

Maximum Spans SP Machine Evaluated Lumber (MEL)

Based on the 2002 SPIB Standard Grading Rules for Southern Pine Lumber, including Supplement 12

Maximum spans in feet-inches

Table 1 Floor Joists – 30 psf live load, 10 psf dead load, 360 deflection														Part 1 of 3
Size	Spacing In. o.c.	M-27 3000-2.1	M-31 2850-1.9	M-42 2850-1.8	M-26 2800-2.0	M-25 2750-2.2	M-24 2700-1.9	M-41 2550-1.8	M-23 2400-1.8	M-22 2350-1.7	M-21 2300-1.9	M-28 2200-1.7	M-30 2050-1.7	M-20 2000-1.9
2x4	12	8-3	7-11	7-10	8-1	8-4	7-11	7-10	7-10	7-8	7-11	7-8	7-8	7-11
	16	7-6	7-3	7-1	7-4	7-7	7-3	7-1	7-1	7-0	7-3	7-0	7-0	7-3
	24	6-6	6-4	6-2	6-5	6-8	6-4	6-2	6-2	6-1	6-4	6-1	6-1	6-4
2x6	12	12-11	12-6	12-3	12-9	13-1	12-6	12-3	12-3	12-0	12-6	12-0	12-0	12-6
	16	11-9	11-4	11-2	11-7	11-11	11-4	11-2	11-2	10-11	11-4	10-11	10-11	11-4
	24	10-3	9-11	9-9	10-1	10-5	9-11	9-9	9-9	9-7	9-11	9-7	9-7	9-11
2x8	12	17-0	16-6	16-2	16-9	17-4	16-6	16-2	16-2	15-10	16-6	15-10	15-10	16-6
	16	15-6	15-0	14-8	15-3	15-9	15-0	14-8	14-8	14-5	15-0	14-5	14-5	15-0
	24	13-6	13-1	12-10	13-4	13-9	13-1	12-10	12-10	12-7	13-1	12-7	12-7	13-1
2x10	12	21-9	21-0	20-8	21-5	22-1	21-0	20-8	20-8	20-3	21-0	20-3	20-3	21-0
	16	19-9	19-1	18-9	19-5	20-1	19-1	18-9	18-9	18-5	19-1	18-5	18-5	19-1
	24	17-3	16-8	16-5	17-0	17-6	16-8	16-5	16-5	16-1	16-8	16-1	16-1	16-8
2x12	12	26-0*	25-7	25-1	26-0	26-0*	25-7	25-1	25-1	24-8	25-7	24-8	24-8	25-7
	16	24-0	23-3	22-10	23-7	24-5	23-3	22-10	22-10	22-5	23-3	22-5	22-5	23-3
	24	21-0	20-3	19-11	20-8	21-4	20-3	19-11	19-11	19-7	20-3	19-7	19-7	20-3

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Table 1 Floor Joists – 30 psf live load, 10 psf dead load, 360 deflection														Part 2 of 3
Size	Spacing In. o.c.	M-18 2000-1.8	M-19 2000-1.6	M-17 1950-1.7	M-40 1850-1.7	M-14 1800-1.7	M-16 1800-1.5	M-15 1800-1.5	M-39 1650-1.7	M-12 1600-1.6	M-13 1600-1.4	M-29 1550-1.7	M-11 1550-1.5	M-38 1500-1.6
2x4	12	7-10	7-6	7-8	7-8	7-8	7-4	7-4	7-8	7-6	7-2	7-8	7-4	7-6
	16	7-1	6-10	7-0	7-0	7-0	6-8	6-8	7-0	6-10	6-6	7-0	6-8	6-10
	24	6-2	6-0	6-1	6-1	6-1	5-10	5-10	6-1	6-0	5-8	6-1	5-10	6-0
2x6	12	12-3	11-10	12-0	12-0	12-0	11-7	11-7	12-0	11-10	11-3	12-0	11-7	11-10
	16	11-2	10-9	10-11	10-11	10-11	10-6	10-6	10-11	10-9	10-3	10-11	10-6	10-9
	24	9-9	9-4	9-7	9-7	9-7	9-2	9-2	9-7	9-4	8-11	9-7	9-2	9-4
2x8	12	16-2	15-7	15-10	15-10	15-10	15-3	15-3	15-10	15-7	14-11	15-10	15-3	15-7
	16	14-8	14-2	14-5	14-5	14-5	13-10	13-10	14-5	14-2	13-6	14-5	13-10	14-2
	24	12-10	12-4	12-7	12-7	12-7	12-1	12-1	12-7	12-4	11-10	12-7	12-1	12-4
2x10	12	20-8	19-10	20-3	20-3	20-3	19-5	19-5	20-3	19-10	19-0	20-3	19-5	19-10
	16	18-9	18-0	18-5	18-5	18-5	17-8	17-8	18-5	18-0	17-3	18-5	17-8	18-0
	24	16-5	15-9	16-1	16-1	16-1	15-5	15-5	16-1	15-9	15-1	16-1	15-5	15-9
2x12	12	25-1	24-2	24-8	24-8	24-8	23-7	23-7	24-8	24-2	23-1	24-8	23-7	24-2
	16	22-10	21-11	22-5	22-5	22-5	21-6	21-6	22-5	21-11	21-0	22-5	21-6	21-11
	24	19-11	19-2	19-7	19-7	19-7	18-9	18-9	19-7	19-2	18-4	19-7	18-9	19-2

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Maximum spans in feet-inches

Table 1 Floor Joists – 30 psf live load, 10 psf dead load, 360 deflection													Part 3 of 3	
Size	Spacing In. o.c.	M-9 1400-1.4	M-10 1400-1.2	M-8 1300-1.3	M-37 1250-1.6	M-36 1200-1.6	M-7 1200-1.1	M-6 1100-1.0	M-35 1050-1.6	M-34 975-1.6	M-5 900-1.1	M-33 850-1.4	M-32 750-1.4	
2x4	12	7-2	6-10	7-0	7-6	7-6	6-8	6-5	7-6	7-6	6-8	7-1	6-8	
	16	6-6	6-2	6-4	6-10	6-10	6-0	5-10	6-10	6-7	6-0	6-1	5-9	
	24	5-8	5-5	5-7	6-0	5-11	5-3	5-1	5-7	5-4	5-2	5-0	4-8	
2x6	12	11-3	10-9	11-0	11-10	11-10	10-5	10-1	11-10	11-10	10-5	11-1	10-5	
	16	10-3	9-9	10-0	10-9	10-9	9-6	9-2	10-8	10-4	9-6	9-7	9-0	
	24	8-11	8-6	8-9	9-4	9-4	8-3	8-0	8-9	8-5	8-1	7-10	7-4	
2x8	12	14-11	14-2	14-6	15-7	15-7	13-9	13-4	15-7	15-7	13-9	14-8	13-9	
	16	13-6	12-10	13-2	14-2	14-2	12-6	12-1	14-1	13-7	12-6	12-8	11-11	
	24	11-10	11-3	11-6	12-4	12-4	10-11	10-7	11-6	11-1	10-8	10-4	9-9	
2x10	12	19-0	18-0	18-6	19-10	19-10	17-6	17-0	19-10	19-10	17-6	18-8	17-6	
	16	17-3	16-5	16-10	18-0	18-0	15-11	15-5	18-0	17-4	15-11	16-2	15-2	
	24	15-1	14-4	14-8	15-9	15-8	13-11	13-6	14-8	14-2	13-7	13-2	12-5	
2x12	12	23-1	21-11	22-6	24-2	24-2	21-4	20-8	24-2	24-2	21-4	22-8	21-4	
	16	21-0	19-11	20-6	21-11	21-11	19-4	18-9	21-10	21-1	19-4	19-8	18-6	
	24	18-4	17-5	17-11	19-2	19-1	16-11	16-5	17-10	17-2	16-6	16-1	15-1	

Applied loads are given in psf (pounds per square foot). Deflection is limited to the span in inches divided by 360 or 240 and is based on live load only. The load duration factor, C_D , is 1.0 unless shown as 1.15 for snow loads or 1.25 for construction loads. The bending design value (F_B in psi) and modulus of elasticity (E in million psi) are listed below each grade name. Not all of the possible Southern Pine lumber grades will be produced. The marketplace will eventually determine the most common grades. An asterisk (*) indicates the listed span has been limited to 26'-0" based on availability; check sources of supply for lumber longer than 20'.

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Maximum spans in feet-inches

Table 2 Floor Joists – 40 psf live load, 10 psf dead load, 360 deflection														Part 1 of 3
Size	Spacing In. o.c.	M-27 3000-2.1	M-31 2850-1.9	M-42 2850-1.8	M-26 2800-2.0	M-25 2750-2.2	M-24 2700-1.9	M-41 2550-1.8	M-23 2400-1.8	M-22 2350-1.7	M-21 2300-1.9	M-28 2200-1.7	M-30 2050-1.7	M-20 2000-1.9
2x4	12	7-6	7-3	7-1	7-4	7-7	7-3	7-1	7-1	7-0	7-3	7-0	7-0	7-3
	16	6-9	6-7	6-5	6-8	6-11	6-7	6-5	6-5	6-4	6-7	6-4	6-4	6-7
	24	5-11	5-9	5-8	5-10	6-0	5-9	5-8	5-8	5-6	5-9	5-6	5-6	5-9
2x6	12	11-9	11-4	11-2	11-7	11-11	11-4	11-2	11-2	10-11	11-4	10-11	10-11	11-4
	16	10-8	10-4	10-2	10-6	10-10	10-4	10-2	10-2	9-11	10-4	9-11	9-11	10-4
	24	9-4	9-0	8-10	9-2	9-6	9-0	8-10	8-10	8-8	9-0	8-8	8-8	9-0
2x8	12	15-6	15-0	14-8	15-3	15-9	15-0	14-8	14-8	14-5	15-0	14-5	14-5	15-0
	16	14-1	13-7	13-4	13-10	14-3	13-7	13-4	13-4	13-1	13-7	13-1	13-1	13-7
	24	12-3	11-11	11-8	12-1	12-6	11-11	11-8	11-8	11-5	11-11	11-5	11-5	11-11
2x10	12	19-9	19-1	18-9	19-5	20-1	19-1	18-9	18-9	18-5	19-1	18-5	18-5	19-1
	16	17-11	17-4	17-0	17-8	18-3	17-4	17-0	17-0	16-9	17-4	16-9	16-9	17-4
	24	15-8	15-2	14-11	15-5	15-11	15-2	14-11	14-11	14-7	15-2	14-7	14-7	15-2
2x12	12	24-0	23-3	22-10	23-7	24-5	23-3	22-10	22-10	22-5	23-3	22-5	22-5	23-3
	16	21-10	21-1	20-9	21-6	22-2	21-1	20-9	20-9	20-4	21-1	20-4	20-4	21-1
	24	19-1	18-5	18-1	18-9	19-4	18-5	18-1	18-1	17-9	18-5	17-9	17-9	18-5

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Size	Spacing In. o.c.	M-18 2000-1.8	M-19 2000-1.6	M-17 1950-1.7	M-40 1850-1.7	M-14 1800-1.7	M-16 1800-1.5	M-15 1800-1.5	M-39 1650-1.7	M-12 1600-1.6	M-13 1600-1.4	M-29 1550-1.7	M-11 1550-1.5	M-38 1500-1.6
2x4	12	7-1	6-10	7-0	7-0	7-0	6-8	6-8	7-0	6-10	6-6	7-0	6-8	6-10
	16	6-5	6-2	6-4	6-4	6-4	6-1	6-1	6-4	6-2	5-11	6-4	6-1	6-2
	24	5-8	5-5	5-6	5-6	5-6	5-4	5-4	5-6	5-5	5-2	5-6	5-4	5-5
2x6	12	11-2	10-9	10-11	10-11	10-11	10-6	10-6	10-11	10-9	10-3	10-11	10-6	10-9
	16	10-2	9-9	9-11	9-11	9-11	9-6	9-6	9-11	9-9	9-4	9-11	9-6	9-9
	24	8-10	8-6	8-8	8-8	8-8	8-4	8-4	8-8	8-6	8-2	8-8	8-4	8-6
2x8	12	14-8	14-2	14-5	14-5	14-5	13-10	13-10	14-5	14-2	13-6	14-5	13-10	14-2
	16	13-4	12-10	13-1	13-1	13-1	12-7	12-7	13-1	12-10	12-3	13-1	12-7	12-10
	24	11-8	11-3	11-5	11-5	11-5	11-0	11-0	11-5	11-3	10-9	11-5	11-0	11-3
2x10	12	18-9	18-0	18-5	18-5	18-5	17-8	17-8	18-5	18-0	17-3	18-5	17-8	18-0
	16	17-0	16-5	16-9	16-9	16-9	16-0	16-0	16-9	16-5	15-8	16-9	16-0	16-5
	24	14-11	14-4	14-7	14-7	14-7	14-0	14-0	14-7	14-4	13-8	14-7	14-0	14-4
2x12	12	22-10	21-11	22-5	22-5	22-5	21-6	21-6	22-5	21-11	21-0	22-5	21-6	21-11
	16	20-9	19-11	20-4	20-4	20-4	19-6	19-6	20-4	19-11	19-1	20-4	19-6	19-11
	24	18-1	17-5	17-9	17-9	17-9	17-0	17-0	17-9	17-5	16-8	17-9	17-0	17-5

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Size	Spacing In. o.c.	M-9	M-10	M-8	M-37	M-36	M-7	M-6	M-35	M-34	M-5	M-33	M-32	
		1400-1.4	1400-1.2	1300-1.3	1250-1.6	1200-1.6	1200-1.1	1100-1.0	1050-1.6	975-1.6	900-1.1	850-1.4	750-1.4	
2x4	12	6-6	6-2	6-4	6-10	6-10	6-0	5-10	6-10	6-9	6-0	6-4	5-11	
	16	5-11	5-8	5-9	6-2	6-2	5-6	5-4	6-1	5-10	5-6	5-6	5-2	
	24	5-2	4-11	5-1	5-5	5-4	4-9	4-8	5-0	4-9	4-7	4-6	4-2	
2x6	12	10-3	9-9	10-0	10-9	10-9	9-6	9-2	10-9	10-8	9-6	9-11	9-4	
	16	9-4	8-10	9-1	9-9	9-9	8-7	8-4	9-7	9-3	8-7	8-7	8-1	
	24	8-2	7-9	7-11	8-6	8-4	7-6	7-3	7-10	7-6	7-3	7-0	6-7	
2x8	12	13-6	12-10	13-2	14-2	14-2	12-6	12-1	14-2	14-0	12-6	13-1	12-4	
	16	12-3	11-8	12-0	12-10	12-10	11-4	11-0	12-7	12-2	11-4	11-4	10-8	
	24	10-9	10-2	10-6	11-3	11-0	9-11	9-7	10-3	9-11	9-6	9-3	8-8	
2x10	12	17-3	16-5	16-10	18-0	18-0	15-11	15-5	18-0	17-11	15-11	16-8	15-8	
	16	15-8	14-11	15-3	16-5	16-5	14-6	14-0	16-1	15-6	14-6	14-6	13-7	
	24	13-8	13-0	13-4	14-4	14-0	12-8	12-3	13-1	12-8	12-2	11-10	11-1	
2x12	12	21-0	19-11	20-6	21-11	21-11	19-4	18-9	21-11	21-9	19-4	20-4	19-1	
	16	19-1	18-1	18-7	19-11	19-11	17-7	17-0	19-7	18-10	17-7	17-7	16-6	
	24	16-8	15-10	16-3	17-5	17-1	15-4	14-11	16-0	15-5	14-9	14-4	13-6	

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Size	Spacing In. o.c.	M-27 3000-2.1	M-31 2850-1.9	M-42 2850-1.8	M-26 2800-2.0	M-25 2750-2.2	M-24 2700-1.9	M-41 2550-1.8	M-23 2400-1.8	M-22 2350-1.7	M-21 2300-1.9	M-28 2200-1.7	M-30 2050-1.7	M-20 2000-1.9
2x4	12	7-3	7-0	6-10	7-1	7-4	7-0	6-10	6-10	6-9	7-0	6-9	6-9	7-0
	16	6-7	6-4	6-3	6-5	6-8	6-4	6-3	6-3	6-1	6-4	6-1	6-1	6-4
	24	5-9	5-6	5-5	5-8	5-10	5-6	5-5	5-5	5-4	5-6	5-4	5-4	5-6
2x6	12	11-4	11-0	10-9	11-2	11-6	11-0	10-9	10-9	10-7	11-0	10-7	10-7	11-0
	16	10-4	10-0	9-9	10-2	10-5	10-0	9-9	9-9	9-7	10-0	9-7	9-7	10-0
	24	9-0	8-8	8-7	8-10	9-2	8-8	8-7	8-7	8-5	8-8	8-5	8-5	8-8
2x8	12	14-11	14-5	14-2	14-8	15-2	14-5	14-2	14-2	13-11	14-5	13-11	13-11	14-5
	16	13-7	13-2	12-11	13-4	13-9	13-2	12-11	12-11	12-8	13-2	12-8	12-8	13-2
	24	11-10	11-6	11-3	11-8	12-1	11-6	11-3	11-3	11-1	11-6	11-1	11-1	11-6
2x10	12	19-1	18-5	18-1	18-9	19-4	18-5	18-1	18-1	17-9	18-5	17-9	17-9	18-5
	16	17-4	16-9	16-5	17-0	17-7	16-9	16-5	16-5	16-2	16-9	16-2	16-2	16-9
	24	15-2	14-8	14-4	14-11	15-4	14-8	14-4	14-4	14-1	14-8	14-1	14-1	14-8
2x12	12	23-2	22-5	22-0	22-10	23-7	22-5	22-0	22-0	21-7	22-5	21-7	21-7	22-5
	16	21-1	20-4	20-0	20-9	21-5	20-4	20-0	20-0	19-8	20-4	19-8	19-8	20-4
	24	18-5	17-10	17-6	18-1	18-8	17-10	17-6	17-6	17-2	17-10	17-2	17-2	17-10

Applied loads are given in psf (pounds per square foot). Deflection is limited to the span in inches divided by 360 or 240 and is based on live load only. The load duration factor, C_D , is 1.0 unless shown as 1.15 for snow loads or 1.25 for construction loads. The bending design value (F_B in psi) and modulus of elasticity (E in million psi) are listed below each grade name. Not all of the possible Southern Pine lumber grades will be produced. The marketplace will eventually determine the most common grades. An asterisk (*) indicates the listed span has been limited to 26'-0" based on availability; check sources of supply for lumber longer than 20'.

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Maximum Spans SP Machine Evaluated Lumber (MEL)

Based on the 2002 SPIB Standard Grading Rules for Southern Pine Lumber, including Supplement 12

Maximum spans in feet-inches

Table 12 Wet-Service Floor Joists (MC>19%) – 40 psf live load, 10 psf dead load, 360 deflection														Part 2 of 3
Size	Spacing In. o.c.	M-18 2000-1.8	M-19 2000-1.6	M-17 1950-1.7	M-40 1850-1.7	M-14 1800-1.7	M-16 1800-1.5	M-15 1800-1.5	M-39 1650-1.7	M-12 1600-1.6	M-13 1600-1.4	M-29 1550-1.7	M-11 1550-1.5	M-38 1500-1.6
2x4	12	6-10	6-7	6-9	6-9	6-9	6-5	6-5	6-9	6-7	6-4	6-9	6-5	6-7
	16	6-3	6-0	6-1	6-1	6-1	5-10	5-10	6-1	6-0	5-9	6-1	5-10	6-0
	24	5-5	5-3	5-4	5-4	5-4	5-1	5-1	5-4	5-3	5-0	5-4	5-1	5-3
2x6	12	10-9	10-4	10-7	10-7	10-7	10-2	10-2	10-7	10-4	9-11	10-7	10-2	10-4
	16	9-9	9-5	9-7	9-7	9-7	9-2	9-2	9-7	9-5	9-0	9-7	9-2	9-5
	24	8-7	8-3	8-5	8-5	8-5	8-0	8-0	8-5	8-3	7-10	8-5	8-0	8-3
2x8	12	14-2	13-8	13-11	13-11	13-11	13-4	13-4	13-11	13-8	13-1	13-11	13-4	13-8
	16	12-11	12-5	12-8	12-8	12-8	12-2	12-2	12-8	12-5	11-10	12-8	12-2	12-5
	24	11-3	10-10	11-1	11-1	11-1	10-7	10-7	11-1	10-10	10-4	11-1	10-7	10-10
2x10	12	18-1	17-5	17-9	17-9	17-9	17-0	17-0	17-9	17-5	16-8	17-9	17-0	17-5
	16	16-5	15-10	16-2	16-2	16-2	15-6	15-6	16-2	15-10	15-2	16-2	15-6	15-10
	24	14-4	13-10	14-1	14-1	14-1	13-6	13-6	14-1	13-10	13-3	14-1	13-6	13-10
2x12	12	22-0	21-2	21-7	21-7	21-7	20-9	20-9	21-7	21-2	20-3	21-7	20-9	21-2
	16	20-0	19-3	19-8	19-8	19-8	18-10	18-10	19-8	19-3	18-5	19-8	18-10	19-3
	24	17-6	16-10	17-2	17-2	17-2	16-5	16-5	17-2	16-10	16-1	17-2	16-5	16-10

Applied loads are given in psf (pounds per square foot). Deflection is limited to the span in inches divided by 360 or 240 and is based on live load only. The load duration factor, C_D , is 1.0 unless shown as 1.15 for snow loads or 1.25 for construction loads. The bending design value (F_B in psi) and modulus of elasticity (E in million psi) are listed below each grade name. Not all of the possible Southern Pine lumber grades will be produced. The marketplace will eventually determine the most common grades. An asterisk (*) indicates the listed span has been limited to 26'-0" based on availability; check sources of supply for lumber longer than 20'.

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Maximum Spans SP Machine Evaluated Lumber (MEL)

Based on the 2002 SPIB Standard Grading Rules for Southern Pine Lumber, including Supplement 12

Maximum spans in feet-inches

Table 12 Wet-Service Floor Joists (MC>19%) – 40 psf live load, 10 psf dead load, 360 deflection Part 3 of 3

Size	Spacing In. o.c.	M-9	M-10	M-8	M-37	M-36	M-7	M-6	M-35	M-34	M-5	M-33	M-32
		1400-1.4	1400-1.2	1300-1.3	1250-1.6	1200-1.6	1200-1.1	1100-1.0	1050-1.6	975-1.6	900-1.1	850-1.4	750-1.4
2x4	12	6-4	6-0	6-2	6-7	6-7	5-10	5-8	6-7	6-7	5-10	6-4	5-11
	16	5-9	5-5	5-7	6-0	6-0	5-3	5-1	6-0	5-10	5-3	5-6	5-2
	24	5-0	4-9	4-11	5-0	4-11	4-7	4-6	5-0	4-9	4-7	4-6	4-2
2x6	12	9-11	9-5	9-8	10-4	10-4	9-2	8-10	10-4	10-4	9-2	9-11	9-4
	16	9-0	8-7	8-9	9-5	9-5	8-4	8-0	9-5	9-3	8-4	8-7	8-1
	24	7-10	7-6	7-8	7-10	7-8	7-3	7-0	7-10	7-6	7-3	7-0	6-7
2x8	12	13-1	12-5	12-9	13-8	13-8	12-1	11-8	13-8	13-8	12-1	13-1	12-4
	16	11-10	11-3	11-7	12-5	12-5	10-11	10-7	12-5	12-2	10-11	11-4	10-8
	24	10-4	9-10	10-1	10-4	10-2	9-7	9-3	10-3	9-11	9-6	9-3	8-8
2x10	12	16-8	15-10	16-3	17-5	17-5	15-4	14-11	17-5	17-5	15-4	16-8	15-8
	16	15-2	14-4	14-9	15-10	15-10	14-0	13-6	15-10	15-6	14-0	14-6	13-7
	24	13-3	12-7	12-11	13-2	12-11	12-2	11-10	13-1	12-8	12-2	11-10	11-1
2x12	12	20-3	19-3	19-9	21-2	21-2	18-8	18-1	21-2	21-2	18-8	20-3	19-1
	16	18-5	17-6	17-11	19-3	19-3	17-0	16-5	19-3	18-10	17-0	17-7	16-6
	24	16-1	15-3	15-8	16-1	15-9	14-10	14-4	16-0	15-5	14-9	14-4	13-6

Applied loads are given in psf (pounds per square foot). Deflection is limited to the span in inches divided by 360 or 240 and is based on live load only. The load duration factor, C_D , is 1.0 unless shown as 1.15 for snow loads or 1.25 for construction loads. The bending design value (F_B in psi) and modulus of elasticity (E in million psi) are listed below each grade name. Not all of the possible Southern Pine lumber grades will be produced. The marketplace will eventually determine the most common grades. An asterisk (*) indicates the listed span has been limited to 26'-0" based on availability; check sources of supply for lumber longer than 20'.

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Maximum Spans SP Machine Evaluated Lumber (MEL)

Based on the 2002 SPIB Standard Grading Rules for Southern Pine Lumber, including Supplement 12

Maximum spans in feet-inches

Table 15 Ceiling Joists – 10 psf live load, 5 psf dead load, 240 deflection														Part 1 of 3
Size	Spacing In. o.c.	M-27 3000-2.1	M-31 2850-1.9	M-42 2850-1.8	M-26 2800-2.0	M-25 2750-2.2	M-24 2700-1.9	M-41 2550-1.8	M-23 2400-1.8	M-22 2350-1.7	M-21 2300-1.9	M-28 2200-1.7	M-30 2050-1.7	M-20 2000-1.9
2x4	12	13-7	13-2	12-11	13-4	13-9	13-2	12-11	12-11	12-8	13-2	12-8	12-8	13-2
	16	12-4	11-11	11-9	12-2	12-6	11-11	11-9	11-9	11-6	11-11	11-6	11-6	11-11
	24	10-9	10-5	10-3	10-7	10-11	10-5	10-3	10-3	10-0	10-5	10-0	10-0	10-5
2x6	12	21-4	20-8	20-3	21-0	21-8	20-8	20-3	20-3	19-11	20-8	19-11	19-11	20-8
	16	19-5	18-9	18-5	19-1	19-8	18-9	18-5	18-5	18-1	18-9	18-1	18-1	18-9
	24	16-11	16-4	16-1	16-8	17-2	16-4	16-1	16-1	15-9	16-4	15-9	15-9	16-4
2x8	12	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*
	16	25-7	24-8	24-3	25-2	25-11	24-8	24-3	24-3	23-10	24-8	23-10	23-10	24-8
	24	22-4	21-7	21-2	21-11	22-8	21-7	21-2	21-2	20-10	21-7	20-10	20-10	21-7
2x10	12	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*
	16	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*
	24	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*
2x12	12	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*
	16	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*
	24	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*

Applied loads are given in psf (pounds per square foot). Deflection is limited to the span in inches divided by 360 or 240 and is based on live load only. The load duration factor, C_D , is 1.0 unless shown as 1.15 for snow loads or 1.25 for construction loads. The bending design value (F_B in psi) and modulus of elasticity (E in million psi) are listed below each grade name. Not all of the possible Southern Pine lumber grades will be produced. The marketplace will eventually determine the most common grades. An asterisk (*) indicates the listed span has been limited to 26'-0" based on availability; check sources of supply for lumber longer than 20'.

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Maximum Spans SP Machine Evaluated Lumber (MEL)

Based on the 2002 SPIB Standard Grading Rules for Southern Pine Lumber, including Supplement 12

Maximum spans in feet-inches

Table 15 Ceiling Joists – 10 psf live load, 5 psf dead load, 240 deflection														Part 2 of 3
Size	Spacing In. o.c.	M-18 2000-1.8	M-19 2000-1.6	M-17 1950-1.7	M-40 1850-1.7	M-14 1800-1.7	M-16 1800-1.5	M-15 1800-1.5	M-39 1650-1.7	M-12 1600-1.6	M-13 1600-1.4	M-29 1550-1.7	M-11 1550-1.5	M-38 1500-1.6
2x4	12	12-11	12-5	12-8	12-8	12-8	12-2	12-2	12-8	12-5	11-10	12-8	12-2	12-5
	16	11-9	11-3	11-6	11-6	11-6	11-0	11-0	11-6	11-3	10-9	11-6	11-0	11-3
	24	10-3	9-10	10-0	10-0	10-0	9-8	9-8	10-0	9-10	9-5	10-0	9-8	9-10
2x6	12	20-3	19-6	19-11	19-11	19-11	19-1	19-1	19-11	19-6	18-8	19-11	19-1	19-6
	16	18-5	17-8	18-1	18-1	18-1	17-4	17-4	18-1	17-8	16-11	18-1	17-4	17-8
	24	16-1	15-6	15-9	15-9	15-9	15-2	15-2	15-9	15-6	14-9	15-9	15-2	15-6
2x8	12	26-0*	25-8	26-0*	26-0*	26-0*	25-2	25-2	26-0*	25-8	24-7	26-0*	25-2	25-8
	16	24-3	23-4	23-10	23-10	23-10	22-10	22-10	23-10	23-4	22-4	23-10	22-10	23-4
	24	21-2	20-5	20-10	20-10	20-10	19-11	19-11	20-10	20-5	19-6	20-10	19-11	20-5
2x10	12	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*
	16	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*
	24	26-0*	26-0	26-0*	26-0*	26-0*	25-5	25-5	26-0*	26-0	24-10	26-0*	25-5	26-0
2x12	12	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*
	16	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*
	24	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*

Applied loads are given in psf (pounds per square foot). Deflection is limited to the span in inches divided by 360 or 240 and is based on live load only. The load duration factor, C_D , is 1.0 unless shown as 1.15 for snow loads or 1.25 for construction loads. The bending design value (F_B in psi) and modulus of elasticity (E in million psi) are listed below each grade name. Not all of the possible Southern Pine lumber grades will be produced. The marketplace will eventually determine the most common grades. An asterisk (*) indicates the listed span has been limited to 26'-0" based on availability; check sources of supply for lumber longer than 20'.

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Maximum Spans SP Machine Evaluated Lumber (MEL)

Based on the 2002 SPIB Standard Grading Rules for Southern Pine Lumber, including Supplement 12

Maximum spans in feet-inches

Table 15 Ceiling Joists – 10 psf live load, 5 psf dead load, 240 deflection													Part 3 of 3	
Size	Spacing In. o.c.	M-9 1400-1.4	M-10 1400-1.2	M-8 1300-1.3	M-37 1250-1.6	M-36 1200-1.6	M-7 1200-1.1	M-6 1100-1.0	M-35 1050-1.6	M-34 975-1.6	M-5 900-1.1	M-33 850-1.4	M-32 750-1.4	
2x4	12	11-10	11-3	11-7	12-5	12-5	10-11	10-7	12-5	12-4	10-11	11-6	10-10	
	16	10-9	10-3	10-6	11-3	11-3	9-11	9-8	11-1	10-8	9-11	10-0	9-5	
	24	9-5	8-11	9-2	9-10	9-8	8-8	8-5	9-1	8-9	8-5	8-2	7-8	
2x6	12	18-8	17-8	18-2	19-6	19-6	17-2	16-8	19-6	19-5	17-2	18-2	17-0	
	16	16-11	16-1	16-6	17-8	17-8	15-7	15-2	17-5	16-10	15-7	15-8	14-9	
	24	14-9	14-1	14-5	15-6	15-3	13-8	13-3	14-3	13-9	13-2	12-10	12-0	
2x8	12	24-7	23-4	24-0	25-8	25-8	22-8	21-11	25-8	25-7	22-8	23-11	22-5	
	16	22-4	21-2	21-9	23-4	23-4	20-7	19-11	23-0	22-2	20-7	20-8	19-5	
	24	19-6	18-6	19-0	20-5	20-1	18-0	17-5	18-9	18-1	17-5	16-11	15-10	
2x10	12	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	
	16	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	25-5	26-0*	26-0*	26-0*	26-0*	24-10	
	24	24-10	23-8	24-3	26-0	25-7	22-11	22-3	23-11	23-1	22-2	21-7	20-3	
2x12	12	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	
	16	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	
	24	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	24-8	

Applied loads are given in psf (pounds per square foot). Deflection is limited to the span in inches divided by 360 or 240 and is based on live load only. The load duration factor, C_D , is 1.0 unless shown as 1.15 for snow loads or 1.25 for construction loads. The bending design value (F_B in psi) and modulus of elasticity (E in million psi) are listed below each grade name. Not all of the possible Southern Pine lumber grades will be produced. The marketplace will eventually determine the most common grades. An asterisk (*) indicates the listed span has been limited to 26'-0" based on availability; check sources of supply for lumber longer than 20'.

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Maximum Spans SP Machine Evaluated Lumber (MEL)

Based on the 2002 SPIB Standard Grading Rules for Southern Pine Lumber, including Supplement 12

Maximum spans in feet-inches

Table 16 Ceiling Joists – 20 psf live load, 10 psf dead load, 240 deflection														Part 1 of 3
Size	Spacing In. o.c.	M-27 3000-2.1	M-31 2850-1.9	M-42 2850-1.8	M-26 2800-2.0	M-25 2750-2.2	M-24 2700-1.9	M-41 2550-1.8	M-23 2400-1.8	M-22 2350-1.7	M-21 2300-1.9	M-28 2200-1.7	M-30 2050-1.7	M-20 2000-1.9
2x4	12	10-9	10-5	10-3	10-7	10-11	10-5	10-3	10-3	10-0	10-5	10-0	10-0	10-5
	16	9-9	9-6	9-4	9-8	9-11	9-6	9-4	9-4	9-1	9-6	9-1	9-1	9-6
	24	8-7	8-3	8-1	8-5	8-8	8-3	8-1	8-1	8-0	8-3	8-0	8-0	8-3
2x6	12	16-11	16-4	16-1	16-8	17-2	16-4	16-1	16-1	15-9	16-4	15-9	15-9	16-4
	16	15-5	14-11	14-7	15-2	15-7	14-11	14-7	14-7	14-4	14-11	14-4	14-4	14-11
	24	13-5	13-0	12-9	13-3	13-8	13-0	12-9	12-9	12-6	13-0	12-6	12-6	13-0
2x8	12	22-4	21-7	21-2	21-11	22-8	21-7	21-2	21-2	20-10	21-7	20-10	20-10	21-7
	16	20-3	19-7	19-3	19-11	20-7	19-7	19-3	19-3	18-11	19-7	18-11	18-11	19-7
	24	17-9	17-2	16-10	17-5	18-0	17-2	16-10	16-10	16-6	17-2	16-6	16-6	17-2
2x10	12	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*
	16	25-10	25-0	24-7	25-5	26-0*	25-0	24-7	24-7	24-1	25-0	24-1	24-1	25-0
	24	22-7	21-10	21-6	22-3	22-11	21-10	21-6	21-6	21-1	21-10	21-1	21-1	21-10
2x12	12	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*
	16	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*
	24	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	25-7	26-0*	25-7	25-7	26-0*

Applied loads are given in psf (pounds per square foot). Deflection is limited to the span in inches divided by 360 or 240 and is based on live load only. The load duration factor, C_D , is 1.0 unless shown as 1.15 for snow loads or 1.25 for construction loads. The bending design value (F_B in psi) and modulus of elasticity (E in million psi) are listed below each grade name. Not all of the possible Southern Pine lumber grades will be produced. The marketplace will eventually determine the most common grades. An asterisk (*) indicates the listed span has been limited to 26'-0" based on availability; check sources of supply for lumber longer than 20'.

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Maximum Spans SP Machine Evaluated Lumber (MEL)

Based on the 2002 SPIB Standard Grading Rules for Southern Pine Lumber, including Supplement 12

Maximum spans in feet-inches

Table 16 Ceiling Joists – 20 psf live load, 10 psf dead load, 240 deflection														Part 2 of 3
Size	Spacing In. o.c.	M-18 2000-1.8	M-19 2000-1.6	M-17 1950-1.7	M-40 1850-1.7	M-14 1800-1.7	M-16 1800-1.5	M-15 1800-1.5	M-39 1650-1.7	M-12 1600-1.6	M-13 1600-1.4	M-29 1550-1.7	M-11 1550-1.5	M-38 1500-1.6
2x4	12	10-3	9-10	10-0	10-0	10-0	9-8	9-8	10-0	9-10	9-5	10-0	9-8	9-10
	16	9-4	8-11	9-1	9-1	9-1	8-9	8-9	9-1	8-11	8-7	9-1	8-9	8-11
	24	8-1	7-10	8-0	8-0	8-0	7-8	7-8	8-0	7-10	7-6	7-9	7-8	7-8
2x6	12	16-1	15-6	15-9	15-9	15-9	15-2	15-2	15-9	15-6	14-9	15-9	15-2	15-6
	16	14-7	14-1	14-4	14-4	14-4	13-9	13-9	14-4	14-1	13-5	14-4	13-9	14-1
	24	12-9	12-3	12-6	12-6	12-6	12-0	12-0	12-6	12-3	11-9	12-3	12-0	12-0
2x8	12	21-2	20-5	20-10	20-10	20-10	19-11	19-11	20-10	20-5	19-6	20-10	19-11	20-5
	16	19-3	18-6	18-11	18-11	18-11	18-2	18-2	18-11	18-6	17-9	18-11	18-2	18-6
	24	16-10	16-2	16-6	16-6	16-6	15-10	15-10	16-6	16-2	15-6	16-2	15-10	15-10
2x10	12	26-0*	26-0	26-0*	26-0*	26-0*	25-5	25-5	26-0*	26-0	24-10	26-0*	25-5	26-0
	16	24-7	23-8	24-1	24-1	24-1	23-2	23-2	24-1	23-8	22-7	24-1	23-2	23-8
	24	21-6	20-8	21-1	21-1	21-1	20-2	20-2	21-1	20-8	19-9	20-7	20-2	20-3
2x12	12	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*
	16	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*
	24	26-0*	25-1	25-7	25-7	25-7	24-7	24-7	25-7	25-1	24-0	25-0	24-7	24-8

Applied loads are given in psf (pounds per square foot). Deflection is limited to the span in inches divided by 360 or 240 and is based on live load only. The load duration factor, C_D , is 1.0 unless shown as 1.15 for snow loads or 1.25 for construction loads. The bending design value (F_B in psi) and modulus of elasticity (E in million psi) are listed below each grade name. Not all of the possible Southern Pine lumber grades will be produced. The marketplace will eventually determine the most common grades. An asterisk (*) indicates the listed span has been limited to 26'-0" based on availability; check sources of supply for lumber longer than 20'.

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Maximum Spans SP Machine Evaluated Lumber (MEL)

Based on the 2002 SPIB Standard Grading Rules for Southern Pine Lumber, including Supplement 12

Maximum spans in feet-inches

Table 16 Ceiling Joists – 20 psf live load, 10 psf dead load, 240 deflection													Part 3 of 3	
Size	Spacing In. o.c.	M-9 1400-1.4	M-10 1400-1.2	M-8 1300-1.3	M-37 1250-1.6	M-36 1200-1.6	M-7 1200-1.1	M-6 1100-1.0	M-35 1050-1.6	M-34 975-1.6	M-5 900-1.1	M-33 850-1.4	M-32 750-1.4	
2x4	12	9-5	8-11	9-2	9-10	9-8	8-8	8-5	9-1	8-9	8-5	8-2	7-8	
	16	8-7	8-1	8-4	8-7	8-5	7-11	7-8	7-10	7-7	7-3	7-1	6-8	
	24	7-5	7-1	7-2	7-0	6-10	6-10	6-7	6-5	6-2	5-11	5-9	5-5	
2x6	12	14-9	14-1	14-5	15-6	15-3	13-8	13-3	14-3	13-9	13-2	12-10	12-0	
	16	13-5	12-9	13-1	13-6	13-2	12-5	12-0	12-4	11-11	11-5	11-1	10-5	
	24	11-8	11-2	11-2	11-0	10-9	10-9	10-4	10-1	9-8	9-4	9-1	8-6	
2x8	12	19-6	18-6	19-0	20-5	20-1	18-0	17-5	18-9	18-1	17-5	16-11	15-10	
	16	17-9	16-10	17-3	17-9	17-5	16-4	15-10	16-3	15-8	15-1	14-8	13-9	
	24	15-4	14-8	14-9	14-6	14-2	14-2	13-7	13-3	12-10	12-4	11-11	11-3	
2x10	12	24-10	23-8	24-3	26-0	25-7	22-11	22-3	23-11	23-1	22-2	21-7	20-3	
	16	22-7	21-6	22-1	22-8	22-2	20-10	20-2	20-9	20-0	19-3	18-8	17-6	
	24	19-7	18-9	18-10	18-6	18-1	18-1	17-4	16-11	16-4	15-8	15-3	14-4	
2x12	12	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	24-8	
	16	26-0*	26-0*	26-0*	26-0*	26-0*	25-4	24-7	25-3	24-4	23-4	22-8	21-4	
	24	23-9	22-10	22-11	22-6	22-0	22-0	21-1	20-7	19-10	19-1	18-6	17-5	

Applied loads are given in psf (pounds per square foot). Deflection is limited to the span in inches divided by 360 or 240 and is based on live load only. The load duration factor, C_D , is 1.0 unless shown as 1.15 for snow loads or 1.25 for construction loads. The bending design value (F_B in psi) and modulus of elasticity (E in million psi) are listed below each grade name. Not all of the possible Southern Pine lumber grades will be produced. The marketplace will eventually determine the most common grades. An asterisk (*) indicates the listed span has been limited to 26'-0" based on availability; check sources of supply for lumber longer than 20'.

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Maximum Spans SP Machine Evaluated Lumber (MEL)

Based on the 2002 SPIB Standard Grading Rules for Southern Pine Lumber, including Supplement 12

Maximum spans in feet-inches

Table 17 Rafters – 20 psf live load, 10 psf dead load, 240 deflection, $C_D = 1.15$

Part 1 of 3

Size	Spacing In. o.c.	M-27 3000-2.1	M-31 2850-1.9	M-42 2850-1.8	M-26 2800-2.0	M-25 2750-2.2	M-24 2700-1.9	M-41 2550-1.8	M-23 2400-1.8	M-22 2350-1.7	M-21 2300-1.9	M-28 2200-1.7	M-30 2050-1.7	M-20 2000-1.9
2x4	12	10-9	10-5	10-3	10-7	10-11	10-5	10-3	10-3	10-0	10-5	10-0	10-0	10-5
	16	9-9	9-6	9-4	9-8	9-11	9-6	9-4	9-4	9-1	9-6	9-1	9-1	9-6
	24	8-7	8-3	8-1	8-5	8-8	8-3	8-1	8-1	8-0	8-3	8-0	8-0	8-3
2x6	12	16-11	16-4	16-1	16-8	17-2	16-4	16-1	16-1	15-9	16-4	15-9	15-9	16-4
	16	15-5	14-11	14-7	15-2	15-7	14-11	14-7	14-7	14-4	14-11	14-4	14-4	14-11
	24	13-5	13-0	12-9	13-3	13-8	13-0	12-9	12-9	12-6	13-0	12-6	12-6	13-0
2x8	12	22-4	21-7	21-2	21-11	22-8	21-7	21-2	21-2	20-10	21-7	20-10	20-10	21-7
	16	20-3	19-7	19-3	19-11	20-7	19-7	19-3	19-3	18-11	19-7	18-11	18-11	19-7
	24	17-9	17-2	16-10	17-5	18-0	17-2	16-10	16-10	16-6	17-2	16-6	16-6	17-2
2x10	12	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*
	16	25-10	25-0	24-7	25-5	26-0*	25-0	24-7	24-7	24-1	25-0	24-1	24-1	25-0
	24	22-7	21-10	21-6	22-3	22-11	21-10	21-6	21-6	21-1	21-10	21-1	21-1	21-10
2x12	12	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*
	16	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*
	24	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	25-7	26-0*	25-7	25-7	26-0*

Applied loads are given in psf (pounds per square foot). Deflection is limited to the span in inches divided by 360 or 240 and is based on live load only. The load duration factor, C_D , is 1.0 unless shown as 1.15 for snow loads or 1.25 for construction loads. The bending design value (F_B in psi) and modulus of elasticity (E in million psi) are listed below each grade name. Not all of the possible Southern Pine lumber grades will be produced. The marketplace will eventually determine the most common grades. An asterisk (*) indicates the listed span has been limited to 26'-0" based on availability; check sources of supply for lumber longer than 20'.

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Maximum Spans SP Machine Evaluated Lumber (MEL)

Based on the 2002 SPIB Standard Grading Rules for Southern Pine Lumber, including Supplement 12

Maximum spans in feet-inches

Table 17 Rafters – 20 psf live load, 10 psf dead load, 240 deflection, $C_D = 1.15$

Part 2 of 3

Size	Spacing In. o.c.	M-18 2000-1.8	M-19 2000-1.6	M-17 1950-1.7	M-40 1850-1.7	M-14 1800-1.7	M-16 1800-1.5	M-15 1800-1.5	M-39 1650-1.7	M-12 1600-1.6	M-13 1600-1.4	M-29 1550-1.7	M-11 1550-1.5	M-38 1500-1.6
2x4	12	10-3	9-10	10-0	10-0	10-0	9-8	9-8	10-0	9-10	9-5	10-0	9-8	9-10
	16	9-4	8-11	9-1	9-1	9-1	8-9	8-9	9-1	8-11	8-7	9-1	8-9	8-11
	24	8-1	7-10	8-0	8-0	8-0	7-8	7-8	8-0	7-10	7-6	8-0	7-8	7-10
2x6	12	16-1	15-6	15-9	15-9	15-9	15-2	15-2	15-9	15-6	14-9	15-9	15-2	15-6
	16	14-7	14-1	14-4	14-4	14-4	13-9	13-9	14-4	14-1	13-5	14-4	13-9	14-1
	24	12-9	12-3	12-6	12-6	12-6	12-0	12-0	12-6	12-3	11-9	12-6	12-0	12-3
2x8	12	21-2	20-5	20-10	20-10	20-10	19-11	19-11	20-10	20-5	19-6	20-10	19-11	20-5
	16	19-3	18-6	18-11	18-11	18-11	18-2	18-2	18-11	18-6	17-9	18-11	18-2	18-6
	24	16-10	16-2	16-6	16-6	16-6	15-10	15-10	16-6	16-2	15-6	16-6	15-10	16-2
2x10	12	26-0*	26-0	26-0*	26-0*	26-0*	25-5	25-5	26-0*	26-0	24-10	26-0*	25-5	26-0
	16	24-7	23-8	24-1	24-1	24-1	23-2	23-2	24-1	23-8	22-7	24-1	23-2	23-8
	24	21-6	20-8	21-1	21-1	21-1	20-2	20-2	21-1	20-8	19-9	21-1	20-2	20-8
2x12	12	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*
	16	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*
	24	26-0*	25-1	25-7	25-7	25-7	24-7	24-7	25-7	25-1	24-0	25-7	24-7	25-1

Applied loads are given in psf (pounds per square foot). Deflection is limited to the span in inches divided by 360 or 240 and is based on live load only. The load duration factor, C_D , is 1.0 unless shown as 1.15 for snow loads or 1.25 for construction loads. The bending design value (F_B in psi) and modulus of elasticity (E in million psi) are listed below each grade name. Not all of the possible Southern Pine lumber grades will be produced. The marketplace will eventually determine the most common grades. An asterisk (*) indicates the listed span has been limited to 26'-0" based on availability; check sources of supply for lumber longer than 20'.

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Maximum Spans SP Machine Evaluated Lumber (MEL)

Based on the 2002 SPIB Standard Grading Rules for Southern Pine Lumber, including Supplement 12

Maximum spans in feet-inches

Table 17 Rafters – 20 psf live load, 10 psf dead load, 240 deflection, $C_D = 1.15$													Part 3 of 3	
Size	Spacing In. o.c.	M-9 1400-1.4	M-10 1400-1.2	M-8 1300-1.3	M-37 1250-1.6	M-36 1200-1.6	M-7 1200-1.1	M-6 1100-1.0	M-35 1050-1.6	M-34 975-1.6	M-5 900-1.1	M-33 850-1.4	M-32 750-1.4	
2x4	12	9-5	8-11	9-2	9-10	9-10	8-8	8-5	9-9	9-4	8-8	8-9	8-3	
	16	8-7	8-1	8-4	8-11	8-11	7-11	7-8	8-5	8-1	7-10	7-7	7-1	
	24	7-6	7-1	7-3	7-6	7-4	6-11	6-8	6-10	6-7	6-4	6-2	5-10	
2x6	12	14-9	14-1	14-5	15-6	15-6	13-8	13-3	15-3	14-9	13-8	13-9	12-11	
	16	13-5	12-9	13-1	14-1	14-1	12-5	12-0	13-3	12-9	12-3	11-11	11-2	
	24	11-9	11-2	11-5	11-9	11-7	10-10	10-6	10-10	10-5	10-0	9-9	9-2	
2x8	12	19-6	18-6	19-0	20-5	20-5	18-0	17-5	20-2	19-5	18-0	18-1	17-0	
	16	17-9	16-10	17-3	18-6	18-6	16-4	15-10	17-5	16-10	16-2	15-8	14-9	
	24	15-6	14-8	15-1	15-6	15-3	14-3	13-10	14-3	13-9	13-2	12-10	12-0	
2x10	12	24-10	23-8	24-3	26-0	26-0	22-11	22-3	25-8	24-9	22-11	23-1	21-9	
	16	22-7	21-6	22-1	23-8	23-8	20-10	20-2	22-3	21-5	20-7	20-0	18-10	
	24	19-9	18-9	19-3	19-10	19-5	18-3	17-8	18-2	17-6	16-10	16-4	15-4	
2x12	12	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	
	16	26-0*	26-0*	26-0*	26-0*	26-0*	25-4	24-7	26-0*	26-0*	25-1	24-4	22-10	
	24	24-0	22-10	23-5	24-1	23-7	22-2	21-6	22-1	21-3	20-5	19-11	18-8	

Applied loads are given in psf (pounds per square foot). Deflection is limited to the span in inches divided by 360 or 240 and is based on live load only. The load duration factor, C_D , is 1.0 unless shown as 1.15 for snow loads or 1.25 for construction loads. The bending design value (F_B in psi) and modulus of elasticity (E in million psi) are listed below each grade name. Not all of the possible Southern Pine lumber grades will be produced. The marketplace will eventually determine the most common grades. An asterisk (*) indicates the listed span has been limited to 26'-0" based on availability; check sources of supply for lumber longer than 20'.

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Maximum Spans SP Machine Evaluated Lumber (MEL)

Based on the 2002 SPIB Standard Grading Rules for Southern Pine Lumber, including Supplement 12

Maximum spans in feet-inches

Table 41 Rafters – 20 psf live load, 10 psf dead load, 240 deflection, $C_D = 1.25$														Part 1 of 3
Size	Spacing In. o.c.	M-27 3000-2.1	M-31 2850-1.9	M-42 2850-1.8	M-26 2800-2.0	M-25 2750-2.2	M-24 2700-1.9	M-41 2550-1.8	M-23 2400-1.8	M-22 2350-1.7	M-21 2300-1.9	M-28 2200-1.7	M-30 2050-1.7	M-20 2000-1.9
2x4	12	10-9	10-5	10-3	10-7	10-11	10-5	10-3	10-3	10-0	10-5	10-0	10-0	10-5
	16	9-9	9-6	9-4	9-8	9-11	9-6	9-4	9-4	9-1	9-6	9-1	9-1	9-6
	24	8-7	8-3	8-1	8-5	8-8	8-3	8-1	8-1	8-0	8-3	8-0	8-0	8-3
2x6	12	16-11	16-4	16-1	16-8	17-2	16-4	16-1	16-1	15-9	16-4	15-9	15-9	16-4
	16	15-5	14-11	14-7	15-2	15-7	14-11	14-7	14-7	14-4	14-11	14-4	14-4	14-11
	24	13-5	13-0	12-9	13-3	13-8	13-0	12-9	12-9	12-6	13-0	12-6	12-6	13-0
2x8	12	22-4	21-7	21-2	21-11	22-8	21-7	21-2	21-2	20-10	21-7	20-10	20-10	21-7
	16	20-3	19-7	19-3	19-11	20-7	19-7	19-3	19-3	18-11	19-7	18-11	18-11	19-7
	24	17-9	17-2	16-10	17-5	18-0	17-2	16-10	16-10	16-6	17-2	16-6	16-6	17-2
2x10	12	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*
	16	25-10	25-0	24-7	25-5	26-0*	25-0	24-7	24-7	24-1	25-0	24-1	24-1	25-0
	24	22-7	21-10	21-6	22-3	22-11	21-10	21-6	21-6	21-1	21-10	21-1	21-1	21-10
2x12	12	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*
	16	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*
	24	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	25-7	26-0*	25-7	25-7	26-0*

Applied loads are given in psf (pounds per square foot). Deflection is limited to the span in inches divided by 360 or 240 and is based on live load only. The load duration factor, C_D , is 1.0 unless shown as 1.15 for snow loads or 1.25 for construction loads. The bending design value (F_B in psi) and modulus of elasticity (E in million psi) are listed below each grade name. Not all of the possible Southern Pine lumber grades will be produced. The marketplace will eventually determine the most common grades. An asterisk (*) indicates the listed span has been limited to 26'-0" based on availability; check sources of supply for lumber longer than 20'.

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Maximum Spans SP Machine Evaluated Lumber (MEL)

Based on the 2002 SPIB Standard Grading Rules for Southern Pine Lumber, including Supplement 12

Maximum spans in feet-inches

Table 41 Rafters – 20 psf live load, 10 psf dead load, 240 deflection, $C_D = 1.25$														Part 2 of 3
Size	Spacing In. o.c.	M-18 2000-1.8	M-19 2000-1.6	M-17 1950-1.7	M-40 1850-1.7	M-14 1800-1.7	M-16 1800-1.5	M-15 1800-1.5	M-39 1650-1.7	M-12 1600-1.6	M-13 1600-1.4	M-29 1550-1.7	M-11 1550-1.5	M-38 1500-1.6
2x4	12	10-3	9-10	10-0	10-0	10-0	9-8	9-8	10-0	9-10	9-5	10-0	9-8	9-10
	16	9-4	8-11	9-1	9-1	9-1	8-9	8-9	9-1	8-11	8-7	9-1	8-9	8-11
	24	8-1	7-10	8-0	8-0	8-0	7-8	7-8	8-0	7-10	7-6	8-0	7-8	7-10
2x6	12	16-1	15-6	15-9	15-9	15-9	15-2	15-2	15-9	15-6	14-9	15-9	15-2	15-6
	16	14-7	14-1	14-4	14-4	14-4	13-9	13-9	14-4	14-1	13-5	14-4	13-9	14-1
	24	12-9	12-3	12-6	12-6	12-6	12-0	12-0	12-6	12-3	11-9	12-6	12-0	12-3
2x8	12	21-2	20-5	20-10	20-10	20-10	19-11	19-11	20-10	20-5	19-6	20-10	19-11	20-5
	16	19-3	18-6	18-11	18-11	18-11	18-2	18-2	18-11	18-6	17-9	18-11	18-2	18-6
	24	16-10	16-2	16-6	16-6	16-6	15-10	15-10	16-6	16-2	15-6	16-6	15-10	16-2
2x10	12	26-0*	26-0	26-0*	26-0*	26-0*	25-5	25-5	26-0*	26-0	24-10	26-0*	25-5	26-0
	16	24-7	23-8	24-1	24-1	24-1	23-2	23-2	24-1	23-8	22-7	24-1	23-2	23-8
	24	21-6	20-8	21-1	21-1	21-1	20-2	20-2	21-1	20-8	19-9	21-1	20-2	20-8
2x12	12	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*
	16	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*
	24	26-0*	25-1	25-7	25-7	25-7	24-7	24-7	25-7	25-1	24-0	25-7	24-7	25-1

Applied loads are given in psf (pounds per square foot). Deflection is limited to the span in inches divided by 360 or 240 and is based on live load only. The load duration factor, C_D , is 1.0 unless shown as 1.15 for snow loads or 1.25 for construction loads. The bending design value (F_B in psi) and modulus of elasticity (E in million psi) are listed below each grade name. Not all of the possible Southern Pine lumber grades will be produced. The marketplace will eventually determine the most common grades. An asterisk (*) indicates the listed span has been limited to 26'-0" based on availability; check sources of supply for lumber longer than 20'.

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Maximum Spans SP Machine Evaluated Lumber (MEL)

Based on the 2002 SPIB Standard Grading Rules for Southern Pine Lumber, including Supplement 12

Maximum spans in feet-inches

Table 41 Rafters – 20 psf live load, 10 psf dead load, 240 deflection, $C_D = 1.25$													Part 3 of 3	
Size	Spacing In. o.c.	M-9 1400-1.4	M-10 1400-1.2	M-8 1300-1.3	M-37 1250-1.6	M-36 1200-1.6	M-7 1200-1.1	M-6 1100-1.0	M-35 1050-1.6	M-34 975-1.6	M-5 900-1.1	M-33 850-1.4	M-32 750-1.4	
2x4	12	9-5	8-11	9-2	9-10	9-10	8-8	8-5	9-10	9-9	8-8	9-1	8-7	
	16	8-7	8-1	8-4	8-11	8-11	7-11	7-8	8-9	8-5	7-11	7-11	7-5	
	24	7-6	7-1	7-3	7-10	7-8	6-11	6-8	7-2	6-11	6-8	6-5	6-1	
2x6	12	14-9	14-1	14-5	15-6	15-6	13-8	13-3	15-6	15-4	13-8	14-4	13-6	
	16	13-5	12-9	13-1	14-1	14-1	12-5	12-0	13-10	13-3	12-5	12-5	11-8	
	24	11-9	11-2	11-5	12-3	12-0	10-10	10-6	11-3	10-10	10-5	10-2	9-6	
2x8	12	19-6	18-6	19-0	20-5	20-5	18-0	17-5	20-5	20-3	18-0	18-11	17-9	
	16	17-9	16-10	17-3	18-6	18-6	16-4	15-10	18-2	17-6	16-4	16-4	15-4	
	24	15-6	14-8	15-1	16-2	15-10	14-3	13-10	14-10	14-4	13-9	13-4	12-7	
2x10	12	24-10	23-8	24-3	26-0	26-0	22-11	22-3	26-0	25-10	22-11	24-1	22-8	
	16	22-7	21-6	22-1	23-8	23-8	20-10	20-2	23-2	22-4	20-10	20-10	19-7	
	24	19-9	18-9	19-3	20-8	20-3	18-3	17-8	18-11	18-3	17-6	17-0	16-0	
2x12	12	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	26-0*	
	16	26-0*	26-0*	26-0*	26-0*	26-0*	25-4	24-7	26-0*	26-0*	25-4	25-5	23-10	
	24	24-0	22-10	23-5	25-1	24-8	22-2	21-6	23-0	22-2	21-4	20-9	19-6	

Applied loads are given in psf (pounds per square foot). Deflection is limited to the span in inches divided by 360 or 240 and is based on live load only. The load duration factor, C_D , is 1.0 unless shown as 1.15 for snow loads or 1.25 for construction loads. The bending design value (F_B in psi) and modulus of elasticity (E in million psi) are listed below each grade name. Not all of the possible Southern Pine lumber grades will be produced. The marketplace will eventually determine the most common grades. An asterisk (*) indicates the listed span has been limited to 26'-0" based on availability; check sources of supply for lumber longer than 20'.

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