

COMMONLY USED RESIDENTIAL BUILDING CODES

INTERNATIONAL RESIDENTIAL CODE (2009)

form revised 5/10

ROOF FRAMING

30. ROOF DESIGN. Ordinance 02-1984 Sec. 1.4.11, Section R301.1, R801.2 IRC 2009

R301.1 Application. Buildings and structures, and all parts thereof, shall be constructed to safely support all loads, including dead loads, live loads, roof loads, flood loads, snow loads, wind loads and seismic loads as prescribed by this code. The construction of buildings and structures in accordance with the provisions of this code shall result in a system that provides a complete load path that meets all requirements for the transfer of all loads from their point of origin through the load-resisting elements to the foundation. Buildings and structures constructed as prescribed by this code are deemed to comply with the requirements of this section.

R801.2 Requirements. Roof and ceiling construction shall be capable of accommodating all loads imposed according to Section R301 and of transmitting the resulting loads to the supporting structural elements.

Roofs shall be designed and constructed to withstand a 40 pound psf snow load and appropriate roof load.

31. ALLOWABLE RAFTER SPANS. Section R802.5 IRC 2009

Spans for rafters shall be in accordance with Tables R802.5.1(1) through R802.5.1(8). For other grades and species and for other loading conditions, refer to the AF&PA Span Tables for Joists and Rafters. The span of each rafter shall be measured along the horizontal projection of the rafter.

NOTE: Where 40# live load is required, use Western Woods Span Tables.

When roof slope is less than 3:12, members supporting rafters and ceiling joists shall be designed as beams.

32. PURLINS. Section R802.5.1 IRC 2009

Installation of purlins to reduce the span of rafters is permitted as shown in Figure R802.5.1. Purlins shall be sized no less than the required size of the rafters that they support. Purlins shall be continuous and shall be supported by 2-inch by 4-inch (51 mm by 102 mm) braces installed to bearing walls at a slope not less than 45 degrees from the horizontal. The braces shall be spaced not more than 4 feet (1219 mm) on center and the unbraced length of braces shall not exceed 8 feet (2438 mm).

33. FRAMING/RIDGE SIZE. Section R802.3 IRC 2009

Rafters shall be framed to ridge board or to each other with a gusset plate as a tie. Ridge board shall be at least 1-inch (25.4 mm) nominal thickness and not less in depth than the cut end of the rafter. At all valleys and hips there shall be a valley or hip rafter not less than 2-inch (51mm) nominal thickness and not less in depth than the cut end of the rafter. Hip and valley rafters shall be supported at the ridge by a brace to a bearing partition or be designed to carry and distribute the specific load at that point. Where the roof pitch is less than three units vertical in 12 units horizontal (25-percent slope), structural members that support rafters and ceiling joists, such as ridge beams, hips and valleys, shall be designed as beams.

34. FRAMING OF OPENINGS. Section R802.9 IRC 2009

Openings in roof and ceiling framing shall be framed with header and trimmer joists. When the header joist span does not exceed 4 feet (1219 mm), the header joist may be a single member the same size as the ceiling joist or rafter. Single trimmer joists may be used to carry a single header joist that is located within 3 feet (914 mm) of the trimmer joist bearing. When the header joist span exceeds 4 feet (1219 mm), the trimmer joists and the header joist shall be doubled and of sufficient cross section to support the ceiling joists or rafter framing into the header. Approved hangers shall be used for the header joist to trimmer joist connections when the header joist span exceeds 6 feet (1829 mm). Tail joists over 12 feet (3658 mm) long shall be supported at the header by framing anchors or on ledger strips not less than 2 inches by 2 inches (51 mm by 51 mm).

35. POLE ROOF. Section R301.1 IRC 2009

Buildings and structures, and all parts thereof, shall be constructed to safely support all loads, including

dead loads, live loads, roof loads, flood loads, snow loads, wind loads and seismic loads as prescribed by this code. The construction of buildings and structures in accordance with the provisions of this code shall result in a system that provides a complete load path that meets all requirements for the transfer of all loads from their point of origin through the load-resisting elements to the foundation. Buildings and structures constructed as prescribed by this code are deemed to comply with the requirements of this section.

R301.1.1 Alternative provisions. As an alternative to the requirements in Section R301.1 the following standards are permitted subject to the limitations of this code and the limitations therein. Where engineered design is used in conjunction with these standards the design shall comply with the *International Building Code*.

1. American Forest and Paper Association (AF&PA)
Wood Frame Construction Manual (WFCM).
2. American Iron and Steel Institute (AISI) *Standard for Cold-Formed Steel Framing—Prescriptive Method for One- and Two-Family Dwellings* (AISI S230).
3. ICC-400 *Standard on the Design and Construction of Log Structures*.

36. TRUSSES. Section R106.1 IRC 2009

Submittal documents consisting of *construction documents*, and other data shall be submitted in two or more sets with each application for a *permit*. The *construction documents* shall be prepared by a registered *design professional* where required by the statutes of the *jurisdiction* in which the project is to be constructed. Where special conditions exist, the *building official* is authorized to require additional *construction documents* to be prepared by a registered *design professional*.

Exception: The building official is authorized to waive the submission of construction documents and other data not required to be prepared by a registered design professional if it is found that the nature of the work applied for is such that reviewing of construction documents is not necessary to obtain compliance with this code.

R802.10.5 Truss to wall connection. Trusses shall be connected to wall plates by the use of *approved* connectors having a resistance to uplift of not less than 175 pounds (779 N) and shall be installed in accordance with the manufacturer's specifications. For roof assemblies subject to wind uplift pressures of 20 pounds per square foot (960 Pa) or greater, as established in Table R301.2(2), adjusted for height and exposure per Table R301.2(3), see section R802.11.

R106.1.1 Information on construction documents.

Construction documents shall be drawn upon suitable material. Electronic media documents are permitted to be submitted when *approved* by the *building official*. *Construction documents* shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that it will conform to the provisions of this code and relevant laws, ordinances, rules and regulations, as determined by the *building official*. Where required by the *building official*, all braced wall lines, shall be identified on the *construction documents* and all pertinent information including, but not limited to, bracing methods, location and length of braced wall panels, foundation requirements of braced wall panels at top and bottom shall be provided.

R106.1.2 Manufacturer's installation instructions.

Manufacturer's installation instructions, as required by this code, shall be available on the job site at the time of inspection.

Trusses shall be designed by a licensed Washington State Engineer. Trusses shall be fabricated from only these designs. Engineered plans and details shall be submitted for any cut of special trusses.

37. BLOCKING. Section R802.8 & R802.8.1 IRC 2009

R802.8 Lateral support. Roof framing members and ceiling joists having a depth-to-thickness ratio exceeding 5 to 1 based on nominal dimensions shall be provided with lateral support at points of bearing to prevent rotation. For roof rafters with ceiling joists attached per Table R602.3(1), the depth-thickness ratio for the total assembly shall be determined using the combined thickness of the rafter plus the attached ceiling joist.

Exception: Roof trusses shall be braced in accordance with Section R802.10.3.

R802.8.1 Bridging. Rafters and ceiling joists having a depth-to-thickness ratio exceeding 6 to 1 based on nominal dimensions shall be supported laterally by solid blocking, diagonal bridging (wood or metal) or a continuous 1-inch by 3-inch (25.4 mm by 76 mm) wood strip nailed across the rafters or ceiling joists at intervals not exceeding 8 feet (2438 mm)

Section R802.11.1 Uplift resistance. Roof assemblies which are subject to wind uplift pressures of 20 pounds per square foot (960 Pa) or greater shall have roof rafters or trusses attached to their supporting wall assemblies by connections capable of providing the resistance required in Table R802.11. Wind uplift pressures shall be determined using an effective wind area of 100 square feet (9.3 m²) and Zone 1 in Table R301.2(2), as adjusted for height and exposure per Table R301.2(3).

A continuous load path shall be designed to transmit the uplift forces from the rafter or truss ties to the foundation.

38. ROOF SHEATHING. Section R803.1 & 803.2.1.1 IRC 2009

R803.1 Lumber sheathing. Allowable spans for lumber used as roof sheathing shall conform to Table R803.1. Spaced lumber sheathing for wood shingle and shake roofing shall conform to the requirements of Sections R905.7 and R905.8. Spaced lumber sheathing is not allowed in Seismic Design Category D2.

R803.2.1.1 Exposure durability. All wood structural panels, when designed to be permanently exposed in outdoor applications, shall be of an exterior exposure durability. Wood structural panel roof sheathing exposed to the under side may be of interior type bonded with exterior glue, identified as Exposure 1.

39. ROOFING FELT. Section R905 IRC 2009

R905.1 Roof covering application. Roof coverings shall be applied in accordance with the applicable provisions of this section and the manufacturer's installation instructions. Unless otherwise specified in this section, roof coverings shall be installed to resist the component and cladding loads specified in Table R301.2(2), adjusted for height and exposure in accordance with Table R301.2(3).

R905.2.3 Underlayment. Unless otherwise noted, required underlayment shall conform to ASTM D226 Type I, ASTM D 4869 Type I, or ASTM D 6757. Self-adhering polymer modified bitumen sheet shall comply with ASTM D 1970.

40. ATTIC VENTILATION. Section R806 IRC 2009

R806.1 Ventilation required. Enclosed attics and enclosed rafter spaces formed where ceilings are applied directly to the underside of roof rafters shall have cross ventilation for each separate space by ventilating openings protected against the entrance of rain or snow. Ventilation openings shall have a least dimension of 1/16 inch (1.6 mm) minimum and 1/4 inch (6.4 mm) maximum. Ventilation openings having a least dimension larger than 1/4 inch (6.4 mm) shall be provided with corrosion-resistant wire cloth screening, hardware cloth, or similar material with openings having a least dimension of 1/16 inch (1.6 mm) minimum and 1/4 inch (6.4 mm) maximum. Openings in roof framing members shall conform to the requirements of Section R802.7.

R806.2 Minimum area. The total net free ventilating area shall not be less than 1/150 of the area of the space ventilated except that reduction of the total area to 1/300 is permitted provided that at least 50 percent and not more than 80 percent of the required ventilating area is provided by ventilators located in the upper portion of the space to be ventilated at least 3 feet (914 mm) above the eave or cornice vents with the balance of the required ventilation provided by eave or cornice vents. As an alternative, the net free cross-ventilation area may be reduced to 1/300 when a Class I or II vapor barrier is installed on the warm-in-winter side of the ceiling.

R806.3 Vent clearance. Where eave or cornice vents are installed, insulation shall not block the free flow of air. A minimum of a 1-inch (25.4 mm) space shall be provided between the insulation and the roof sheathing and at the location of the vent.

41. ATTIC ACCESS. Section R807 IRC 2009

R807.1 Attic access. Buildings with combustible ceiling or roof construction shall have an *attic* access opening to *attic* areas that exceed 30 square feet (2.8 m²) and have a vertical height of 30 inches (762 mm) or greater. The vertical height shall be measured from the top of the ceiling framing members to the underside of the roof framing members.

The rough-framed opening shall not be less than 22 inches by 30 inches (559 mm by 762 mm) and shall be located in a hallway or other readily accessible location. When located in a wall, the opening shall be a minimum of 22 inches wide by 30 inches high. When the access is located in a ceiling, minimum unobstructed headroom in the *attic* space shall be 30 inches (762 mm) at some point above the access measured vertically from the bottom of ceiling framing members. See Section M1305.1.3 for access requirements where mechanical *equipment* is located in *attics*.

TABLE R502.5(1)
GIRDER SPANS* AND HEADER SPANS* FOR EXTERIOR BEARING WALLS
 (Maximum spans for Douglas fir-larch, hem-fir, southern pine and spruce-pine-fir^b and required number of jack studs)

| GIRDERS AND HEADERS SUPPORTING | SIZE | GROUND SNOW LOAD (psf) ^a | | | | | | | | | | | | | | | | | |
|---|-----------------|-------------------------------------|-----------------|------|-----------------|------|-----------------|------|-----------------|------|-----------------|------|-----------------|------|-----------------|------|-----------------|------|---|
| | | 30 | | | | | | 50 | | | | | | 70 | | | | | |
| | | Building width ^c (feet) | | | | | | | | | | | | | | | | | |
| | | 20 | | | 28 | | | 36 | | | 20 | | | 28 | | | 36 | | |
| Span | NJ ^d | Span | NJ ^d | Span | NJ ^d | Span | NJ ^d | Span | NJ ^d | Span | NJ ^d | Span | NJ ^d | Span | NJ ^d | Span | NJ ^d | | |
| Roof and ceiling | 2-2x4 | 3-6 | 1 | 3-2 | 1 | 2-10 | 1 | 3-2 | 1 | 2-9 | 1 | 2-6 | 1 | 2-10 | 1 | 2-6 | 1 | 2-3 | 1 |
| | 2-2x6 | 5-5 | 1 | 4-8 | 1 | 4-2 | 1 | 4-8 | 1 | 4-1 | 1 | 3-8 | 2 | 4-2 | 1 | 3-8 | 2 | 3-3 | 2 |
| | 2-2x8 | 6-10 | 1 | 5-11 | 2 | 5-4 | 2 | 5-11 | 2 | 5-2 | 2 | 4-7 | 2 | 5-4 | 2 | 4-7 | 2 | 4-1 | 2 |
| | 2-2x10 | 8-5 | 2 | 7-3 | 2 | 6-6 | 2 | 7-3 | 2 | 6-3 | 2 | 5-7 | 2 | 6-6 | 2 | 5-7 | 2 | 5-0 | 2 |
| | 2-2x12 | 9-9 | 2 | 8-5 | 2 | 7-6 | 2 | 8-5 | 2 | 7-3 | 2 | 6-6 | 2 | 7-6 | 2 | 6-6 | 2 | 5-10 | 3 |
| | 3-2x8 | 8-4 | 1 | 7-5 | 1 | 6-8 | 1 | 7-5 | 1 | 6-5 | 2 | 5-9 | 2 | 6-8 | 1 | 5-9 | 2 | 5-2 | 2 |
| | 3-2x10 | 10-6 | 1 | 9-1 | 2 | 8-2 | 2 | 9-1 | 2 | 7-10 | 2 | 7-0 | 2 | 8-2 | 2 | 7-0 | 2 | 6-4 | 2 |
| | 3-2x12 | 12-2 | 2 | 10-7 | 2 | 9-5 | 2 | 10-7 | 2 | 9-2 | 2 | 8-2 | 2 | 9-5 | 2 | 8-2 | 2 | 7-4 | 2 |
| | 4-2x8 | 9-2 | 1 | 8-4 | 1 | 7-8 | 1 | 8-4 | 1 | 7-5 | 1 | 6-8 | 1 | 7-8 | 1 | 6-8 | 1 | 5-11 | 2 |
| | 4-2x10 | 11-8 | 1 | 10-6 | 1 | 9-5 | 2 | 10-6 | 1 | 9-1 | 2 | 8-2 | 2 | 9-5 | 2 | 8-2 | 2 | 7-3 | 2 |
| 4-2x12 | 14-1 | 1 | 12-2 | 2 | 10-11 | 2 | 12-2 | 2 | 10-7 | 2 | 9-5 | 2 | 10-11 | 2 | 9-5 | 2 | 8-5 | 2 | |
| Roof, ceiling and one center-bearing floor | 2-2x4 | 3-1 | 1 | 2-9 | 1 | 2-5 | 1 | 2-9 | 1 | 2-5 | 1 | 2-2 | 1 | 2-7 | 1 | 2-3 | 1 | 2-0 | 1 |
| | 2-2x6 | 4-6 | 1 | 4-0 | 1 | 3-7 | 2 | 4-1 | 1 | 3-7 | 2 | 3-3 | 2 | 3-9 | 2 | 3-3 | 2 | 2-11 | 2 |
| | 2-2x8 | 5-9 | 2 | 5-0 | 2 | 4-6 | 2 | 5-2 | 2 | 4-6 | 2 | 4-1 | 2 | 4-9 | 2 | 4-2 | 2 | 3-9 | 2 |
| | 2-2x10 | 7-0 | 2 | 6-2 | 2 | 5-6 | 2 | 6-4 | 2 | 5-6 | 2 | 5-0 | 2 | 5-9 | 2 | 5-1 | 2 | 4-7 | 3 |
| | 2-2x12 | 8-1 | 2 | 7-1 | 2 | 6-5 | 2 | 7-4 | 2 | 6-5 | 2 | 5-9 | 3 | 6-8 | 2 | 5-10 | 3 | 5-3 | 3 |
| | 3-2x8 | 7-2 | 1 | 6-3 | 2 | 5-8 | 2 | 6-5 | 2 | 5-8 | 2 | 5-1 | 2 | 5-11 | 2 | 5-2 | 2 | 4-8 | 2 |
| | 3-2x10 | 8-9 | 2 | 7-8 | 2 | 6-11 | 2 | 7-11 | 2 | 6-11 | 2 | 6-3 | 2 | 7-3 | 2 | 6-4 | 2 | 5-8 | 2 |
| | 3-2x12 | 10-2 | 2 | 8-11 | 2 | 8-0 | 2 | 9-2 | 2 | 8-0 | 2 | 7-3 | 2 | 8-5 | 2 | 7-4 | 2 | 6-7 | 2 |
| | 4-2x8 | 8-1 | 1 | 7-3 | 1 | 6-7 | 1 | 7-5 | 1 | 6-6 | 1 | 5-11 | 2 | 6-10 | 1 | 6-0 | 2 | 5-5 | 2 |
| | 4-2x10 | 10-1 | 1 | 8-10 | 2 | 8-0 | 2 | 9-1 | 2 | 8-0 | 2 | 7-2 | 2 | 8-4 | 2 | 7-4 | 2 | 6-7 | 2 |
| 4-2x12 | 11-9 | 2 | 10-3 | 2 | 9-3 | 2 | 10-7 | 2 | 9-3 | 2 | 8-4 | 2 | 9-8 | 2 | 8-6 | 2 | 7-7 | 2 | |
| Roof, ceiling and one clear span floor | 2-2x4 | 2-8 | 1 | 2-4 | 1 | 2-1 | 1 | 2-7 | 1 | 2-3 | 1 | 2-0 | 1 | 2-5 | 1 | 2-1 | 1 | 1-10 | 1 |
| | 2-2x6 | 3-11 | 1 | 3-5 | 2 | 3-0 | 2 | 3-10 | 2 | 3-4 | 2 | 3-0 | 2 | 3-6 | 2 | 3-1 | 2 | 2-9 | 2 |
| | 2-2x8 | 5-0 | 2 | 4-4 | 2 | 3-10 | 2 | 4-10 | 2 | 4-2 | 2 | 3-9 | 2 | 4-6 | 2 | 3-11 | 2 | 3-6 | 2 |
| | 2-2x10 | 6-1 | 2 | 5-3 | 2 | 4-8 | 2 | 5-11 | 2 | 5-1 | 2 | 4-7 | 3 | 5-6 | 2 | 4-9 | 2 | 4-3 | 3 |
| | 2-2x12 | 7-1 | 2 | 6-1 | 3 | 5-5 | 3 | 6-10 | 2 | 5-11 | 3 | 5-4 | 3 | 6-4 | 2 | 5-6 | 3 | 5-0 | 3 |
| | 3-2x8 | 6-3 | 2 | 5-5 | 2 | 4-10 | 2 | 6-1 | 2 | 5-3 | 2 | 4-8 | 2 | 5-7 | 2 | 4-11 | 2 | 4-5 | 2 |
| | 3-2x10 | 7-7 | 2 | 6-7 | 2 | 5-11 | 2 | 7-5 | 2 | 6-5 | 2 | 5-9 | 2 | 6-10 | 2 | 6-0 | 2 | 5-4 | 2 |
| | 3-2x12 | 8-10 | 2 | 7-8 | 2 | 6-10 | 2 | 8-7 | 2 | 7-5 | 2 | 6-8 | 2 | 7-11 | 2 | 6-11 | 2 | 6-3 | 2 |
| | 4-2x8 | 7-2 | 1 | 6-3 | 2 | 5-7 | 2 | 7-0 | 1 | 6-1 | 2 | 5-5 | 2 | 6-6 | 1 | 5-8 | 2 | 5-1 | 2 |
| | 4-2x10 | 8-9 | 2 | 7-7 | 2 | 6-10 | 2 | 8-7 | 2 | 7-5 | 2 | 6-7 | 2 | 7-11 | 2 | 6-11 | 2 | 6-2 | 2 |
| 4-2x12 | 10-2 | 2 | 8-10 | 2 | 7-11 | 2 | 9-11 | 2 | 8-7 | 2 | 7-8 | 2 | 9-2 | 2 | 8-0 | 2 | 7-2 | 2 | |
| Roof, ceiling and two center-bearing floors | 2-2x4 | 2-7 | 1 | 2-3 | 1 | 2-0 | 1 | 2-6 | 1 | 2-2 | 1 | 1-11 | 1 | 2-4 | 1 | 2-0 | 1 | 1-9 | 1 |
| | 2-2x6 | 3-9 | 2 | 3-3 | 2 | 2-11 | 2 | 3-8 | 2 | 3-2 | 2 | 2-10 | 2 | 3-5 | 2 | 3-0 | 2 | 2-8 | 2 |
| | 2-2x8 | 4-9 | 2 | 4-2 | 2 | 3-9 | 2 | 4-7 | 2 | 4-0 | 2 | 3-8 | 2 | 4-4 | 2 | 3-9 | 2 | 3-5 | 2 |
| | 2-2x10 | 5-9 | 2 | 5-1 | 2 | 4-7 | 3 | 5-8 | 2 | 4-11 | 2 | 4-5 | 3 | 5-3 | 2 | 4-7 | 3 | 4-2 | 3 |
| | 2-2x12 | 6-8 | 2 | 5-10 | 3 | 5-3 | 3 | 6-6 | 2 | 5-9 | 3 | 5-2 | 3 | 6-1 | 3 | 5-4 | 3 | 4-10 | 3 |
| | 3-2x8 | 5-11 | 2 | 5-2 | 2 | 4-8 | 2 | 5-9 | 2 | 5-1 | 2 | 4-7 | 2 | 5-5 | 2 | 4-9 | 2 | 4-3 | 2 |
| | 3-2x10 | 7-3 | 2 | 6-4 | 2 | 5-8 | 2 | 7-1 | 2 | 6-2 | 2 | 5-7 | 2 | 6-7 | 2 | 5-9 | 2 | 5-3 | 2 |
| | 3-2x12 | 8-5 | 2 | 7-4 | 2 | 6-7 | 2 | 8-2 | 2 | 7-2 | 2 | 6-5 | 3 | 7-8 | 2 | 6-9 | 2 | 6-1 | 3 |
| | 4-2x8 | 6-10 | 1 | 6-0 | 2 | 5-5 | 2 | 6-8 | 1 | 5-10 | 2 | 5-3 | 2 | 6-3 | 2 | 5-6 | 2 | 4-11 | 2 |
| | 4-2x10 | 8-4 | 2 | 7-4 | 2 | 6-7 | 2 | 8-2 | 2 | 7-2 | 2 | 6-5 | 2 | 7-7 | 2 | 6-8 | 2 | 6-0 | 2 |
| 4-2x12 | 9-8 | 2 | 8-6 | 2 | 7-8 | 2 | 9-5 | 2 | 8-3 | 2 | 7-5 | 2 | 8-10 | 2 | 7-9 | 2 | 7-0 | 2 | |

(continued)

TABLE R502.5(1)—continued
GIRDER SPANS^a AND HEADER SPANS^a FOR EXTERIOR BEARING WALLS
(Maximum spans for Douglas fir-larch, hem-fir, southern pine and spruce-pine-fir^b and required number of jack studs)

| GIRDERS AND HEADERS SUPPORTING | SIZE | GROUND SNOW LOAD (psf) ^a | | | | | | | | | | | | | | | | | |
|--|-----------------|-------------------------------------|-----------------|------|-----------------|------|-----------------|------|-----------------|------|-----------------|------|-----------------|------|-----------------|------|-----------------|------|-----------------|
| | | 30 | | | | | | 50 | | | | | | 70 | | | | | |
| | | Building width ^c (feet) | | | | | | | | | | | | | | | | | |
| | | 20 | | 28 | | 36 | | 20 | | 28 | | 36 | | 20 | | 28 | | 36 | |
| Span | NJ ^d | Span | NJ ^d | Span | NJ ^d | Span | NJ ^d | Span | NJ ^d | Span | NJ ^d | Span | NJ ^d | Span | NJ ^d | Span | NJ ^d | Span | NJ ^d |
| Roof, ceiling, and two clear span floors | 2-2x4 | 2-1 | 1 | 1-8 | 1 | 1-6 | 2 | 2-0 | 1 | 1-8 | 1 | 1-5 | 2 | 2-0 | 1 | 1-8 | 1 | 1-5 | 2 |
| | 2-2x6 | 3-1 | 2 | 2-8 | 2 | 2-4 | 2 | 3-0 | 2 | 2-7 | 2 | 2-3 | 2 | 2-11 | 2 | 2-7 | 2 | 2-3 | 2 |
| | 2-2x8 | 3-10 | 2 | 3-4 | 2 | 3-0 | 3 | 3-10 | 2 | 3-4 | 2 | 2-11 | 3 | 3-9 | 2 | 3-3 | 2 | 2-11 | 3 |
| | 2-2x10 | 4-9 | 2 | 4-1 | 3 | 3-8 | 3 | 4-8 | 2 | 4-0 | 3 | 3-7 | 3 | 4-7 | 3 | 4-0 | 3 | 3-6 | 3 |
| | 2-2x12 | 5-6 | 3 | 4-9 | 3 | 4-3 | 3 | 5-5 | 3 | 4-8 | 3 | 4-2 | 3 | 5-4 | 3 | 4-7 | 3 | 4-1 | 4 |
| | 3-2x8 | 4-10 | 2 | 4-2 | 2 | 3-9 | 2 | 4-9 | 2 | 4-1 | 2 | 3-8 | 2 | 4-8 | 2 | 4-1 | 2 | 3-8 | 2 |
| | 3-2x10 | 5-11 | 2 | 5-1 | 2 | 4-7 | 3 | 5-10 | 2 | 5-0 | 2 | 4-6 | 3 | 5-9 | 2 | 4-11 | 2 | 4-5 | 3 |
| | 3-2x12 | 6-10 | 2 | 5-11 | 3 | 5-4 | 3 | 6-9 | 2 | 5-10 | 3 | 5-3 | 3 | 6-8 | 2 | 5-9 | 3 | 5-2 | 3 |
| | 4-2x8 | 5-7 | 2 | 4-10 | 2 | 4-4 | 2 | 5-6 | 2 | 4-9 | 2 | 4-3 | 2 | 5-5 | 2 | 4-8 | 2 | 4-2 | 2 |
| | 4-2x10 | 6-10 | 2 | 5-11 | 2 | 5-3 | 2 | 6-9 | 2 | 5-10 | 2 | 5-2 | 2 | 6-7 | 2 | 5-9 | 2 | 5-1 | 2 |
| 4-2x12 | 7-11 | 2 | 6-10 | 2 | 6-2 | 3 | 7-9 | 2 | 6-9 | 2 | 6-0 | 3 | 7-8 | 2 | 6-8 | 2 | 5-11 | 3 | |

For SI: 1 inch = 25.4 mm, 1 pound per square foot = 0.0479 kPa.

- Spans are given in feet and inches.
- Tabulated values assume #2 grade lumber.
- Building width is measured perpendicular to the ridge. For widths between those shown, spans are permitted to be interpolated.
- NJ - Number of jack studs required to support each end. Where the number of required jack studs equals one, the header is permitted to be supported by an approved framing anchor attached to the full-height wall stud and to the header.
- Use 30 psf ground snow load for cases in which ground snow load is less than 30 psf and the roof live load is equal to or less than 20 psf.

TABLE R502.5(2)
GIRDER SPANS* AND HEADER SPANS* FOR INTERIOR BEARING WALLS
 (Maximum spans for Douglas fir-larch, hem-fir, southern pine and spruce-pine-fir^b and required number of jack studs)

| HEADERS AND GIRDERS SUPPORTING | SIZE | BUILDING WIDTH ^c (feet) | | | | | |
|--------------------------------|--------|------------------------------------|-----------------|------|-----------------|------|-----------------|
| | | 20 | | 28 | | 36 | |
| | | Span | NJ ^d | Span | NJ ^d | Span | NJ ^d |
| One floor only | 2-2x4 | 3-1 | 1 | 2-8 | 1 | 2-5 | 1 |
| | 2-2x6 | 4-6 | 1 | 3-11 | 1 | 3-6 | 1 |
| | 2-2x8 | 5-9 | 1 | 5-0 | 2 | 4-5 | 2 |
| | 2-2x10 | 7-0 | 2 | 6-1 | 2 | 5-5 | 2 |
| | 2-2x12 | 8-1 | 2 | 7-0 | 2 | 6-3 | 2 |
| | 3-2x8 | 7-2 | 1 | 6-3 | 1 | 5-7 | 2 |
| | 3-2x10 | 8-9 | 1 | 7-7 | 2 | 6-9 | 2 |
| | 3-2x12 | 10-2 | 2 | 8-10 | 2 | 7-10 | 2 |
| | 4-2x8 | 9-0 | 1 | 7-8 | 1 | 6-9 | 1 |
| | 4-2x10 | 10-1 | 1 | 8-9 | 1 | 7-10 | 2 |
| | 4-2x12 | 11-9 | 1 | 10-2 | 2 | 9-1 | 2 |
| Two floors | 2-2x4 | 2-2 | 1 | 1-10 | 1 | 1-7 | 1 |
| | 2-2x6 | 3-2 | 2 | 2-9 | 2 | 2-5 | 2 |
| | 2-2x8 | 4-1 | 2 | 3-6 | 2 | 3-2 | 2 |
| | 2-2x10 | 4-11 | 2 | 4-3 | 2 | 3-10 | 3 |
| | 2-2x12 | 5-9 | 2 | 5-0 | 3 | 4-5 | 3 |
| | 3-2x8 | 5-1 | 2 | 4-5 | 2 | 3-11 | 2 |
| | 3-2x10 | 6-2 | 2 | 5-4 | 2 | 4-10 | 2 |
| | 3-2x12 | 7-2 | 2 | 6-3 | 2 | 5-7 | 3 |
| | 4-2x8 | 6-1 | 1 | 5-3 | 2 | 4-8 | 2 |
| | 4-2x10 | 7-2 | 2 | 6-2 | 2 | 5-6 | 2 |
| | 4-2x12 | 8-4 | 2 | 7-2 | 2 | 6-5 | 2 |

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.

a. Spans are given in feet and inches.

b. Tabulated values assume #2 grade lumber.

c. Building width is measured perpendicular to the ridge. For widths between those shown, spans are permitted to be interpolated.

d. NJ - Number of jack studs required to support each end. Where the number of required jack studs equals one, the header is permitted to be supported by an approved framing anchor attached to the full-height wall stud and to the header.

**TABLE R602.3(1)
FASTENER SCHEDULE FOR STRUCTURAL MEMBERS**

| ITEM | DESCRIPTION OF BUILDING ELEMENTS | NUMBER AND TYPE OF FASTENER ^{a, b, c} | SPACING OF FASTENERS |
|--------------|---|--|--|
| Roof | | | |
| 1 | Blocking between joists or rafters to top plate, toe nail | 3-8d (2 1/2" × 0.113") | — |
| 2 | Ceiling joists to plate, toe nail | 3-8d (2 1/2" × 0.113") | — |
| 3 | Ceiling joists not attached to parallel rafter, laps over partitions, face nail | 3-10d | — |
| 4 | Collar tie rafter, face nail or 1 1/4" × 20 gage ridge strap | 3-10d (3" × 0.128") | — |
| 5 | Rafter to plate, toe nail | 2-16d (3 1/2" × 0.135") | — |
| 6 | Roof rafters to ridge, valley or hip rafters: toe nail face nail | 4-16d (3 1/2" × 0.135") 3-16d (3 1/2" × 0.135") | — — |
| Wall | | | |
| 7 | Built-up corner studs | 10d (3" × 0.128") | 24" o.c. |
| 8 | Built-up header, two pieces with 1/2" spacer | 16d (3 1/2" × 0.135") | 16" o.c. along each edge |
| 9 | Continued header, two pieces | 16d (3 1/2" × 0.135") | 16" o.c. along each edge |
| 10 | Continuous header to stud, toe nail | 4-8d (2 1/2" × 0.113") | — |
| 11 | Double studs, face nail | 10d (3" × 0.128") | 24" o.c. |
| 12 | Double top plates, face nail | 10d (3" × 0.128") | 24" o.c. |
| 13 | Double top plates, minimum 48-inch offset of end joints, face nail in lapped area | 8-16d (3 1/2" × 0.135") | — |
| 14 | Sole plate to joist or blocking, face nail | 16d (3 1/2" × 0.135") | 16" o.c. |
| 15 | Sole plate to joist or blocking at braced wall panels | 3-16d (3 1/2" × 0.135") | 16" o.c. |
| 16 | Stud to sole plate, toe nail | 3-8d (2 1/2" × 0.113") or 2-16d 3 1/2" × 0.135") | — — |
| 17 | Top or sole plate to stud, end nail | 2-16d (3 1/2" × 0.135") | — |
| 18 | Top plates, laps at corners and intersections, face nail | 2-10d (3" × 0.128") | — |
| 19 | 1" brace to each stud and plate, face nail | 2-8d (2 1/2" × 0.113") 2 staples 1 3/4" | — — |
| 20 | 1" × 6" sheathing to each bearing, face nail | 2-8d (2 1/2" × 0.113") 2 staples 1 3/4" | — — |
| 21 | 1" × 8" sheathing to each bearing, face nail | 2-8d (2 1/2" × 0.113") 3 staples 1 3/4" | — — |
| 22 | Wider than 1" × 8" sheathing to each bearing, face nail | 3-8d (2 1/2" × 0.113") 4 staples 1 3/4" | — — |
| Floor | | | |
| 23 | Joist to sill or girder, toe nail | 3-8d (2 1/2" × 0.113") | — |
| 24 | 1" × 6" subfloor or less to each joist, face nail | 2-8d (2 1/2" × 0.113") 2 staples 1 3/4" | — — |
| 25 | 2" subfloor to joist or girder, blind and face nail | 2-16d (3 1/2" × 0.135") | — |
| 26 | Rim joist to top plate, toe nail (roof applications also) | 8d (2 1/2" × 0.113") | 6" o.c. |
| 27 | 2" planks (plank & beam – floor & roof) | 2-16d (3 1/2" × 0.135") | at each bearing |
| 28 | Built-up girders and beams, 2-inch lumber layers | 10d (3" × 0.128") | Nail each layer as follows: 32" o.c. at top and bottom and staggered. Two nails at ends and at each splice. |
| 29 | Ledger strip supporting joists or rafters | 3-16d (3 1/2" × 0.135") | At each joist or rafter |

(continued)

**TABLE R602.3(1)—continued
FASTENER SCHEDULE FOR STRUCTURAL MEMBERS**

| ITEM | DESCRIPTION OF BUILDING MATERIALS | DESCRIPTION OF FASTENER ^{b, c, e} | SPACING OF FASTENERS | |
|--|---|--|-----------------------------|--|
| | | | Edges (inches) ⁱ | Intermediate supports ^{c, e} (inches) |
| Wood structural panels, subfloor, roof and interior wall sheathing to framing and particleboard wall sheathing to framing | | | | |
| 30 | $\frac{3}{8}$ " - $\frac{1}{2}$ " | 6d common (2" × 0.113") nail (subfloor wall) ^j 8d common (2½" × 0.131") nail (roof) | 6 | 12 ^g |
| 31 | $\frac{5}{16}$ " - $\frac{1}{2}$ " | 6d common (2" × 0.113") nail (subfloor, wall) 8d common (2½" × 0.131") nail (roof) ^f | 6 | 12 ^g |
| 32 | $\frac{19}{32}$ " - 1" | 8d common nail (2½" × 0.131") | 6 | 12 ^g |
| 33 | $1\frac{1}{8}$ " - $1\frac{1}{4}$ " | 10d common (3" × 0.148") nail or 8d (2½" × 0.131") deformed nail | 6 | 12 |
| Other wall sheathing^h | | | | |
| 34 | $\frac{1}{2}$ " structural cellulose fiberboard sheathing | $\frac{1}{2}$ " galvanized roofing nail, $\frac{7}{16}$ " crown or 1" crown staple 16 ga., $1\frac{1}{4}$ " long | 3 | 6 |
| 35 | $\frac{25}{32}$ " structural cellulose fiberboard sheathing | $1\frac{3}{4}$ " galvanized roofing nail, $\frac{7}{16}$ " crown or 1" crown staple 16 ga., $1\frac{1}{2}$ " long | 3 | 6 |
| 36 | $\frac{1}{2}$ " gypsum sheathing ^d | $\frac{1}{2}$ " galvanized roofing nail; staple galvanized, $1\frac{1}{2}$ " long; $1\frac{1}{4}$ screws, Type W or S | 7 | 7 |
| 37 | $\frac{5}{8}$ " gypsum sheathing ^d | $1\frac{3}{4}$ " galvanized roofing nail; staple galvanized, $1\frac{5}{8}$ " long; $1\frac{5}{8}$ screws, Type W or S | 7 | 7 |
| Wood structural panels, combination subfloor underlayment to framing | | | | |
| 38 | $\frac{3}{4}$ " and less | 6d deformed (2" × 0.120") nail or 8d common (2½" × 0.131") nail | 6 | 12 |
| 39 | $\frac{7}{8}$ " - 1" | 8d common (2½" × 0.131") nail or 8d deformed (2½" × 0.120") nail | 6 | 12 |
| 40 | $1\frac{1}{8}$ " - $1\frac{1}{4}$ " | 10d common (3" × 0.148") nail or 8d deformed (2½" × 0.120") nail | 6 | 12 |

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 mile per hour = 0.447 m/s; 1ksi = 6.895 MPa.

- a. All nails are smooth-common, box or deformed shanks except where otherwise stated. Nails used for framing and sheathing connections shall have minimum average bending yield strengths as shown: 80 ksi for shank diameter of 0.192 inch (20d common nail), 90 ksi for shank diameters larger than 0.142 inch but not larger than 0.177 inch, and 100 ksi for shank diameters of 0.142 inch or less.
- b. Staples are 16 gage wire and have a minimum $\frac{7}{16}$ -inch on diameter crown width.
- c. Nails shall be spaced at not more than 6 inches on center at all supports where spans are 48 inches or greater.
- d. Four-foot-by-8-foot or 4-foot-by-9-foot panels shall be applied vertically.
- e. Spacing of fasteners not included in this table shall be based on Table R602.3(2).
- f. For regions having basic wind speed of 110 mph or greater, 8d deformed (2½" × 0.120) nails shall be used for attaching plywood and wood structural panel roof sheathing to framing within minimum 48-inch distance from gable end walls, if mean roof height is more than 25 feet, up to 35 feet maximum.
- g. For regions having basic wind speed of 100 mph or less, nails for attaching wood structural panel roof sheathing to gable end wall framing shall be spaced 6 inches on center. When basic wind speed is greater than 100 mph, nails for attaching panel roof sheathing to intermediate supports shall be spaced 6 inches on center for minimum 48-inch distance from ridges, eaves and gable end walls; and 4 inches on center to gable end wall framing.
- h. Gypsum sheathing shall conform to ASTM C 1396 and shall be installed in accordance with GA 253. Fiberboard sheathing shall conform to ASTM C 208.
- i. Spacing of fasteners on floor sheathing panel edges applies to panel edges supported by framing members and required blocking and at all floor perimeters only. Spacing of fasteners on roof sheathing panel edges applies to panel edges supported by framing members and required blocking. Blocking of roof or floor sheathing panel edges perpendicular to the framing members need not be provided except as required by other provisions of this code. Floor perimeter shall be supported by framing members or solid blocking.

**TABLE R602.3(2)
ALTERNATE ATTACHMENTS**

| NOMINAL MATERIAL THICKNESS (Inches) | DESCRIPTION ^{a, b} OF FASTENER AND LENGTH (Inches) | SPACING ^c OF FASTENERS | |
|--|--|-----------------------------------|--|
| | | Edges (Inches) | Intermediate supports (Inches) |
| Wood structural panels subfloor, roof and wall sheathing to framing and particleboard wall sheathing to framing^f | | | |
| up to 1/2 | Staple 15 ga. 1 3/4 | 4 | 8 |
| | 0.097 - 0.099 Nail 2 1/4 | 3 | 6 |
| | Staple 16 ga. 1 3/4 | 3 | 6 |
| 19/32 and 5/8 | 0.113 Nail 2 | 3 | 6 |
| | Staple 15 and 16 ga. 2 | 4 | 8 |
| | 0.097 - 0.099 Nail 2 1/4 | 4 | 8 |
| 23/32 and 3/4 | Staple 14 ga. 2 | 4 | 8 |
| | Staple 15 ga. 1 3/4 | 3 | 6 |
| | 0.097 - 0.099 Nail 2 1/4 | 4 | 8 |
| | Staple 16 ga. 2 | 4 | 8 |
| 1 | Staple 14 ga. 2 1/4 | 4 | 8 |
| | 0.113 Nail 2 1/4 | 3 | 6 |
| | Staple 15 ga. 2 1/4 | 4 | 8 |
| | 0.097 - 0.099 Nail 2 1/2 | 4 | 8 |
| NOMINAL MATERIAL THICKNESS (Inches) | DESCRIPTION ^{a, b} OF FASTENER AND LENGTH (Inches) | SPACING ^c OF FASTENERS | |
| | | Edges (Inches) | Body of panel ^d (Inches) |
| Floor underlayment; plywood-hardboard-particleboard^f | | | |
| Plywood | | | |
| 1/4 and 5/16 | 1 1/4 ring or screw shank nail—minimum 12 1/2 ga. (0.099") shank diameter | 3 | 6 |
| | Staple 18 ga., 7/8, 3/16 crown width | 2 | 5 |
| 11/32, 3/8, 15/32, and 1/2 | 1 1/4 ring or screw shank nail—minimum 12 1/2 ga. (0.099") shank diameter | 6 | 8 ^e |
| 19/32, 5/8, 23/32 and 3/4 | 1 1/2 ring or screw shank nail—minimum 12 1/2 ga. (0.099") shank diameter | 6 | 8 |
| | Staple 16 ga. 1 1/2 | 6 | 8 |
| Hardboard^f | | | |
| 0.200 | 1 1/2 long ring-grooved underlayment nail | 6 | 6 |
| | 4d cement-coated sinker nail | 6 | 6 |
| | Staple 18 ga., 7/8 long (plastic coated) | 3 | 6 |
| Particleboard | | | |
| 1/4 | 4d ring-grooved underlayment nail | 3 | 6 |
| | Staple 18 ga., 7/8 long, 3/16 crown | 3 | 6 |
| 3/8 | 6d ring-grooved underlayment nail | 6 | 10 |
| | Staple 16 ga., 1 1/8 long, 3/8 crown | 3 | 6 |
| 1/2, 5/8 | 6d ring-grooved underlayment nail | 6 | 10 |
| | Staple 16 ga., 1 3/8 long, 3/8 crown | 3 | 6 |

For SI: 1 inch = 25.4 mm.

a. Nail is a general description and may be T-head, modified round head or round head.

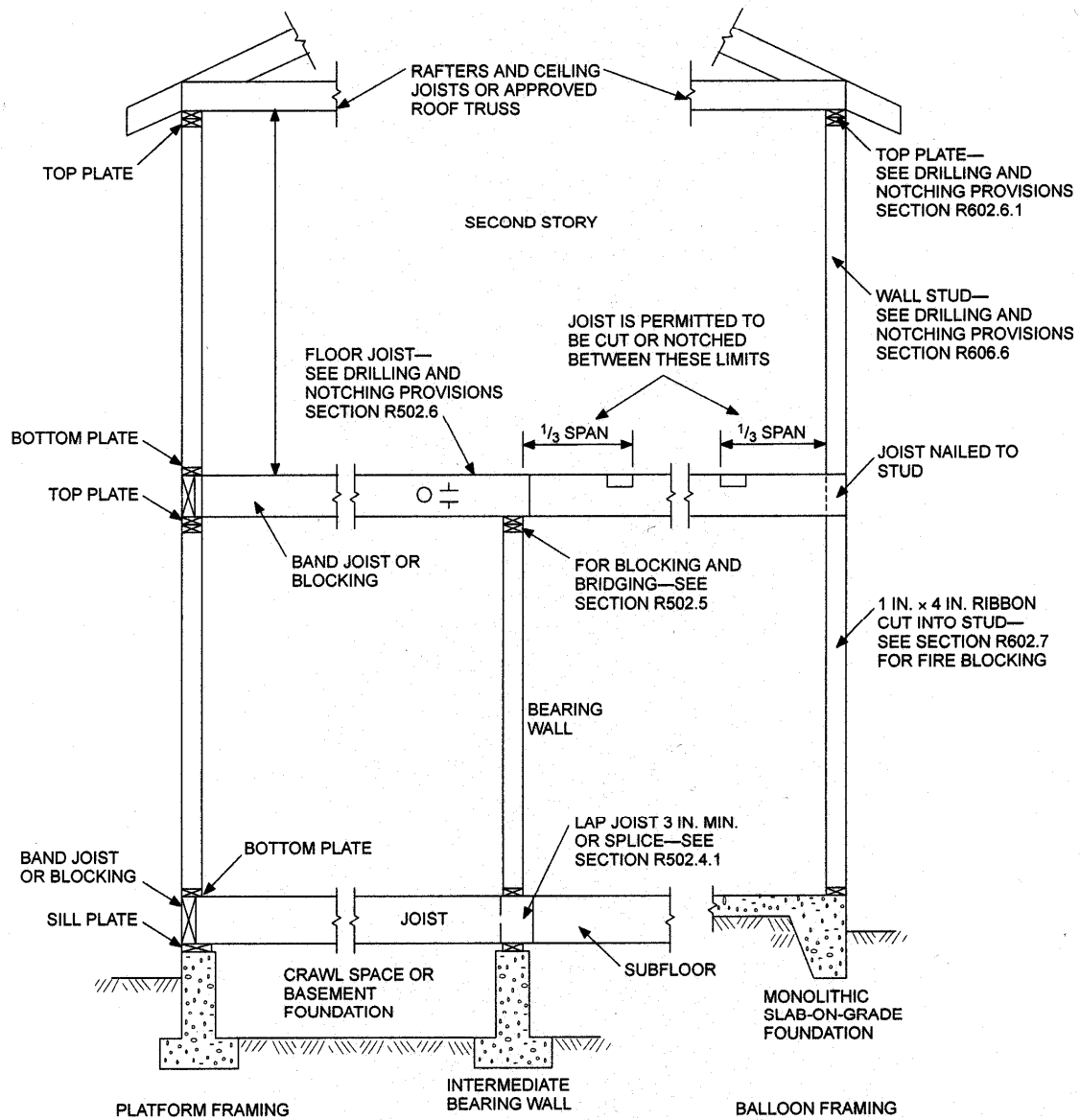
b. Staples shall have a minimum crown width of 7/16-inch on diameter except as noted.

c. Nails or staples shall be spaced at not more than 6 inches on center at all supports where spans are 48 inches or greater. Nails or staples shall be spaced at not more than 12 inches on center at intermediate supports for floors.

d. Fasteners shall be placed in a grid pattern throughout the body of the panel.

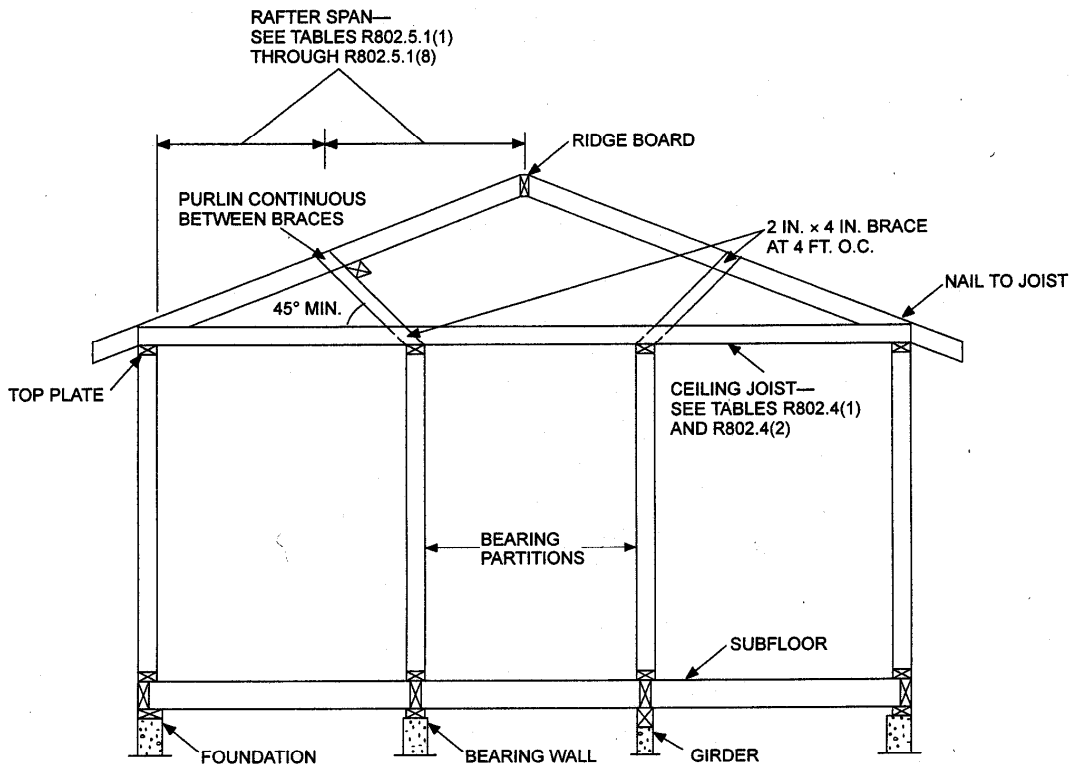
e. For 5-ply panels, intermediate nails shall be spaced not more than 12 inches on center each way.

f. Hardboard underlayment shall conform to ANSI/AHA A135.4.



For SI: 1 inch = 25.4 mm.

FIGURE R602.3(1)
TYPICAL WALL, FLOOR AND ROOF FRAMING



For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 degree = 0.018 rad.

Note: Where ceiling joists run perpendicular to the rafters, rafter ties shall be nailed to the rafter near the plate line and spaced not more than 4 feet on center.

**FIGURE R802.5.1
BRACED RAFTER CONSTRUCTION**

**TABLE R802.11
REQUIRED STRENGTH OF TRUSS OR RAFTER TIE-DOWN CONNECTIONS TO RESIST WIND UPLIFT FORCES^{a,b,c,d}
(Pounds per tie-down connection)**

| DESIGN WIND LOAD (psf) ^d | TOTAL ROOF WIDTH INCLUDING OVERHANG (feet) | | | | |
|-------------------------------------|--|-------|-------|-------|-------|
| | 24 | 28 | 32 | 36 | 40 |
| 20 | 192 | 224 | 256 | 288 | 320 |
| 30 | 432 | 504 | 576 | 648 | 720 |
| 40 | 672 | 784 | 895 | 1,008 | 1,120 |
| 50 | 912 | 1,064 | 1,216 | 1,368 | 1,520 |
| 60 | 1,152 | 1,344 | 1,536 | 1,728 | 1,920 |

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square foot = 0.0479 kN/m², 1 pound = 0.454 kg.

- a. Wind uplift forces are based on 24-inch spacing of roof trusses or rafters. For spacing other than 24 inches, forces shall be adjusted accordingly.
- b. Interpolation is permitted for intermediate values of wind uplift pressures and roof widths.
- c. The rated capacity of approved tie-down devices is permitted to include up to a 60-percent increase for wind effects where allowed by material specifications.
- d. Figure R301.2(4) and Table R301.2(2) shall be used in determining the design wind load.

TABLE R503.2.1.1(1)
ALLOWABLE SPANS AND LOADS FOR WOOD STRUCTURAL PANELS FOR ROOF
AND SUBFLOOR SHEATHING AND COMBINATION SUBFLOOR UNDERLAYMENT^{a, b, c}

| SPAN RATING | MINIMUM NOMINAL PANEL THICKNESS (inch) | ALLOWABLE LIVE LOAD (psf) ^{h, i} | | MAXIMUM SPAN (inches) | | LOAD (pounds per square foot, at maximum span) | | MAXIMUM SPAN (inches) |
|--|--|---|-----------------|--------------------------------|----------------------|--|-----------|--|
| | | SPAN @ 16" o.c. | SPAN @ 24" o.c. | With edge support ^d | Without edge support | Total load | Live load | |
| Sheathing^e | | | | Roof^f | | | | Subfloor^j |
| 16/0 | 3/8 | 30 | — | 16 | 16 | 40 | 30 | 0 |
| 20/0 | 3/8 | 50 | — | 20 | 20 | 40 | 30 | 0 |
| 24/0 | 3/8 | 100 | 30 | 24 | 20 ^g | 40 | 30 | 0 |
| 24/16 | 7/16 | 100 | 40 | 24 | 24 | 50 | 40 | 16 |
| 32/16 | 15/32, 1/2 | 180 | 70 | 32 | 28 | 40 | 30 | 16 ^h |
| 40/20 | 19/32, 5/8 | 305 | 130 | 40 | 32 | 40 | 30 | 20 ^{h, i} |
| 48/24 | 23/32, 3/4 | — | 175 | 48 | 36 | 45 | 35 | 24 |
| 60/32 | 7/8 | — | 305 | 60 | 48 | 45 | 35 | 32 |
| Underlayment, C-C plugged, single floor^a | | | | Roof^f | | | | Combination subfloor underlayment^k |
| 16 o.c. | 19/32, 5/8 | 100 | 40 | 24 | 24 | 50 | 40 | 16 ⁱ |
| 20 o.c. | 19/32, 5/8 | 150 | 60 | 32 | 32 | 40 | 30 | 20 ^{i, j} |
| 24 o.c. | 23/32, 3/4 | 240 | 100 | 48 | 36 | 35 | 25 | 24 |
| 32 o.c. | 7/8 | — | 185 | 48 | 40 | 50 | 40 | 32 |
| 48 o.c. | 1 3/32, 1 1/8 | — | 290 | 60 | 48 | 50 | 40 | 48 |

For SI: 1 inch = 25.4 mm, 1 pound per square foot = 0.0479 kPa.

- The allowable total loads were determined using a dead load of 10 psf. If the dead load exceeds 10 psf, then the live load shall be reduced accordingly.
- Panels continuous over two or more spans with long dimension (strength axis) perpendicular to supports. Spans shall be limited to values shown because of possible effect of concentrated loads.
- Applies to panels 24 inches or wider.
- Lumber blocking, panel edge clips (one midway between each support, except two equally spaced between supports when span is 48 inches), tongue-and-groove panel edges, or other approved type of edge support.
- Includes Structural I panels in these grades.
- Uniform load deflection limitation: 1/180 of span under live load plus dead load, 1/240 of span under live load only.
- Maximum span 24 inches for 15/32- and 1/2-inch panels.
- Maximum span 24 inches where 3/4-inch wood finish flooring is installed at right angles to joists.
- Maximum span 24 inches where 1.5 inches of lightweight concrete or approved cellular concrete is placed over the subfloor.
- Unsupported edges shall have tongue-and-groove joints or shall be supported with blocking unless minimum nominal 1/4-inch thick underlayment with end and edge joints offset at least 2 inches or 1.5 inches of lightweight concrete or approved cellular concrete is placed over the subfloor, or 3/4-inch wood finish flooring is installed at right angles to the supports. Allowable uniform live load at maximum span, based on deflection of 1/360 of span, is 100 psf.
- Unsupported edges shall have tongue-and-groove joints or shall be supported by blocking unless nominal 1/4-inch-thick underlayment with end and edge joints offset at least 2 inches or 3/4-inch wood finish flooring is installed at right angles to the supports. Allowable uniform live load at maximum span, based on deflection of 1/360 of span, is 100 psf, except panels with a span rating of 48 on center are limited to 65 psf total uniform load at maximum span.
- Allowable live load values at spans of 16" o.c. and 24" o.c taken from reference standard APA E30, APA Engineered Wood Construction Guide. Refer to reference standard for allowable spans not listed in the table.