - 2	17 - 10
	Southern Pine	No.1	5 - 9	8 - 8	11 - 0	12 - 10	15 - 3	5 - 5	8 - 0	10 - 2	11 - 11	14 - 1
	Southern Pine	No.2	5 - 0	7 - 5	9 - 5	11 - 3	13 - 2	4 - 7	6 - 11	8 - 9	10 - 5	12 - 3
	Southern Pine	No.3	3 - 10	5 - 8	7 - 1	8 - 8	10 - 3	3 - 6	5 - 3	6 - 7	8 - 0	9 - 6
	Spruce-Pine Fir	SS	5 - 8	8 - 10	11 - 8	14 - 8	17 - 1	5 - 8	8 - 10	11 - 2	13 - 7	15 - 9
	Spruce-Pine Fir	No.1	5 - 5	8 - 0	10 - 1	12 - 4	14 - 3	5 - 0	7 - 4	9 - 4	11 - 5	13 - 2
	Spruce-Pine Fir	No.2	5 - 5	8 - 0	10 - 1	12 - 4	14 - 3	5 - 0	7 - 4	9 - 4	11 - 5	13 - 2
	Spruce-Pine Fir	No.3	4 - 1	6 - 0	7 - 7	9 - 4	10 - 9	3 - 10	5 - 7	7 - 1	8 - 7	10 - 0

† Spans are limited to 20 feet in length.

See footnotes 1-2.

Table 3.26I Rafter Spans for Common Lumber Species
 (Ceiling Attached to Rafters) Ground Snow Load = 50 psf,
 $L/\Delta_{LL} = 360$, Brittle Finish (including plaster and stucco)

GSL = 50 psf
 $L/\Delta_{LL} = 360$

			Dead Load = 10 psf					Dead Load = 20 psf				
			2x4	2x6	2x8	2x10	2x12	2x4	2x6	2x8	2x10	2x12
Maximum Rafter Spans ^{1,2}												
Joist Spacing (in.)	Species	Grade	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)
12	Douglas Fir-Larch	SS	6-8	10-6	13-11	17-9	20-0†	6-8	10-6	13-11	17-9	20-0†
	Douglas Fir-Larch	No.1	6-6	10-2	13-5	17-1	20-0†	6-6	10-2	13-5	17-1	20-0
	Douglas Fir-Larch	No.2	6-4	10-0	13-1	16-9	20-0†	6-4	10-0	13-1	16-4	18-11
	Douglas Fir-Larch	No.3	6-0	8-9	11-0	13-6	15-7	5-6	8-1	10-3	12-6	14-6
	Hem-Fir	SS	6-4	10-0	13-1	16-9	20-0†	6-4	10-0	13-1	16-9	20-0†
	Hem-Fir	No.1	6-2	9-9	12-10	16-5	19-11	6-2	9-9	12-10	16-5	19-9
	Hem-Fir	No.2	5-11	9-3	12-3	15-7	19-0	5-11	9-3	12-3	15-7	18-5
	Hem-Fir	No.3	5-9	8-6	10-9	13-2	15-3	5-5	7-10	10-0	12-2	14-1
	Southern Pine	SS	6-7	10-4	13-8	17-5	20-0†	6-7	10-4	13-8	17-5	20-0†
	Southern Pine	No.1	6-4	10-0	13-1	16-9	20-0†	6-4	10-0	13-1	16-9	20-0
	Southern Pine	No.2	6-1	9-6	12-7	15-10	18-8	6-1	9-6	12-4	14-8	17-3
	Southern Pine	No.3	5-5	8-0	10-1	12-3	14-6	5-0	7-5	9-4	11-4	13-5
	Spruce-Pine Fir	SS	6-2	9-9	12-10	16-5	19-11	6-2	9-9	12-10	16-5	19-11
	Spruce-Pine Fir	No.1	6-1	9-6	12-7	16-0	19-6	6-1	9-6	12-7	16-0	18-8
	Spruce-Pine Fir	No.2	6-1	9-6	12-7	16-0	19-6	6-1	9-6	12-7	16-0	18-8
	Spruce-Pine Fir	No.3	5-9	8-6	10-9	13-2	15-3	5-5	7-10	10-0	12-2	14-1
16	Douglas Fir-Larch	SS	6-1	9-7	12-7	16-1	19-7	6-1	9-7	12-7	16-1	19-7
	Douglas Fir-Larch	No.1	5-10	9-3	12-2	15-6	18-8	5-10	9-3	12-2	14-11	17-3
	Douglas Fir-Larch	No.2	5-9	9-1	11-11	15-2	17-9	5-9	9-1	11-7	14-2	16-5
	Douglas Fir-Larch	No.3	5-2	7-7	9-7	11-8	13-6	4-9	7-0	8-10	10-10	12-6
	Hem-Fir	SS	5-9	9-1	11-11	15-2	18-6	5-9	9-1	11-11	15-2	18-6
	Hem-Fir	No.1	5-8	8-10	11-8	14-11	18-1	5-8	8-10	11-8	14-9	17-1
	Hem-Fir	No.2	5-4	8-5	11-1	14-2	17-3	5-4	8-5	11-1	13-9	15-11
	Hem-Fir	No.3	5-0	7-4	9-4	11-5	13-2	4-8	6-10	8-8	10-7	12-3
	Southern Pine	SS	6-0	9-5	12-5	15-10	19-3	6-0	9-5	12-5	15-10	19-3
	Southern Pine	No.1	5-9	9-1	11-11	15-2	18-6	5-9	9-1	11-11	14-7	17-3
	Southern Pine	No.2	5-6	8-8	11-5	13-9	16-2	5-6	8-5	10-9	12-9	15-0
	Southern Pine	No.3	4-8	6-11	8-9	10-7	12-6	4-4	6-5	8-1	9-10	11-7
	Spruce-Pine Fir	SS	5-8	8-10	11-8	14-11	18-1	5-8	8-10	11-8	14-11	18-1
	Spruce-Pine Fir	No.1	5-6	8-8	11-5	14-7	17-6	5-6	8-8	11-5	13-11	16-2
	Spruce-Pine Fir	No.2	5-6	8-8	11-5	14-7	17-6	5-6	8-8	11-5	13-11	16-2
	Spruce-Pine Fir	No.3	5-0	7-4	9-4	11-5	13-2	4-8	6-10	8-8	10-7	12-3
19.2	Douglas Fir-Larch	SS	5-9	9-0	11-11	15-2	18-5	5-9	9-0	11-11	15-2	18-5
	Douglas Fir-Larch	No.1	5-6	8-8	11-5	14-7	17-1	5-6	8-8	11-2	13-7	15-9
	Douglas Fir-Larch	No.2	5-5	8-6	11-3	13-11	16-2	5-5	8-4	10-7	12-11	15-0
	Douglas Fir-Larch	No.3	4-8	6-11	8-9	10-8	12-4	4-4	6-4	8-1	9-10	11-5
	Hem-Fir	SS	5-5	8-6	11-3	14-4	17-5	5-5	8-6	11-3	14-4	17-5
	Hem-Fir	No.1	5-4	8-4	11-0	14-0	16-10	5-4	8-4	11-0	13-5	15-7
	Hem-Fir	No.2	5-1	7-11	10-6	13-4	15-9	5-1	7-11	10-3	12-7	14-7
	Hem-Fir	No.3	4-7	6-9	8-6	10-5	12-1	4-3	6-3	7-11	9-7	11-2
	Southern Pine	SS	5-8	8-10	11-8	14-11	18-1	5-8	8-10	11-8	14-11	18-1
	Southern Pine	No.1	5-5	8-6	11-3	14-4	17-1	5-5	8-6	11-3	13-4	15-9
	Southern Pine	No.2	5-2	8-2	10-7	12-6	14-9	5-2	7-9	9-9	11-7	13-8
	Southern Pine	No.3	4-3	6-4	8-0	9-8	11-5	4-0	5-10	7-4	8-11	10-7
	Spruce-Pine Fir	SS	5-4	8-4	11-0	14-0	17-0	5-4	8-4	11-0	14-0	17-0
	Spruce-Pine Fir	No.1	5-2	8-2	10-9	13-8	15-11	5-2	8-2	10-5	12-9	14-9
	Spruce-Pine Fir	No.2	5-2	8-2	10-9	13-8	15-11	5-2	8-2	10-5	12-9	14-9
	Spruce-Pine Fir	No.3	4-7	6-9	8-6	10-5	12-1	4-3	6-3	7-11	9-7	11-2
24	Douglas Fir-Larch	SS	5-4	8-4	11-0	14-1	17-1	5-4	8-4	11-0	14-1	17-1
	Douglas Fir-Larch	No.1	5-2	8-1	10-8	13-2	15-3	5-2	7-10	10-0	12-2	14-1
	Douglas Fir-Larch	No.2	5-0	7-11	10-3	12-6	14-6	5-0	7-6	9-5	11-7	13-5
	Douglas Fir-Larch	No.3	4-3	6-2	7-10	9-6	11-1	3-11	5-8	7-3	8-10	10-3
	Hem-Fir	SS	5-0	7-11	10-5	13-3	16-2	5-0	7-11	10-5	13-3	16-2
	Hem-Fir	No.1	4-11	7-9	10-2	13-0	15-1	4-11	7-9	9-10	12-0	13-11
	Hem-Fir	No.2	4-8	7-4	9-9	12-1	14-1	4-8	7-3	9-2	11-3	13-0
	Hem-Fir	No.3	4-1	6-0	7-7	9-4	10-9	3-10	5-7	7-1	8-7	10-0
	Southern Pine	SS	5-3	8-3	10-10	13-10	16-10	5-3	8-3	10-10	13-10	16-10
	Southern Pine	No.1	5-0	7-11	10-5	12-10	15-3	5-0	7-11	10-2	11-11	14-1
	Southern Pine	No.2	4-10	7-5	9-5	11-3	13-2	4-7	6-11	8-9	10-5	12-3
	Southern Pine	No.3	3-10	5-8	7-1	8-8	10-3	3-6	5-3	6-7	8-0	9-6
	Spruce-Pine Fir	SS	4-11	7-9	10-2	13-0	15-10	4-11	7-9	10-2	13-0	15-9
	Spruce-Pine Fir	No.1	4-10	7-7	10-0	12-4	14-3	4-10	7-4	9-4	11-5	13-2
	Spruce-Pine Fir	No.2	4-10	7-7	10-0	12-4	14-3	4-10	7-4	9-4	11-5	13-2
	Spruce-Pine Fir	No.3	4-1	6-0	7-7	9-4	10-9	3-10	5-7	7-1	8-7	10-0

† Spans are limited to 20 feet in length.

See footnotes 1-2.

Table 3.26J Rafter Spans for Common Lumber Species

(Ceiling Not Attached to Rafters)

Ground Snow Load = 70 psf, $L/\Delta_{LL} = 180$ **GSL = 70 psf**
 $L/\Delta_{LL} = 180$ **3****PRESCRIPTIVE DESIGN**

Joist Spacing (in.)	Species	Grade	Dead Load = 10 psf					Dead Load = 20 psf				
			2x4	2x6	2x8	2x10	2x12	2x4	2x6	2x8	2x10	2x12
			Maximum Rafter Spans ^{1,2}									
(ft.-in.)			(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)
12	Douglas Fir-Larch	SS	7 - 7	11 - 10	15 - 8	19 - 9	20-0†	7 - 7	11 - 10	15 - 3	18 - 7	20-0†
	Douglas Fir-Larch	No.1	7 - 1	10 - 5	13 - 2	16 - 1	18 - 8	6 - 8	9 - 10	12 - 5	15 - 2	17 - 7
	Douglas Fir-Larch	No.2	6 - 9	9 - 10	12 - 6	15 - 3	17 - 9	6 - 4	9 - 4	11 - 9	14 - 5	16 - 8
	Douglas Fir-Larch	No.3	5 - 2	7 - 7	9 - 7	11 - 8	13 - 6	4 - 10	7 - 1	9 - 0	11 - 0	12 - 9
	Hem-Fir	SS	7 - 2	11 - 3	14 - 9	18 - 10	20-0†	7 - 2	11 - 3	14 - 8	18 - 0	20-0†
	Hem-Fir	No.1	7 - 0	10 - 3	13 - 0	15 - 11	18 - 5	6 - 7	9 - 8	12 - 3	15 - 0	17 - 5
	Hem-Fir	No.2	6 - 7	9 - 7	12 - 2	14 - 10	17 - 3	6 - 2	9 - 1	11 - 6	14 - 0	16 - 3
	Hem-Fir	No.3	5 - 0	7 - 4	9 - 4	11 - 5	13 - 2	4 - 9	6 - 11	8 - 9	10 - 9	12 - 5
	Southern Pine	SS	7 - 5	11 - 8	15 - 4	19 - 7	20-0†	7 - 5	11 - 8	15 - 4	18 - 10	20-0†
	Southern Pine	No.1	7 - 1	10 - 7	13 - 5	15 - 9	18 - 8	6 - 9	10 - 0	12 - 8	14 - 10	17 - 7
	Southern Pine	No.2	6 - 1	9 - 2	11 - 7	13 - 9	16 - 2	5 - 9	8 - 7	10 - 11	12 - 11	15 - 3
	Southern Pine	No.3	4 - 8	6 - 11	8 - 9	10 - 7	12 - 6	4 - 5	6 - 6	8 - 3	10 - 0	11 - 10
	Spruce-Pine Fir	SS	7 - 0	11 - 0	14 - 6	18 - 0	20-0†	7 - 0	11 - 0	13 - 11	17 - 0	19 - 8
	Spruce-Pine Fir	No.1	6 - 8	9 - 9	12 - 4	15 - 1	17 - 6	6 - 3	9 - 2	11 - 8	14 - 2	16 - 6
	Spruce-Pine Fir	No.2	6 - 8	9 - 9	12 - 4	15 - 1	17 - 6	6 - 3	9 - 2	11 - 8	14 - 2	16 - 6
	Spruce-Pine Fir	No.3	5 - 0	7 - 4	9 - 4	11 - 5	13 - 2	4 - 9	6 - 11	8 - 9	10 - 9	12 - 5
16	Douglas Fir-Larch	SS	6 - 10	10 - 9	14 - 0	17 - 1	19 - 10	6 - 10	10 - 5	13 - 2	16 - 1	18 - 8
	Douglas Fir-Larch	No.1	6 - 2	9 - 0	11 - 5	13 - 11	16 - 2	5 - 10	8 - 6	10 - 9	13 - 2	15 - 3
	Douglas Fir-Larch	No.2	5 - 10	8 - 7	10 - 10	13 - 3	15 - 4	5 - 6	8 - 1	10 - 3	12 - 6	14 - 6
	Douglas Fir-Larch	No.3	4 - 6	6 - 6	8 - 3	10 - 1	11 - 9	4 - 3	6 - 2	7 - 10	9 - 6	11 - 1
	Hem-Fir	SS	6 - 6	10 - 2	13 - 5	16 - 6	19 - 2	6 - 6	10 - 1	12 - 9	15 - 7	18 - 0
	Hem-Fir	No.1	6 - 1	8 - 11	11 - 3	13 - 9	16 - 0	5 - 9	8 - 5	10 - 8	13 - 0	15 - 1
	Hem-Fir	No.2	5 - 8	8 - 4	10 - 6	12 - 10	14 - 11	5 - 4	7 - 10	9 - 11	12 - 1	14 - 1
	Hem-Fir	No.3	4 - 4	6 - 4	8 - 1	9 - 10	11 - 5	4 - 1	6 - 0	7 - 7	9 - 4	10 - 9
	Southern Pine	SS	6 - 9	10 - 7	14 - 0	17 - 4	20-0†	6 - 9	10 - 7	13 - 9	16 - 4	19 - 3
	Southern Pine	No.1	6 - 2	9 - 2	11 - 8	13 - 8	16 - 2	5 - 10	8 - 8	11 - 0	12 - 10	15 - 3
	Southern Pine	No.2	5 - 3	7 - 11	10 - 0	11 - 11	14 - 0	5 - 0	7 - 5	9 - 5	11 - 3	13 - 2
	Southern Pine	No.3	4 - 1	6 - 0	7 - 7	9 - 2	10 - 10	3 - 10	5 - 8	7 - 1	8 - 8	10 - 3
	Spruce-Pine Fir	SS	6 - 4	10 - 0	12 - 9	15 - 7	18 - 1	6 - 4	9 - 6	12 - 0	14 - 8	17 - 1
	Spruce-Pine Fir	No.1	5 - 9	8 - 5	10 - 8	13 - 1	15 - 2	5 - 5	8 - 0	10 - 1	12 - 4	14 - 3
	Spruce-Pine Fir	No.2	5 - 9	8 - 5	10 - 8	13 - 1	15 - 2	5 - 5	8 - 0	10 - 1	12 - 4	14 - 3
	Spruce-Pine Fir	No.3	4 - 4	6 - 4	8 - 1	9 - 10	11 - 5	4 - 1	6 - 0	7 - 7	9 - 4	10 - 9
19.2	Douglas Fir-Larch	SS	6 - 6	10 - 1	12 - 9	15 - 7	18 - 1	6 - 6	9 - 6	12 - 0	14 - 8	17 - 1
	Douglas Fir-Larch	No.1	5 - 8	8 - 3	10 - 5	12 - 9	14 - 9	5 - 4	7 - 9	9 - 10	12 - 0	13 - 11
	Douglas Fir-Larch	No.2	5 - 4	7 - 10	9 - 11	12 - 1	14 - 0	5 - 0	7 - 4	9 - 4	11 - 5	13 - 2
	Douglas Fir-Larch	No.3	4 - 1	6 - 0	7 - 7	9 - 3	10 - 8	3 - 10	5 - 7	7 - 1	8 - 8	10 - 1
	Hem-Fir	SS	6 - 1	9 - 7	12 - 4	15 - 1	17 - 6	6 - 1	9 - 2	11 - 8	14 - 2	16 - 6
	Hem-Fir	No.1	5 - 7	8 - 2	10 - 3	12 - 7	14 - 7	5 - 3	7 - 8	9 - 8	11 - 10	13 - 9
	Hem-Fir	No.2	5 - 2	7 - 7	9 - 7	11 - 9	13 - 7	4 - 11	7 - 2	9 - 1	11 - 1	12 - 10
	Hem-Fir	No.3	4 - 0	5 - 10	7 - 4	9 - 0	10 - 5	3 - 9	5 - 6	6 - 11	8 - 6	9 - 10
	Southern Pine	SS	6 - 4	10 - 0	13 - 2	15 - 10	18 - 8	6 - 4	9 - 10	12 - 6	14 - 11	17 - 7
	Southern Pine	No.1	5 - 8	8 - 5	10 - 8	12 - 5	14 - 9	5 - 4	7 - 11	10 - 0	11 - 9	13 - 11
	Southern Pine	No.2	4 - 10	7 - 3	9 - 2	10 - 10	12 - 9	4 - 6	6 - 10	8 - 8	10 - 3	12 - 1
	Southern Pine	No.3	3 - 8	5 - 6	6 - 11	8 - 4	9 - 11	3 - 6	5 - 2	6 - 6	7 - 11	9 - 4
	Spruce-Pine Fir	SS	6 - 0	9 - 2	11 - 8	14 - 3	16 - 6	5 - 11	8 - 8	11 - 0	13 - 5	15 - 7
	Spruce-Pine Fir	No.1	5 - 3	7 - 8	9 - 9	11 - 11	13 - 10	5 - 0	7 - 3	9 - 2	11 - 3	13 - 0
	Spruce-Pine Fir	No.2	5 - 3	7 - 8	9 - 9	11 - 11	13 - 10	5 - 0	7 - 3	9 - 2	11 - 3	13 - 0
	Spruce-Pine Fir	No.3	4 - 0	5 - 10	7 - 4	9 - 0	10 - 5	3 - 9	5 - 6	6 - 11	8 - 6	9 - 10
24	Douglas Fir-Larch	SS	6 - 0	9 - 0	11 - 5	13 - 11	16 - 2	5 - 10	8 - 6	10 - 9	13 - 2	15 - 3
	Douglas Fir-Larch	No.1	5 - 0	7 - 4	9 - 4	11 - 5	13 - 2	4 - 9	6 - 11	8 - 9	10 - 9	12 - 5
	Douglas Fir-Larch	No.2	4 - 9	7 - 0	8 - 10	10 - 10	12 - 6	4 - 6	6 - 7	8 - 4	10 - 2	11 - 10
	Douglas Fir-Larch	No.3	3 - 8	5 - 4	6 - 9	8 - 3	9 - 7	3 - 5	5 - 0	6 - 4	7 - 9	9 - 0
	Hem-Fir	SS	5 - 8	8 - 9	11 - 0	13 - 6	15 - 7	5 - 7	8 - 3	10 - 5	12 - 8	14 - 9
	Hem-Fir	No.1	5 - 0	7 - 3	9 - 2	11 - 3	13 - 0	4 - 8	6 - 10	8 - 8	10 - 7	12 - 4
	Hem-Fir	No.2	4 - 8	6 - 9	8 - 7	10 - 6	12 - 2	4 - 4	6 - 5	8 - 1	9 - 11	11 - 6
	Hem-Fir	No.3	3 - 7	5 - 2	6 - 7	8 - 1	9 - 4	3 - 4	4 - 11	6 - 3	7 - 7	8 - 10
	Southern Pine	SS	5 - 11	9 - 3	11 - 11	14 - 2	16 - 8	5 - 11	8 - 10	11 - 2	13 - 4	15 - 9
	Southern Pine	No.1	5 - 0	7 - 6	9 - 6	11 - 1	13 - 2	4 - 9	7 - 1	9 - 0	10 - 6	12 - 5
	Southern Pine	No.2	4 - 4	6 - 5	8 - 2	9 - 9	11 - 5	4 - 1	6 - 1	7 - 9	9 - 2	10 - 9
	Southern Pine	No.3	3 - 4	4 - 11	6 - 2	7 - 6	8 - 10	3 - 1	4 - 7	5 - 10	7 - 1	8 - 4
	Spruce-Pine Fir	SS	5 - 6	8 - 3	10 - 5	12 - 9	14 - 9	5 - 4	7 - 9	9 - 10	12 - 0	13 - 11
	Spruce-Pine Fir	No.1	4 - 8	6 - 11	8 - 9	10 - 8	12 - 4	4 - 5	6 - 6	8 - 3	10 - 1	11 - 8
	Spruce-Pine Fir	No.2	4 - 8	6 - 11	8 - 9	10 - 8	12 - 4	4 - 5	6 - 6	8 - 3	10 - 1	11 - 8
	Spruce-Pine Fir	No.3	3 - 7	5 - 2	6 - 7	8 - 1	9 - 4	3 - 4	4 - 11	6 - 3	7 - 7	8 - 10

† Spans are limited to 20 feet in length.
See footnotes 1-2.

Table 3.26K Rafter Spans for Common Lumber Species

(Ceiling Attached to Rafters) Ground Snow Load = 70 psf,
 $L/\Delta_{LL} = 240$, Flexible Finish (including gypsum board)

GSL = 70 psf
 $L/\Delta_{LL} = 240$

Joist Spacing (in.)	Species	Grade	Dead Load = 10 psf					Dead Load = 20 psf				
			2x4	2x6	2x8	2x10	2x12	2x4	2x6	2x8	2x10	2x12
			Maximum Rafter Spans ^{1,2}									
(ft.-in.)			(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)
12	Douglas Fir-Larch	SS	6 - 10	10 - 9	14 - 3	18 - 2	20-0†	6 - 10	10 - 9	14 - 3	18 - 2	20-0†
	Douglas Fir-Larch	No.1	6 - 7	10 - 5	13 - 2	16 - 1	18 - 8	6 - 7	9 - 10	12 - 5	15 - 2	17 - 7
	Douglas Fir-Larch	No.2	6 - 6	9 - 10	12 - 6	15 - 3	17 - 9	6 - 4	9 - 4	11 - 9	14 - 5	16 - 8
	Douglas Fir-Larch	No.3	5 - 2	7 - 7	9 - 7	11 - 8	13 - 6	4 - 10	7 - 1	9 - 0	11 - 0	12 - 9
	Hem-Fir	SS	6 - 6	10 - 2	13 - 5	17 - 2	20-0†	6 - 6	10 - 2	13 - 5	17 - 2	20-0†
	Hem-Fir	No.1	6 - 4	10 - 0	13 - 0	15 - 11	18 - 5	6 - 4	9 - 8	12 - 3	15 - 0	17 - 5
	Hem-Fir	No.2	6 - 1	9 - 6	12 - 2	14 - 10	17 - 3	6 - 1	9 - 1	11 - 6	14 - 0	16 - 3
	Hem-Fir	No.3	5 - 0	7 - 4	9 - 4	11 - 5	13 - 2	4 - 9	6 - 11	8 - 9	10 - 9	12 - 5
	Southern Pine	SS	6 - 9	10 - 7	14 - 0	17 - 10	20-0†	6 - 9	10 - 7	14 - 0	17 - 10	20-0†
	Southern Pine	No.1	6 - 6	10 - 2	13 - 5	15 - 9	18 - 8	6 - 6	10 - 0	12 - 8	14 - 10	17 - 7
	Southern Pine	No.2	6 - 1	9 - 2	11 - 7	13 - 9	16 - 2	5 - 9	8 - 7	10 - 11	12 - 11	15 - 3
	Southern Pine	No.3	4 - 8	6 - 11	8 - 9	10 - 7	12 - 6	4 - 5	6 - 6	8 - 3	10 - 0	11 - 10
	Spruce-Pine Fir	SS	6 - 4	10 - 0	13 - 2	16 - 9	20-0†	6 - 4	10 - 0	13 - 2	16 - 9	19 - 8
	Spruce-Pine Fir	No.1	6 - 2	9 - 9	12 - 4	15 - 1	17 - 6	6 - 2	9 - 2	11 - 8	14 - 2	16 - 6
	Spruce-Pine Fir	No.2	6 - 2	9 - 9	12 - 4	15 - 1	17 - 6	6 - 2	9 - 2	11 - 8	14 - 2	16 - 6
	Spruce-Pine Fir	No.3	5 - 0	7 - 4	9 - 4	11 - 5	13 - 2	4 - 9	6 - 11	8 - 9	10 - 9	12 - 5
16	Douglas Fir-Larch	SS	6 - 3	9 - 10	12 - 11	16 - 6	19 - 10	6 - 3	9 - 10	12 - 11	16 - 1	18 - 8
	Douglas Fir-Larch	No.1	6 - 0	9 - 0	11 - 5	13 - 11	16 - 2	5 - 10	8 - 6	10 - 9	13 - 2	15 - 3
	Douglas Fir-Larch	No.2	5 - 10	8 - 7	10 - 10	13 - 3	15 - 4	5 - 6	8 - 1	10 - 3	12 - 6	14 - 6
	Douglas Fir-Larch	No.3	4 - 6	6 - 6	8 - 3	10 - 1	11 - 9	4 - 3	6 - 2	7 - 10	9 - 6	11 - 1
	Hem-Fir	SS	5 - 11	9 - 3	12 - 2	15 - 7	18 - 11	5 - 11	9 - 3	12 - 2	15 - 7	18 - 0
	Hem-Fir	No.1	5 - 9	8 - 11	11 - 3	13 - 9	16 - 0	5 - 9	8 - 5	10 - 8	13 - 0	15 - 1
	Hem-Fir	No.2	5 - 6	8 - 4	10 - 6	12 - 10	14 - 11	5 - 4	7 - 10	9 - 11	12 - 1	14 - 1
	Hem-Fir	No.3	4 - 4	6 - 4	8 - 1	9 - 10	11 - 5	4 - 1	6 - 0	7 - 7	9 - 4	10 - 9
	Southern Pine	SS	6 - 1	9 - 7	12 - 8	16 - 2	19 - 8	6 - 1	9 - 7	12 - 8	16 - 2	19 - 3
	Southern Pine	No.1	5 - 11	9 - 2	11 - 8	13 - 8	16 - 2	5 - 10	8 - 8	11 - 0	12 - 10	15 - 3
	Southern Pine	No.2	5 - 3	7 - 11	10 - 0	11 - 11	14 - 0	5 - 0	7 - 5	9 - 5	11 - 3	13 - 2
	Southern Pine	No.3	4 - 1	6 - 0	7 - 7	9 - 2	10 - 10	3 - 10	5 - 8	7 - 1	8 - 8	10 - 3
	Spruce-Pine Fir	SS	5 - 9	9 - 1	11 - 11	15 - 3	18 - 1	5 - 9	9 - 1	11 - 11	14 - 8	17 - 1
	Spruce-Pine Fir	No.1	5 - 8	8 - 5	10 - 8	13 - 1	15 - 2	5 - 5	8 - 0	10 - 1	12 - 4	14 - 3
	Spruce-Pine Fir	No.2	5 - 8	8 - 5	10 - 8	13 - 1	15 - 2	5 - 5	8 - 0	10 - 1	12 - 4	14 - 3
	Spruce-Pine Fir	No.3	4 - 4	6 - 4	8 - 1	9 - 10	11 - 5	4 - 1	6 - 0	7 - 7	9 - 4	10 - 9
19.2	Douglas Fir-Larch	SS	5 - 10	9 - 3	12 - 2	15 - 6	18 - 1	5 - 10	9 - 3	12 - 0	14 - 8	17 - 1
	Douglas Fir-Larch	No.1	5 - 8	8 - 3	10 - 5	12 - 9	14 - 9	5 - 4	7 - 9	9 - 10	12 - 0	13 - 11
	Douglas Fir-Larch	No.2	5 - 4	7 - 10	9 - 11	12 - 1	14 - 0	5 - 0	7 - 4	9 - 4	11 - 5	13 - 2
	Douglas Fir-Larch	No.3	4 - 1	6 - 0	7 - 7	9 - 3	10 - 8	3 - 10	5 - 7	7 - 1	8 - 8	10 - 1
	Hem-Fir	SS	5 - 6	8 - 8	11 - 6	14 - 8	17 - 6	5 - 6	8 - 8	11 - 6	14 - 2	16 - 6
	Hem-Fir	No.1	5 - 5	8 - 2	10 - 3	12 - 7	14 - 7	5 - 3	7 - 8	9 - 8	11 - 10	13 - 9
	Hem-Fir	No.2	5 - 2	7 - 7	9 - 7	11 - 9	13 - 7	4 - 11	7 - 2	9 - 1	11 - 1	12 - 10
	Hem-Fir	No.3	4 - 0	5 - 10	7 - 4	9 - 0	10 - 5	3 - 9	5 - 6	6 - 11	8 - 6	9 - 10
	Southern Pine	SS	5 - 9	9 - 1	11 - 11	15 - 3	18 - 6	5 - 9	9 - 1	11 - 11	14 - 11	17 - 7
	Southern Pine	No.1	5 - 6	8 - 5	10 - 8	12 - 5	14 - 9	5 - 4	7 - 11	10 - 0	11 - 9	13 - 11
	Southern Pine	No.2	4 - 10	7 - 3	9 - 2	10 - 10	12 - 9	4 - 6	6 - 10	8 - 8	10 - 3	12 - 1
	Southern Pine	No.3	3 - 8	5 - 6	6 - 11	8 - 4	9 - 11	3 - 6	5 - 2	6 - 6	7 - 11	9 - 4
	Spruce-Pine Fir	SS	5 - 5	8 - 6	11 - 3	14 - 3	16 - 6	5 - 5	8 - 6	11 - 0	13 - 5	15 - 7
	Spruce-Pine Fir	No.1	5 - 3	7 - 8	9 - 9	11 - 11	13 - 10	5 - 0	7 - 3	9 - 2	11 - 3	13 - 0
	Spruce-Pine Fir	No.2	5 - 3	7 - 8	9 - 9	11 - 11	13 - 10	5 - 0	7 - 3	9 - 2	11 - 3	13 - 0
	Spruce-Pine Fir	No.3	4 - 0	5 - 10	7 - 4	9 - 0	10 - 5	3 - 9	5 - 6	6 - 11	8 - 6	9 - 10
24	Douglas Fir-Larch	SS	5 - 5	8 - 7	11 - 3	13 - 11	16 - 2	5 - 5	8 - 6	10 - 9	13 - 2	15 - 3
	Douglas Fir-Larch	No.1	5 - 0	7 - 4	9 - 4	11 - 5	13 - 2	4 - 9	6 - 11	8 - 9	10 - 9	12 - 5
	Douglas Fir-Larch	No.2	4 - 9	7 - 0	8 - 10	10 - 10	12 - 6	4 - 6	6 - 7	8 - 4	10 - 2	11 - 10
	Douglas Fir-Larch	No.3	3 - 8	5 - 4	6 - 9	8 - 3	9 - 7	3 - 5	5 - 0	6 - 4	7 - 9	9 - 0
	Hem-Fir	SS	5 - 2	8 - 1	10 - 8	13 - 6	15 - 7	5 - 2	8 - 1	10 - 5	12 - 8	14 - 9
	Hem-Fir	No.1	5 - 0	7 - 3	9 - 2	11 - 3	13 - 0	4 - 8	6 - 10	8 - 8	10 - 7	12 - 4
	Hem-Fir	No.2	4 - 8	6 - 9	8 - 7	10 - 6	12 - 2	4 - 4	6 - 5	8 - 1	9 - 11	11 - 6
	Hem-Fir	No.3	3 - 7	5 - 2	6 - 7	8 - 1	9 - 4	3 - 4	4 - 11	6 - 3	7 - 7	8 - 10
	Southern Pine	SS	5 - 4	8 - 5	11 - 1	14 - 2	16 - 8	5 - 4	8 - 5	11 - 1	13 - 4	15 - 9
	Southern Pine	No.1	5 - 0	7 - 6	9 - 6	11 - 1	13 - 2	4 - 9	7 - 1	9 - 0	10 - 6	12 - 5
	Southern Pine	No.2	4 - 4	6 - 5	8 - 2	9 - 9	11 - 5	4 - 1	6 - 1	7 - 9	9 - 2	10 - 9
	Southern Pine	No.3	3 - 4	4 - 11	6 - 2	7 - 6	8 - 10	3 - 1	4 - 7	5 - 10	7 - 1	8 - 4
	Spruce-Pine Fir	SS	5 - 0	7 - 11	10 - 5	12 - 9	14 - 9	5 - 0	7 - 9	9 - 10	12 - 0	13 - 11
	Spruce-Pine Fir	No.1	4 - 8	6 - 11	8 - 9	10 - 8	12 - 4	4 - 5	6 - 6	8 - 3	10 - 1	11 - 8
	Spruce-Pine Fir	No.2	4 - 8	6 - 11	8 - 9	10 - 8	12 - 4	4 - 5	6 - 6	8 - 3	10 - 1	11 - 8
	Spruce-Pine Fir	No.3	3 - 7	5 - 2	6 - 7	8 - 1	9 - 4	3 - 4	4 - 11	6 - 3	7 - 7	8 - 10

† Spans are limited to 20 feet in length.
 See footnotes 1-2.

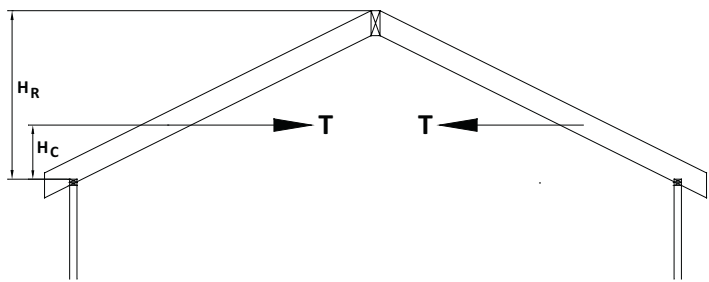
Table 3.26L Rafter Spans for Common Lumber Species(Ceiling Attached to Rafters) Ground Snow Load = 70 psf,
 $L/\Delta_{LL} = 360$, Brittle Finish (including plaster and stucco)**GSL = 70 psf**
 $L/\Delta_{LL} = 360$

Joist Spacing (in.)	Species	Grade	Dead Load = 10 psf					Dead Load = 20 psf				
			2x4	2x6	2x8	2x10	2x12	2x4	2x6	2x8	2x10	2x12
			Maximum Rafter Spans ^{1,2}									
(ft.-in.)			(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)
12	Douglas Fir-Larch	SS	6-0	9-5	12-5	15-10	19-3	6-0	9-5	12-5	15-10	19-3
	Douglas Fir-Larch	No.1	5-9	9-1	12-0	15-3	18-7	5-9	9-1	12-0	15-2	17-7
	Douglas Fir-Larch	No.2	5-8	8-11	11-9	15-0	17-9	5-8	8-11	11-9	14-5	16-8
	Douglas Fir-Larch	No.3	5-2	7-7	9-7	11-8	13-6	4-10	7-1	9-0	11-0	12-9
	Hem-Fir	SS	5-8	8-11	11-9	15-0	18-2	5-8	8-11	11-9	15-0	18-2
	Hem-Fir	No.1	5-6	8-8	11-6	14-8	17-10	5-6	8-8	11-6	14-8	17-5
	Hem-Fir	No.2	5-3	8-4	10-11	14-0	17-0	5-3	8-4	10-11	14-0	16-3
	Hem-Fir	No.3	5-0	7-4	9-4	11-5	13-2	4-9	6-11	8-9	10-9	12-5
	Southern Pine	SS	5-11	9-3	12-2	15-7	18-11	5-11	9-3	12-2	15-7	18-11
	Southern Pine	No.1	5-8	8-11	11-9	15-0	18-2	5-8	8-11	11-9	14-10	17-7
	Southern Pine	No.2	5-5	8-6	11-3	13-9	16-2	5-5	8-6	10-11	12-11	15-3
	Southern Pine	No.3	4-8	6-11	8-9	10-7	12-6	4-5	6-6	8-3	10-0	11-10
	Spruce-Pine Fir	SS	5-6	8-8	11-6	14-8	17-10	5-6	8-8	11-6	14-8	17-10
	Spruce-Pine Fir	No.1	5-5	8-6	11-3	14-4	17-5	5-5	8-6	11-3	14-2	16-6
	Spruce-Pine Fir	No.2	5-5	8-6	11-3	14-4	17-5	5-5	8-6	11-3	14-2	16-6
	Spruce-Pine Fir	No.3	5-0	7-4	9-4	11-5	13-2	4-9	6-11	8-9	10-9	12-5
16	Douglas Fir-Larch	SS	5-5	8-7	11-3	14-5	17-6	5-5	8-7	11-3	14-5	17-6
	Douglas Fir-Larch	No.1	5-3	8-3	10-10	13-10	16-2	5-3	8-3	10-9	13-2	15-3
	Douglas Fir-Larch	No.2	5-2	8-1	10-8	13-3	15-4	5-2	8-1	10-3	12-6	14-6
	Douglas Fir-Larch	No.3	4-6	6-6	8-3	10-1	11-9	4-3	6-2	7-10	9-6	11-1
	Hem-Fir	SS	5-2	8-1	10-8	13-7	16-6	5-2	8-1	10-8	13-7	16-6
	Hem-Fir	No.1	5-0	7-11	10-5	13-4	16-0	5-0	7-11	10-5	13-0	15-1
	Hem-Fir	No.2	4-10	7-7	9-11	12-8	14-11	4-10	7-7	9-11	12-1	14-1
	Hem-Fir	No.3	4-4	6-4	8-1	9-10	11-5	4-1	6-0	7-7	9-4	10-9
	Southern Pine	SS	5-4	8-5	11-1	14-2	17-2	5-4	8-5	11-1	14-2	17-2
	Southern Pine	No.1	5-2	8-1	10-8	13-7	16-2	5-2	8-1	10-8	12-10	15-3
	Southern Pine	No.2	4-11	7-9	10-0	11-11	14-0	4-11	7-5	9-5	11-3	13-2
	Southern Pine	No.3	4-1	6-0	7-7	9-2	10-10	3-10	5-8	7-1	8-8	10-3
	Spruce-Pine Fir	SS	5-0	7-11	10-5	13-4	16-2	5-0	7-11	10-5	13-4	16-2
	Spruce-Pine Fir	No.1	4-11	7-9	10-2	13-0	15-2	4-11	7-9	10-1	12-4	14-3
	Spruce-Pine Fir	No.2	4-11	7-9	10-2	13-0	15-2	4-11	7-9	10-1	12-4	14-3
	Spruce-Pine Fir	No.3	4-4	6-4	8-1	9-10	11-5	4-1	6-0	7-7	9-4	10-9
19.2	Douglas Fir-Larch	SS	5-2	8-1	10-7	13-7	16-6	5-2	8-1	10-7	13-7	16-6
	Douglas Fir-Larch	No.1	4-11	7-9	10-3	12-9	14-9	4-11	7-9	9-10	12-0	13-11
	Douglas Fir-Larch	No.2	4-10	7-7	9-11	12-1	14-0	4-10	7-4	9-4	11-5	13-2
	Douglas Fir-Larch	No.3	4-1	6-0	7-7	9-3	10-8	3-10	5-7	7-1	8-8	10-1
	Hem-Fir	SS	4-10	7-7	10-0	12-10	15-7	4-10	7-7	10-0	12-10	15-7
	Hem-Fir	No.1	4-9	7-5	9-10	12-6	14-7	4-9	7-5	9-8	11-10	13-9
	Hem-Fir	No.2	4-6	7-1	9-4	11-9	13-7	4-6	7-1	9-1	11-1	12-10
	Hem-Fir	No.3	4-0	5-10	7-4	9-0	10-5	3-9	5-6	6-11	8-6	9-10
	Southern Pine	SS	5-0	7-11	10-5	13-4	16-2	5-0	7-11	10-5	13-4	16-2
	Southern Pine	No.1	4-10	7-7	10-0	12-5	14-9	4-10	7-7	10-0	11-9	13-11
	Southern Pine	No.2	4-8	7-3	9-2	10-10	12-9	4-6	6-10	8-8	10-3	12-1
	Southern Pine	No.3	3-8	5-6	6-11	8-4	9-11	3-6	5-2	6-6	7-11	9-4
	Spruce-Pine Fir	SS	4-9	7-5	9-10	12-6	15-3	4-9	7-5	9-10	12-6	15-3
	Spruce-Pine Fir	No.1	4-8	7-3	9-7	11-11	13-10	4-8	7-3	9-2	11-3	13-0
	Spruce-Pine Fir	No.2	4-8	7-3	9-7	11-11	13-10	4-8	7-3	9-2	11-3	13-0
	Spruce-Pine Fir	No.3	4-0	5-10	7-4	9-0	10-5	3-9	5-6	6-11	8-6	9-10
24	Douglas Fir-Larch	SS	4-9	7-6	9-10	12-7	15-4	4-9	7-6	9-10	12-7	15-3
	Douglas Fir-Larch	No.1	4-7	7-2	9-4	11-5	13-2	4-7	6-11	8-9	10-9	12-5
	Douglas Fir-Larch	No.2	4-6	7-0	8-10	10-10	12-6	4-6	6-7	8-4	10-2	11-10
	Douglas Fir-Larch	No.3	3-8	5-4	6-9	8-3	9-7	3-5	5-0	6-4	7-9	9-0
	Hem-Fir	SS	4-6	7-1	9-4	11-11	14-5	4-6	7-1	9-4	11-11	14-5
	Hem-Fir	No.1	4-5	6-11	9-1	11-3	13-0	4-5	6-10	8-8	10-7	12-4
	Hem-Fir	No.2	4-2	6-7	8-7	10-6	12-2	4-2	6-5	8-1	9-11	11-6
	Hem-Fir	No.3	3-7	5-2	6-7	8-1	9-4	3-4	4-11	6-3	7-7	8-10
	Southern Pine	SS	4-8	7-4	9-8	12-4	15-0	4-8	7-4	9-8	12-4	15-0
	Southern Pine	No.1	4-6	7-1	9-4	11-1	13-2	4-6	7-1	9-0	10-6	12-5
	Southern Pine	No.2	4-4	6-5	8-2	9-9	11-5	4-1	6-1	7-9	9-2	10-9
	Southern Pine	No.3	3-4	4-11	6-2	7-6	8-10	3-1	4-7	5-10	7-1	8-4
	Spruce-Pine Fir	SS	4-5	6-11	9-1	11-7	14-2	4-5	6-11	9-1	11-7	13-11
	Spruce-Pine Fir	No.1	4-4	6-9	8-9	10-8	12-4	4-4	6-6	8-3	10-1	11-8
	Spruce-Pine Fir	No.2	4-4	6-9	8-9	10-8	12-4	4-4	6-6	8-3	10-1	11-8
	Spruce-Pine Fir	No.3	3-7	5-2	6-7	8-1	9-4	3-4	4-11	6-3	7-7	8-10

† Spans are limited to 20 feet in length.
See footnotes 1-2.

Footnotes to Tables 3.26D-L

- 1
- Tabulated rafter spans assume ceiling joists or rafter ties are located at the bottom of the attic space to resist thrust. When ceiling joists or rafter ties are located higher in the attic space and are used to resist thrust, the rafter spans shall be reduced using the factors given in the following table:



Ceiling Height/Top Plate to Roof Ridge Height (H_c/H_R)	Rafter Span Adjustment Factors
1/2	0.58
1/3	0.67
1/4	0.76
1/5	0.83
1/6	0.90
1/7.5 and less	1.00

Note: Lateral deflection of the rafter below the rafter ties may exceed 3/4 inch when rafter ties are located above one-third of the top plate to roof ridge height, H_R , or when H_c is greater than 2 feet and may require additional consideration.

- 2
- Spans checked for live load deflection only.

Table 3.26M Rafter Deflection Limit = L/180**Exposure B**Maximum Rafter Spans for Common Lumber Species Resisting Uplift
Loads due to Wind (12:12 Slope)

Wind Speed 3-second gust (mph) (See Figure 1.1)			90					95					100				
Rafter Spacing (in.)	Species	Grade	2x4	2x6	2x8	2x10	2x12	2x4	2x6	2x8	2x10	2x12	2x4	2x6	2x8	2x10	2x12
Maximum Allowable Rafter Span (ft.-in.) ¹																	
12	DFL	SS	10 - 4	18 - 1	24 - 2	26-0†	26-0†	9 - 11	17 - 3	23 - 10	26-0†	26-0†	9 - 6	16 - 6	23 - 0	26-0†	26-0†
	DFL	No.1	9 - 11	17 - 2	23 - 3	26-0†	26-0†	9 - 6	16 - 5	23 - 0	26-0†	26-0†	9 - 1	15 - 9	22 - 2	26-0†	26-0†
	DFL	No.2	9 - 8	16 - 9	22 - 10	26-0†	26-0†	9 - 3	16 - 0	22 - 6	26-0†	26-0†	8 - 11	15 - 4	21 - 9	26-0†	26-0†
	DFL	No.3	9 - 2	15 - 10	21 - 10	26-0†	26-0†	8 - 9	15 - 2	21 - 6	26-0†	26-0†	8 - 5	14 - 6	20 - 8	26-0†	26-0†
	HF	SS	9 - 8	16 - 9	22 - 10	26-0†	26-0†	9 - 3	16 - 0	22 - 6	26-0†	26-0†	8 - 11	15 - 4	21 - 9	26-0†	26-0†
	HF	No.1	9 - 5	16 - 4	22 - 4	26-0†	26-0†	9 - 0	15 - 7	22 - 0	26-0†	26-0†	8 - 8	14 - 11	21 - 3	26-0†	26-0†
	HF	No.2	8 - 11	15 - 4	21 - 4	26-0†	26-0†	8 - 6	14 - 8	20 - 11	26-0†	26-0†	8 - 2	14 - 1	20 - 0	25 - 11	26-0†
	HF	No.3	8 - 7	14 - 10	20 - 9	26-0†	26-0†	8 - 3	14 - 3	20 - 2	26-0†	26-0†	7 - 11	13 - 8	19 - 4	25 - 2	26-0†
	SP	SS	10 - 1	17 - 8	23 - 9	26-0†	26-0†	9 - 8	16 - 10	23 - 5	26-0†	26-0†	9 - 4	16 - 2	22 - 7	26-0†	26-0†
	SP	No.1	9 - 8	16 - 9	22 - 10	26-0†	26-0†	9 - 3	16 - 0	22 - 6	26-0†	26-0†	8 - 11	15 - 4	21 - 9	26-0†	26-0†
	SP	No.2	9 - 2	15 - 10	21 - 10	26-0†	26-0†	8 - 9	15 - 2	21 - 6	26-0†	26-0†	8 - 5	14 - 6	20 - 8	26-0†	26-0†
	SP	No.3	8 - 11	15 - 4	21 - 0	25 - 6	26-0†	8 - 6	14 - 4	20 - 2	24 - 11	26-0†	8 - 0	13 - 5	18 - 8	23 - 8	26-0†
	SPF	SS	9 - 5	16 - 4	22 - 4	26-0†	26-0†	9 - 0	15 - 7	22 - 0	26-0†	26-0†	8 - 8	14 - 11	21 - 3	26-0†	26-0†
	SPF	No.1	9 - 2	15 - 10	21 - 10	26-0†	26-0†	8 - 9	15 - 2	21 - 6	26-0†	26-0†	8 - 5	14 - 6	20 - 8	26-0†	26-0†
	SPF	No.2	9 - 2	15 - 10	21 - 10	26-0†	26-0†	8 - 9	15 - 2	21 - 6	26-0†	26-0†	8 - 5	14 - 6	20 - 8	26-0†	26-0†
	SPF	No.3	8 - 7	14 - 10	20 - 9	26-0†	26-0†	8 - 3	14 - 3	20 - 2	26-0†	26-0†	7 - 11	13 - 8	19 - 4	25 - 2	26-0†
16	DFL	SS	9 - 3	16 - 0	22 - 0	26-0†	26-0†	8 - 10	15 - 3	21 - 8	26-0†	26-0†	8 - 6	14 - 8	20 - 10	26-0†	26-0†
	DFL	No.1	8 - 10	15 - 3	21 - 2	26-0†	26-0†	8 - 6	14 - 7	20 - 9	26-0†	26-0†	8 - 2	14 - 0	19 - 10	25 - 9	26-0†
	DFL	No.2	8 - 7	14 - 10	20 - 9	26-0†	26-0†	8 - 3	14 - 3	20 - 2	26-0†	26-0†	7 - 11	13 - 8	19 - 4	25 - 2	26-0†
	DFL	No.3	8 - 2	14 - 1	19 - 10	24 - 4	26-0†	7 - 10	13 - 3	18 - 7	23 - 10	26-0†	7 - 6	12 - 4	17 - 3	22 - 8	26-0†
	HF	SS	8 - 7	14 - 10	20 - 9	26-0†	26-0†	8 - 3	14 - 3	20 - 2	26-0†	26-0†	7 - 11	13 - 8	19 - 4	25 - 2	26-0†
	HF	No.1	8 - 5	14 - 6	20 - 3	25 - 11	26-0†	8 - 1	13 - 10	19 - 8	25 - 6	26-0†	7 - 9	13 - 3	18 - 9	24 - 8	26-0†
	HF	No.2	8 - 0	13 - 8	19 - 4	24 - 8	26-0†	7 - 8	13 - 1	18 - 6	24 - 4	26-0†	7 - 4	12 - 6	17 - 8	23 - 6	26-0†
	HF	No.3	7 - 9	13 - 3	18 - 8	23 - 9	26-0†	7 - 5	12 - 8	17 - 10	23 - 3	26-0†	7 - 1	12 - 0	16 - 8	22 - 1	25 - 7
	SP	SS	9 - 0	15 - 7	21 - 7	26-0†	26-0†	8 - 8	14 - 11	21 - 3	26-0†	26-0†	8 - 4	14 - 4	20 - 4	26-0†	26-0†
	SP	No.1	8 - 7	14 - 10	20 - 9	26-0†	26-0†	8 - 3	14 - 3	20 - 2	26-0†	26-0†	7 - 11	13 - 8	19 - 4	25 - 2	26-0†
	SP	No.2	8 - 2	14 - 1	19 - 10	25 - 4	26-0†	7 - 10	13 - 6	19 - 1	24 - 11	26-0†	7 - 7	12 - 11	18 - 3	24 - 1	26-0†
	SP	No.3	7 - 7	12 - 8	17 - 7	22 - 1	26-0†	7 - 1	11 - 9	16 - 3	21 - 7	25 - 7	6 - 8	11 - 0	15 - 1	20 - 2	24 - 4
	SPF	SS	8 - 5	14 - 6	20 - 3	25 - 11	26-0†	8 - 1	13 - 10	19 - 8	25 - 6	26-0†	7 - 9	13 - 3	18 - 9	24 - 8	26-0†
	SPF	No.1	8 - 2	14 - 1	19 - 10	25 - 4	26-0†	7 - 10	13 - 6	19 - 1	24 - 11	26-0†	7 - 7	12 - 11	18 - 3	24 - 1	26-0†
	SPF	No.2	8 - 2	14 - 1	19 - 10	25 - 4	26-0†	7 - 10	13 - 6	19 - 1	24 - 11	26-0†	7 - 7	12 - 11	18 - 3	24 - 1	26-0†
	SPF	No.3	7 - 9	13 - 3	18 - 8	23 - 9	26-0†	7 - 5	12 - 8	17 - 10	23 - 3	26-0†	7 - 1	12 - 0	16 - 8	22 - 1	25 - 7
19.2	DFL	SS	8 - 7	14 - 10	20 - 8	26-0†	26-0†	8 - 3	14 - 2	20 - 1	26 - 0	26-0†	7 - 11	13 - 7	19 - 3	25 - 1	26-0†
	DFL	No.1	8 - 3	14 - 2	19 - 11	25 - 5	26-0†	7 - 11	13 - 6	19 - 2	25 - 1	26-0†	7 - 7	13 - 0	18 - 4	24 - 2	26-0†
	DFL	No.2	8 - 0	13 - 9	19 - 6	24 - 11	26-0†	7 - 8	13 - 2	18 - 8	24 - 7	26-0†	7 - 5	12 - 8	17 - 10	23 - 9	26-0†
	DFL	No.3	7 - 8	12 - 7	17 - 7	22 - 3	25 - 9	7 - 2	11 - 8	16 - 3	21 - 9	25 - 3	6 - 8	10 - 11	15 - 1	20 - 4	24 - 0
	HF	SS	8 - 0	13 - 9	19 - 6	24 - 11	26-0†	7 - 8	13 - 2	18 - 8	24 - 7	26-0†	7 - 5	12 - 8	17 - 10	23 - 9	26-0†
	HF	No.1	7 - 10	13 - 5	19 - 0	24 - 4	26-0†	7 - 6	12 - 10	18 - 2	24 - 0	26-0†	7 - 3	12 - 4	17 - 4	23 - 3	26-0†
	HF	No.2	7 - 5	12 - 8	17 - 11	23 - 3	26-0†	7 - 1	12 - 2	17 - 1	22 - 11	26-0†	6 - 10	11 - 8	16 - 4	22 - 2	26-0†
	HF	No.3	7 - 2	12 - 2	17 - 0	21 - 8	25 - 2	6 - 11	11 - 4	15 - 8	21 - 3	24 - 7	6 - 6	10 - 7	14 - 7	19 - 7	23 - 5
	SP	SS	8 - 5	14 - 6	20 - 3	25 - 11	26-0†	8 - 1	13 - 10	19 - 8	25 - 6	26-0†	7 - 9	13 - 3	18 - 9	24 - 8	26-0†
	SP	No.1	8 - 0	13 - 9	19 - 6	24 - 11	26-0†	7 - 8	13 - 2	18 - 8	24 - 7	26-0†	7 - 5	12 - 8	17 - 10	23 - 9	26-0†
	SP	No.2	7 - 8	13 - 1	18 - 6	23 - 10	26-0†	7 - 4	12 - 6	17 - 8	23 - 6	26-0†	7 - 0	12 - 0	16 - 10	22 - 8	26-0†
	SP	No.3	6 - 9	11 - 3	15 - 5	20 - 2	23 - 10	6 - 4	10 - 5	14 - 3	18 - 11	23 - 4	5 - 11	9 - 9	13 - 4	17 - 6	22 - 2
	SPF	SS	7 - 10	13 - 5	19 - 0	24 - 4	26-0†	7 - 6	12 - 10	18 - 2	24 - 0	26-0†	7 - 3	12 - 4	17 - 4	23 - 3	26-0†
	SPF	No.1	7 - 8	13 - 1	18 - 6	23 - 10	26-0†	7 - 4	12 - 6	17 - 8	23 - 6	26-0†	7 - 0	12 - 0	16 - 10	22 - 8	26-0†
	SPF	No.2	7 - 8	13 - 1	18 - 6	23 - 10	26-0†	7 - 4	12 - 6	17 - 8	23 - 6	26-0†	7 - 0	12 - 0	16 - 10	22 - 8	26-0†
	SPF	No.3	7 - 2	12 - 2	17 - 0	21 - 8	25 - 2	6 - 11	11 - 4	15 - 8	21 - 3	24 - 7	6 - 6	10 - 7	14 - 7	19 - 7	23 - 5
24	DFL	SS	7 - 10	13 - 6	19 - 2	24 - 6	26-0†	7 - 7	12 - 11	18 - 3	24 - 2	26-0†	7 - 3	12 - 5	17 - 6	23 - 4	26-0†
	DFL	No.1	7 - 6	12 - 11	18 - 3	23 - 7	26-0†	7 - 3	12 - 4	17 - 5	23 - 3	26-0†	7 - 0	11 - 10	16 - 8	22 - 6	26-0†
	DFL	No.2	7 - 4	12 - 7	17 - 9	23 - 1	26-0†	7 - 1	12 - 1	17 - 0	22 - 9	26-0†	6 - 9	11 - 7	16 - 3	22 - 0	26-0†
	DFL	No.3	6 - 8	10 - 10	15 - 0	19 - 10	23 - 0	6 - 3	10 - 1	13 - 11	18 - 7	22 - 7	5 - 10	9 - 5	12 - 11	17 - 2	21 - 5
	HF	SS	7 - 4	12 - 7	17 - 9	23 - 1	26-0†	7 - 1	12 - 1	17 - 0	22 - 9	26-0†	6 - 9	11 - 7	16 - 3	22 - 0	26-0†
	HF	No.1	7 - 2	12 - 3	17 - 3	22 - 7	26-0†	6 - 11	11 - 9	16 - 6	22 - 4	26-0†	6 - 7	11 - 3	15 - 10	21 - 7	26-0†
	HF	No.2	6 - 10	11 - 7	16 - 3	21 - 7	26-0†	6 - 6	11 - 1	15 - 7	21 - 3	25 - 10	6 - 3	10 - 8	14 - 11	20 - 4	25 - 0
	HF	No.3	6 - 5	10 - 6	14 - 6	19 - 5	22 - 6	6 - 0	9 - 9	13 - 5	17 - 11	22 - 0	5 - 8	9 - 2	12 - 6	16 - 7	20 - 9
	SP	SS	7 - 9	13 - 3	18 - 8	24 - 0	26-0†	7 - 5	12 - 8	17 - 10	23 - 8	26-0†	7 - 1	12 - 2	17 - 1	22 - 11	26-0†
	SP	No.1	7 - 4	12 - 7	17 - 9	23 - 1	26-0†	7 - 1	12 - 1	17 - 0	22 - 9	26-0†	6 - 9	11 - 7	16 - 3	22 - 0	26-0†
	SP	No.2	7 - 0	11 - 11	16 - 9	22 - 1	26-0†	6 - 9	11 - 5	16 - 0	21 - 10	26-0†	6 - 5	11 - 0	15 - 4	21 - 0	25 - 7
	SP	No.3	5 - 11	9 - 8	13 - 2	17 - 5	21 - 4	5 - 6	9 - 0	12 - 3	16 - 1	20 - 8	5 - 2	8 - 5	11 - 5	14 - 11	19 - 1
	SPF	SS	7 - 2	12 - 3	17 - 3	22 - 7	26-0†	6 - 11	11 - 9	16 - 6	22 - 4	26-0†	6 - 7	11 - 3	15 - 10	21 - 7	26-0†
	SPF	No.1	7 - 0	11 - 11	16 - 9	22 - 1	26-0†	6 - 9	11 - 5	16 - 0	21 - 10	26-0†	6 - 5	11 - 0	15 - 4	21 - 0	25 - 7
	SPF	No.2	7 - 0	11 - 11	16 - 9	22 - 1	26-0†	6 - 9	11 - 5	16 - 0	21 - 10	26-0†	6 - 5	11 - 0	15 - 4	21 - 0	25 - 7
	SPF	No.3	6 - 5	10 - 6	14 - 6	19 - 5	22 - 6	6 - 0	9 - 9	13 - 5	17 - 11	22 - 0	5 - 8	9 - 2	12 - 6	16 - 7	20 - 9

¹ See Table 3.26M footnotes.

† Spans are limited to 26 feet in length.

Table 3.26M Rafter Deflection Limit = L/180**(Cont.)**Maximum Rafter Spans for Common Lumber Species Resisting Uplift
Loads due to Wind (12:12 Slope)**Exposure B**

Wind Speed 3-second gust (mph) (See Figure 1.1)			105					110					115				
Rafter Spacing (in.)	Species	Grade	2x4	2x6	2x8	2x10	2x12	2x4	2x6	2x8	2x10	2x12	2x4	2x6	2x8	2x10	2x12
Maximum Allowable Rafter Span (ft.-in.) ¹																	
12	DFL	SS	9 - 2	15 - 10	22 - 3	26-0†	26-0†	8 - 10	15 - 3	21 - 7	26-0†	26-0†	8 - 6	14 - 8	20 - 11	26-0†	26-0†
	DFL	No.1	8 - 9	15 - 1	21 - 6	26-0†	26-0†	8 - 5	14 - 7	20 - 8	26-0†	26-0†	8 - 2	14 - 0	19 - 11	25 - 9	26-0†
	DFL	No.2	8 - 7	14 - 9	21 - 0	26-0†	26-0†	8 - 3	14 - 2	20 - 2	26-0†	26-0†	8 - 0	13 - 8	19 - 5	25 - 3	26-0†
	DFL	No.3	8 - 1	14 - 0	19 - 10	24 - 11	26-0†	7 - 10	13 - 2	18 - 7	23 - 9	26-0†	7 - 7	12 - 5	17 - 4	22 - 9	26-0†
	HF	SS	8 - 7	14 - 9	21 - 0	26-0†	26-0†	8 - 3	14 - 2	20 - 2	26-0†	26-0†	8 - 0	13 - 8	19 - 5	25 - 3	26-0†
	HF	No.1	8 - 4	14 - 4	20 - 5	26-0†	26-0†	8 - 1	13 - 10	19 - 7	25 - 6	26-0†	7 - 9	13 - 4	18 - 10	24 - 9	26-0†
	HF	No.2	7 - 11	13 - 6	19 - 2	25 - 1	26-0†	7 - 7	13 - 0	18 - 5	24 - 4	26-0†	7 - 4	12 - 7	17 - 9	23 - 7	26-0†
	HF	No.3	7 - 8	13 - 1	18 - 6	24 - 3	26-0†	7 - 5	12 - 7	17 - 10	23 - 2	26-0†	7 - 2	12 - 0	16 - 9	22 - 2	25 - 9
	SP	SS	9 - 0	15 - 6	21 - 11	26-0†	26-0†	8 - 8	14 - 11	21 - 3	26-0†	26-0†	8 - 4	14 - 4	20 - 5	26-0†	26-0†
	SP	No.1	8 - 7	14 - 9	21 - 0	26-0†	26-0†	8 - 3	14 - 2	20 - 2	26-0†	26-0†	8 - 0	13 - 8	19 - 5	25 - 3	26-0†
	SP	No.2	8 - 1	14 - 0	19 - 10	25 - 8	26-0†	7 - 10	13 - 5	19 - 0	24 - 11	26-0†	7 - 7	13 - 0	18 - 4	24 - 2	26-0†
	SP	No.3	7 - 6	12 - 6	17 - 4	22 - 7	26-0†	7 - 1	11 - 9	16 - 2	21 - 7	25 - 6	6 - 8	11 - 1	15 - 2	20 - 3	24 - 5
	SPF	SS	8 - 4	14 - 4	20 - 5	26-0†	26-0†	8 - 1	13 - 10	19 - 7	25 - 6	26-0†	7 - 9	13 - 4	18 - 10	24 - 9	26-0†
	SPF	No.1	8 - 1	14 - 0	19 - 10	25 - 8	26-0†	7 - 10	13 - 5	19 - 0	24 - 11	26-0†	7 - 7	13 - 0	18 - 4	24 - 2	26-0†
	SPF	No.2	8 - 1	14 - 0	19 - 10	25 - 8	26-0†	7 - 10	13 - 5	19 - 0	24 - 11	26-0†	7 - 7	13 - 0	18 - 4	24 - 2	26-0†
	SPF	No.3	7 - 8	13 - 1	18 - 6	24 - 3	26-0†	7 - 5	12 - 7	17 - 10	23 - 2	26-0†	7 - 2	12 - 0	16 - 9	22 - 2	25 - 9
16	DFL	SS	8 - 2	14 - 1	20 - 0	25 - 10	26-0†	7 - 11	13 - 6	19 - 2	25 - 1	26-0†	7 - 7	13 - 1	18 - 5	24 - 4	26-0†
	DFL	No.1	7 - 10	13 - 5	19 - 0	24 - 11	26-0†	7 - 7	12 - 11	18 - 3	24 - 2	26-0†	7 - 4	12 - 6	17 - 7	23 - 5	26-0†
	DFL	No.2	7 - 8	13 - 1	18 - 6	24 - 5	26-0†	7 - 5	12 - 7	17 - 10	23 - 8	26-0†	7 - 2	12 - 2	17 - 2	23 - 0	26-0†
	DFL	No.3	7 - 1	11 - 7	16 - 1	21 - 7	25 - 0	6 - 8	10 - 10	15 - 0	20 - 3	23 - 10	6 - 4	10 - 3	14 - 1	18 - 11	22 - 10
	HF	SS	7 - 8	13 - 1	18 - 6	24 - 5	26-0†	7 - 5	12 - 7	17 - 10	23 - 8	26-0†	7 - 2	12 - 2	17 - 2	23 - 0	26-0†
	HF	No.1	7 - 6	12 - 9	18 - 0	23 - 11	26-0†	7 - 2	12 - 3	17 - 4	23 - 2	26-0†	7 - 0	11 - 10	16 - 8	22 - 6	26-0†
	HF	No.2	7 - 1	12 - 0	17 - 0	22 - 9	26-0†	6 - 10	11 - 7	16 - 4	22 - 1	26-0†	6 - 7	11 - 2	15 - 8	21 - 5	26-0†
	HF	No.3	6 - 10	11 - 2	15 - 6	20 - 11	24 - 5	6 - 6	10 - 6	14 - 6	19 - 6	23 - 3	6 - 1	9 - 11	13 - 8	18 - 2	22 - 3
	SP	SS	8 - 0	13 - 9	19 - 6	25 - 5	26-0†	7 - 9	13 - 3	18 - 9	24 - 7	26-0†	7 - 6	12 - 9	18 - 0	23 - 11	26-0†
	SP	No.1	7 - 8	13 - 1	18 - 6	24 - 5	26-0†	7 - 5	12 - 7	17 - 10	23 - 8	26-0†	7 - 2	12 - 2	17 - 2	23 - 0	26-0†
	SP	No.2	7 - 3	12 - 5	17 - 6	23 - 4	26-0†	7 - 0	11 - 11	16 - 10	22 - 8	26-0†	6 - 9	11 - 6	16 - 2	22 - 0	26-0†
	SP	No.3	6 - 3	10 - 4	14 - 1	18 - 8	23 - 2	5 - 11	9 - 8	13 - 3	17 - 5	22 - 1	5 - 7	9 - 2	12 - 5	16 - 4	21 - 1
	SPF	SS	7 - 6	12 - 9	18 - 0	23 - 11	26-0†	7 - 2	12 - 3	17 - 4	23 - 2	26-0†	7 - 0	11 - 10	16 - 8	22 - 6	26-0†
	SPF	No.1	7 - 3	12 - 5	17 - 6	23 - 4	26-0†	7 - 0	11 - 11	16 - 10	22 - 8	26-0†	6 - 9	11 - 6	16 - 2	22 - 0	26-0†
	SPF	No.2	7 - 3	12 - 5	17 - 6	23 - 4	26-0†	7 - 0	11 - 11	16 - 10	22 - 8	26-0†	6 - 9	11 - 6	16 - 2	22 - 0	26-0†
	SPF	No.3	6 - 10	11 - 2	15 - 6	20 - 11	24 - 5	6 - 6	10 - 6	14 - 6	19 - 6	23 - 3	6 - 1	9 - 11	13 - 8	18 - 2	22 - 3
19.2	DFL	SS	7 - 7	13 - 1	18 - 5	24 - 4	26-0†	7 - 4	12 - 7	17 - 9	23 - 7	26-0†	7 - 1	12 - 1	17 - 1	22 - 11	26-0†
	DFL	No.1	7 - 4	12 - 6	17 - 7	23 - 5	26-0†	7 - 0	12 - 0	16 - 11	22 - 9	26-0†	6 - 10	11 - 7	16 - 3	22 - 1	26-0†
	DFL	No.2	7 - 2	12 - 2	17 - 2	23 - 0	26-0†	6 - 11	11 - 9	16 - 6	22 - 3	26-0†	6 - 8	11 - 4	15 - 10	21 - 7	26-0†
	DFL	No.3	6 - 4	10 - 3	14 - 1	18 - 10	22 - 10	5 - 11	9 - 8	13 - 3	17 - 7	21 - 9	5 - 8	9 - 1	12 - 5	16 - 6	20 - 7
	HF	SS	7 - 2	12 - 2	17 - 2	23 - 0	26-0†	6 - 11	11 - 9	16 - 6	22 - 3	26-0†	6 - 8	11 - 4	15 - 10	21 - 7	26-0†
	HF	No.1	7 - 0	11 - 10	16 - 8	22 - 6	26-0†	6 - 8	11 - 5	16 - 0	21 - 9	26-0†	6 - 6	11 - 0	15 - 5	21 - 2	25 - 9
	HF	No.2	6 - 7	11 - 2	15 - 8	21 - 5	26-0†	6 - 4	10 - 9	15 - 1	20 - 8	25 - 3	6 - 2	10 - 5	14 - 7	19 - 10	24 - 6
	HF	No.3	6 - 1	9 - 11	13 - 8	18 - 2	22 - 3	5 - 9	9 - 4	12 - 9	17 - 0	21 - 3	5 - 6	8 - 10	12 - 0	15 - 11	19 - 10
	SP	SS	7 - 6	12 - 9	18 - 0	23 - 11	26-0†	7 - 2	12 - 3	17 - 4	23 - 2	26-0†	7 - 0	11 - 10	16 - 8	22 - 6	26-0†
	SP	No.1	7 - 2	12 - 2	17 - 2	23 - 0	26-0†	6 - 11	11 - 9	16 - 6	22 - 3	26-0†	6 - 8	11 - 4	15 - 10	21 - 7	26-0†
	SP	No.2	6 - 9	11 - 6	16 - 2	22 - 0	26-0†	6 - 6	11 - 1	15 - 7	21 - 3	25 - 11	6 - 4	10 - 9	15 - 0	20 - 6	24 - 11
	SP	No.3	5 - 7	9 - 2	12 - 5	16 - 4	21 - 1	5 - 3	8 - 7	11 - 8	15 - 3	19 - 7	5 - 0	8 - 2	11 - 0	14 - 4	18 - 4
	SPF	SS	7 - 0	11 - 10	16 - 8	22 - 6	26-0†	6 - 8	11 - 5	16 - 0	21 - 9	26-0†	6 - 6	11 - 0	15 - 5	21 - 2	25 - 9
	SPF	No.1	6 - 9	11 - 6	16 - 2	22 - 0	26-0†	6 - 6	11 - 1	15 - 7	21 - 3	25 - 11	6 - 4	10 - 9	15 - 0	20 - 6	25 - 2
	SPF	No.2	6 - 9	11 - 6	16 - 2	22 - 0	26-0†	6 - 6	11 - 1	15 - 7	21 - 3	25 - 11	6 - 4	10 - 9	15 - 0	20 - 6	25 - 2
	SPF	No.3	6 - 1	9 - 11	13 - 8	18 - 2	22 - 3	5 - 9	9 - 4	12 - 9	17 - 0	21 - 3	5 - 6	8 - 10	12 - 0	15 - 11	19 - 10
24	DFL	SS	7 - 0	11 - 11	16 - 9	22 - 7	26-0†	6 - 9	11 - 6	16 - 1	21 - 11	26-0†	6 - 6	11 - 1	15 - 6	21 - 3	25 - 10
	DFL	No.1	6 - 8	11 - 5	16 - 0	21 - 9	26-0†	6 - 6	11 - 0	15 - 5	21 - 1	25 - 8	6 - 3	10 - 7	14 - 10	20 - 3	24 - 11
	DFL	No.2	6 - 6	11 - 1	15 - 7	21 - 4	25 - 11	6 - 4	10 - 9	15 - 0	20 - 6	25 - 2	6 - 1	10 - 4	14 - 6	19 - 8	24 - 5
	DFL	No.3	5 - 6	8 - 10	12 - 1	16 - 0	20 - 0	5 - 2	8 - 4	11 - 4	15 - 0	18 - 7	4 - 11	7 - 11	10 - 9	14 - 1	17 - 5
	HF	SS	6 - 6	11 - 1	15 - 7	21 - 4	25 - 11	6 - 4	10 - 9	15 - 0	20 - 6	25 - 2	6 - 1	10 - 4	14 - 6	19 - 8	24 - 5
	HF	No.1	6 - 5	10 - 10	15 - 2	20 - 9	25 - 4	6 - 2	10 - 5	14 - 7	19 - 11	24 - 7	6 - 0	10 - 1	14 - 1	19 - 2	23 - 11
	HF	No.2	6 - 0	10 - 3	14 - 4	19 - 6	24 - 2	5 - 10	9 - 10	13 - 9	18 - 9	23 - 5	5 - 8	9 - 6	13 - 3	18 - 0	22 - 9
	HF	No.3	5 - 4	8 - 7	11 - 8	15 - 5	19 - 3	5 - 0	8 - 1	11 - 0	14 - 6	17 - 11	4 - 9	7 - 8	10 - 4	13 - 7	16 - 9
	SP	SS	6 - 10	11 - 8	16 - 5	22 - 2	26-0†	6 - 7	11 - 3	15 - 9	21 - 6	26-0†	6 - 5	10 - 10	15 - 2	20 - 9	25 - 5
	SP	No.1	6 - 6	11 - 1	15 - 7	21 - 4	25 - 11	6 - 4	10 - 9	15 - 0	20 - 6	25 - 2	6 - 1	10 - 4	14 - 6	19 - 8	24 - 5
	SP	No.2	6 - 3	10 - 7	14 - 9	20 - 2	24 - 5	6 - 0	10 - 2	14 - 2	19 - 0	23 - 3	5 - 10	9 - 10	13 - 8	17 - 9	22 - 3
	SP	No.3	4 - 11	7 - 11	10 - 8	13 - 11	17 - 9	4 - 7	7 - 6	10 - 1	13 - 1	16 - 7	4 - 4	7 - 1	9 - 6	12 - 3	15 - 7
	SPF	SS	6 - 5	10 - 10	15 - 2	20 - 9	25 - 4	6 - 2	10 - 5	14 - 7	19 - 11	24 - 7	6 - 0	10 - 1	14 - 1	19 - 2	23 - 11
	SPF	No.1	6 - 3	10 - 7	14 - 9	20 - 2	24 - 10	6 - 0	10 - 2	14 - 2	19 - 4	24 - 0	5 - 10	9 - 10	13 - 8	18 - 7	23 - 4
	SPF	No.2	6 - 3	10 - 7	14 - 9	20 - 2	24 - 10	6 - 0	10 - 2	14 - 2	19 - 4	24 - 0	5 - 10	9 - 10	13 - 8	18 - 7	23 - 4
	SPF	No.3	5 - 4	8 - 7	11 - 8	15 - 5	19 - 3	5 - 0	8 - 1	11 - 0	14 - 6	17 - 11	4 - 9	7 - 8	10 - 4	13 - 7	16 - 9

¹ See Table 3.26M footnotes.

† Spans are limited to 26 feet in length.

Table 3.26M Rafter Deflection Limit = L/180**(Cont.)**Maximum Rafter Spans for Common Lumber Species Resisting Uplift
Loads due to Wind (12:12 Slope)**Exposure B**

Wind Speed 3-sec. Gust (mph) (See Figure 1.1)			120					130					140				
Rafter Spacing (in.)	Species	Grade	2x4	2x6	2x8	2x10	2x12	2x4	2x6	2x8	2x10	2x12	2x4	2x6	2x8	2x10	2x12
Maximum Allowable Rafter Span (ft-in.) ¹																	
12	DFL	SS	8 - 3	14 - 2	20 - 2	26-0†	26-0†	7 - 9	13 - 3	18 - 9	24 - 8	26-0†	7 - 4	12 - 6	17 - 7	23 - 6	26-0†
	DFL	No.1	7 - 11	13 - 6	19 - 2	25 - 1	26-0†	7 - 5	12 - 8	17 - 11	23 - 9	26-0†	7 - 0	11 - 11	16 - 10	22 - 7	26-0†
	DFL	No.2	7 - 9	13 - 3	18 - 8	24 - 7	26-0†	7 - 3	12 - 5	17 - 5	23 - 4	26-0†	6 - 10	11 - 8	16 - 5	22 - 2	26-0†
	DFL	No.3	7 - 2	11 - 9	16 - 4	21 - 9	25 - 3	6 - 6	10 - 6	14 - 6	19 - 6	23 - 4	5 - 11	9 - 7	13 - 1	17 - 5	21 - 8
	HF	SS	7 - 9	13 - 3	18 - 8	24 - 7	26-0†	7 - 3	12 - 5	17 - 5	23 - 4	26-0†	6 - 10	11 - 8	16 - 5	22 - 2	26-0†
	HF	No.1	7 - 6	12 - 10	18 - 2	24 - 1	26-0†	7 - 1	12 - 1	17 - 0	22 - 10	26-0†	6 - 8	11 - 4	15 - 11	21 - 8	26-0†
	HF	No.2	7 - 1	12 - 2	17 - 1	22 - 11	26-0†	6 - 8	11 - 5	16 - 0	21 - 9	26-0†	6 - 4	10 - 9	15 - 0	20 - 6	25 - 2
	HF	No.3	6 - 11	11 - 4	15 - 9	21 - 3	24 - 8	6 - 3	10 - 2	14 - 1	18 - 9	22 - 9	5 - 9	9 - 3	12 - 8	16 - 10	21 - 1
	SP	SS	8 - 1	13 - 10	19 - 8	25 - 7	26-0†	7 - 7	13 - 0	18 - 4	24 - 3	26-0†	7 - 2	12 - 3	17 - 3	23 - 1	26-0†
	SP	No.1	7 - 9	13 - 3	18 - 8	24 - 7	26-0†	7 - 3	12 - 5	17 - 5	23 - 4	26-0†	6 - 10	11 - 8	16 - 5	22 - 2	26-0†
	SP	No.2	7 - 4	12 - 6	17 - 8	23 - 6	26-0†	6 - 11	11 - 9	16 - 6	22 - 3	26-0†	6 - 6	11 - 1	15 - 6	21 - 2	25 - 9
	SP	No.3	6 - 4	10 - 6	14 - 4	19 - 0	23 - 5	5 - 9	9 - 5	12 - 10	16 - 10	21 - 7	5 - 3	8 - 7	11 - 7	15 - 2	19 - 5
	SPF	SS	7 - 6	12 - 10	18 - 2	24 - 1	26-0†	7 - 1	12 - 1	17 - 0	22 - 10	26-0†	6 - 8	11 - 4	15 - 11	21 - 8	26-0†
	SPF	No.1	7 - 4	12 - 6	17 - 8	23 - 6	26-0†	6 - 11	11 - 9	16 - 6	22 - 3	26-0†	6 - 6	11 - 1	15 - 6	21 - 2	25 - 9
	SPF	No.2	7 - 4	12 - 6	17 - 8	23 - 6	26-0†	6 - 11	11 - 9	16 - 6	22 - 3	26-0†	6 - 6	11 - 1	15 - 6	21 - 2	25 - 9
	SPF	No.3	6 - 11	11 - 4	15 - 9	21 - 3	24 - 8	6 - 3	10 - 2	14 - 1	18 - 9	22 - 9	5 - 9	9 - 3	12 - 8	16 - 10	21 - 1
16	DFL	SS	7 - 4	12 - 7	17 - 9	23 - 8	26-0†	6 - 11	11 - 10	16 - 7	22 - 5	26-0†	6 - 7	11 - 2	15 - 7	21 - 4	25 - 11
	DFL	No.1	7 - 1	12 - 1	17 - 0	22 - 9	26-0†	6 - 8	11 - 4	15 - 10	21 - 7	26-0†	6 - 3	10 - 8	14 - 11	20 - 4	25 - 0
	DFL	No.2	6 - 11	11 - 9	16 - 6	22 - 4	26-0†	6 - 6	11 - 0	15 - 5	21 - 2	25 - 9	6 - 2	10 - 5	14 - 6	19 - 10	24 - 6
	DFL	No.3	6 - 0	9 - 8	13 - 4	17 - 8	21 - 10	5 - 5	8 - 9	11 - 11	15 - 9	19 - 8	4 - 11	7 - 11	10 - 10	14 - 2	17 - 7
	HF	SS	6 - 11	11 - 9	16 - 6	22 - 4	26-0†	6 - 6	11 - 0	15 - 5	21 - 2	25 - 9	6 - 2	10 - 5	14 - 6	19 - 10	24 - 6
	HF	No.1	6 - 9	11 - 5	16 - 1	21 - 10	26-0†	6 - 4	10 - 9	15 - 1	20 - 7	25 - 2	6 - 0	10 - 2	14 - 2	19 - 3	24 - 0
	HF	No.2	6 - 4	10 - 10	15 - 2	20 - 8	25 - 4	6 - 0	10 - 2	14 - 2	19 - 4	24 - 0	5 - 8	9 - 7	13 - 4	18 - 1	22 - 10
	HF	No.3	5 - 10	9 - 5	12 - 10	17 - 1	21 - 4	5 - 3	8 - 6	11 - 6	15 - 3	18 - 11	4 - 10	7 - 8	10 - 5	13 - 8	16 - 11
	SP	SS	7 - 3	12 - 4	17 - 4	23 - 3	26-0†	6 - 9	11 - 7	16 - 3	22 - 0	26-0†	6 - 5	10 - 11	15 - 3	20 - 10	25 - 6
	SP	No.1	6 - 11	11 - 9	16 - 6	22 - 4	26-0†	6 - 6	11 - 0	15 - 5	21 - 2	25 - 9	6 - 2	10 - 5	14 - 6	19 - 10	24 - 6
	SP	No.2	6 - 7	11 - 2	15 - 8	21 - 4	26 - 0	6 - 2	10 - 5	14 - 7	19 - 11	24 - 2	5 - 10	9 - 10	13 - 9	17 - 11	22 - 5
	SP	No.3	5 - 4	8 - 8	11 - 9	15 - 4	19 - 9	4 - 10	7 - 10	10 - 7	13 - 9	17 - 6	4 - 5	7 - 2	9 - 7	12 - 5	15 - 8
	SPF	SS	6 - 9	11 - 5	16 - 1	21 - 10	26-0†	6 - 4	10 - 9	15 - 1	20 - 7	25 - 2	6 - 0	10 - 2	14 - 2	19 - 3	24 - 0
	SPF	No.1	6 - 7	11 - 2	15 - 8	21 - 4	26 - 0	6 - 2	10 - 5	14 - 7	19 - 11	24 - 7	5 - 10	9 - 10	13 - 9	18 - 8	23 - 5
	SPF	No.2	6 - 7	11 - 2	15 - 8	21 - 4	26 - 0	6 - 2	10 - 5	14 - 7	19 - 11	24 - 7	5 - 10	9 - 10	13 - 9	18 - 8	23 - 5
	SPF	No.3	5 - 10	9 - 5	12 - 10	17 - 1	21 - 4	5 - 3	8 - 6	11 - 6	15 - 3	18 - 11	4 - 10	7 - 8	10 - 5	13 - 8	16 - 11
19.2	DFL	SS	6 - 10	11 - 8	16 - 5	22 - 3	26-0†	6 - 6	11 - 0	15 - 5	21 - 1	25 - 8	6 - 1	10 - 4	14 - 6	19 - 9	24 - 5
	DFL	No.1	6 - 7	11 - 2	15 - 8	21 - 5	26-0†	6 - 2	10 - 6	14 - 8	20 - 1	24 - 9	5 - 10	9 - 11	13 - 10	18 - 10	23 - 6
	DFL	No.2	6 - 5	10 - 11	15 - 4	20 - 11	25 - 7	6 - 1	10 - 3	14 - 4	19 - 6	24 - 2	5 - 9	9 - 8	13 - 6	18 - 4	22 - 5
	DFL	No.3	5 - 4	8 - 7	11 - 9	15 - 6	19 - 4	4 - 10	7 - 9	10 - 7	13 - 10	17 - 1	4 - 5	7 - 1	9 - 7	12 - 6	15 - 4
	HF	SS	6 - 5	10 - 11	15 - 4	20 - 11	25 - 7	6 - 1	10 - 3	14 - 4	19 - 6	24 - 3	5 - 9	9 - 8	13 - 6	18 - 4	23 - 1
	HF	No.1	6 - 3	10 - 8	14 - 11	20 - 4	25 - 0	5 - 11	10 - 0	14 - 0	19 - 0	23 - 8	5 - 7	9 - 5	13 - 2	17 - 10	22 - 7
	HF	No.2	5 - 11	10 - 1	14 - 1	19 - 1	23 - 10	5 - 7	9 - 5	13 - 2	17 - 10	22 - 7	5 - 3	8 - 11	12 - 5	16 - 9	21 - 6
	HF	No.3	5 - 2	8 - 4	11 - 4	15 - 0	18 - 7	4 - 8	7 - 6	10 - 3	13 - 5	16 - 6	4 - 4	6 - 10	9 - 3	12 - 1	14 - 10
	SP	SS	6 - 9	11 - 5	16 - 1	21 - 10	26-0†	6 - 4	10 - 9	15 - 1	20 - 7	25 - 2	6 - 0	10 - 2	14 - 2	19 - 3	24 - 0
	SP	No.1	6 - 5	10 - 11	15 - 4	20 - 11	25 - 7	6 - 1	10 - 3	14 - 4	19 - 6	24 - 3	5 - 9	9 - 8	13 - 6	18 - 4	23 - 1
	SP	No.2	6 - 1	10 - 4	14 - 6	19 - 9	23 - 10	5 - 9	9 - 9	13 - 7	17 - 6	22 - 0	5 - 5	9 - 0	12 - 4	15 - 8	20 - 0
	SP	No.3	4 - 9	7 - 9	10 - 5	13 - 6	17 - 2	4 - 4	7 - 0	9 - 4	12 - 1	15 - 4	3 - 11	6 - 4	8 - 6	11 - 0	13 - 9
	SPF	SS	6 - 3	10 - 8	14 - 11	20 - 4	25 - 0	5 - 11	10 - 0	14 - 0	19 - 0	23 - 8	5 - 7	9 - 5	13 - 2	17 - 10	22 - 7
	SPF	No.1	6 - 1	10 - 4	14 - 6	19 - 9	24 - 5	5 - 9	9 - 9	13 - 7	18 - 5	23 - 2	5 - 5	9 - 2	12 - 9	17 - 4	22 - 1
	SPF	No.2	6 - 1	10 - 4	14 - 6	19 - 9	24 - 5	5 - 9	9 - 9	13 - 7	18 - 5	23 - 2	5 - 5	9 - 2	12 - 9	17 - 4	22 - 1
	SPF	No.3	5 - 2	8 - 4	11 - 4	15 - 0	18 - 7	4 - 8	7 - 6	10 - 3	13 - 5	16 - 6	4 - 4	6 - 10	9 - 3	12 - 1	14 - 10
24	DFL	SS	6 - 4	10 - 8	15 - 0	20 - 6	25 - 1	5 - 11	10 - 1	14 - 0	19 - 1	23 - 10	5 - 7	9 - 6	13 - 2	17 - 11	22 - 8
	DFL	No.1	6 - 1	10 - 3	14 - 4	19 - 6	24 - 2	5 - 8	9 - 7	13 - 5	18 - 2	22 - 9	5 - 4	9 - 1	12 - 7	16 - 10	21 - 1
	DFL	No.2	5 - 11	10 - 0	14 - 0	19 - 0	23 - 5	5 - 7	9 - 5	13 - 1	17 - 4	21 - 7	5 - 3	8 - 8	11 - 10	15 - 7	19 - 5
	DFL	No.3	4 - 8	7 - 6	10 - 1	13 - 3	16 - 4	4 - 3	6 - 9	9 - 1	11 - 11	14 - 7	3 - 11	6 - 2	8 - 3	10 - 9	13 - 2
	HF	SS	5 - 11	10 - 0	14 - 0	19 - 0	23 - 9	5 - 7	9 - 5	13 - 1	17 - 9	22 - 6	5 - 3	8 - 10	12 - 4	16 - 8	21 - 5
	HF	No.1	5 - 9	9 - 9	13 - 7	18 - 6	23 - 3	5 - 5	9 - 2	12 - 9	17 - 3	22 - 0	5 - 1	8 - 8	12 - 0	16 - 2	20 - 8
	HF	No.2	5 - 5	9 - 3	12 - 10	17 - 4	22 - 2	5 - 2	8 - 8	12 - 0	16 - 3	20 - 10	4 - 10	8 - 2	11 - 4	15 - 0	18 - 7
	HF	No.3	4 - 6	7 - 3	9 - 10	12 - 10	15 - 9	4 - 1	6 - 7	8 - 10	11 - 6	14 - 1	3 - 9	6 - 0	8 - 0	10 - 5	12 - 9
	SP	SS	6 - 2	10 - 6	14 - 8	20 - 0	24 - 8	5 - 10	9 - 10	13 - 9	18 - 8	23 - 5	5 - 6	9 - 3	12 - 11	17 - 6	22 - 3
	SP	No.1	5 - 11	10 - 0	14 - 0	19 - 0	23 - 9	5 - 7	9 - 5	13 - 1	17 - 9	22 - 6	5 - 3	8 - 10	12 - 4	16 - 3	21 - 1
	SP	No.2	5 - 7	9 - 6	13 - 1	16 - 8	21 - 4	5 - 2	8 - 7	11 - 9	14 - 11	18 - 11	4 - 9	7 - 10	10 - 8	13 - 5	16 - 11
	SP	No.3	4 - 2	6 - 8	9 - 0	11 - 7	14 - 8	3 - 9	6 - 1	8 - 1	10 - 5	13 - 1	3 - 5	5 - 6	7 - 5	9 - 6	11 - 10
	SPF	SS	5 - 9	9 - 9	13 - 7	18 - 6	23 - 3	5 - 5	9 - 2	12 - 9	17 - 3	22 - 0	5 - 1	8 - 8	12 - 0	16 - 2	20 - 10
	SPF	No.1	5 - 7	9 - 6	13 - 3	17 - 11	22 - 8	5 - 3	8 - 11	12 - 5	16 - 9	21 - 3	5 - 0	8 - 5	11 - 7	15 - 3	19 - 0
	SPF	No.2	5 - 7	9 - 6	13 - 3	17 - 11	22 - 8	5 - 3	8 - 11	12 - 5	16 - 9	21 - 3	5 - 0	8 - 5	11 - 7	15 - 3	19 - 0
	SPF	No.3	4 - 6	7 - 3	9 - 10	12 - 10	15 - 9	4 - 1	6 - 7	8 - 10	11 - 6	14 - 1	3 - 9	6 - 0	8 - 0	10 - 5	12 - 9

¹ See Table 3.26M footnotes.

† Spans are limited to 26 feet in length.

Table 3.26M Rafter Deflection Limit = L/180**(Cont.)**Maximum Rafter Spans for Common Lumber Species Resisting Uplift
Loads due to Wind (12:12 Slope)**Exposure B**

Wind Speed 3-second gust (mph) (See Figure 1.1)			150					160					170				
Rafter Spacing (in.)	Species	Grade	2x4	2x6	2x8	2x10	2x12	2x4	2x6	2x8	2x10	2x12	2x4	2x6	2x8	2x10	2x12
Maximum Allowable Rafter Span (ft.-in.) ¹																	
12	DFL	SS	6 - 11	11 - 10	16 - 7	22 - 5	26-0†	6 - 7	11 - 3	15 - 9	21 - 6	26-0†	6 - 4	10 - 8	15 - 0	20 - 5	25 - 1
	DFL	No.1	6 - 8	11 - 4	15 - 10	21 - 7	26-0†	6 - 4	10 - 9	15 - 0	20 - 6	25 - 2	6 - 0	10 - 3	14 - 4	19 - 6	24 - 2
	DFL	No.2	6 - 6	11 - 0	15 - 6	21 - 2	25 - 9	6 - 2	10 - 6	14 - 8	20 - 0	24 - 8	5 - 11	10 - 0	13 - 11	19 - 0	23 - 4
	DFL	No.3	5 - 5	8 - 9	11 - 11	15 - 9	19 - 8	5 - 0	8 - 1	10 - 11	14 - 5	17 - 10	4 - 8	7 - 5	10 - 1	13 - 3	16 - 4
	HF	SS	6 - 6	11 - 0	15 - 6	21 - 2	25 - 9	6 - 2	10 - 6	14 - 8	20 - 0	24 - 8	5 - 11	10 - 0	13 - 11	19 - 0	23 - 8
	HF	No.1	6 - 4	10 - 9	15 - 1	20 - 7	25 - 2	6 - 0	10 - 3	14 - 3	19 - 5	24 - 2	5 - 9	9 - 9	13 - 7	18 - 5	23 - 2
	HF	No.2	6 - 0	10 - 2	14 - 2	19 - 4	24 - 0	5 - 8	9 - 8	13 - 5	18 - 3	23 - 0	5 - 5	9 - 2	12 - 10	17 - 4	22 - 1
	HF	No.3	5 - 3	8 - 6	11 - 7	15 - 3	18 - 11	4 - 10	7 - 10	10 - 7	13 - 11	17 - 2	4 - 6	7 - 3	9 - 9	12 - 9	15 - 9
	SP	SS	6 - 9	11 - 7	16 - 3	22 - 0	26-0†	6 - 6	11 - 0	15 - 5	21 - 1	25 - 8	6 - 2	10 - 6	14 - 8	20 - 0	24 - 8
	SP	No.1	6 - 6	11 - 0	15 - 6	21 - 2	25 - 9	6 - 2	10 - 6	14 - 8	20 - 0	24 - 8	5 - 11	10 - 0	13 - 11	19 - 0	23 - 8
	SP	No.2	6 - 2	10 - 5	14 - 8	20 - 0	24 - 5	5 - 10	9 - 11	13 - 10	18 - 4	22 - 11	5 - 7	9 - 6	13 - 1	16 - 9	21 - 7
	SP	No.3	4 - 10	7 - 10	10 - 7	13 - 9	17 - 3	4 - 6	7 - 3	9 - 8	12 - 7	15 - 9	4 - 2	6 - 8	9 - 0	11 - 7	14 - 5
	SPF	SS	6 - 4	10 - 9	15 - 1	20 - 7	25 - 2	6 - 0	10 - 3	14 - 3	19 - 5	24 - 2	5 - 9	9 - 9	13 - 7	18 - 5	23 - 2
	SPF	No.1	6 - 2	10 - 5	14 - 8	20 - 0	24 - 8	5 - 10	9 - 11	13 - 10	18 - 10	23 - 7	5 - 7	9 - 6	13 - 2	17 - 11	22 - 8
	SPF	No.2	6 - 2	10 - 5	14 - 8	20 - 0	24 - 8	5 - 10	9 - 11	13 - 10	18 - 10	23 - 7	5 - 7	9 - 6	13 - 2	17 - 11	22 - 8
	SPF	No.3	5 - 3	8 - 6	11 - 7	15 - 3	18 - 11	4 - 10	7 - 10	10 - 7	13 - 11	17 - 2	4 - 6	7 - 3	9 - 9	12 - 9	15 - 9
16	DFL	SS	6 - 2	10 - 6	14 - 9	20 - 1	24 - 9	5 - 11	10 - 0	14 - 0	19 - 0	23 - 9	5 - 8	9 - 6	13 - 4	18 - 1	22 - 10
	DFL	No.1	5 - 11	10 - 1	14 - 1	19 - 2	23 - 10	5 - 8	9 - 7	13 - 4	18 - 1	22 - 8	5 - 5	9 - 2	12 - 9	17 - 0	21 - 4
	DFL	No.2	5 - 10	9 - 10	13 - 9	18 - 8	22 - 11	5 - 6	9 - 4	13 - 0	17 - 3	21 - 6	5 - 3	8 - 9	11 - 11	15 - 9	19 - 8
	DFL	No.3	4 - 7	7 - 3	9 - 10	12 - 11	15 - 10	4 - 3	6 - 9	9 - 1	11 - 10	14 - 6	3 - 11	6 - 3	8 - 5	10 - 11	13 - 4
	HF	SS	5 - 10	9 - 10	13 - 9	18 - 8	23 - 5	5 - 6	9 - 4	13 - 0	17 - 8	22 - 5	5 - 3	8 - 11	12 - 5	16 - 9	21 - 6
	HF	No.1	5 - 8	9 - 7	13 - 4	18 - 2	22 - 11	5 - 5	9 - 1	12 - 8	17 - 2	21 - 11	5 - 2	8 - 8	12 - 1	16 - 4	20 - 11
	HF	No.2	5 - 4	9 - 1	12 - 7	17 - 1	21 - 10	5 - 1	8 - 7	12 - 0	16 - 2	20 - 8	4 - 11	8 - 3	11 - 5	15 - 2	18 - 10
	HF	No.3	4 - 5	7 - 1	9 - 7	12 - 6	15 - 4	4 - 1	6 - 6	8 - 9	11 - 5	14 - 0	3 - 10	6 - 0	8 - 1	10 - 6	12 - 10
	SP	SS	6 - 1	10 - 4	14 - 5	19 - 8	24 - 4	5 - 9	9 - 10	13 - 8	18 - 7	23 - 4	5 - 6	9 - 4	13 - 0	17 - 8	22 - 5
	SP	No.1	5 - 10	9 - 10	13 - 9	18 - 8	23 - 5	5 - 6	9 - 4	13 - 0	17 - 8	22 - 5	5 - 3	8 - 11	12 - 5	16 - 9	21 - 6
	SP	No.2	5 - 6	9 - 4	12 - 9	16 - 4	21 - 2	5 - 2	8 - 7	11 - 8	14 - 10	19 - 2	4 - 9	7 - 11	10 - 9	13 - 8	17 - 6
	SP	No.3	4 - 1	6 - 6	8 - 9	11 - 4	14 - 1	3 - 9	6 - 0	8 - 1	10 - 5	12 - 10	3 - 6	5 - 7	7 - 6	9 - 7	11 - 10
	SPF	SS	5 - 8	9 - 7	13 - 4	18 - 2	22 - 11	5 - 5	9 - 1	12 - 8	17 - 2	21 - 11	5 - 2	8 - 8	12 - 1	16 - 4	21 - 0
	SPF	No.1	5 - 6	9 - 4	13 - 0	17 - 7	22 - 5	5 - 3	8 - 10	12 - 4	16 - 8	21 - 2	5 - 0	8 - 6	11 - 9	15 - 6	19 - 3
	SPF	No.2	5 - 6	9 - 4	13 - 0	17 - 7	22 - 5	5 - 3	8 - 10	12 - 4	16 - 8	21 - 2	5 - 0	8 - 6	11 - 9	15 - 6	19 - 3
	SPF	No.3	4 - 5	7 - 1	9 - 7	12 - 6	15 - 4	4 - 1	6 - 6	8 - 9	11 - 5	14 - 0	3 - 10	6 - 0	8 - 1	10 - 6	12 - 10
19.2	DFL	SS	5 - 9	9 - 10	13 - 8	18 - 7	23 - 4	5 - 6	9 - 4	13 - 0	17 - 7	22 - 4	5 - 3	8 - 11	12 - 4	16 - 8	21 - 5
	DFL	No.1	5 - 7	9 - 5	13 - 1	17 - 9	22 - 1	5 - 3	8 - 11	12 - 4	16 - 4	20 - 4	5 - 1	8 - 4	11 - 4	14 - 11	18 - 7
	DFL	No.2	5 - 5	9 - 2	12 - 6	16 - 7	20 - 9	5 - 2	8 - 5	11 - 6	15 - 1	18 - 9	4 - 10	7 - 9	10 - 7	13 - 10	17 - 2
	DFL	No.3	4 - 1	6 - 6	8 - 9	11 - 5	13 - 11	3 - 9	6 - 0	8 - 1	10 - 5	12 - 9	3 - 6	5 - 7	7 - 6	9 - 8	11 - 9
	HF	SS	5 - 5	9 - 2	12 - 9	17 - 3	22 - 0	5 - 2	8 - 8	12 - 1	16 - 4	21 - 1	4 - 11	8 - 4	11 - 6	15 - 6	20 - 0
	HF	No.1	5 - 3	8 - 11	12 - 5	16 - 10	21 - 7	5 - 0	8 - 6	11 - 9	15 - 11	20 - 0	4 - 10	8 - 1	11 - 2	14 - 8	18 - 2
	HF	No.2	5 - 0	8 - 5	11 - 9	15 - 10	19 - 10	4 - 9	8 - 0	11 - 0	14 - 6	18 - 0	4 - 7	7 - 6	10 - 2	13 - 4	16 - 5
	HF	No.3	4 - 0	6 - 4	8 - 6	11 - 0	13 - 6	3 - 8	5 - 10	7 - 10	10 - 1	12 - 4	3 - 5	5 - 5	7 - 3	9 - 4	11 - 4
	SP	SS	5 - 8	9 - 7	13 - 4	18 - 2	22 - 11	5 - 5	9 - 1	12 - 8	17 - 2	21 - 11	5 - 2	8 - 8	12 - 1	16 - 4	21 - 0
	SP	No.1	5 - 5	9 - 2	12 - 9	17 - 3	22 - 0	5 - 2	8 - 8	12 - 1	16 - 4	21 - 0	4 - 11	8 - 4	11 - 6	14 - 11	19 - 1
	SP	No.2	5 - 0	8 - 3	11 - 3	14 - 4	18 - 5	4 - 7	7 - 7	10 - 4	13 - 1	16 - 8	4 - 3	7 - 1	9 - 7	12 - 1	15 - 4
	SP	No.3	3 - 8	5 - 10	7 - 9	10 - 0	12 - 5	3 - 4	5 - 5	7 - 2	9 - 3	11 - 4	3 - 2	5 - 0	6 - 8	8 - 6	10 - 6
	SPF	SS	5 - 3	8 - 11	12 - 5	16 - 10	21 - 7	5 - 0	8 - 6	11 - 9	15 - 11	20 - 5	4 - 10	8 - 1	11 - 3	15 - 1	19 - 5
	SPF	No.1	5 - 2	8 - 8	12 - 1	16 - 3	20 - 3	4 - 11	8 - 3	11 - 3	14 - 10	18 - 4	4 - 8	7 - 8	10 - 5	13 - 7	16 - 10
	SPF	No.2	5 - 2	8 - 8	12 - 1	16 - 3	20 - 3	4 - 11	8 - 3	11 - 3	14 - 10	18 - 4	4 - 8	7 - 8	10 - 5	13 - 7	16 - 10
	SPF	No.3	4 - 0	6 - 4	8 - 6	11 - 0	13 - 6	3 - 8	5 - 10	7 - 10	10 - 1	12 - 4	3 - 5	5 - 5	7 - 3	9 - 4	11 - 4
24	DFL	SS	5 - 4	9 - 0	12 - 6	16 - 11	21 - 8	5 - 1	8 - 6	11 - 10	16 - 0	20 - 7	4 - 10	8 - 2	11 - 3	15 - 2	19 - 6
	DFL	No.1	5 - 1	8 - 6	11 - 7	15 - 3	18 - 11	4 - 10	7 - 10	10 - 7	13 - 11	17 - 2	4 - 6	7 - 3	9 - 9	12 - 9	15 - 9
	DFL	No.2	4 - 11	7 - 11	10 - 9	14 - 2	17 - 6	4 - 7	7 - 4	9 - 11	12 - 11	15 - 11	4 - 3	6 - 9	9 - 2	11 - 11	14 - 7
	DFL	No.3	3 - 7	5 - 8	7 - 7	9 - 10	12 - 0	3 - 4	5 - 3	7 - 0	9 - 0	11 - 0	3 - 1	4 - 10	6 - 6	8 - 4	10 - 1
	HF	SS	5 - 0	8 - 5	11 - 8	15 - 9	20 - 2	4 - 9	8 - 0	11 - 1	14 - 11	19 - 1	4 - 6	7 - 7	10 - 6	14 - 2	18 - 1
	HF	No.1	4 - 10	8 - 2	11 - 4	15 - 0	18 - 7	4 - 8	7 - 8	10 - 5	13 - 8	16 - 10	4 - 5	7 - 1	9 - 7	12 - 7	15 - 5
	HF	No.2	4 - 7	7 - 8	10 - 4	13 - 7	16 - 9	4 - 5	7 - 0	9 - 6	12 - 5	15 - 3	4 - 1	6 - 6	8 - 10	11 - 5	14 - 0
	HF	No.3	3 - 6	5 - 6	7 - 4	9 - 6	11 - 7	3 - 3	5 - 1	6 - 9	8 - 9	10 - 7	3 - 0	4 - 9	6 - 4	8 - 1	9 - 10
	SP	SS	5 - 3	8 - 9	12 - 3	16 - 6	21 - 3	5 - 0	8 - 4	11 - 7	15 - 8	20 - 1	4 - 9	8 - 0	11 - 1	14 - 10	19 - 1
	SP	No.1	5 - 0	8 - 5	11 - 8	15 - 3	19 - 6	4 - 9	8 - 0	10 - 11	13 - 11	17 - 8	4 - 6	7 - 5	10 - 1	12 - 9	16 - 2
	SP	No.2	4 - 4	7 - 2	9 - 9	12 - 3	15 - 7	4 - 0	6 - 7	8 - 11	11 - 3	14 - 3	3 - 9	6 - 2	8 - 3	10 - 5	13 - 1
	SP	No.3	3 - 2	5 - 1	6 - 9	8 - 8	10 - 8	3 - 0	4 - 8	6 - 3	8 - 0	9 - 10	2 - 9	4 - 4	5 - 10	7 - 5	9 - 1
	SPF	SS	4 - 10	8 - 2	11 - 4	15 - 4	19 - 8	4 - 8	7 - 9	10 - 9	14 - 6	18 - 7	4 - 5	7 - 5	10 - 3	13 - 9	17 - 8
	SPF	No.1	4 - 9	7 - 9	10 - 7	13 - 10	17 - 2	4 - 6	7 - 2	9 - 8	12 - 8	15 - 7	4 - 2	6 - 8	9 - 0	11 - 8	14 - 4
	SPF	No.2	4 - 9	7 - 9	10 - 7	13 - 10	17 - 2	4 - 6	7 - 2	9 - 8	12 - 8	15 - 7	4 - 2	6 - 8	9 - 0	11 - 8	14 - 4
	SPF	No.3	3 - 6	5 - 6	7 - 4	9 - 6	11 - 7	3 - 3	5 - 1	6 - 9	8 - 9	10 - 7	3 - 0	4 - 9	6 - 4	8 - 1	9 - 10

¹ See Table 3.26M footnotes.

† Spans are limited to 26 feet in length.

Table 3.26M Rafter Deflection Limit = $L/180$ **(Cont.)**Maximum Rafter Spans for Common Lumber Species Resisting Uplift
Loads due to Wind (12:12 Slope)**Exposure B**

Wind Speed 3-second gust (mph) (See Figure 1.1)			180					195				
Rafter Spacing (in.)	Species	Grade	2x4	2x6	2x8	2x10	2x12	2x4	2x6	2x8	2x10	2x12
Maximum Allowable Rafter Span (ft.-in.) ¹												
12	DFL	SS	6 - 0	10 - 3	14 - 3	19 - 5	24 - 2	5 - 8	9 - 7	13 - 4	18 - 2	22 - 11
	DFL	No.1	5 - 9	9 - 9	13 - 8	18 - 6	23 - 3	5 - 5	9 - 2	12 - 9	17 - 2	21 - 5
	DFL	No.2	5 - 8	9 - 7	13 - 4	17 - 11	22 - 1	5 - 4	8 - 10	12 - 1	15 - 11	19 - 10
	DFL	No.3	4 - 4	6 - 11	9 - 4	12 - 3	15 - 0	3 - 11	6 - 3	8 - 5	11 - 0	13 - 5
	HF	SS	5 - 8	9 - 7	13 - 4	18 - 1	22 - 10	5 - 4	9 - 0	12 - 6	16 - 10	21 - 7
	HF	No.1	5 - 6	9 - 4	13 - 0	17 - 7	22 - 4	5 - 2	8 - 9	12 - 2	16 - 5	21 - 2
	HF	No.2	5 - 3	8 - 10	12 - 3	16 - 6	21 - 3	4 - 11	8 - 3	11 - 6	15 - 4	19 - 0
	HF	No.3	4 - 3	6 - 9	9 - 1	11 - 10	14 - 6	3 - 10	6 - 1	8 - 2	10 - 8	13 - 0
	SP	SS	5 - 11	10 - 0	14 - 0	19 - 0	23 - 9	5 - 7	9 - 5	13 - 1	17 - 9	22 - 6
	SP	No.1	5 - 8	9 - 7	13 - 4	18 - 1	22 - 10	5 - 4	9 - 0	12 - 6	16 - 10	21 - 7
	SP	No.2	5 - 4	8 - 10	12 - 1	15 - 5	19 - 11	4 - 10	8 - 0	10 - 10	13 - 9	17 - 8
	SP	No.3	3 - 10	6 - 3	8 - 4	10 - 9	13 - 4	3 - 6	5 - 8	7 - 6	9 - 8	11 - 11
	SPF	SS	5 - 6	9 - 4	13 - 0	17 - 7	22 - 4	5 - 2	8 - 9	12 - 2	16 - 5	21 - 2
	SPF	No.1	5 - 4	9 - 1	12 - 7	17 - 1	21 - 9	5 - 1	8 - 6	11 - 10	15 - 7	19 - 5
	SPF	No.2	5 - 4	9 - 1	12 - 7	17 - 1	21 - 9	5 - 1	8 - 6	11 - 10	15 - 7	19 - 5
	SPF	No.3	4 - 3	6 - 9	9 - 1	11 - 10	14 - 6	3 - 10	6 - 1	8 - 2	10 - 8	13 - 0
16	DFL	SS	5 - 5	9 - 1	12 - 8	17 - 2	21 - 11	5 - 1	8 - 7	11 - 11	16 - 1	20 - 8
	DFL	No.1	5 - 2	8 - 8	11 - 10	15 - 8	19 - 6	4 - 10	7 - 10	10 - 8	14 - 0	17 - 4
	DFL	No.2	5 - 1	8 - 2	11 - 1	14 - 7	18 - 0	4 - 7	7 - 4	9 - 11	13 - 0	16 - 0
	DFL	No.3	3 - 8	5 - 10	7 - 9	10 - 1	12 - 4	3 - 4	5 - 3	7 - 0	9 - 1	11 - 0
	HF	SS	5 - 1	8 - 6	11 - 10	16 - 0	20 - 7	4 - 9	8 - 0	11 - 1	15 - 0	19 - 2
	HF	No.1	4 - 11	8 - 4	11 - 6	15 - 5	19 - 2	4 - 8	7 - 9	10 - 6	13 - 9	17 - 0
	HF	No.2	4 - 8	7 - 10	10 - 8	14 - 0	17 - 3	4 - 5	7 - 1	9 - 7	12 - 6	15 - 5
	HF	No.3	3 - 7	5 - 8	7 - 7	9 - 9	11 - 11	3 - 3	5 - 1	6 - 10	8 - 10	10 - 8
	SP	SS	5 - 3	8 - 11	12 - 5	16 - 10	21 - 7	5 - 0	8 - 5	11 - 8	15 - 8	20 - 2
	SP	No.1	5 - 1	8 - 6	11 - 10	15 - 8	20 - 1	4 - 9	8 - 0	11 - 0	14 - 0	17 - 10
	SP	No.2	4 - 6	7 - 4	10 - 0	12 - 7	16 - 1	4 - 1	6 - 8	9 - 0	11 - 4	14 - 4
	SP	No.3	3 - 3	5 - 3	6 - 11	8 - 11	11 - 0	3 - 0	4 - 9	6 - 3	8 - 0	9 - 10
	SPF	SS	4 - 11	8 - 4	11 - 6	15 - 7	20 - 0	4 - 8	7 - 10	10 - 10	14 - 7	18 - 8
	SPF	No.1	4 - 10	8 - 0	10 - 10	14 - 3	17 - 8	4 - 6	7 - 3	9 - 9	12 - 9	15 - 9
	SPF	No.2	4 - 10	8 - 0	10 - 10	14 - 3	17 - 8	4 - 6	7 - 3	9 - 9	12 - 9	15 - 9
	SPF	No.3	3 - 7	5 - 8	7 - 7	9 - 9	11 - 11	3 - 3	5 - 1	6 - 10	8 - 10	10 - 8
19.2	DFL	SS	5 - 0	8 - 6	11 - 9	15 - 11	20 - 6	4 - 9	8 - 0	11 - 1	14 - 11	19 - 1
	DFL	No.1	4 - 10	7 - 9	10 - 6	13 - 9	17 - 0	4 - 5	7 - 0	9 - 6	12 - 4	15 - 2
	DFL	No.2	4 - 6	7 - 3	9 - 10	12 - 10	15 - 9	4 - 1	6 - 7	8 - 10	11 - 6	14 - 1
	DFL	No.3	3 - 3	5 - 2	6 - 11	9 - 0	10 - 11	3 - 0	4 - 8	6 - 3	8 - 1	9 - 9
	HF	SS	4 - 9	7 - 11	11 - 0	14 - 10	19 - 0	4 - 5	7 - 6	10 - 4	13 - 10	17 - 9
	HF	No.1	4 - 7	7 - 7	10 - 4	13 - 7	16 - 9	4 - 4	6 - 11	9 - 4	12 - 2	14 - 11
	HF	No.2	4 - 4	7 - 0	9 - 5	12 - 4	15 - 2	4 - 0	6 - 4	8 - 6	11 - 1	13 - 6
	HF	No.3	3 - 2	5 - 0	6 - 9	8 - 8	10 - 6	2 - 11	4 - 7	6 - 1	7 - 10	9 - 6
	SP	SS	4 - 11	8 - 4	11 - 6	15 - 7	20 - 0	4 - 8	7 - 10	10 - 10	14 - 7	18 - 8
	SP	No.1	4 - 9	7 - 11	10 - 10	13 - 9	17 - 6	4 - 5	7 - 2	9 - 9	12 - 4	15 - 7
	SP	No.2	4 - 0	6 - 7	8 - 10	11 - 2	14 - 1	3 - 8	5 - 11	8 - 0	10 - 0	12 - 8
	SP	No.3	2 - 11	4 - 8	6 - 2	7 - 11	9 - 9	2 - 8	4 - 3	5 - 7	7 - 2	8 - 9
	SPF	SS	4 - 7	7 - 9	10 - 9	14 - 5	18 - 6	4 - 4	7 - 3	10 - 1	13 - 6	17 - 3
	SPF	No.1	4 - 5	7 - 1	9 - 8	12 - 7	15 - 6	4 - 1	6 - 5	8 - 8	11 - 3	13 - 10
	SPF	No.2	4 - 5	7 - 1	9 - 8	12 - 7	15 - 6	4 - 1	6 - 5	8 - 8	11 - 3	13 - 10
	SPF	No.3	3 - 2	5 - 0	6 - 9	8 - 8	10 - 6	2 - 11	4 - 7	6 - 1	7 - 10	9 - 6
24	DFL	SS	4 - 8	7 - 9	10 - 9	14 - 6	18 - 7	4 - 4	7 - 4	10 - 1	13 - 7	17 - 4
	DFL	No.1	4 - 3	6 - 9	9 - 1	11 - 10	14 - 6	3 - 10	6 - 1	8 - 2	10 - 8	13 - 0
	DFL	No.2	4 - 0	6 - 4	8 - 6	11 - 0	13 - 6	3 - 7	5 - 8	7 - 8	9 - 11	12 - 1
	DFL	No.3	2 - 11	4 - 6	6 - 1	7 - 9	9 - 5	2 - 7	4 - 1	5 - 6	7 - 0	8 - 6
	HF	SS	4 - 4	7 - 3	10 - 1	13 - 6	17 - 3	4 - 1	6 - 10	9 - 5	12 - 8	16 - 2
	HF	No.1	4 - 2	6 - 7	8 - 11	11 - 8	14 - 3	3 - 9	6 - 0	8 - 1	10 - 5	12 - 9
	HF	No.2	3 - 10	6 - 1	8 - 2	10 - 7	13 - 0	3 - 6	5 - 6	7 - 5	9 - 7	11 - 7
	HF	No.3	2 - 10	4 - 5	5 - 10	7 - 6	9 - 1	2 - 7	4 - 0	5 - 4	6 - 10	8 - 3
	SP	SS	4 - 6	7 - 7	10 - 7	14 - 2	18 - 2	4 - 3	7 - 2	9 - 11	13 - 3	16 - 11
	SP	No.1	4 - 3	6 - 11	9 - 4	11 - 10	14 - 11	3 - 10	6 - 3	8 - 5	10 - 8	13 - 4
	SP	No.2	3 - 6	5 - 9	7 - 8	9 - 8	12 - 1	3 - 2	5 - 2	6 - 11	8 - 8	10 - 10
	SP	No.3	2 - 7	4 - 1	5 - 5	6 - 11	8 - 5	2 - 4	3 - 9	4 - 11	6 - 3	7 - 7
	SPF	SS	4 - 3	7 - 1	9 - 10	13 - 2	16 - 9	4 - 0	6 - 8	9 - 3	12 - 4	15 - 2
	SPF	No.1	3 - 11	6 - 2	8 - 4	10 - 10	13 - 3	3 - 6	5 - 7	7 - 6	9 - 9	11 - 10
	SPF	No.2	3 - 11	6 - 2	8 - 4	10 - 10	13 - 3	3 - 6	5 - 7	7 - 6	9 - 9	11 - 10
	SPF	No.3	2 - 10	4 - 5	5 - 10	7 - 6	9 - 1	2 - 7	4 - 0	5 - 4	6 - 10	8 - 3

¹ See Table 3.26M footnotes.

† Spans are limited to 26 feet in length.

Table 3.26M Rafter Deflection Limit = L/180**Exposure C**Maximum Rafter Spans for Common Lumber Species Resisting Uplift
Loads due to Wind (12:12 Slope)

Wind Speed 3-second gust (mph) (See Figure 1.1)			90					95					100				
Rafter Spacing (in.)	Species	Grade	2x4	2x6	2x8	2x10	2x12	2x4	2x6	2x8	2x10	2x12	2x4	2x6	2x8	2x10	2x12
Maximum Allowable Rafter Span (ft.-in.) ¹																	
12	DFL	SS	9 - 1	15 - 8	22 - 2	26-0†	26-0†	8 - 8	15 - 0	21 - 4	26-0†	26-0†	8 - 4	14 - 5	20 - 5	26-0†	26-0†
	DFL	No.1	8 - 8	15 - 0	21 - 4	26-0†	26-0†	8 - 4	14 - 4	20 - 5	26-0†	26-0†	8 - 0	13 - 9	19 - 6	25 - 4	26-0†
	DFL	No.2	8 - 6	14 - 7	20 - 10	26-0†	26-0†	8 - 2	14 - 0	19 - 10	25 - 9	26-0†	7 - 10	13 - 5	19 - 0	24 - 10	26-0†
	DFL	No.3	8 - 1	13 - 10	19 - 7	24 - 8	26-0†	7 - 9	12 - 11	18 - 1	23 - 4	26-0†	7 - 4	12 - 0	16 - 9	22 - 2	25 - 9
	HF	SS	8 - 6	14 - 7	20 - 10	26-0†	26-0†	8 - 2	14 - 0	19 - 10	25 - 9	26-0†	7 - 10	13 - 5	19 - 0	24 - 10	26-0†
	HF	No.1	8 - 3	14 - 3	20 - 3	26-0†	26-0†	7 - 11	13 - 7	19 - 4	25 - 2	26-0†	7 - 7	13 - 1	18 - 6	24 - 4	26-0†
	HF	No.2	7 - 10	13 - 5	19 - 0	24 - 11	26-0†	7 - 6	12 - 10	18 - 2	24 - 0	26-0†	7 - 3	12 - 4	17 - 4	23 - 2	26-0†
	HF	No.3	7 - 7	13 - 0	18 - 4	24 - 1	26-0†	7 - 3	12 - 5	17 - 5	22 - 9	26-0†	7 - 0	11 - 8	16 - 2	21 - 8	25 - 1
	SP	SS	8 - 11	15 - 4	21 - 9	26-0†	26-0†	8 - 6	14 - 8	20 - 11	26-0†	26-0†	8 - 2	14 - 1	20 - 0	25 - 10	26-0†
	SP	No.1	8 - 6	14 - 7	20 - 10	26-0†	26-0†	8 - 2	14 - 0	19 - 10	25 - 9	26-0†	7 - 10	13 - 5	19 - 0	24 - 10	26-0†
	SP	No.2	8 - 1	13 - 10	19 - 8	25 - 6	26-0†	7 - 9	13 - 3	18 - 9	24 - 7	26-0†	7 - 5	12 - 8	17 - 11	23 - 9	26-0†
	SP	No.3	7 - 5	12 - 4	17 - 1	22 - 4	26-0†	6 - 11	11 - 6	15 - 10	21 - 2	25 - 1	6 - 6	10 - 9	14 - 8	19 - 6	23 - 10
	SPF	SS	8 - 3	14 - 3	20 - 3	26-0†	26-0†	7 - 11	13 - 7	19 - 4	25 - 2	26-0†	7 - 7	13 - 1	18 - 6	24 - 4	26-0†
	SPF	No.1	8 - 1	13 - 10	19 - 8	25 - 6	26-0†	7 - 9	13 - 3	18 - 9	24 - 7	26-0†	7 - 5	12 - 8	17 - 11	23 - 9	26-0†
	SPF	No.2	8 - 1	13 - 10	19 - 8	25 - 6	26-0†	7 - 9	13 - 3	18 - 9	24 - 7	26-0†	7 - 5	12 - 8	17 - 11	23 - 9	26-0†
	SPF	No.3	7 - 7	13 - 0	18 - 4	24 - 1	26-0†	7 - 3	12 - 5	17 - 5	22 - 9	26-0†	7 - 0	11 - 8	16 - 2	21 - 8	25 - 1
16	DFL	SS	8 - 1	13 - 11	19 - 9	25 - 8	26-0†	7 - 9	13 - 4	18 - 10	24 - 9	26-0†	7 - 6	12 - 9	18 - 1	23 - 11	26-0†
	DFL	No.1	7 - 9	13 - 4	18 - 10	24 - 9	26-0†	7 - 5	12 - 9	18 - 0	23 - 10	26-0†	7 - 2	12 - 3	17 - 3	23 - 1	26-0†
	DFL	No.2	7 - 7	13 - 0	18 - 4	24 - 3	26-0†	7 - 3	12 - 5	17 - 6	23 - 5	26-0†	7 - 0	11 - 11	16 - 9	22 - 7	26-0†
	DFL	No.3	7 - 0	11 - 5	15 - 10	21 - 4	24 - 9	6 - 6	10 - 7	14 - 8	19 - 8	23 - 5	6 - 1	9 - 11	13 - 8	18 - 2	22 - 3
	HF	SS	7 - 7	13 - 0	18 - 4	24 - 3	26-0†	7 - 3	12 - 5	17 - 6	23 - 5	26-0†	7 - 0	11 - 11	16 - 9	22 - 7	26-0†
	HF	No.1	7 - 5	12 - 8	17 - 10	23 - 9	26-0†	7 - 1	12 - 1	17 - 1	22 - 11	26-0†	6 - 10	11 - 7	16 - 4	22 - 1	26-0†
	HF	No.2	7 - 0	11 - 11	16 - 10	22 - 7	26-0†	6 - 9	11 - 5	16 - 1	21 - 10	26-0†	6 - 5	11 - 0	15 - 5	21 - 0	25 - 8
	HF	No.3	6 - 9	11 - 1	15 - 3	20 - 7	24 - 2	6 - 4	10 - 3	14 - 2	18 - 11	22 - 11	5 - 11	9 - 7	13 - 2	17 - 7	21 - 9
	SP	SS	7 - 11	13 - 8	19 - 4	25 - 2	26-0†	7 - 7	13 - 1	18 - 5	24 - 4	26-0†	7 - 4	12 - 6	17 - 8	23 - 6	26-0†
	SP	No.1	7 - 7	13 - 0	18 - 4	24 - 3	26-0†	7 - 3	12 - 5	17 - 6	23 - 5	26-0†	7 - 0	11 - 11	16 - 9	22 - 7	26-0†
	SP	No.2	7 - 2	12 - 4	17 - 4	23 - 2	26-0†	6 - 11	11 - 9	16 - 7	22 - 4	26-0†	6 - 8	11 - 4	15 - 10	21 - 7	26-0†
	SP	No.3	6 - 2	10 - 2	13 - 11	18 - 5	22 - 11	5 - 9	9 - 6	12 - 11	17 - 0	21 - 8	5 - 5	8 - 10	12 - 0	15 - 9	20 - 3
	SPF	SS	7 - 5	12 - 8	17 - 10	23 - 9	26-0†	7 - 1	12 - 1	17 - 1	22 - 11	26-0†	6 - 10	11 - 7	16 - 4	22 - 1	26-0†
	SPF	No.1	7 - 2	12 - 4	17 - 4	23 - 2	26-0†	6 - 11	11 - 9	16 - 7	22 - 4	26-0†	6 - 8	11 - 4	15 - 10	21 - 7	26-0†
	SPF	No.2	7 - 2	12 - 4	17 - 4	23 - 2	26-0†	6 - 11	11 - 9	16 - 7	22 - 4	26-0†	6 - 8	11 - 4	15 - 10	21 - 7	26-0†
	SPF	No.3	6 - 9	11 - 1	15 - 3	20 - 7	24 - 2	6 - 4	10 - 3	14 - 2	18 - 11	22 - 11	5 - 11	9 - 7	13 - 2	17 - 7	21 - 9
19.2	DFL	SS	7 - 7	12 - 11	18 - 3	24 - 2	26-0†	7 - 3	12 - 5	17 - 5	23 - 4	26-0†	7 - 0	11 - 11	16 - 9	22 - 6	26-0†
	DFL	No.1	7 - 3	12 - 4	17 - 5	23 - 3	26-0†	6 - 11	11 - 10	16 - 8	22 - 5	26-0†	6 - 8	11 - 4	15 - 11	21 - 8	26-0†
	DFL	No.2	7 - 1	12 - 1	17 - 0	22 - 10	26-0†	6 - 9	11 - 7	16 - 3	22 - 0	26-0†	6 - 6	11 - 1	15 - 7	21 - 3	25 - 10
	DFL	No.3	6 - 3	10 - 1	13 - 11	18 - 7	22 - 7	5 - 10	9 - 5	12 - 11	17 - 2	21 - 5	5 - 6	8 - 10	12 - 0	15 - 11	19 - 10
	HF	SS	7 - 1	12 - 1	17 - 0	22 - 10	26-0†	6 - 9	11 - 7	16 - 3	22 - 0	26-0†	6 - 6	11 - 1	15 - 7	21 - 3	25 - 10
	HF	No.1	6 - 11	11 - 9	16 - 6	22 - 4	26-0†	6 - 7	11 - 3	15 - 10	21 - 6	26-0†	6 - 4	10 - 10	15 - 2	20 - 8	25 - 4
	HF	No.2	6 - 6	11 - 1	15 - 7	21 - 3	25 - 11	6 - 3	10 - 8	14 - 11	20 - 4	25 - 0	6 - 0	10 - 2	14 - 3	19 - 5	24 - 2
	HF	No.3	6 - 0	9 - 9	13 - 5	17 - 11	22 - 1	5 - 8	9 - 1	12 - 6	16 - 7	20 - 8	5 - 4	8 - 6	11 - 8	15 - 4	19 - 1
	SP	SS	7 - 5	12 - 8	17 - 10	23 - 9	26-0†	7 - 1	12 - 1	17 - 1	22 - 11	26-0†	6 - 10	11 - 7	16 - 4	22 - 1	26-0†
	SP	No.1	7 - 1	12 - 1	17 - 0	22 - 10	26-0†	6 - 9	11 - 7	16 - 3	22 - 0	26-0†	6 - 6	11 - 1	15 - 7	21 - 3	25 - 10
	SP	No.2	6 - 9	11 - 5	16 - 1	21 - 10	26-0†	6 - 5	10 - 11	15 - 4	21 - 0	25 - 7	6 - 2	10 - 6	14 - 8	20 - 1	24 - 4
	SP	No.3	5 - 6	9 - 0	12 - 3	16 - 1	20 - 9	5 - 2	8 - 5	11 - 5	14 - 11	19 - 1	4 - 10	7 - 11	10 - 8	13 - 10	17 - 8
	SPF	SS	6 - 11	11 - 9	16 - 6	22 - 4	26-0†	6 - 7	11 - 3	15 - 10	21 - 6	26-0†	6 - 4	10 - 10	15 - 2	20 - 8	25 - 4
	SPF	No.1	6 - 9	11 - 5	16 - 1	21 - 10	26-0†	6 - 5	10 - 11	15 - 4	21 - 0	25 - 7	6 - 2	10 - 6	14 - 8	20 - 1	24 - 9
	SPF	No.2	6 - 9	11 - 5	16 - 1	21 - 10	26-0†	6 - 5	10 - 11	15 - 4	21 - 0	25 - 7	6 - 2	10 - 6	14 - 8	20 - 1	24 - 9
	SPF	No.3	6 - 0	9 - 9	13 - 5	17 - 11	22 - 1	5 - 8	9 - 1	12 - 6	16 - 7	20 - 8	5 - 4	8 - 6	11 - 8	15 - 4	19 - 1
24	DFL	SS	6 - 11	11 - 10	16 - 7	22 - 5	26-0†	6 - 8	11 - 4	15 - 11	21 - 8	26-0†	6 - 5	10 - 10	15 - 3	20 - 10	25 - 5
	DFL	No.1	6 - 8	11 - 4	15 - 10	21 - 7	26-0†	6 - 4	10 - 10	15 - 2	20 - 9	25 - 4	6 - 2	10 - 5	14 - 6	19 - 10	24 - 6
	DFL	No.2	6 - 6	11 - 0	15 - 6	21 - 2	25 - 9	6 - 3	10 - 7	14 - 9	20 - 2	24 - 10	6 - 0	10 - 2	14 - 2	19 - 4	23 - 10
	DFL	No.3	5 - 5	8 - 9	11 - 11	15 - 9	19 - 8	5 - 1	8 - 2	11 - 1	14 - 7	18 - 1	4 - 9	7 - 8	10 - 4	13 - 7	16 - 9
	HF	SS	6 - 6	11 - 0	15 - 6	21 - 2	25 - 9	6 - 3	10 - 7	14 - 9	20 - 2	24 - 10	6 - 0	10 - 2	14 - 2	19 - 4	23 - 10
	HF	No.1	6 - 4	10 - 9	15 - 1	20 - 7	25 - 2	6 - 1	10 - 4	14 - 5	19 - 7	24 - 4	5 - 10	9 - 11	13 - 10	18 - 9	23 - 6
	HF	No.2	6 - 0	10 - 2	14 - 2	19 - 4	24 - 0	5 - 9	9 - 9	13 - 7	18 - 5	23 - 2	5 - 6	9 - 4	13 - 0	17 - 8	22 - 5
	HF	No.3	5 - 3	8 - 6	11 - 7	15 - 3	18 - 11	4 - 11	7 - 11	10 - 9	14 - 1	17 - 5	4 - 8	7 - 5	10 - 0	13 - 2	16 - 2
	SP	SS	6 - 9	11 - 7	16 - 3	22 - 0	26-0†	6 - 6	11 - 1	15 - 6	21 - 3	25 - 10	6 - 3	10 - 8	14 - 11	20 - 4	25 - 0
	SP	No.1	6 - 6	11 - 0	15 - 6	21 - 2	25 - 9	6 - 3	10 - 7	14 - 9	20 - 2	24 - 10	6 - 0	10 - 2	14 - 2	19 - 4	24 - 0
	SP	No.2	6 - 2	10 - 5	14 - 8	20 - 0	24 - 2	5 - 11	10 - 0	14 - 0	18 - 6	22 - 11	5 - 8	9 - 7	13 - 5	17 - 2	21 - 9
	SP	No.3	4 - 10	7 - 10	10 - 7	13 - 9	17 - 6	4 - 6	7 - 4	9 - 10	12 - 9	16 - 2	4 - 3	6 - 10	9 - 2	11 - 11	15 - 0
	SPF	SS	6 - 4	10 - 9	15 - 1	20 - 7	25 - 2	6 - 1	10 - 4	14 - 5	19 - 7	24 - 4	5 - 10	9 - 11	13 - 10	18 - 9	23 - 6
	SPF	No.1	6 - 2	10 - 5	14 - 8	20 - 0	24 - 8	5 - 11	10 - 0	14 - 0	19 - 0	23 - 9	5 - 8	9 - 7	13 - 5	18 - 3	23 - 0
	SPF	No.2	6 - 2	10 - 5	14 - 8	20 - 0	24 - 8	5 - 11	10 - 0	14 - 0	19 - 0	23 - 9	5 - 8	9 - 7	13 - 5	18 - 3	23 - 0
	SPF	No.3	5 - 3	8 - 6	11 - 7	15 - 3	18 - 11	4 - 11	7 - 11	10 - 9	14 - 1	17 - 5	4 - 8	7 - 5	10 - 0	13 - 2	16 - 2

¹ See Table 3.26M footnotes.

† Spans are limited to 26 feet in length.

Table 3.26M Rafter Deflection Limit = L/180**(Cont.)**Maximum Rafter Spans for Common Lumber Species Resisting Uplift
Loads due to Wind (12:12 Slope)**Exposure C**

Wind Speed 3-second gust (mph) (See Figure 1.1)			105					110					115				
Rafter Spacing (in.)	Species	Grade	2x4	2x6	2x8	2x10	2x12	2x4	2x6	2x8	2x10	2x12	2x4	2x6	2x8	2x10	2x12
Maximum Allowable Rafter Span (ft.-in.) ¹																	
12	DFL	SS	8 - 1	13 - 10	19 - 7	25 - 6	26-0†	7 - 9	13 - 4	18 - 10	24 - 9	26-0†	7 - 6	12 - 10	18 - 1	24 - 0	26-0†
	DFL	No.1	7 - 8	13 - 2	18 - 8	24 - 7	26-0†	7 - 5	12 - 9	17 - 11	23 - 10	26-0†	7 - 2	12 - 3	17 - 3	23 - 1	26-0†
	DFL	No.2	7 - 6	12 - 11	18 - 2	24 - 1	26-0†	7 - 3	12 - 5	17 - 6	23 - 4	26-0†	7 - 0	12 - 0	16 - 10	22 - 8	26-0†
	DFL	No.3	6 - 11	11 - 3	15 - 7	21 - 1	24 - 6	6 - 6	10 - 7	14 - 7	19 - 7	23 - 5	6 - 2	10 - 0	13 - 9	18 - 4	22 - 4
	HF	SS	7 - 6	12 - 11	18 - 2	24 - 1	26-0†	7 - 3	12 - 5	17 - 6	23 - 4	26-0†	7 - 0	12 - 0	16 - 10	22 - 8	26-0†
	HF	No.1	7 - 4	12 - 7	17 - 8	23 - 7	26-0†	7 - 1	12 - 1	17 - 0	22 - 10	26-0†	6 - 10	11 - 8	16 - 5	22 - 2	26-0†
	HF	No.2	6 - 11	11 - 10	16 - 8	22 - 6	26-0†	6 - 8	11 - 5	16 - 0	21 - 9	26-0†	6 - 6	11 - 0	15 - 5	21 - 1	25 - 9
	HF	No.3	6 - 8	10 - 11	15 - 1	20 - 3	23 - 11	6 - 4	10 - 3	14 - 1	18 - 10	22 - 10	6 - 0	9 - 8	13 - 3	17 - 8	21 - 10
	SP	SS	7 - 11	13 - 6	19 - 2	25 - 0	26-0†	7 - 7	13 - 0	18 - 5	24 - 3	26-0†	7 - 4	12 - 7	17 - 8	23 - 7	26-0†
	SP	No.1	7 - 6	12 - 11	18 - 2	24 - 1	26-0†	7 - 3	12 - 5	17 - 6	23 - 4	26-0†	7 - 0	12 - 0	16 - 10	22 - 8	26-0†
	SP	No.2	7 - 2	12 - 2	17 - 2	23 - 0	26-0†	6 - 11	11 - 9	16 - 6	22 - 4	26-0†	6 - 8	11 - 4	15 - 11	21 - 8	26-0†
	SP	No.3	6 - 1	10 - 1	13 - 9	18 - 1	22 - 8	5 - 9	9 - 5	12 - 10	16 - 11	21 - 8	5 - 6	8 - 11	12 - 1	15 - 10	20 - 5
	SPF	SS	7 - 4	12 - 7	17 - 8	23 - 7	26-0†	7 - 1	12 - 1	17 - 0	22 - 10	26-0†	6 - 10	11 - 8	16 - 5	22 - 2	26-0†
	SPF	No.1	7 - 2	12 - 2	17 - 2	23 - 0	26-0†	6 - 11	11 - 9	16 - 6	22 - 4	26-0†	6 - 8	11 - 4	15 - 11	21 - 8	26-0†
	SPF	No.2	7 - 2	12 - 2	17 - 2	23 - 0	26-0†	6 - 11	11 - 9	16 - 6	22 - 4	26-0†	6 - 8	11 - 4	15 - 11	21 - 8	26-0†
	SPF	No.3	6 - 8	10 - 11	15 - 1	20 - 3	23 - 11	6 - 4	10 - 3	14 - 1	18 - 10	22 - 10	6 - 0	9 - 8	13 - 3	17 - 8	21 - 10
16	DFL	SS	7 - 2	12 - 3	17 - 4	23 - 2	26-0†	6 - 11	11 - 10	16 - 8	22 - 5	26-0†	6 - 9	11 - 5	16 - 0	21 - 10	26-0†
	DFL	No.1	6 - 11	11 - 9	16 - 6	22 - 4	26-0†	6 - 8	11 - 4	15 - 11	21 - 8	26-0†	6 - 5	10 - 11	15 - 4	20 - 11	25 - 7
	DFL	No.2	6 - 9	11 - 6	16 - 1	21 - 10	26-0†	6 - 6	11 - 1	15 - 6	21 - 2	25 - 9	6 - 3	10 - 8	14 - 11	20 - 5	25 - 0
	DFL	No.3	5 - 9	9 - 4	12 - 9	16 - 11	21 - 2	5 - 5	8 - 9	12 - 0	15 - 10	19 - 9	5 - 2	8 - 3	11 - 3	14 - 10	18 - 5
	HF	SS	6 - 9	11 - 6	16 - 1	21 - 10	26-0†	6 - 6	11 - 1	15 - 6	21 - 2	25 - 9	6 - 3	10 - 8	14 - 11	20 - 5	25 - 0
	HF	No.1	6 - 7	11 - 2	15 - 8	21 - 5	26-0†	6 - 4	10 - 9	15 - 1	20 - 7	25 - 3	6 - 2	10 - 5	14 - 6	19 - 10	24 - 6
	HF	No.2	6 - 3	10 - 7	14 - 9	20 - 2	24 - 10	6 - 0	10 - 2	14 - 3	19 - 4	24 - 1	5 - 10	9 - 10	13 - 8	18 - 7	23 - 4
	HF	No.3	5 - 7	9 - 0	12 - 4	16 - 4	20 - 5	5 - 3	8 - 6	11 - 7	15 - 3	19 - 0	5 - 0	8 - 0	10 - 11	14 - 4	17 - 9
	SP	SS	7 - 1	12 - 0	16 - 11	22 - 9	26-0†	6 - 10	11 - 7	16 - 3	22 - 1	26-0†	6 - 7	11 - 2	15 - 8	21 - 5	26-0†
	SP	No.1	6 - 9	11 - 6	16 - 1	21 - 10	26-0†	6 - 6	11 - 1	15 - 6	21 - 2	25 - 9	6 - 3	10 - 8	14 - 11	20 - 5	25 - 0
	SP	No.2	6 - 5	10 - 10	15 - 3	20 - 10	25 - 4	6 - 2	10 - 6	14 - 8	20 - 0	24 - 2	6 - 0	10 - 1	14 - 2	18 - 10	23 - 2
	SP	No.3	5 - 1	8 - 4	11 - 3	14 - 8	18 - 10	4 - 10	7 - 10	10 - 7	13 - 9	17 - 7	4 - 7	7 - 5	10 - 0	13 - 0	16 - 5
	SPF	SS	6 - 7	11 - 2	15 - 8	21 - 5	26-0†	6 - 4	10 - 9	15 - 1	20 - 7	25 - 3	6 - 2	10 - 5	14 - 6	19 - 10	24 - 6
	SPF	No.1	6 - 5	10 - 10	15 - 3	20 - 10	25 - 5	6 - 2	10 - 6	14 - 8	20 - 0	24 - 8	6 - 0	10 - 1	14 - 2	19 - 3	23 - 11
	SPF	No.2	6 - 5	10 - 10	15 - 3	20 - 10	25 - 5	6 - 2	10 - 6	14 - 8	20 - 0	24 - 8	6 - 0	10 - 1	14 - 2	19 - 3	23 - 11
	SPF	No.3	5 - 7	9 - 0	12 - 4	16 - 4	20 - 5	5 - 3	8 - 6	11 - 7	15 - 3	19 - 0	5 - 0	8 - 0	10 - 11	14 - 4	17 - 9
19.2	DFL	SS	6 - 9	11 - 5	16 - 0	21 - 10	26-0†	6 - 6	11 - 0	15 - 5	21 - 1	25 - 8	6 - 3	10 - 7	14 - 10	20 - 3	24 - 11
	DFL	No.1	6 - 5	10 - 11	15 - 4	20 - 11	25 - 6	6 - 2	10 - 6	14 - 9	20 - 1	24 - 9	6 - 0	10 - 2	14 - 2	19 - 4	24 - 0
	DFL	No.2	6 - 3	10 - 8	14 - 11	20 - 5	25 - 0	6 - 1	10 - 3	14 - 4	19 - 7	24 - 2	5 - 10	9 - 11	13 - 10	18 - 10	23 - 2
	DFL	No.3	5 - 2	8 - 3	11 - 3	14 - 10	18 - 5	4 - 10	7 - 10	10 - 7	13 - 11	17 - 2	4 - 7	7 - 4	10 - 0	13 - 1	16 - 1
	HF	SS	6 - 3	10 - 8	14 - 11	20 - 5	25 - 0	6 - 1	10 - 3	14 - 4	19 - 7	24 - 3	5 - 10	9 - 11	13 - 10	18 - 10	23 - 7
	HF	No.1	6 - 2	10 - 5	14 - 6	19 - 10	24 - 6	5 - 11	10 - 0	14 - 0	19 - 0	23 - 9	5 - 9	9 - 8	13 - 6	18 - 4	23 - 1
	HF	No.2	5 - 10	9 - 10	13 - 8	18 - 7	23 - 4	5 - 7	9 - 6	13 - 2	17 - 11	22 - 8	5 - 5	9 - 2	12 - 9	17 - 3	22 - 0
	HF	No.3	5 - 0	8 - 0	10 - 11	14 - 4	17 - 9	4 - 9	7 - 7	10 - 3	13 - 5	16 - 7	4 - 6	7 - 2	9 - 8	12 - 8	15 - 7
	SP	SS	6 - 7	11 - 2	15 - 8	21 - 5	26-0†	6 - 4	10 - 9	15 - 1	20 - 7	25 - 3	6 - 2	10 - 5	14 - 6	19 - 10	24 - 6
	SP	No.1	6 - 3	10 - 8	14 - 11	20 - 5	25 - 0	6 - 1	10 - 3	14 - 4	19 - 7	24 - 3	5 - 10	9 - 11	13 - 10	18 - 10	23 - 7
	SP	No.2	6 - 0	10 - 1	14 - 2	18 - 10	23 - 2	5 - 9	9 - 9	13 - 7	17 - 7	22 - 1	5 - 7	9 - 5	12 - 11	16 - 5	21 - 1
	SP	No.3	4 - 7	7 - 5	10 - 0	12 - 11	16 - 5	4 - 4	7 - 0	9 - 5	12 - 2	15 - 4	4 - 1	6 - 7	8 - 10	11 - 5	14 - 5
	SPF	SS	6 - 2	10 - 5	14 - 6	19 - 10	24 - 6	5 - 11	10 - 0	14 - 0	19 - 0	23 - 9	5 - 9	9 - 8	13 - 6	18 - 4	23 - 1
	SPF	No.1	6 - 0	10 - 1	14 - 2	19 - 3	23 - 11	5 - 9	9 - 9	13 - 7	18 - 6	23 - 3	5 - 7	9 - 5	13 - 1	17 - 9	22 - 6
	SPF	No.2	6 - 0	10 - 1	14 - 2	19 - 3	23 - 11	5 - 9	9 - 9	13 - 7	18 - 6	23 - 3	5 - 7	9 - 5	13 - 1	17 - 9	22 - 6
	SPF	No.3	5 - 0	8 - 0	10 - 11	14 - 4	17 - 9	4 - 9	7 - 7	10 - 3	13 - 5	16 - 7	4 - 6	7 - 2	9 - 8	12 - 8	15 - 7
24	DFL	SS	6 - 2	10 - 5	14 - 7	19 - 11	24 - 7	5 - 11	10 - 1	14 - 1	19 - 2	23 - 10	5 - 9	9 - 9	13 - 7	18 - 5	23 - 2
	DFL	No.1	5 - 11	10 - 0	14 - 0	19 - 0	23 - 9	5 - 8	9 - 8	13 - 5	18 - 3	22 - 10	5 - 6	9 - 4	13 - 0	17 - 7	21 - 10
	DFL	No.2	5 - 9	9 - 9	13 - 7	18 - 6	22 - 8	5 - 7	9 - 5	13 - 1	17 - 5	21 - 8	5 - 5	9 - 0	12 - 4	16 - 4	20 - 5
	DFL	No.3	4 - 6	7 - 2	9 - 9	12 - 8	15 - 8	4 - 3	6 - 9	9 - 2	11 - 11	14 - 8	4 - 0	6 - 5	8 - 8	11 - 3	13 - 9
	HF	SS	5 - 9	9 - 9	13 - 7	18 - 6	23 - 3	5 - 7	9 - 5	13 - 1	17 - 9	22 - 6	5 - 5	9 - 1	12 - 8	17 - 1	21 - 10
	HF	No.1	5 - 8	9 - 6	13 - 3	18 - 0	22 - 9	5 - 5	9 - 2	12 - 9	17 - 3	22 - 1	5 - 3	8 - 10	12 - 4	16 - 8	21 - 5
	HF	No.2	5 - 4	9 - 0	12 - 6	16 - 11	21 - 8	5 - 2	8 - 8	12 - 1	16 - 3	20 - 11	5 - 0	8 - 4	11 - 7	15 - 8	19 - 6
	HF	No.3	4 - 4	7 - 0	9 - 5	12 - 3	15 - 1	4 - 2	6 - 7	8 - 10	11 - 6	14 - 2	3 - 11	6 - 3	8 - 5	10 - 10	13 - 3
	SP	SS	6 - 0	10 - 3	14 - 4	19 - 6	24 - 2	5 - 10	9 - 10	13 - 9	18 - 8	23 - 5	5 - 8	9 - 6	13 - 3	18 - 0	22 - 9
	SP	No.1	5 - 9	9 - 9	13 - 7	18 - 6	23 - 3	5 - 7	9 - 5	13 - 1	17 - 9	22 - 6	5 - 5	9 - 1	12 - 8	17 - 1	21 - 10
	SP	No.2	5 - 6	9 - 2	12 - 7	16 - 0	20 - 5	5 - 2	8 - 8	11 - 10	14 - 11	19 - 0	4 - 11	8 - 2	11 - 1	14 - 0	17 - 9
	SP	No.3	4 - 0	6 - 5	8 - 8	11 - 2	14 - 0	3 - 9	6 - 1	8 - 2	10 - 6	13 - 2	3 - 7	5 - 9	7 - 8	9 - 10	12 - 4
	SPF	SS	5 - 8	9 - 6	13 - 3	18 - 0	22 - 9	5 - 5	9 - 2	12 - 9	17 - 3	22 - 1	5 - 3	8 - 10	12 - 4	16 - 8	21 - 5
	SPF	No.1	5 - 6	9 - 3	12 - 11	17 - 6	22 - 3	5 - 3	8 - 11	12 - 5	16 - 10	21 - 4	5 - 1	8 - 7	12 - 0	16 - 0	20 - 0
	SPF	No.2	5 - 6	9 - 3	12 - 11	17 - 6	22 - 3	5 - 3	8 - 11	12 - 5	16 - 10	21 - 4	5 - 1	8 - 7	12 - 0	16 - 0	20 - 0
	SPF	No.3	4 - 4	7 - 0	9 - 5	12 - 3	15 - 1	4 - 2	6 - 7	8 - 10	11 - 6	14 - 2	3 - 11	6 - 3	8 - 5	10 - 10	13 - 3

¹ See Table 3.26M footnotes.

† Spans are limited to 26 feet in length.

Table 3.26M Rafter Deflection Limit = L/180**(Cont.)**Maximum Rafter Spans for Common Lumber Species Resisting Uplift
Loads due to Wind (12:12 Slope)**Exposure C**

Wind Speed 3-sec. Gust (mph) (See Figure 1.1)			120					130					140				
Rafter Spacing (in.)	Species	Grade	2x4	2x6	2x8	2x10	2x12	2x4	2x6	2x8	2x10	2x12	2x4	2x6	2x8	2x10	2x12
Maximum Allowable Rafter Span (ft.-in.) ¹																	
12	DFL	SS	7-3	12-5	17-6	23-4	26-0†	6-10	11-7	16-4	22-1	26-0†	6-5	10-11	15-4	21-0	25-7
	DFL	No.1	7-0	11-10	16-8	22-6	26-0†	6-6	11-1	15-7	21-4	25-11	6-2	10-6	14-8	20-0	24-8
	DFL	No.2	6-9	11-7	16-3	22-0	26-0†	6-5	10-10	15-2	20-9	25-5	6-0	10-3	14-3	19-6	24-1
	DFL	No.3	5-10	9-5	12-11	17-2	21-5	5-3	8-6	11-7	15-4	19-0	4-10	7-9	10-6	13-9	17-0
	HF	SS	6-9	11-7	16-3	22-0	26-0†	6-5	10-10	15-2	20-9	25-5	6-0	10-3	14-4	19-6	24-2
	HF	No.1	6-7	11-3	15-10	21-7	26-0†	6-3	10-7	14-10	20-2	24-10	5-11	10-0	13-11	18-11	23-8
	HF	No.2	6-3	10-8	14-11	20-4	25-0	5-11	10-0	13-11	19-0	23-8	5-7	9-5	13-1	17-10	22-7
	HF	No.3	5-8	9-2	12-6	16-7	20-9	5-2	8-3	11-3	14-9	18-4	4-8	7-6	10-2	13-4	16-5
	SP	SS	7-1	12-2	17-1	22-11	26-0†	6-8	11-4	16-0	21-9	26-0†	6-4	10-9	15-0	20-6	25-2
	SP	No.1	6-9	11-7	16-3	22-0	26-0†	6-5	10-10	15-2	20-9	25-5	6-0	10-3	14-4	19-6	24-2
	SP	No.2	6-5	11-0	15-4	21-0	25-7	6-1	10-3	14-5	19-6	23-8	5-9	9-8	13-6	17-5	22-0
	SP	No.3	5-2	8-5	11-5	14-11	19-1	4-8	7-8	10-3	13-4	17-0	4-4	6-11	9-4	12-1	15-3
	SPF	SS	6-7	11-3	15-10	21-7	26-0†	6-3	10-7	14-10	20-2	24-10	5-11	10-0	13-11	18-11	23-8
	SPF	No.1	6-5	11-0	15-4	21-0	25-7	6-1	10-3	14-5	19-7	24-3	5-9	9-8	13-6	18-4	23-1
	SPF	No.2	6-5	11-0	15-4	21-0	25-7	6-1	10-3	14-5	19-7	24-3	5-9	9-8	13-6	18-4	23-1
	SPF	No.3	5-8	9-2	12-6	16-7	20-9	5-2	8-3	11-3	14-9	18-4	4-8	7-6	10-2	13-4	16-5
16	DFL	SS	6-6	11-0	15-6	21-2	25-9	6-1	10-4	14-6	19-9	24-5	5-9	9-9	13-8	18-6	23-3
	DFL	No.1	6-3	10-7	14-9	20-2	24-10	5-10	9-11	13-10	18-10	23-6	5-6	9-4	13-0	17-8	22-0
	DFL	No.2	6-1	10-4	14-5	19-8	24-4	5-9	9-8	13-6	18-4	22-5	5-5	9-1	12-5	16-6	20-7
	DFL	No.3	4-11	7-10	10-8	14-0	17-3	4-5	7-1	9-7	12-6	15-5	4-1	6-5	8-9	11-4	13-10
	HF	SS	6-1	10-4	14-5	19-8	24-4	5-9	9-8	13-6	18-4	23-1	5-5	9-1	12-8	17-2	22-0
	HF	No.1	5-11	10-1	14-0	19-1	23-10	5-7	9-5	13-2	17-10	22-7	5-3	8-11	12-5	16-9	21-6
	HF	No.2	5-7	9-6	13-3	18-0	22-8	5-3	8-11	12-5	16-9	21-6	5-0	8-5	11-8	15-9	19-8
	HF	No.3	4-9	7-7	10-4	13-6	16-8	4-4	6-10	9-3	12-1	14-10	3-11	6-3	8-5	11-0	13-5
	SP	SS	6-4	10-10	15-2	20-8	25-4	6-0	10-2	14-2	19-3	24-0	5-8	9-7	13-4	18-1	22-10
	SP	No.1	6-1	10-4	14-5	19-8	24-4	5-9	9-8	13-6	18-4	23-1	5-5	9-1	12-8	17-2	22-0
	SP	No.2	5-9	9-9	13-8	17-8	22-2	5-5	9-0	12-5	15-9	20-1	5-0	8-3	11-2	14-2	17-11
	SP	No.3	4-4	7-0	9-5	12-3	15-5	4-0	6-4	8-6	11-0	13-10	3-7	5-10	7-9	9-11	12-6
	SPF	SS	5-11	10-1	14-0	19-1	23-10	5-7	9-5	13-2	17-10	22-7	5-3	8-11	12-5	16-9	21-6
	SPF	No.1	5-9	9-9	13-8	18-6	23-3	5-5	9-2	12-9	17-4	22-1	5-2	8-8	12-0	16-2	20-2
	SPF	No.2	5-9	9-9	13-8	18-6	23-3	5-5	9-2	12-9	17-4	22-1	5-2	8-8	12-0	16-2	20-2
	SPF	No.3	4-9	7-7	10-4	13-6	16-8	4-4	6-10	9-3	12-1	14-10	3-11	6-3	8-5	11-0	13-5
19.2	DFL	SS	6-1	10-3	14-4	19-7	24-3	5-8	9-8	13-5	18-3	23-0	5-5	9-1	12-8	17-1	21-11
	DFL	No.1	5-10	9-10	13-9	18-8	23-4	5-6	9-3	12-10	17-4	21-7	5-2	8-8	11-10	15-7	19-5
	DFL	No.2	5-8	9-7	13-4	18-1	22-2	5-4	8-11	12-2	16-1	20-1	5-0	8-1	11-0	14-6	17-11
	DFL	No.3	4-5	7-0	9-5	12-4	15-2	4-0	6-4	8-6	11-1	13-6	3-8	5-9	7-9	10-0	12-3
	HF	SS	5-8	9-7	13-4	18-2	22-11	5-4	9-0	12-6	17-0	21-8	5-1	8-6	11-10	15-11	20-6
	HF	No.1	5-6	9-4	13-0	17-8	22-5	5-2	8-9	12-2	16-6	21-3	4-11	8-3	11-6	15-4	19-0
	HF	No.2	5-3	8-10	12-3	16-7	21-4	4-11	8-4	11-6	15-5	19-2	4-8	7-10	10-7	13-11	17-2
	HF	No.3	4-3	6-9	9-2	11-11	14-8	3-10	6-2	8-3	10-9	13-1	3-6	5-7	7-6	9-9	11-10
	SP	SS	5-11	10-1	14-0	19-1	23-10	5-7	9-5	13-2	17-10	22-7	5-3	8-11	12-5	16-9	21-6
	SP	No.1	5-8	9-7	13-4	18-2	22-11	5-4	9-0	12-6	16-9	21-7	5-1	8-6	11-10	15-1	19-5
	SP	No.2	5-4	8-11	12-2	15-6	19-9	4-10	8-0	11-0	13-10	17-6	4-5	7-4	9-11	12-6	15-8
	SP	No.3	3-11	6-3	8-5	10-10	13-7	3-7	5-8	7-7	9-9	12-2	3-3	5-2	6-11	8-10	11-0
	SPF	SS	5-6	9-4	13-0	17-8	22-5	5-2	8-9	12-2	16-6	21-3	4-11	8-3	11-6	15-6	19-11
	SPF	No.1	5-5	9-1	12-8	17-2	21-10	5-1	8-7	11-10	15-9	19-8	4-10	7-11	10-10	14-2	17-7
	SPF	No.2	5-5	9-1	12-8	17-2	21-10	5-1	8-7	11-10	15-9	19-8	4-10	7-11	10-10	14-2	17-7
	SPF	No.3	4-3	6-9	9-2	11-11	14-8	3-10	6-2	8-3	10-9	13-1	3-6	5-7	7-6	9-9	11-10
24	DFL	SS	5-7	9-5	13-1	17-9	22-6	5-3	8-10	12-3	16-7	21-4	4-11	8-4	11-7	15-7	20-0
	DFL	No.1	5-4	9-0	12-6	16-7	20-9	5-0	8-3	11-3	14-9	18-4	4-8	7-6	10-2	13-4	16-5
	DFL	No.2	5-3	8-6	11-8	15-4	19-1	4-10	7-9	10-6	13-9	17-0	4-5	7-0	9-6	12-5	15-3
	DFL	No.3	3-10	6-1	8-2	10-7	13-0	3-6	5-6	7-5	9-7	11-8	3-2	5-0	6-9	8-8	10-6
	HF	SS	5-3	8-9	12-3	16-6	21-3	4-11	8-3	11-5	15-5	19-10	4-8	7-9	10-9	14-6	18-7
	HF	No.1	5-1	8-7	11-11	16-1	20-4	4-9	8-1	11-0	14-6	18-0	4-6	7-5	10-0	13-1	16-2
	HF	No.2	4-10	8-1	11-2	14-9	18-4	4-6	7-5	10-1	13-2	16-3	4-3	6-9	9-2	11-11	14-8
	HF	No.3	3-9	5-11	7-11	10-3	12-6	3-5	5-4	7-2	9-3	11-3	3-1	4-11	6-6	8-5	10-2
	SP	SS	5-5	9-2	12-10	17-4	22-1	5-2	8-8	12-0	16-3	20-11	4-10	8-2	11-4	15-3	19-7
	SP	No.1	5-3	8-9	12-3	16-0	20-9	4-11	8-3	11-5	14-4	18-4	4-8	7-8	10-5	12-11	16-5
	SP	No.2	4-8	7-9	10-6	13-3	16-8	4-3	7-0	9-5	11-10	14-10	3-11	6-4	8-7	10-9	13-5
	SP	No.3	3-5	5-6	7-3	9-4	11-8	3-1	5-0	6-7	8-5	10-6	2-10	4-6	6-0	7-8	9-6
	SPF	SS	5-1	8-7	11-11	16-1	20-8	4-9	8-1	11-2	15-0	19-3	4-6	7-7	10-6	14-2	18-1
	SPF	No.1	5-0	8-4	11-5	15-1	18-8	4-8	7-7	10-3	13-6	16-7	4-4	6-11	9-4	12-2	14-11
	SPF	No.2	5-0	8-4	11-5	15-1	18-8	4-8	7-7	10-3	13-6	16-7	4-4	6-11	9-4	12-2	14-11
	SPF	No.3	3-9	5-11	7-11	10-3	12-6	3-5	5-4	7-2	9-3	11-3	3-1	4-11	6-6	8-5	10-2

¹ See Table 3.26M footnotes.

† Spans are limited to 26 feet in length.

Table 3.26M Rafter Deflection Limit = L/180**(Cont.)**Maximum Rafter Spans for Common Lumber Species Resisting Uplift
Loads due to Wind (12:12 Slope)**Exposure C**

Wind Speed 3-second gust (mph) (See Figure 1.1)			150					160					170				
Rafter Spacing (in.)	Species	Grade	2x4	2x6	2x8	2x10	2x12	2x4	2x6	2x8	2x10	2x12	2x4	2x6	2x8	2x10	2x12
Maximum Allowable Rafter Span (ft.-in.) ¹																	
12	DFL	SS	6-1	10-4	14-6	19-9	24-5	5-10	9-10	13-9	18-8	23-5	5-7	9-5	13-1	17-9	22-6
	DFL	No.1	5-10	9-11	13-10	18-10	23-7	5-7	9-5	13-2	17-10	22-2	5-4	9-0	12-6	16-6	20-8
	DFL	No.2	5-9	9-8	13-6	18-4	22-5	5-5	9-2	12-7	16-9	20-11	5-2	8-6	11-7	15-4	19-1
	DFL	No.3	4-5	7-1	9-7	12-6	15-5	4-1	6-6	8-10	11-6	14-1	3-10	6-1	8-2	10-7	12-11
	HF	SS	5-9	9-8	13-6	18-4	23-1	5-5	9-2	12-10	17-4	22-1	5-2	8-9	12-2	16-6	21-3
	HF	No.1	5-7	9-5	13-2	17-10	22-7	5-4	9-0	12-6	16-11	21-8	5-1	8-7	11-11	16-1	20-3
	HF	No.2	5-3	8-11	12-5	16-9	21-6	5-0	8-6	11-9	15-11	20-0	4-10	8-1	11-2	14-9	18-3
	HF	No.3	4-4	6-11	9-4	12-1	14-11	4-0	6-4	8-7	11-1	13-7	3-9	5-11	7-11	10-3	12-6
	SP	SS	6-0	10-2	14-2	19-4	24-0	5-8	9-8	13-5	18-3	23-0	5-5	9-2	12-10	17-4	22-1
	SP	No.1	5-9	9-8	13-6	18-4	23-1	5-5	9-2	12-10	17-4	22-1	5-2	8-9	12-2	16-6	21-3
	SP	No.2	5-5	9-1	12-5	15-10	20-6	5-0	8-4	11-4	14-5	18-7	4-8	7-8	10-6	13-3	16-11
	SP	No.3	4-0	6-4	8-6	11-0	13-8	3-8	5-11	7-10	10-1	12-6	3-5	5-6	7-3	9-4	11-6
	SPF	SS	5-7	9-5	13-2	17-10	22-7	5-4	9-0	12-6	16-11	21-8	5-1	8-7	11-11	16-1	20-8
	SPF	No.1	5-5	9-2	12-9	17-4	22-1	5-2	8-9	12-2	16-5	20-6	4-11	8-4	11-5	15-0	18-8
	SPF	No.2	5-5	9-2	12-9	17-4	22-1	5-2	8-9	12-2	16-5	20-6	4-11	8-4	11-5	15-0	18-8
	SPF	No.3	4-4	6-11	9-4	12-1	14-11	4-0	6-4	8-7	11-1	13-7	3-9	5-11	7-11	10-3	12-6
16	DFL	SS	5-6	9-3	12-11	17-5	22-2	5-3	8-9	12-3	16-6	21-3	5-0	8-5	11-8	15-8	20-2
	DFL	No.1	5-3	8-10	12-2	16-1	20-1	5-0	8-2	11-2	14-8	18-2	4-9	7-7	10-3	13-6	16-8
	DFL	No.2	5-2	8-4	11-4	14-11	18-6	4-9	7-8	10-5	13-8	16-10	4-5	7-1	9-7	12-6	15-5
	DFL	No.3	3-9	5-11	8-0	10-4	12-7	3-6	5-6	7-4	9-6	11-7	3-3	5-1	6-10	8-9	10-8
	HF	SS	5-2	8-8	12-0	16-3	20-11	4-11	8-3	11-5	15-4	19-9	4-8	7-10	10-10	14-7	18-9
	HF	No.1	5-0	8-5	11-8	15-10	19-8	4-9	8-0	11-0	14-5	17-10	4-7	7-6	10-1	13-3	16-4
	HF	No.2	4-9	8-0	10-11	14-4	17-9	4-6	7-5	10-0	13-1	16-2	4-4	6-10	9-3	12-1	14-10
	HF	No.3	3-8	5-9	7-9	10-0	12-2	3-4	5-4	7-1	9-2	11-2	3-2	4-11	6-7	8-6	10-4
	SP	SS	5-4	9-1	12-7	17-1	21-10	5-1	8-7	12-0	16-2	20-9	4-11	8-2	11-5	15-4	19-9
	SP	No.1	5-2	8-8	12-0	16-1	20-8	4-11	8-3	11-5	14-8	18-9	4-8	7-9	10-7	13-6	17-1
	SP	No.2	4-7	7-6	10-3	12-11	16-6	4-3	6-11	9-5	11-10	15-0	3-11	6-5	8-8	10-11	13-10
	SP	No.3	3-4	5-4	7-1	9-1	11-3	3-1	4-11	6-7	8-5	10-4	2-10	4-7	6-1	7-9	9-6
	SPF	SS	5-0	8-5	11-8	15-10	20-4	4-9	8-0	11-1	15-0	19-2	4-7	7-8	10-7	14-3	18-3
	SPF	No.1	4-11	8-2	11-1	14-8	18-2	4-8	7-6	10-2	13-4	16-6	4-4	7-0	9-5	12-4	15-1
	SPF	No.2	4-11	8-2	11-1	14-8	18-2	4-8	7-6	10-2	13-4	16-6	4-4	7-0	9-5	12-4	15-1
	SPF	No.3	3-8	5-9	7-9	10-0	12-2	3-4	5-4	7-1	9-2	11-2	3-2	4-11	6-7	8-6	10-4
19.2	DFL	SS	5-1	8-7	12-0	16-2	20-10	4-10	8-2	11-4	15-4	19-8	4-8	7-10	10-10	14-7	18-8
	DFL	No.1	4-11	7-11	10-9	14-2	17-6	4-7	7-4	9-11	12-11	15-11	4-3	6-9	9-2	11-11	14-7
	DFL	No.2	4-8	7-5	10-0	13-2	16-2	4-3	6-10	9-3	12-0	14-9	4-0	6-4	8-6	11-1	13-7
	DFL	No.3	3-4	5-4	7-1	9-2	11-2	3-1	4-11	6-7	8-5	10-3	2-11	4-7	6-1	7-10	9-5
	HF	SS	4-9	8-1	11-2	15-0	19-3	4-7	7-8	10-7	14-3	18-3	4-4	7-4	10-1	13-7	17-4
	HF	No.1	4-8	7-10	10-7	13-11	17-2	4-5	7-2	9-9	12-8	15-8	4-2	6-8	9-0	11-8	14-4
	HF	No.2	4-5	7-2	9-8	12-8	15-6	4-2	6-7	8-11	11-7	14-2	3-10	6-1	8-3	10-8	13-0
	HF	No.3	3-3	5-2	6-11	8-11	10-9	3-0	4-9	6-4	8-2	9-11	2-10	4-5	5-11	7-7	9-2
	SP	SS	5-0	8-5	11-8	15-10	20-4	4-9	8-0	11-1	15-0	19-2	4-7	7-8	10-7	14-3	18-3
	SP	No.1	4-9	8-1	11-1	14-2	18-0	4-7	7-6	10-2	12-11	16-4	4-3	6-11	9-5	11-11	15-0
	SP	No.2	4-1	6-9	9-1	11-5	14-6	3-9	6-2	8-4	10-6	13-3	3-6	5-9	7-9	9-8	12-2
	SP	No.3	3-0	4-9	6-4	8-1	9-11	2-9	4-5	5-10	7-6	9-2	2-7	4-1	5-5	6-11	8-5
	SPF	SS	4-8	7-10	10-11	14-8	18-9	4-5	7-6	10-4	13-11	17-9	4-3	7-1	9-10	13-3	16-10
	SPF	No.1	4-7	7-3	9-10	12-11	15-10	4-3	6-9	9-1	11-10	14-6	3-11	6-3	8-5	10-11	13-4
	SPF	No.2	4-7	7-3	9-10	12-11	15-10	4-3	6-9	9-1	11-10	14-6	3-11	6-3	8-5	10-11	13-4
	SPF	No.3	3-3	5-2	6-11	8-11	10-9	3-0	4-9	6-4	8-2	9-11	2-10	4-5	5-11	7-7	9-2
24	DFL	SS	4-8	7-11	10-11	14-9	18-10	4-6	7-6	10-5	14-0	17-10	4-3	7-2	9-11	13-3	16-8
	DFL	No.1	4-4	6-11	9-4	12-1	14-11	4-0	6-4	8-7	11-1	13-7	3-9	5-11	7-11	10-3	12-6
	DFL	No.2	4-1	6-5	8-8	11-3	13-10	3-9	5-11	8-0	10-4	12-8	3-6	5-6	7-5	9-7	11-8
	DFL	No.3	2-11	4-8	6-2	7-11	9-7	2-9	4-3	5-8	7-4	8-10	2-6	4-0	5-4	6-9	8-2
	HF	SS	4-5	7-5	10-3	13-9	17-6	4-2	7-0	9-8	13-0	16-7	4-0	6-8	9-3	12-5	15-9
	HF	No.1	4-3	6-9	9-2	11-11	14-7	3-11	6-3	8-5	10-11	13-4	3-8	5-10	7-9	10-1	12-4
	HF	No.2	3-11	6-3	8-4	10-10	13-3	3-7	5-9	7-9	10-0	12-2	3-4	5-4	7-2	9-3	11-2
	HF	No.3	2-10	4-6	6-0	7-8	9-4	2-8	4-2	5-6	7-1	8-7	2-6	3-10	5-2	6-7	7-11
	SP	SS	4-7	7-9	10-8	14-5	18-5	4-5	7-4	10-2	13-8	17-5	4-2	7-0	9-8	13-0	16-7
	SP	No.1	4-4	7-1	9-7	12-1	15-3	4-0	6-6	8-9	11-1	14-0	3-9	6-0	8-1	10-3	12-10
	SP	No.2	3-7	5-10	7-10	9-10	12-5	3-4	5-5	7-3	9-1	11-4	3-1	5-0	6-9	8-5	10-6
	SP	No.3	2-7	4-2	5-6	7-0	8-7	2-5	3-10	5-1	6-6	7-11	2-3	3-7	4-9	6-0	7-4
	SPF	SS	4-4	7-2	10-0	13-4	17-1	4-1	6-10	9-6	12-8	15-11	3-11	6-6	9-0	11-11	14-7
	SPF	No.1	4-0	6-4	8-6	11-1	13-7	3-8	5-10	7-10	10-2	12-5	3-5	5-5	7-3	9-5	11-5
	SPF	No.2	4-0	6-4	8-6	11-1	13-7	3-8	5-10	7-10	10-2	12-5	3-5	5-5	7-3	9-5	11-5
	SPF	No.3	2-10	4-6	6-0	7-8	9-4	2-8	4-2	5-6	7-1	8-7	2-6	3-10	5-2	6-7	7-11

¹ See Table 3.26M footnotes.

† Spans are limited to 26 feet in length.

Table 3.26M Rafter Deflection Limit = L/180**(Cont.)**Maximum Rafter Spans for Common Lumber Species Resisting Uplift
Loads due to Wind (12:12 Slope)**Exposure C**

Wind Speed 3-second gust (mph) (See Figure 1.1)			180					195				
Rafter Spacing (in.)	Species	Grade	2x4	2x6	2x8	2x10	2x12	2x4	2x6	2x8	2x10	2x12
			Maximum Allowable Rafter Span (ft-in.) ¹									
12	DFL	SS	5 - 4	9 - 0	12 - 6	16 - 11	21 - 8	5 - 0	8 - 5	11 - 8	15 - 9	20 - 4
	DFL	No.1	5 - 1	8 - 6	11 - 7	15 - 3	18 - 11	4 - 9	7 - 8	10 - 5	13 - 7	16 - 10
	DFL	No.2	4 - 11	7 - 11	10 - 9	14 - 2	17 - 6	4 - 6	7 - 2	9 - 8	12 - 8	15 - 7
	DFL	No.3	3 - 7	5 - 8	7 - 7	9 - 10	12 - 0	3 - 3	5 - 2	6 - 10	8 - 10	10 - 9
	HF	SS	5 - 0	8 - 5	11 - 8	15 - 9	20 - 2	4 - 8	7 - 11	10 - 11	14 - 8	18 - 10
	HF	No.1	4 - 10	8 - 2	11 - 4	15 - 0	18 - 7	4 - 7	7 - 6	10 - 3	13 - 4	16 - 6
	HF	No.2	4 - 7	7 - 8	10 - 4	13 - 7	16 - 9	4 - 4	6 - 11	9 - 4	12 - 2	14 - 11
	HF	No.3	3 - 6	5 - 6	7 - 4	9 - 6	11 - 7	3 - 2	5 - 0	6 - 8	8 - 7	10 - 5
	SP	SS	5 - 3	8 - 9	12 - 3	16 - 6	21 - 3	4 - 11	8 - 3	11 - 5	15 - 5	19 - 10
	SP	No.1	5 - 0	8 - 5	11 - 8	15 - 3	19 - 6	4 - 8	7 - 10	10 - 8	13 - 7	17 - 3
	SP	No.2	4 - 4	7 - 2	9 - 9	12 - 3	15 - 7	4 - 0	6 - 6	8 - 9	11 - 0	13 - 11
	SP	No.3	3 - 2	5 - 1	6 - 9	8 - 8	10 - 8	2 - 11	4 - 7	6 - 2	7 - 10	9 - 7
	SPF	SS	4 - 10	8 - 2	11 - 4	15 - 4	19 - 8	4 - 7	7 - 8	10 - 8	14 - 4	18 - 4
	SPF	No.1	4 - 9	7 - 9	10 - 7	13 - 10	17 - 2	4 - 5	7 - 0	9 - 6	12 - 5	15 - 3
	SPF	No.2	4 - 9	7 - 9	10 - 7	13 - 10	17 - 2	4 - 5	7 - 0	9 - 6	12 - 5	15 - 3
	SPF	No.3	3 - 6	5 - 6	7 - 4	9 - 6	11 - 7	3 - 2	5 - 0	6 - 8	8 - 7	10 - 5
16	DFL	SS	4 - 9	8 - 0	11 - 1	15 - 0	19 - 2	4 - 6	7 - 6	10 - 5	14 - 0	17 - 11
	DFL	No.1	4 - 5	7 - 1	9 - 7	12 - 6	15 - 4	4 - 0	6 - 5	8 - 7	11 - 2	13 - 8
	DFL	No.2	4 - 2	6 - 7	8 - 11	11 - 7	14 - 3	3 - 9	6 - 0	8 - 1	10 - 5	12 - 9
	DFL	No.3	3 - 0	4 - 9	6 - 4	8 - 2	9 - 11	2 - 9	4 - 4	5 - 9	7 - 4	8 - 11
	HF	SS	4 - 6	7 - 6	10 - 5	13 - 11	17 - 10	4 - 2	7 - 1	9 - 9	13 - 1	16 - 8
	HF	No.1	4 - 4	6 - 11	9 - 5	12 - 3	15 - 1	4 - 0	6 - 3	8 - 6	11 - 0	13 - 5
	HF	No.2	4 - 0	6 - 5	8 - 7	11 - 2	13 - 8	3 - 8	5 - 9	7 - 9	10 - 1	12 - 3
	HF	No.3	2 - 11	4 - 7	6 - 2	7 - 11	9 - 7	2 - 8	4 - 2	5 - 7	7 - 2	8 - 8
	SP	SS	4 - 8	7 - 10	10 - 11	14 - 8	18 - 9	4 - 5	7 - 5	10 - 2	13 - 8	17 - 6
	SP	No.1	4 - 5	7 - 3	9 - 10	12 - 6	15 - 9	4 - 0	6 - 6	8 - 10	11 - 2	14 - 1
	SP	No.2	3 - 8	6 - 0	8 - 1	10 - 2	12 - 9	3 - 4	5 - 5	7 - 4	9 - 1	11 - 5
	SP	No.3	2 - 8	4 - 3	5 - 8	7 - 3	8 - 10	2 - 5	3 - 11	5 - 2	6 - 6	8 - 0
	SPF	SS	4 - 4	7 - 4	10 - 1	13 - 7	17 - 4	4 - 1	6 - 11	9 - 6	12 - 9	16 - 0
	SPF	No.1	4 - 1	6 - 6	8 - 9	11 - 5	13 - 11	3 - 8	5 - 11	7 - 11	10 - 3	12 - 6
	SPF	No.2	4 - 1	6 - 6	8 - 9	11 - 5	13 - 11	3 - 8	5 - 11	7 - 11	10 - 3	12 - 6
	SPF	No.3	2 - 11	4 - 7	6 - 2	7 - 11	9 - 7	2 - 8	4 - 2	5 - 7	7 - 2	8 - 8
19.2	DFL	SS	4 - 5	7 - 6	10 - 4	13 - 11	17 - 9	4 - 2	7 - 0	9 - 8	13 - 0	16 - 0
	DFL	No.1	4 - 0	6 - 4	8 - 6	11 - 0	13 - 6	3 - 7	5 - 8	7 - 8	9 - 11	12 - 1
	DFL	No.2	3 - 9	5 - 11	7 - 11	10 - 3	12 - 6	3 - 5	5 - 4	7 - 2	9 - 3	11 - 3
	DFL	No.3	2 - 8	4 - 3	5 - 8	7 - 3	8 - 9	2 - 6	3 - 10	5 - 2	6 - 7	7 - 11
	HF	SS	4 - 2	7 - 0	9 - 8	12 - 11	16 - 6	3 - 11	6 - 7	9 - 1	12 - 2	15 - 3
	HF	No.1	3 - 11	6 - 2	8 - 4	10 - 10	13 - 3	3 - 7	5 - 7	7 - 6	9 - 9	11 - 10
	HF	No.2	3 - 7	5 - 8	7 - 8	9 - 11	12 - 1	3 - 3	5 - 2	6 - 11	8 - 11	10 - 10
	HF	No.3	2 - 8	4 - 1	5 - 6	7 - 1	8 - 6	2 - 5	3 - 9	5 - 0	6 - 4	7 - 8
	SP	SS	4 - 4	7 - 4	10 - 1	13 - 7	17 - 4	4 - 1	6 - 11	9 - 6	12 - 9	16 - 3
	SP	No.1	4 - 0	6 - 5	8 - 9	11 - 0	13 - 10	3 - 7	5 - 10	7 - 10	9 - 11	12 - 5
	SP	No.2	3 - 4	5 - 4	7 - 2	9 - 0	11 - 3	3 - 0	4 - 10	6 - 6	8 - 1	10 - 2
	SP	No.3	2 - 5	3 - 10	5 - 1	6 - 5	7 - 10	2 - 2	3 - 6	4 - 7	5 - 10	7 - 1
	SPF	SS	4 - 1	6 - 10	9 - 5	12 - 7	15 - 9	3 - 10	6 - 5	8 - 10	11 - 6	14 - 1
	SPF	No.1	3 - 8	5 - 10	7 - 9	10 - 1	12 - 4	3 - 4	5 - 3	7 - 0	9 - 1	11 - 0
	SPF	No.2	3 - 8	5 - 10	7 - 9	10 - 1	12 - 4	3 - 4	5 - 3	7 - 0	9 - 1	11 - 0
	SPF	No.3	2 - 8	4 - 1	5 - 6	7 - 1	8 - 6	2 - 5	3 - 9	5 - 0	6 - 4	7 - 8
24	DFL	SS	4 - 1	6 - 10	9 - 6	12 - 6	15 - 4	3 - 10	6 - 5	8 - 7	11 - 2	13 - 8
	DFL	No.1	3 - 6	5 - 6	7 - 4	9 - 6	11 - 7	3 - 2	5 - 0	6 - 8	8 - 7	10 - 5
	DFL	No.2	3 - 3	5 - 2	6 - 11	8 - 11	10 - 9	3 - 0	4 - 8	6 - 3	8 - 0	9 - 8
	DFL	No.3	2 - 4	3 - 9	4 - 11	6 - 4	7 - 7	2 - 2	3 - 5	4 - 6	5 - 9	6 - 11
	HF	SS	3 - 10	6 - 5	8 - 10	11 - 10	14 - 7	3 - 7	6 - 0	8 - 3	10 - 8	13 - 1
	HF	No.1	3 - 5	5 - 5	7 - 3	9 - 4	11 - 5	3 - 1	4 - 11	6 - 7	8 - 5	10 - 3
	HF	No.2	3 - 2	5 - 0	6 - 8	8 - 7	10 - 5	2 - 10	4 - 6	6 - 0	7 - 9	9 - 4
	HF	No.3	2 - 4	3 - 7	4 - 10	6 - 2	7 - 5	2 - 1	3 - 3	4 - 4	5 - 7	6 - 8
	SP	SS	4 - 0	6 - 9	9 - 3	12 - 5	15 - 9	3 - 9	6 - 4	8 - 8	11 - 6	14 - 5
	SP	No.1	3 - 6	5 - 7	7 - 7	9 - 6	11 - 10	3 - 2	5 - 1	6 - 10	8 - 7	10 - 8
	SP	No.2	2 - 11	4 - 8	6 - 3	7 - 10	9 - 9	2 - 8	4 - 3	5 - 8	7 - 1	8 - 9
	SP	No.3	2 - 1	3 - 4	4 - 5	5 - 7	6 - 10	1 - 11	3 - 1	4 - 0	5 - 1	6 - 2
	SPF	SS	3 - 9	6 - 3	8 - 6	11 - 0	13 - 6	3 - 6	5 - 8	7 - 8	9 - 11	12 - 1
	SPF	No.1	3 - 2	5 - 1	6 - 9	8 - 9	10 - 7	2 - 11	4 - 7	6 - 2	7 - 11	9 - 6
	SPF	No.2	3 - 2	5 - 1	6 - 9	8 - 9	10 - 7	2 - 11	4 - 7	6 - 2	7 - 11	9 - 6
	SPF	No.3	2 - 4	3 - 7	4 - 10	6 - 2	7 - 5	2 - 1	3 - 3	4 - 4	5 - 7	6 - 8

¹ See Table 3.26M footnotes.

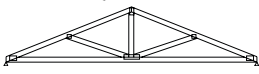
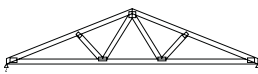
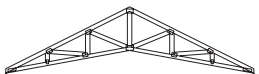
† Spans are limited to 26 feet in length.

Footnotes to Table 3.26M

- ¹ Tabulated rafter spans (horizontal projection) in Table 3.26M are based on a 12:12 roof pitch and L/180 deflection limit. For other roof pitches and deflection criteria, multiply tabulated values by the following adjustments.

Deflection Limit	Roof Pitch											
	1.5:12	2:12	3:12	4:12	5:12	6:12	7:12	8:12	9:12	10:12	11:12	12:12
L/180	1.14	1.13	1.11	1.09	1.06	1.03	1.22	1.18	1.13	1.09	1.04	1.00
L/240	1.11	1.10	1.08	1.06	1.03	1.00	1.09	1.05	1.01	0.97	0.93	0.89
L/360	0.97	0.96	0.95	0.93	0.90	0.87	0.92	0.88	0.85	0.81	0.78	0.75

Table 3.27 Representative Metal Plate Connected Wood Roof Truss Spans
 Actual Design Spans Shall Be Obtained from the Truss Manufacturer
 (Top Chord Live Load = 20 psf; Top Chord Dead Load = 10 psf; Bottom Chord Dead Load = 10 psf)

			Queen Post		Fink		Scissors	
								
			2x4	2x6	2x4	2x6	2x4	2x6
Representative Roof Truss Spans for 24" o.c. Spacing								
Roof Pitch	Species and Grade		(ft- in.)	(ft- in.)	(ft- in.)	(ft- in.)	(ft- in.)	(ft- in.)
3:12	Douglas Fir-Larch	SS	(22-4) 22-4	(29-0) 29-0	(30-5) 30-10	(36-0) 36-0	(24-8) 25-1	(36-0) 36-0
	Douglas Fir-Larch	#1	(19-0) 19-0	(27-0) 27-0	(27-10) 28-3	(36-0) 36-0	(21-9) 23-2	(29-3) 32-9
	Douglas Fir-Larch	#2	(17-3) 17-3	(26-0) 26-0	(25-7) 25-7	(36-0) 36-0	(19-3) 20-9	(26-0) 28-6
	Hem-Fir	SS	(20-8) 20-8	(26-8) 26-8	(29-1) 29-6	(36-0) 36-0	(23-4) 23-10	(35-0) 35-8
	Hem-Fir	#1	(18-1) 18-1	(25-5) 25-5	(26-10) 26-10	(36-0) 36-0	(19-10) 21-5	(27-4) 29-6
	Hem-Fir	#2	(16-6) 16-6	(23-8) 23-8	(24-5) 24-5	(35-2) 35-2	(16-10) 18-2	(23-6) 25-4
	Southern Pine	SS	(22-4) 22-4	(29-0) 29-0	(30-5) 30-10	(36-0) 36-0	(24-8) 25-1	(36-0) 36-0
	Southern Pine	#1	(20-8) 20-8	(27-5) 27-5	(28-11) 29-5	(36-0) 36-0	(23-0) 24-0	(31-7) 34-1
	Southern Pine	#2	(18-9) 18-9	(26-3) 26-3	(27-1) 27-10	(36-0) 36-0	(18-6) 19-11	(25-11) 27-11
	Spruce-Pine-Fir	SS	(19-9) 19-9	(25-10) 25-10	(28-2) 28-7	(36-0) 36-0	(22-1) 23-0	(30-10) 33-3
	Spruce-Pine-Fir	#1	(16-10) 16-10	(24-6) 24-6	(23-4) 24-10	(32-7) 34-8	(16-3) 17-6	(21-0) 23-9
	Spruce-Pine-Fir	#2	(16-10) 16-10	(24-6) 24-6	(23-4) 24-10	(32-7) 34-8	(14-11) 16-1	(20-6) 22-0
4:12	Douglas Fir-Larch	SS	(22-4) 22-4	(29-0) 29-0	(33-2) 33-2	(36-0) 36-0	(28-3) 28-9	(36-0) 36-0
	Douglas Fir-Larch	#1	(19-0) 19-0	(27-0) 27-0	(28-3) 28-3	(36-0) 36-0	(26-0) 26-7	(36-0) 36-0
	Douglas Fir-Larch	#2	(17-3) 17-3	(26-0) 26-0	(25-7) 25-7	(36-0) 36-0	(24-2) 25-5	(32-6) 35-9
	Hem-Fir	SS	(20-8) 20-8	(26-8) 26-8	(30-9) 30-9	(36-0) 36-0	(26-10) 27-4	(36-0) 36-0
	Hem-Fir	#1	(18-1) 18-1	(25-5) 25-5	(26-10) 26-10	(36-0) 36-0	(24-10) 25-5	(34-4) 36-0
	Hem-Fir	#2	(16-6) 16-6	(23-8) 23-8	(24-5) 24-5	(35-2) 35-2	(21-3) 22-11	(29-5) 31-9
	Southern Pine	SS	(22-4) 22-4	(29-0) 29-0	(33-2) 33-2	(36-0) 36-0	(28-3) 28-9	(36-0) 36-0
	Southern Pine	#1	(20-8) 20-8	(27-5) 27-5	(30-8) 30-8	(36-0) 36-0	(27-0) 27-6	(36-0) 36-0
	Southern Pine	#2	(18-9) 18-9	(26-3) 26-3	(27-10) 27-10	(36-0) 36-0	(23-4) 25-2	(32-6) 35-1
	Spruce-Pine-Fir	SS	(19-9) 19-9	(25-10) 25-10	(29-4) 29-4	(36-0) 36-0	(25-11) 26-5	(36-0) 36-0
	Spruce-Pine-Fir	#1	(16-10) 16-10	(24-6) 24-6	(25-0) 25-0	(36-0) 36-0	(18-10) 20-4	(25-7) 27-7
	Spruce-Pine-Fir	#2	(16-10) 16-10	(24-6) 24-6	(25-0) 25-0	(36-0) 36-0	(18-10) 20-4	(25-7) 27-7
5:12	Douglas Fir-Larch	SS	(22-4) 22-4	(29-0) 29-0	(33-2) 33-2	(36-0) 36-0	(31-1) 31-7	(36-0) 36-0
	Douglas Fir-Larch	#1	(19-0) 19-0	(27-0) 27-0	(28-3) 28-3	(36-0) 36-0	(28-8) 29-3	(36-0) 36-0
	Douglas Fir-Larch	#2	(17-3) 17-3	(26-0) 26-0	(25-7) 25-7	(36-0) 36-0	(27-5) 28-0	(36-0) 36-0
	Hem-Fir	SS	(20-8) 20-8	(26-8) 26-8	(30-9) 30-9	(36-0) 36-0	(29-7) 30-1	(36-0) 36-0
	Hem-Fir	#1	(18-1) 18-1	(25-5) 25-5	(26-10) 26-10	(36-0) 36-0	(27-6) 28-1	(36-0) 36-0
	Hem-Fir	#2	(16-6) 16-6	(23-8) 23-8	(24-5) 24-5	(35-2) 35-2	(25-3) 26-10	(35-1) 36-0
	Southern Pine	SS	(22-4) 22-4	(29-0) 29-0	(33-2) 33-2	(36-0) 36-0	(31-1) 31-7	(36-0) 36-0
	Southern Pine	#1	(20-8) 20-8	(27-5) 27-5	(30-8) 30-8	(36-0) 36-0	(29-9) 30-2	(36-0) 36-0
	Southern Pine	#2	(18-9) 18-9	(26-3) 26-3	(27-10) 27-10	(36-0) 36-0	(27-8) 28-10	(36-0) 36-0
	Spruce-Pine-Fir	SS	(19-9) 19-9	(25-10) 25-10	(29-4) 29-4	(36-0) 36-0	(28-7) 29-1	(36-0) 36-0
	Spruce-Pine-Fir	#1	(16-10) 16-10	(24-6) 24-6	(25-0) 25-0	(36-0) 36-0	(22-6) 24-3	(30-6) 33-0
	Spruce-Pine-Fir	#2	(16-10) 16-10	(24-6) 24-6	(25-0) 25-0	(36-0) 36-0	(22-6) 24-3	(30-6) 33-0

GENERAL NOTES

- ◆ This table provides examples for the parameters shown and is intended to be used for actual design purposes. Spans have been determined in accordance with the 2007 edition of the Truss Plate Institute's *National Design Standard for Metal Plate Connected Wood Truss Construction*, ANSI/TPI 1-07, and the 2009 *International Residential Code*® (IRC®). Truss spans based on different loads, lumber species and grades, truss depths and web configurations are possible. Roof spans greater than 36 feet are possible but are limited by the context of this manual. Contact a truss manufacturer for actual roof truss designs and solutions to each specific application.
- ◆ This table applies only to wood roof trusses that are shop-built and designed and manufactured in accordance with ANSI/TPI 1.
- ◆ The spans apply to roof trusses used in enclosed structures or where the moisture content in use does not exceed 19 percent for an extended period of time.
- ◆ Representative spans for the scissors trusses assume the bottom chord pitch is one half the top chord pitch.
- ◆ Spans in parentheses are for ground snow loads equal to 30 psf that have been reduced to a flat roof snow load of 23.1 psf per the provisions of ASCE 7-05 for a Category II building, with an Exposure factor, $C_e = 1.0$ and a Thermal Factor, $C_t = 1.1$. Unbalanced snow loads have also been considered. Spans not in parentheses are for uniform roof live loads equal to 20 psf. Unbalanced roof live loads have also been considered. These trusses have also been designed for a 10 psf bottom chord live load applied non-concurrently with any other live loads. Wind loads have not been considered.

Table 3.28 Hip and Valley Beam Sizes $L/\Delta_{LL} = 180$

		Roof Live Load		Ground Snow Load					
		20 psf		30 psf		50 psf		70 psf	
		Roof Dead Load							
Hip or Valley Beam		10 psf	20 psf	10 psf	20 psf	10 psf	20 psf	10 psf	20 psf
Horizontal Span Span (ft - in.)	Hip or Valley Area Valley Area (ft x ft)	Hip and Valley Beam Size ^{1,2}							
5-8	4'x 4'	1-2x6	1-2x6	1-2x6	1-2x6	1-2x6	1-2x6	1-2x6	1-2x6
8-6	6'x 6'	1-2x6	1-2x6	1-2x6	2-2x6	2-2x6	2-2x6	2-2x6	2-2x6
11-4	8'x 8'	2-2x6	2-2x8	2-2x6	2-2x8	2-2x8	2-2x10	2-2x10	2-2x10
14-2	10'x 10'	2-2x8	2-2x10	2-2x10	2-2x12	2-2x12	3-2x10	3-2x12	3-2x12
17-0	12'x 12'	2-2x12	3-2x10	3-2x10	3-2x12	3-2x12	4-2x12	4-2x12	-
19-10	14'x 14'	3-2x12	4-2x12	4-2x12	-	-	-	-	-
22-8	16'x 16'	4-2x12	-	-	-	-	-	-	-

¹ Tabulated sizes are based on the lowest F_b and E for #2 Grade Douglas Fir-Larch, Hem-Fir, Southern Pine, and Spruce-Pine-Fir.

² Tabulated sizes are checked for live load deflection only.

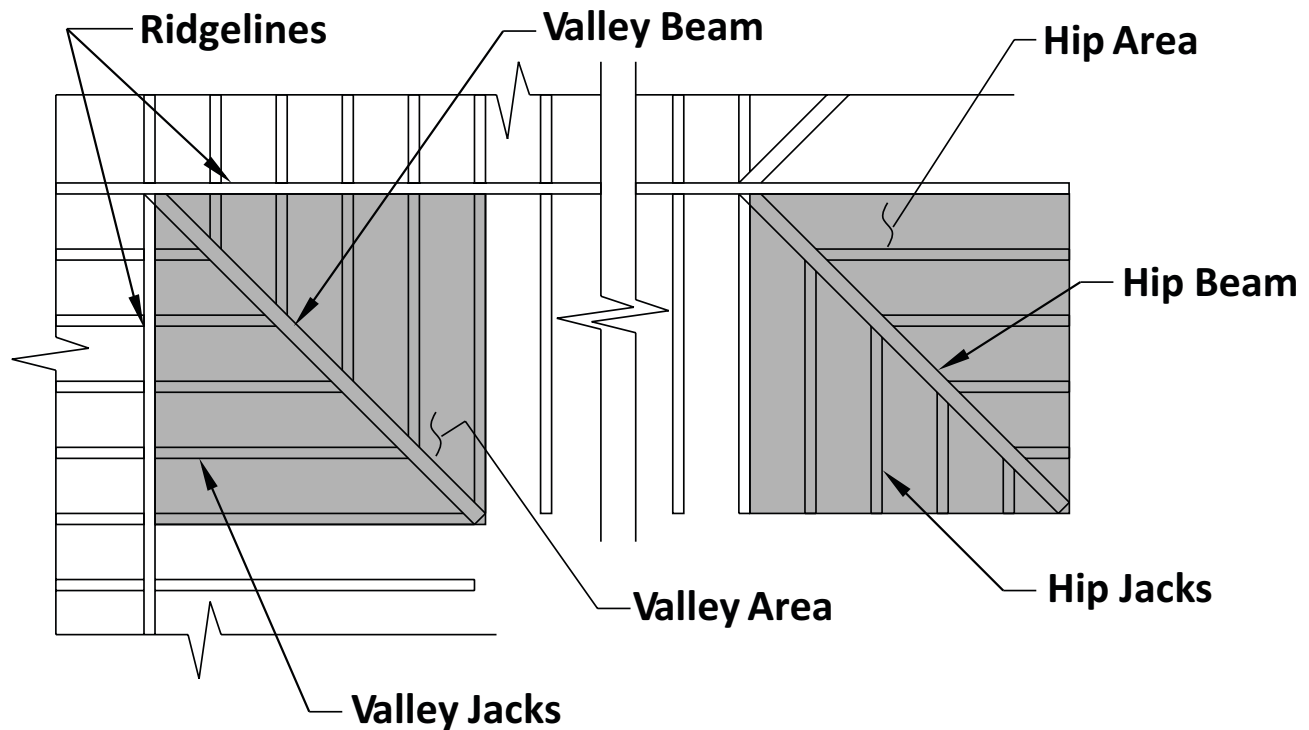
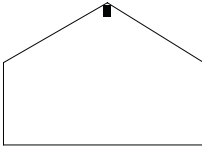


Table 3.29 Ridge Beam SpansDead Load Assumptions: Roof/Ceiling Assembly = 20 psf, $L/\Delta_{LL} = 240$

		Roof Live Load			Ground Snow Load									
		20 psf			30 psf			50 psf			70 psf			
		Building Width (ft)												
		12	24	36	12	24	36	12	24	36	12	24	36	
		Maximum Ridge Beam Spans (ft.-in.) for Common Lumber Species ^{1,3}												
Ridge Beam Supporting	Size	Maximum Ridge Beam Spans (ft.-in.) for Common Lumber Species ^{1,3}												
 Roof and Ceiling (attached to rafters)	1-2x6	5 - 1	3 - 7	3 - 0	4 - 9	3 - 4	2 - 9	4 - 1	2 - 10	2 - 4	3 - 7	2 - 7	2 - 1	
	1-2x8	6 - 6	4 - 7	3 - 9	6 - 0	4 - 3	3 - 6	5 - 2	3 - 8	3 - 0	4 - 7	3 - 3	2 - 8	
	1-2x10	7 - 9	5 - 5	4 - 5	7 - 1	5 - 0	4 - 1	6 - 1	4 - 4	3 - 6	5 - 5	3 - 10	3 - 2	
	1-2x12	9 - 1	6 - 5	5 - 3	8 - 5	5 - 11	4 - 10	7 - 2	5 - 1	4 - 2	6 - 5	4 - 6	3 - 8	
	2-2x4	5 - 1	3 - 7	2 - 11	4 - 8	3 - 4	2 - 8	4 - 0	2 - 10	2 - 4	3 - 7	2 - 6	2 - 1	
	2-2x6	7 - 7	5 - 4	4 - 5	7 - 0	5 - 0	4 - 1	6 - 0	4 - 3	3 - 6	5 - 4	3 - 10	3 - 1	
	2-2x8	9 - 8	6 - 10	5 - 7	8 - 11	6 - 4	5 - 2	7 - 8	5 - 5	4 - 5	6 - 10	4 - 10	3 - 11	
	2-2x10	11 - 5	8 - 1	6 - 7	10 - 7	7 - 6	6 - 1	9 - 1	6 - 5	5 - 3	8 - 1	5 - 8	4 - 8	
	2-2x12	13 - 6	9 - 6	7 - 9	12 - 5	8 - 10	7 - 2	10 - 8	7 - 7	6 - 2	9 - 6	6 - 9	5 - 6	
	3-2x8	12 - 1	8 - 6	7 - 0	11 - 2	7 - 11	6 - 5	9 - 7	6 - 9	5 - 6	8 - 6	6 - 0	4 - 11	
	3-2x10	14 - 4	10 - 1	8 - 3	13 - 3	9 - 4	7 - 8	11 - 4	8 - 0	6 - 7	10 - 1	7 - 2	5 - 10	
	3-2x12	16 - 10	11 - 11	9 - 9	15 - 7	11 - 0	9 - 0	13 - 4	9 - 5	7 - 9	11 - 11	8 - 5	6 - 10	
	4-2x8	13 - 11	9 - 10	8 - 1	12 - 10	9 - 1	7 - 5	11 - 1	7 - 10	6 - 5	9 - 10	7 - 0	5 - 8	
	4-2x10	16 - 6	11 - 8	9 - 7	15 - 3	10 - 10	8 - 10	13 - 1	9 - 3	7 - 7	11 - 8	8 - 3	6 - 9	
	4-2x12	19 - 6	13 - 9	11 - 3	18 - 0	12 - 9	10 - 5	15 - 5	10 - 11	8 - 11	13 - 9	9 - 9	7 - 11	
		Size	Maximum Ridge Beam Spans (ft.-in.) for Glued Laminated Timber Beams ^{2,3}											
		3.125x5.500	10 - 6	7 - 5	6 - 0	9 - 8	6 - 10	5 - 7	8 - 4	5 - 10	4 - 9	7 - 5	5 - 3	4 - 3
		3.125x6.875	13 - 1	9 - 3	7 - 7	12 - 1	8 - 7	7 - 0	10 - 4	7 - 4	6 - 0	9 - 3	6 - 6	5 - 4
		3.125x8.250	15 - 8	11 - 1	9 - 1	14 - 6	10 - 3	8 - 4	12 - 5	8 - 10	7 - 2	11 - 1	7 - 10	6 - 5
	3.125x9.625	18 - 4	12 - 11	10 - 7	16 - 11	12 - 0	9 - 9	14 - 6	10 - 3	8 - 5	12 - 11	9 - 2	7 - 5	
	3.125x11.000	20 - 11	14 - 10	12 - 1	19 - 4	13 - 8	11 - 2	16 - 7	11 - 9	9 - 7	14 - 9	10 - 5	8 - 6	
	3.125x12.375	23 - 6	16 - 8	13 - 7	21 - 9	15 - 5	12 - 7	18 - 8	13 - 2	10 - 9	16 - 7	11 - 9	9 - 7	
	3.125x13.750	26 - 2	18 - 6	15 - 1	24 - 2	17 - 1	14 - 0	20 - 9	14 - 8	12 - 0	18 - 5	13 - 1	10 - 8	
	3.125x15.125	28 - 8	20 - 4	16 - 7	26 - 7	18 - 10	15 - 4	22 - 10	16 - 2	13 - 2	20 - 4	14 - 4	11 - 9	
	3.125x16.500	31 - 1	22 - 2	18 - 1	28 - 10	20 - 6	16 - 9	24 - 11	17 - 7	14 - 4	22 - 2	15 - 8	12 - 9	
	3.125x17.875	33 - 5	24 - 0	19 - 8	31 - 0	22 - 3	18 - 2	26 - 9	19 - 1	15 - 7	23 - 11	17 - 0	13 - 10	
	3.125x19.250	35 - 8	25 - 8	21 - 2	33 - 1	23 - 10	19 - 6	28 - 7	20 - 6	16 - 9	25 - 7	18 - 3	14 - 11	
	3.125x20.625	38 - 0	27 - 4	22 - 6	35 - 3	25 - 4	20 - 11	30 - 6	21 - 11	18 - 0	27 - 3	19 - 7	16 - 0	
	3.125x22.000	40 - 3	29 - 0	23 - 10	37 - 4	26 - 10	22 - 2	32 - 4	23 - 3	19 - 2	28 - 11	20 - 9	17 - 1	
	3.125x23.375	42 - 7	30 - 7	25 - 3	39 - 6	28 - 4	23 - 5	34 - 1	24 - 6	20 - 3	30 - 6	21 - 11	18 - 1	
	3.125x24.750	44 - 10	32 - 2	26 - 7	41 - 7	29 - 10	24 - 8	35 - 11	25 - 10	21 - 4	32 - 2	23 - 1	19 - 1	
	5.125x5.500	12 - 7	9 - 6	7 - 9	12 - 0	8 - 9	7 - 2	10 - 1	7 - 6	6 - 2	9 - 0	6 - 8	5 - 5	
	5.125x6.875	15 - 8	11 - 10	9 - 8	14 - 11	10 - 11	8 - 11	12 - 7	9 - 5	7 - 8	11 - 3	8 - 4	6 - 10	
	5.125x8.250	18 - 10	14 - 2	11 - 7	17 - 11	13 - 2	10 - 9	15 - 2	11 - 3	9 - 2	13 - 6	10 - 0	8 - 2	
	5.125x9.625	22 - 0	16 - 7	13 - 6	20 - 11	15 - 4	12 - 6	17 - 8	13 - 2	10 - 9	15 - 9	11 - 8	9 - 7	
	5.125x11.000	25 - 1	18 - 11	15 - 6	23 - 11	17 - 6	14 - 4	20 - 2	15 - 0	12 - 3	18 - 0	13 - 4	10 - 11	
	5.125x12.375	28 - 3	21 - 3	17 - 5	26 - 11	19 - 8	16 - 1	22 - 8	16 - 11	13 - 10	20 - 3	15 - 0	12 - 3	
	5.125x13.750	31 - 4	23 - 5	19 - 3	29 - 11	21 - 8	17 - 10	25 - 3	18 - 9	15 - 4	22 - 6	16 - 9	13 - 8	
	5.125x15.125	34 - 6	25 - 6	21 - 0	32 - 11	23 - 8	19 - 6	27 - 9	20 - 5	16 - 10	24 - 9	18 - 4	15 - 0	
	5.125x16.500	37 - 8	27 - 7	22 - 9	35 - 7	25 - 7	21 - 1	30 - 3	22 - 1	18 - 3	27 - 1	19 - 10	16 - 4	
	5.125x17.875	40 - 9	29 - 8	24 - 5	38 - 3	27 - 6	22 - 8	32 - 9	23 - 9	19 - 7	29 - 4	21 - 3	17 - 7	
	5.125x19.250	43 - 11	31 - 9	26 - 2	40 - 11	29 - 5	24 - 3	35 - 4	25 - 5	21 - 0	31 - 7	22 - 9	18 - 9	
	5.125x20.625	47 - 0	33 - 9	27 - 10	43 - 7	31 - 4	25 - 10	37 - 8	27 - 1	22 - 4	33 - 8	24 - 3	20 - 0	
	5.125x22.000	49 - 9	35 - 9	29 - 6	46 - 2	33 - 2	27 - 4	39 - 11	28 - 8	23 - 8	35 - 9	25 - 8	21 - 2	
	5.125x23.375	52 - 7	37 - 10	31 - 2	48 - 9	35 - 1	28 - 11	42 - 2	30 - 4	25 - 0	37 - 9	27 - 2	22 - 4	
	5.125x24.750	55 - 5	39 - 10	32 - 10	51 - 4	36 - 11	30 - 5	44 - 5	31 - 11	26 - 4	39 - 9	28 - 7	23 - 7	

1 Tabulated spans are based on the lowest F_b , F_v , and E for #2 Grade Douglas Fir-Larch, Hem-Fir, Southern Pine, and Spruce-Pine-Fir. For #3 Grade lumber, spans shall be multiplied by 0.75.

2 Tabulated spans assume 20F combination glulam with a minimum $F_{bx}=2,000$ psi, $F_{vx}=210$ psi, and $E=1,500,000$ psi.

3 Spans checked for live load deflection only.

List of Appendix A Wind Load Tables for Uplift Strap and Ridge Strap Connections

A-3.4	Uplift Strap Connection Requirements (Roof-to-Wall, Wall-to-Wall, and Wall-to-Foundation) - Exposure B.....	332
A-3.4	Uplift Strap Connection Requirements (Roof-to-Wall, Wall-to-Wall, and Wall-to-Foundation) - Exposure C.....	333
A-3.6	Ridge Tension Strap Connection Requirements for Wind - Exposure B.....	334
A-3.6	Ridge Tension Strap Connection Requirements for Wind - Exposure C.....	335

Table A-3.4 Uplift Strap Connection Requirements (Roof-to-Wall, Wall-to-Wall, and Wall-to-Foundation)**Exposure B**

(Prescriptive Alternative to Table 3.4)

Dead Load Assumptions: Roof/Ceiling Assembly DL = 15 psf

Wind Speed 3-second gust (mph) (See Figure 1.1)		90	95	100	105	110	115	120	130	140	150	160	170	180	195
Framing Spacing (in.)	Roof Span (ft.)	Number of 8d Common Nails or 10d Box Nails in Each End of 1-1/4" x 20 gage Strap ^{1,2,3}													
12	12	1	1	1	1	1	1	1	1	1	2	2	2	3	3
	16	1	1	1	1	1	1	1	1	2	2	2	3	3	3
	20	1	1	1	1	1	1	1	2	2	2	3	3	3	4
	24	1	1	1	1	1	1	1	2	2	2	3	3	4	5
	28	1	1	1	1	1	1	1	2	2	3	3	4	4	5
	32	1	1	1	1	1	1	2	2	2	3	3	4	5	6
16	12	1	1	1	1	1	1	1	2	2	2	2	3	3	4
	16	1	1	1	1	1	1	1	2	2	2	3	3	4	4
	20	1	1	1	1	1	1	2	2	2	3	3	4	4	5
	24	1	1	1	1	1	1	2	2	3	3	4	4	5	6
	28	1	1	1	1	1	2	2	2	3	3	4	5	5	7
	32	1	1	1	1	1	2	2	3	3	4	4	5	6	7
19.2	12	1	1	1	1	1	1	1	2	2	2	3	3	4	4
	16	1	1	1	1	1	1	2	2	2	3	3	4	4	5
	20	1	1	1	1	1	2	2	2	3	3	4	4	5	6
	24	1	1	1	1	1	2	2	2	3	4	4	5	6	7
	28	1	1	1	1	2	2	2	3	3	4	5	6	6	-
	32	1	1	1	1	2	2	2	3	4	4	5	6	7	-
24	12	1	1	1	1	1	1	2	2	2	3	3	4	5	5
	16	1	1	1	1	1	2	2	2	3	3	4	5	5	6
	20	1	1	1	1	2	2	2	3	3	4	5	5	6	-
	24	1	1	1	1	2	2	2	3	4	4	5	6	7	-
	28	1	1	1	1	2	2	2	3	4	5	6	7	-	-
	32	1	1	1	2	2	2	3	4	4	5	6	-	-	-
24	12	1	1	1	1	1	1	2	2	2	3	3	4	5	5
	16	1	1	1	1	1	2	2	2	3	3	4	5	5	6
	20	1	1	1	1	2	2	2	3	3	4	5	5	6	-
	24	1	1	1	1	2	2	2	3	4	4	5	6	7	-
	28	1	1	1	1	2	2	2	3	4	5	6	7	-	-
	32	1	1	1	2	2	2	3	4	4	5	6	-	-	-
24	12	1	1	1	1	1	1	2	2	2	3	3	4	5	5
	16	1	1	1	1	1	2	2	2	3	3	4	5	5	6
	20	1	1	1	1	2	2	2	3	3	4	5	5	6	-
	24	1	1	1	1	2	2	2	3	4	4	5	6	7	-
	28	1	1	1	1	2	2	2	3	4	5	6	7	-	-
	32	1	1	1	2	2	2	3	4	4	5	6	-	-	-
24	12	1	1	1	1	1	1	2	2	2	3	3	4	5	5
	16	1	1	1	1	1	2	2	2	3	3	4	5	5	6
	20	1	1	1	1	2	2	2	3	3	4	5	5	6	-
	24	1	1	1	1	2	2	2	3	4	4	5	6	7	-
	28	1	1	1	1	2	2	2	3	4	5	6	7	-	-
	32	1	1	1	2	2	2	3	4	4	5	6	-	-	-

1 Prescriptive limits are based on assumptions in Table 3.4.

2 Tabulated uplift connection requirements assume a roof and ceiling assembly dead load of 9 psf (0.60 x 15 psf = 9 psf). If a ceiling assembly is not present or if the ceiling assembly is not connected to the roof assembly, the tabulated number of nails shall be increased by 1 nail at each end of the strap.

3 Minimum ASTM A653 Grade 33 steel strap.

4 For jack rafter uplift connections, use a roof span equal to twice the jack rafter length. The jack rafter length includes the overhang length and the jack span.

Table A-3.4 Uplift Strap Connection Requirements (Roof-to-Wall, Wall-to-Wall, and Wall-to-Foundation)**Exposure C**

(Prescriptive Alternative to Table 3.4)

Dead Load Assumptions: Roof/Ceiling Assembly DL = 15 psf

Wind Speed 3-second gust (mph) (See Figure 1.1)		90	95	100	105	110	115	120	130	140	150	160	170	180	195
Framing Spacing (in.)	Roof Span (ft.)	Number of 8d Common Nails or 10d Box Nails in Each End of 1-1/4" x 20 gage Strap ^{1,2,3}													
12	12	1	1	1	1	1	1	2	2	2	2	3	3	4	4
	16	1	1	1	1	1	2	2	2	2	3	3	4	4	5
	20	1	1	1	1	2	2	2	2	3	3	4	4	5	6
	24	1	1	1	2	2	2	2	3	3	4	4	5	5	6
	28	1	1	1	2	2	2	2	3	3	4	5	5	6	7
	32	1	1	2	2	2	2	3	3	4	4	5	6	7	-
16	36	1	1	2	2	2	2	3	3	4	5	6	6	7	-
	12	1	1	1	1	2	2	2	2	3	3	4	4	5	5
	16	1	1	1	2	2	2	2	3	3	4	4	5	5	6
	20	1	1	1	2	2	2	2	3	4	4	5	5	6	-
	24	1	1	2	2	2	2	3	3	4	5	5	6	7	-
	28	1	1	2	2	2	3	3	4	4	5	6	7	-	-
19.2	32	1	2	2	2	2	3	3	4	5	6	7	-	-	-
	36	1	2	2	2	3	3	3	4	5	6	7	-	-	-
	12	1	1	1	2	2	2	2	3	3	4	4	5	5	6
	16	1	1	2	2	2	2	2	3	4	4	5	6	6	-
	20	1	1	2	2	2	2	3	3	4	5	6	6	7	-
	24	1	2	2	2	2	3	3	4	5	5	6	7	-	-
24	28	1	2	2	2	3	3	3	4	5	6	7	-	-	-
	32	1	2	2	2	3	3	4	5	6	7	-	-	-	-
	36	1	2	2	3	3	4	4	5	6	7	-	-	-	-
	12	1	1	2	2	2	2	3	3	4	4	5	6	7	-
	16	1	1	2	2	2	3	3	4	4	5	6	7	-	-
	20	1	2	2	2	3	3	3	4	5	6	7	-	-	-
24	24	1	2	2	3	3	3	4	5	6	7	-	-	-	-
	28	2	2	2	3	3	4	4	5	6	-	-	-	-	-
	32	2	2	3	3	3	4	5	6	7	-	-	-	-	-
	36	2	2	3	3	4	4	5	6	-	-	-	-	-	-
	12	1	1	2	2	2	2	3	3	4	4	5	6	7	-
	16	1	1	2	2	2	3	3	4	4	5	6	7	-	-

3

PRESCRIPTIVE DESIGN

- 1 Prescriptive limits are based on assumptions in Table 3.4.
- 2 Tabulated uplift connection requirements assume a roof and ceiling assembly dead load of 9 psf ($0.60 \times 15 \text{ psf} = 9 \text{ psf}$). If a ceiling assembly is not present or if the ceiling assembly is not connected to the roof assembly, the tabulated number of nails shall be increased by 1 nail at each end of the strap.
- 3 Minimum ASTM A653 Grade 33 steel strap.
- 4 For jack rafter uplift connections, use a roof span equal to twice the jack rafter length. The jack rafter length includes the overhang length and the jack span.

Table A-3.6 Ridge Tension Strap Connection Requirements for Exposure B

(Prescriptive Alternative to Table 3.6)

Dead Load Assumptions: Roof Assembly DL = 10 psf

Wind Speed 3-second gust (mph) (See Figure 1.1)		90	95	100	105	110	115	120	130	140	150	160	170	180	195
Roof Pitch	Roof Span (ft)	Number of 8d Common Nails or 10d Box Nails in each end of 1-1/4" Strap ^{1,2,3,4,5,6,7}													
3:12	12	1	1	1	1	1	1	1	2	2	2	2	3	3	4
	16	1	1	1	1	1	1	2	2	2	3	3	4	4	5
	20	1	1	1	1	2	2	2	2	3	3	4	4	5	6
	24	1	1	1	2	2	2	2	3	3	4	4	5	6	7
	28	1	1	1	2	2	2	2	3	4	4	5	6	7	-
	32	1	1	2	2	2	2	3	3	4	5	6	7	-	-
4:12	12	1	1	1	1	1	1	1	1	2	2	2	2	3	3
	16	1	1	1	1	1	1	1	2	2	2	3	3	3	4
	20	1	1	1	1	1	2	2	2	2	3	3	4	4	5
	24	1	1	1	1	2	2	2	2	3	3	4	4	5	6
	28	1	1	1	2	2	2	2	3	3	4	4	5	6	7
	32	1	1	1	2	2	2	2	3	4	4	5	6	6	-
5:12	12	1	1	1	1	1	1	1	1	1	2	2	2	2	3
	16	1	1	1	1	1	1	1	1	2	2	2	2	3	3
	20	1	1	1	1	1	1	1	2	2	2	3	3	3	4
	24	1	1	1	1	1	1	2	2	2	3	3	3	4	5
	28	1	1	1	1	1	2	2	2	3	3	3	4	4	5
	32	1	1	1	1	2	2	2	2	3	3	4	4	5	6
6:12	12	1	1	1	1	1	1	1	1	1	1	2	2	2	2
	16	1	1	1	1	1	1	1	1	2	2	2	2	3	3
	20	1	1	1	1	1	1	1	2	2	2	2	3	3	4
	24	1	1	1	1	1	1	2	2	2	2	3	3	4	4
	28	1	1	1	1	1	2	2	2	2	3	3	4	4	5
	32	1	1	1	1	2	2	2	2	3	3	4	4	5	5
7:12-12:12	12	1	1	1	1	1	1	1	1	1	1	2	2	2	2
	16	1	1	1	1	1	1	1	1	2	2	2	2	2	3
	20	1	1	1	1	1	1	1	2	2	2	2	3	3	3
	24	1	1	1	1	1	1	2	2	2	2	3	3	3	4
	28	1	1	1	1	1	2	2	2	2	3	3	3	4	4
	32	1	1	1	1	2	2	2	2	3	3	3	4	4	5
	36	1	1	1	2	2	2	2	2	3	3	4	4	5	6

¹ Tabulated connection requirements shall be permitted to be multiplied by 0.70 for framing not located within 8 feet of building corners.

² Tabulated connection requirements are based on total uplift minus the roof assembly dead load of 6 psf (0.6 x 10 psf = 6 psf).

³ Tabulated connection requirements are based on a 12 inch ridge strap spacing, for different ridge strap spacing, multiply the tabulated values by the appropriate multiplier below:

Ridge Strap Spacing (in.)	12	16	19.2	24	48
Multiplier	1.00	1.33	1.60	2.00	4.00

When the tabulated connection requirements are adjusted for the ridge strap spacing and the number of required nails exceeds 7, Table A-3.6 does not apply. Use loads from Table 3.6.

⁴ When the tabulated number of nails required in each end of the strap is equal to 1 and the framing is attached in accordance with Table 3.1, the ridge strap and additional nailing is not required.

⁵ When a collar tie is used in lieu of a ridge strap, the number of 10d common nails required in each end of the collar tie need not exceed the tabulated number of 8d common nails in a steel strap, or the number of 12d box nails in each end of the collar tie need not exceed the tabulated number of 10d box nails in a steel strap.

⁶ 1-1/4" 20 gage ridge strap shall be of ASTM A653 grade 33 steel or equivalent.

⁷ For jack rafter uplift connections, use a roof span equal to twice the jack rafter length. The jack rafter length includes the overhang length and the jack span.

Table A-3.6 Ridge Tension Strap Connection Requirements for Exposure C

(Prescriptive Alternative to Table 3.6)

Dead Load Assumptions: Roof Assembly DL = 10 psf

Wind Speed 3-second gust (mph) (See Figure 1.1)		90	95	100	105	110	115	120	130	140	150	160	170	180	195
Roof Pitch	Roof Span (ft)	Number of 8d Common Nails or 10d Box Nails in each end of 1-1/4" Strap ^{1,2,3,4,5,6,7}													
3:12	12	1	1	1	1	2	2	2	2	3	3	3	4	4	5
	16	1	1	2	2	2	2	2	3	3	4	4	5	6	7
	20	1	2	2	2	2	3	3	3	4	5	5	6	7	-
	24	2	2	2	2	3	3	3	4	5	6	6	7	-	-
	28	2	2	2	3	3	3	4	5	5	6	-	-	-	-
	32	2	2	3	3	3	4	4	5	6	7	-	-	-	-
4:12	36	2	3	3	3	4	4	5	6	7	-	-	-	-	-
	12	1	1	1	1	1	2	2	2	2	3	3	3	4	4
	16	1	1	1	2	2	2	2	2	3	3	4	4	5	6
	20	1	1	2	2	2	2	2	3	3	4	5	5	6	7
	24	1	2	2	2	2	3	3	3	4	5	5	6	7	-
	28	2	2	2	2	3	3	3	4	5	5	6	7	-	-
5:12	32	2	2	2	3	3	3	4	4	5	6	7	-	-	-
	36	2	2	3	3	3	4	4	5	6	7	-	-	-	-
	12	1	1	1	1	1	1	1	2	2	2	2	3	3	3
	16	1	1	1	1	1	2	2	2	2	3	3	3	4	4
	20	1	1	1	2	2	2	2	2	3	3	4	4	5	5
	24	1	1	2	2	2	2	2	3	3	4	4	5	5	6
6:12	28	1	2	2	2	2	2	3	3	4	4	5	6	6	-
	32	1	2	2	2	2	3	3	4	4	5	6	6	7	-
	36	2	2	2	2	3	3	3	4	5	5	6	7	-	-
	12	1	1	1	1	1	1	1	2	2	2	2	2	3	3
	16	1	1	1	1	1	1	2	2	2	2	3	3	3	4
	20	1	1	1	1	2	2	2	2	3	3	3	4	4	5
7:12-12:12	24	1	1	1	2	2	2	2	3	3	3	4	4	5	6
	28	1	1	2	2	2	2	2	3	3	4	4	5	5	6
	32	1	2	2	2	2	2	3	3	4	4	5	5	6	7
	36	2	2	2	2	2	3	3	4	5	5	6	6	7	-
	12	1	1	1	1	1	1	1	1	2	2	2	2	3	3
	16	1	1	1	1	1	1	2	2	2	2	3	3	3	4

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PRESCRIPTIVE DESIGN

¹ Tabulated connection requirements shall be permitted to be multiplied by 0.70 for framing not located within 8 feet of building corners.

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³ Tabulated connection requirements are based on a 12 inch ridge strap spacing, for different ridge strap spacing, multiply the tabulated values by the appropriate multiplier below:

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⁴ When the tabulated number of nails required in each end of the strap is equal to 1 and the framing is attached in accordance with Table 3.1, the ridge strap and additional nailing is not required.

⁵ When a collar tie is used in lieu of a ridge strap, the number of 10d common nails required in each end of the collar tie need not exceed the tabulated number of 8d common nails in a steel strap, or the number of 12d box nails in each end of the collar tie need not exceed the tabulated number of 10d box nails in a steel strap.

⁶ 1-1/4" 20 gage ridge strap shall be of ASTM A653 grade 33 steel or equivalent.

⁷ For jack rafter uplift connections, use a roof span equal to twice the jack rafter length. The jack rafter length includes the overhang length and the jack span.

