City of Arcata, California

Building Division Informational Handout

The following table represents the minimum standards for roof rafters, ceiling joists, and floor joists contained within the 2001 California Building Code and can only be used for projects conforming to "conventional light-frame construction". See Chapter 23 for complete requirements.

RAFTER and JOIST SPAN TABLE [1,2]

Lumber Size	Lumber Spacing	Rafters						Ceiling Joists [6]	Floor Joists [3]
		Roof slope greater than 3:12 [7]		Roof Slopes up to 3:12 [7]		Flat Roof or Cathedral Ceiling w/ Drywall			
		Light [4]	Heavy [5]	Light [4]		Light [4]	Heavy [5]		
2x4	12	N/A	N/A	N/A	N/A	N/A	N/A	12'-5"	N/A
	16							11'-3"	
	24							9'-10"	
2x6	12	17'-0"	15'-5"	15'-6"		15'-4"	13'-6"	19'-6"	10'-9"
	16	15'-2"	13'-3"	14'-1"		13'-3"	11'-9"	17'-8"	9'-9"
	24	12'-4"	10'-10"	11'-9"		10'-10"	9'-7"	14'-10"	8'-1"
2x8	12	22'-2"	19'-5"	20'-5"		19'-5"	17'-2"	25'8"	14'-2"
	16	19'-2"	16'-10"	18'-2"		16'-10"	14'-10"	23'-0"	12'-7"
	24	15'-8"	13'-9"	14'-10"		13'-9"	12'-1"	18'-0"	10'-3"
2x10	12	27'-0"	23'-9"	25'-8"		23'-9"	20'-11"	32'-5"	17'-9"
	16	23'-5"	20'-7"	22'-3"		20'-7"	18'-2"	28'-1"	15'-5"
	24	19'-1"	16'-9"	18'-2"		16"-9"	14'-10"	22'-11"	12'-7"
2x12	12	31'-4"	27'-6"	29'-9"		27'-6"	24'-3"	N/A	20'-7"
	16	27'-2"	23'-10"	25'-9"		23'-10"	21'-0"		17'-10"
	24	22'-2"	19'-6"	21'-0"		19'-6"	17'-2"		14'-7"

1 Table based on Douglas Fir-Larch, No. 2 values for visually graded lumber by WCLIB and WWPA.
2 Spans shown are clear horizontal distance between supports.
3 Based on 40 psf live load.
4 Light roofing material consists of composition or wood shingles
5 Heavy roofing material consists of rock, gravel, tile or shake shingles.
6 No attic storage
7 No ceiling finish