

SOUTHERN PINE SPAN TABLES

Maximum Spans
given in feet and inches

Table 46 Floor Joists – 125 psf live load, 10 psf dead load, $\ell/360$

Size inches	Spacing inches on center	Grade									
		Dense Select Structural	Select Structural	NonDense Select Structural	No. 1 Dense	No. 1 NonDense	No. 1 NonDense	No. 2 Dense	No. 2 NonDense	No. 2 NonDense	No. 3
2 x 6	12	7-9	7-8	7-6	7-8	7-6	7-4	7-6	7-4	7-0	5-8
	16	6-5	6-5	6-5	6-5	6-5	6-5	6-5	6-4	6-1	4-11
	24	4-7	4-7	4-7	4-7	4-7	4-7	4-7	4-7	4-7	4-0
2 x 8	12	10-3	10-1	9-10	10-1	9-10	9-8	9-10	9-6	9-1	7-3
	16	8-5	8-5	8-5	8-5	8-5	8-5	8-5	8-2	7-10	6-3
	24	6-0	6-0	6-0	6-0	6-0	6-0	6-0	6-0	6-0	5-1
2 x 10	12	13-1	12-10	12-7	12-10	12-7	12-1	12-1	11-4	10-9	8-6
	16	10-9	10-9	10-9	10-9	10-9	10-5	10-5	9-9	9-4	7-5
	24	7-8	7-8	7-8	7-8	7-8	7-8	7-8	7-8	7-7	6-0
2 x 12	12	15-11	15-7	15-4	15-7	15-0	14-4	14-4	13-3	12-9	10-2
	16	13-1	13-1	13-1	13-1	13-0	12-5	12-5	11-5	11-0	8-10
	24	9-4	9-4	9-4	9-4	9-4	9-4	9-4	9-4	9-0	7-2

Table 47 Floor Joists – 150 psf live load, 10 psf dead load, $\ell/360$

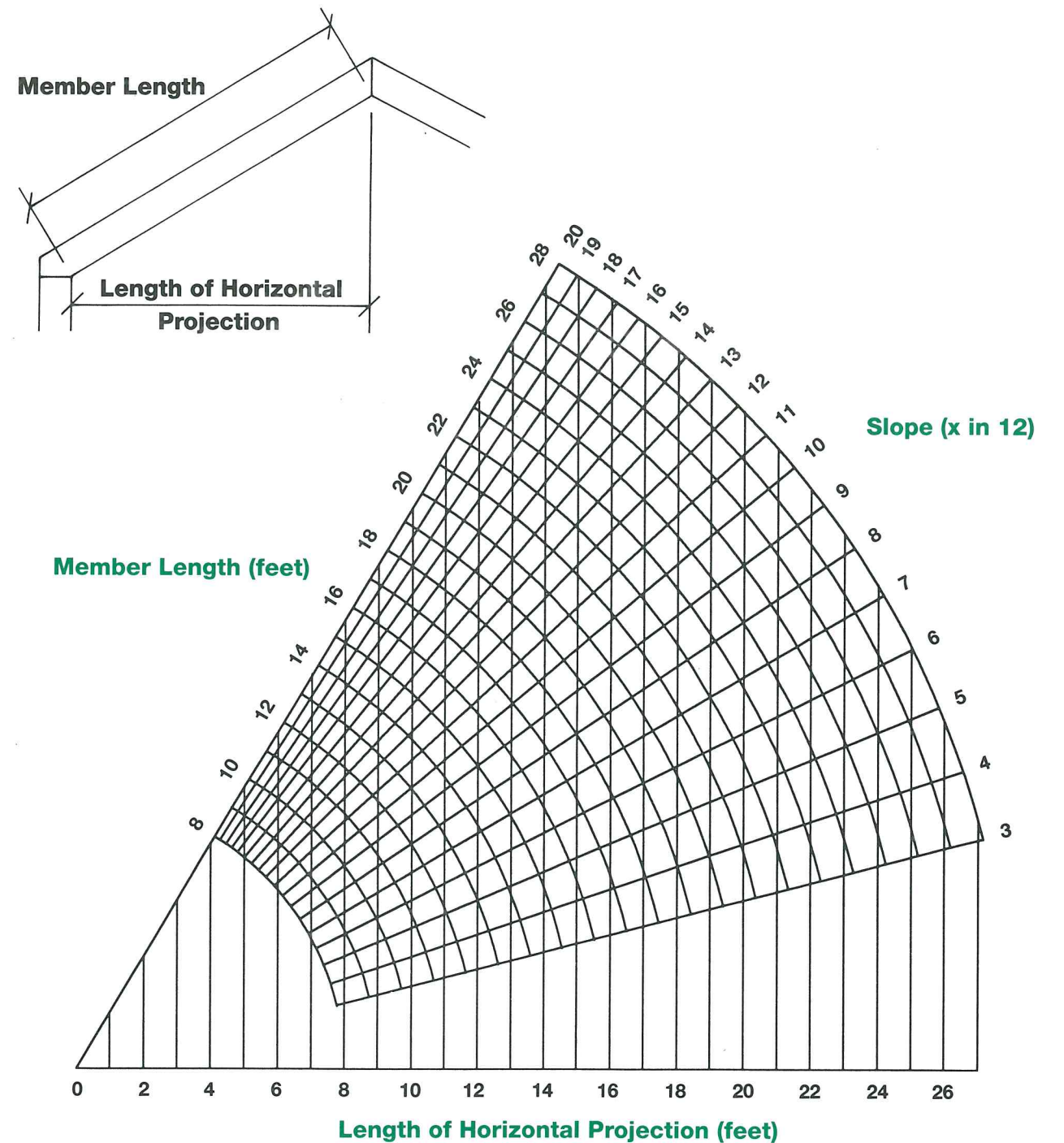
Size inches	Spacing inches on center	Grade									
		Dense Select Structural	Select Structural	NonDense Select Structural	No. 1 Dense	No. 1 NonDense	No. 1 NonDense	No. 2 Dense	No. 2 NonDense	No. 2 NonDense	No. 3
2 x 6	12	7-1	7-1	7-1	7-1	7-1	6-11	7-1	6-9	6-5	5-3
	16	5-7	5-7	5-7	5-7	5-7	5-7	5-7	5-7	5-7	4-6
	24	4-0	4-0	4-0	4-0	4-0	4-0	4-0	4-0	4-0	3-8
2 x 8	12	9-4	9-4	9-3	9-4	9-3	9-1	9-3	8-8	8-4	6-8
	16	7-4	7-4	7-4	7-4	7-4	7-4	7-4	7-4	7-2	5-9
	24	5-3	5-3	5-3	5-3	5-3	5-3	5-3	5-3	5-3	4-8
2 x 10	12	11-11	11-11	11-10	11-11	11-7	11-1	11-1	10-5	9-10	7-10
	16	9-4	9-4	9-4	9-4	9-4	9-4	9-4	9-0	8-6	6-9
	24	6-9	6-9	6-9	6-9	6-9	6-9	6-9	6-9	6-9	5-7
2 x 12	12	14-6	14-6	14-5	14-4	13-9	13-2	13-2	12-2	11-9	9-4
	16	11-4	11-4	11-4	11-4	11-4	11-4	11-4	10-6	10-2	8-1
	24	8-2	8-2	8-2	8-2	8-2	8-2	8-2	8-2	8-2	6-7

These spans are based on the 1993 AFPA (formerly NFPA) Span Tables for Joists and Rafters and the 1991 SPIB Grading Rules, but include an additional check for shear. They are intended for use in covered structures or where the moisture content in use does not exceed 19 percent for an extended period of time. Loading conditions are expressed in psf (pounds per square foot). Deflection is limited to span in inches divided by 360 and is based on live load only.

These grades are the most commonly available.

CONVERSION DIAGRAM FOR RAFTERS

Courtesy of the American Forest & Paper Association



To use the diagram, select the known horizontal distance and follow the vertical line to its intersection with the radial line of the specified slope. Then proceed along the arc to read the sloping distance. In some cases it may be desirable to interpolate between the one-foot separations. The diagram also may be used to

find the horizontal distance corresponding to a given sloping distance, or to find the slope when the horizontal and sloping distances are known.
Example: With a roof slope of 8 in 12, and a horizontal distance of 20 feet, the sloping distance may be read as 24 feet.