

WAC 246-359-250 Roof framing for wood framed construction and concrete masonry units (CMU). (1) Roof framing must have a minimum slope of three units vertical to twelve units horizontal, and must be framed with one of the following methods:

(a) Factory built trusses. Installed per manufacturer's directions and spaced not more than twenty-four inches on center. Roof trusses must be supported laterally at points of bearing by solid blocking to prevent rotation and lateral displacement;

(b) Rafter spans. Allowable rafter spans for Hem-Fir #2 or better must be in accordance with the spans and load conditions listed in Tables 250-A, 250-B or 250-C;

(c) Rafters. Rafters must be framed directly opposite each other at the ridge. There must be a ridge board at least one inch nominal thickness at all ridges and not less in depth than the cut end of the rafter;

(d) Notching at the ends of rafters cannot exceed one fourth the depth. Notches in the top or bottom must not exceed one sixth the depth and must not be located in the middle one third of the span;

(e) Holes bored in rafters must not be within two inches of the top or bottom and their diameter must not exceed one third the depth of the rafter; and

(f) Rafters must be supported laterally at points of bearing by solid blocking of the same material to prevent rotation and lateral displacement.

Table 250-A Western Wood Products Table for Hem-Fir #2 Rafter (L/240 Deflection Limit) 30# Snow Load and 10# Dead Load		
Rafter Size	Spacing—inches on center	Span—feet- inches
2 x 6	12	12-7
2 x 6	16	11-5
2 x 6	24	9-7
2 x 8	12	16-7
2 x 8	16	14-11
2 x 8	24	12-2
2 x 10	12	21-0
2 x 10	16	18-2
2 x 10	24	14-10
2 x 12	12	24-4
2 x 12	16	21-1
2 x 12	24	17-3

Table 250-B Western Wood Products Table for Hem-Fir #2 Rafter (L/240 Deflection Limit) 40# Snow Load and 10# Dead Load		
Rafter Size	Spacing—inches on center	Span—feet- inches
2 x 6	12	11-5
2 x 6	16	10-5
2 x 6	24	8-7
2 x 8	12	15-1
2 x 8	16	13-4

Table 250-B Western Wood Products Table for Hem-Fir #2 Rafter (L/240 Deflection Limit) 40# Snow Load and 10# Dead Load		
Rafter Size	Spacing—inches on center	Span—feet- inches
2 x 8	24	10-10
2 x 10	12	18-9
2 x 10	16	16-3
2 x 10	24	13-3
2 x 12	12	21-9
2 x 12	16	18-10
2 x 12	24	15-5

Table 250-C Western Wood Products Table for Hem-Fir #2 Rafter (L/240 Deflection Limit) 60# Snow Load and 10# Dead Load		
Ceiling Joist Size	Spacing—inches on center	Span—feet- inches
2 x 8	12	13-0
2 x 8	16	11-3
2 x 8	24	9-2
2 x 10	12	15-10
2 x 10	16	13-9
2 x 10	24	11-3
2 x 12	12	18-5
2 x 12	16	15-11
2 x 12	24	13-0
2 x 14	12	20-7
2 x 14	16	17-10
2 x 14	24	14-6

(2) The department of health will allow site built trusses accompanied by structural calculations prepared by a structural engineer or architect.

(3) Trimmer and header rafters must be doubled when the span of the header exceeds four feet. The ends of the header rafters more than six feet long must be supported by framing anchors or rafter hangers unless bearing on a beam, partition, or wall.

(4) Rafters must be nailed to adjacent ceiling joists to form a continuous tie between exterior walls when such joists are parallel to the rafters. Where not parallel, rafters must be nailed to minimum one-by-four cross ties.

(5) Rafter cross ties must be spaced not more than four feet on center, located immediately above the ceiling joists.

(6) Rafter and truss ties must be installed per manufacturer's instructions.

(7) Roof assembly must have rafter and truss ties to the wall below and spaced not more than four feet on center.

[Statutory Authority: Chapter 70.114A RCW and RCW 43.70.334 through 43.70.340. WSR 15-13-091, § 246-359-250, filed 6/15/15, effective

1/1/16. Statutory Authority: RCW 70.114A.081. WSR 99-03-065, §
246-359-250, filed 1/18/99, effective 2/18/99.]