

Max. Allowable Spans for #2 Douglas Fir-Larch^{1 2 3 4 5}

City of Medford Building Department December 1, 2014

Member Size	O/C Spacing	Floor Joists	Ceiling Joists Storage Above?		Rafters >3/12 ⁷	Combined Ceiling Joist/Rafter
			No	Yes ⁶		
2" x 4"	12"	n/a	12' 5"	9' 10"	n/a	n/a
	16"	n/a	11' 3"	8' 11"	n/a	n/a
	19.2"	n/a	10' 7"	8' 2"	n/a	n/a
	24"	n/a	9' 10"	7' 3"	n/a	n/a
2" x 6"	12"	10' 9"	19' 6"	15' 0"	14' 0"	12' 6"
	16"	9' 9"	17' 8"	13' 0"	12' 1"	10' 10"
	19.2"	9' 2"	16' 8"	11' 11"	11' 0"	9' 10"
	24"	8' 3"	15' 0"	10' 8"	9' 10"	8' 10"
2" x 8"	12"	14' 2"	25' 8"	19' 1"	17' 8"	15' 10"
	16"	12' 9"	23' 4"	16' 6"	15' 4"	13' 8"
	19.2"	11' 8"	21' 4"	15' 1"	14' 0"	12' 6"
	24"	10' 5"	19' 1"	13' 6"	12' 6"	11' 2"
2" x 10"	12"	18' 0"	32' 9"	23' 3"	21' 7"	19' 4"
	16"	15' 7"	28' 6"	20' 2"	18' 9"	16' 9"
	19.2"	14' 3"	26' 0"	18' 5"	17' 1"	15' 3"
	24"	12' 9"	23' 3"	16' 5"	15' 3"	13' 8"
2" x 12"	12"	20' 11"	n/a	n/a	25' 1"	22' 5"
	16"	18' 1"	n/a	n/a	21' 8"	19' 5"
	19.2"	16' 6"	n/a	n/a	19' 10"	17' 9"
	24"	14' 9"	n/a	n/a	17' 9"	15' 6"

¹ Deflection Criteria: Oregon One and Two Family Dwelling Code
Roof, no ceiling, Rafters=L/180; Floors=L/360; Ceilings=L/240 (Drywall).

² Rafter loading is for light roof covering (3-tab, metal, shakes, shingles) plus live load. For heavier roof covering, see Building Department.

³ Strength – Floor Joist Live Loads 40# psf, Dead Loads 10# psf; Ceiling Joist (no storage) Live Loads 10# psf, Dead Loads 5# psf; Ceiling Joist (with light storage) Live Loads 20# psf, Dead Loads 10#psf; Roof Rafters Snow Loads 25# psf, Dead Loads 15# psf.

⁴ For load conditions or deflection limit settings outside the scope of this chart, use the WWPA Lumber Design Suite located at the Association's web site at www.wvpa.org

⁵ Span table based on WWPA Western Lumber Span Tables, 572 Edition Rev. 7-04.

⁶ Attics spaces served by a fixed stair shall be designed to support the minimum live load specified for sleeping rooms. Table R301.5. This table uses 20#LL; 10#DL

⁷ Where the roof pitch is less than 3:12, structural members that support rafters and ceiling joists, such as ridge beams, hips and valleys, shall be designed as beams. R802.3