

### CEILING JOIST SPAN DATA

\* THE REQUIRED EXTREME FIBER STRESS IN BENDING "F<sub>b</sub>" IN POUNDS/IN<sup>2</sup> AND MODULUS OF ELASTICITY "E" IN 1,000,000 PSI, WHERE 1.8 IS EQUAL TO 1,800,000 PSI.

LIMITED ATTIC STORAGE, WHERE DEVELOPMENT OF FUTURE ROOMS IS NOT POSSIBLE  
Douglas Fir - Larch - 20lb<sub>s</sub>/Ft - Live Load

SELECT STRUCTURAL DENSE #1	DENSE #2	DENSE #3	2x4				2x6				2x8				2x10												
			"F <sub>b</sub> "	"E"	12"	16"	24"	12"	16"	24"	12"	16"	24"	12"	16"	24"	12"	16"	24"								
2050	1.8	10-3	9-4	8-1	16-1	14-7	12-9	21-2	19-3	16-1	10-27-1	24-7	21-6	20-50	19-9	10-9	9-6	8-3	16-4	14-11	13-9	21-7	19-7	17-2	27-6	25-0	21-19
1700	1.7	10-0	9-1	7-7	15-9	14-4	11-11	20-1	18-1	11-115-9	26-6	24-1	19-1	18-0	10-9	9-1	8-8	7-0	15-7	13-6	11-0	20-7	17-1	10-14-5	26-3	22-8	18-6
1450	1.6	9-10	8-8	7-2	15-6	13-9	11-3	20-5	18-1	11-9	26-0	23-2	18-1	17-0	10-9	9-1	8-8	7-0	15-7	13-6	11-0	20-7	17-1	10-14-5	26-3	22-8	18-6
850	1.5	7-8	6-7	5-5	11-1	10-7	8-5	15-8	13-8	11-4	20-2	17-8	14-2	13-0	10-9	9-1	8-8	7-0	15-7	13-6	11-0	20-7	17-1	10-14-5	26-3	22-8	18-6

LIMITED ATTIC STORAGE, WHERE DEVELOPMENT OF FUTURE ROOMS IS NOT POSSIBLE  
Southern Yellow Pine - 20lb<sub>s</sub>/Ft - Live Load

SELECT STRUCTURAL DENSE #1	DENSE #2	DENSE #3	2x4				2x6				2x8				2x10												
			"F <sub>b</sub> "	"E"	12"	16"	24"	12"	16"	24"	12"	16"	24"	12"	16"	24"	12"	16"	24"								
2150	1.8	10-3	9-4	8-1	16-1	14-7	12-9	21-2	19-3	16-1	10-27-1	24-7	21-6	20-50	19-9	10-9	9-6	8-3	16-4	14-11	13-9	21-7	19-7	17-2	27-6	25-0	21-19
1750	1.7	10-0	8-1	7-9	15-9	14-4	12-1	20-1	18-1	11-116-4	26-6	24-1	19-1	18-0	10-9	9-1	8-8	7-0	15-7	13-6	11-0	20-7	17-1	10-14-5	26-3	22-8	19-7
1500	1.6	9-10	8-9	7-2	15-6	13-9	11-3	20-5	18-1	11-9	26-0	23-2	18-1	17-0	10-9	9-1	8-8	7-0	15-7	13-6	11-0	20-7	17-1	10-14-5	26-3	22-8	19-7
875	1.5	7-9	6-8	5-6	12-0	10-8	8-6	15-9	13-9	11-4	20-2	17-8	14-2	13-0	10-9	9-1	8-8	7-0	15-7	13-6	11-0	20-7	17-1	10-14-5	26-3	22-8	19-7

### ALLOWABLE RAFTER SPANS

FLAT OR SLOPED RAFTERS (FLAT ROOF OR CATHEDRAL CEILING WITH NO ATTIC SPACE) SUPPORTING DRYWALL CEILING  
Douglas Fir - Larch - 20lb<sub>s</sub>/Ft

SELECT STRUCTURAL DENSE #1	DENSE #2	DENSE #3	2x6				2x8				2x10				2x12												
			"F <sub>b</sub> "	"E"	12"	16"	24"	12"	16"	24"	12"	16"	24"	12"	16"	24"	12"	16"	24"								
2050	1.8	16-1	14-6	12-2	21-2	19-1	16-0	27-0	24-7	20-6	32-10	29-9	24-10	24-10	21-10	18-9	16-8	14-7	22-5	20-4	17-9	15-8	13-7	11-1	20-6	18-4	16-3
1700	1.7	15-8	13-7	11-1	20-6	17-1	14-4	22-1	19-7	16-2	28-0	25-9	20-9	20-9	17-9	15-8	13-7	11-1	20-6	18-4	16-3	14-2	12-1	10-0	17-2	15-0	12-9
1450	1.7	14-5	12-6	10-2	19-1	16-6	13-5	24-4	21-0	17-2	29-7	25-7	20-10	20-10	17-10	15-9	13-8	11-2	18-1	16-0	13-9	11-8	9-7	7-6	14-5	12-3	10-2
850	1.5	11-1	9-7	7-10	14-7	12-7	10-3	18-7	16-2	13-1	22-6	19-7	16-0	16-0	13-0	11-0	9-9	7-4	14-0	12-0	10-0	8-0	6-0	4-0	11-0	9-0	7-0

FLAT OR SLOPED RAFTERS (FLAT ROOF OR CATHEDRAL CEILING WITH NO ATTIC SPACE) SUPPORTING DRYWALL CEILING  
Southern Yellow Pine - 20lb<sub>s</sub>/Ft

SELECT STRUCTURAL DENSE #1	DENSE #2	DENSE #3	2x6				2x8				2x10				2x12												
			"F <sub>b</sub> "	"E"	12"	16"	24"	12"	16"	24"	12"	16"	24"	12"	16"	24"	12"	16"	24"								
2150	1.8	16-1	14-6	12-5	21-3	19-2	16-5	27-0	24-5	20-11	32-10	29-9	25-6	25-6	22-6	20-5	18-4	16-3	24-4	21-0	17-2	15-1	13-0	10-9	17-2	15-0	12-9
1750	1.7	15-10	13-9	11-3	20-11	18-1	14-9	22-1	19-1	16-10	28-0	25-9	20-9	20-9	17-9	15-8	13-7	11-1	20-6	18-4	16-3	14-2	12-1	10-0	17-2	15-0	12-9
1500	1.6	14-8	12-9	10-5	19-5	16-9	13-8	24-9	21-5	17-6	30-1	26-0	21-3	21-3	18-3	16-2	14-1	11-0	18-1	16-0	13-9	11-8	9-7	7-6	14-5	12-3	10-2
875	1.5	11-1	9-8	7-11	14-9	12-9	10-10	18-8	16-1	13-1	22-6	19-7	16-0	16-0	13-0	11-0	9-9	7-4	14-0	12-0	10-0	8-0	6-0	4-0	11-0	9-0	7-0

FLAT OR LOW SLOPED RAFTERS (NO ATTIC SPACE) SLOPE 3 IN 12 OR LESS  
Douglas Fir - Larch - 20lb<sub>s</sub>/Ft

SELECT STRUCTURAL DENSE #1	DENSE #2	DENSE #3	2x6				2x8				2x10				2x12												
			"F <sub>b</sub> "	"E"	12"	16"	24"	12"	16"	24"	12"	16"	24"	12"	16"	24"	12"	16"	24"								
2050	1.8	16-2	14-7	12-10	21-3	19-3	16-10	27-1	24-7	21-6	33-0	29-1	26-1	26-1	23-1	21-0	18-9	16-8	24-4	21-0	17-2	15-1	13-0	10-9	17-2	15-0	12-9
2050	1.9	16-5	14-10	12-11	21-7	19-7	17-3	27-7	24-10	21-1	33-6	30-4	26-1	26-1	23-1	21-0	18-9	16-8	24-4	21-0	17-2	15-1	13-0	10-9	17-2	15-0	12-9
1450	1.7	15-10	13-6	11-0	20-11	18-1	15-9	28-7	25-0	22-0	32-4	29-3	25-9	25-9	22-9	20-8	18-7	16-6	24-4	21-0	17-2	15-1	13-0	10-9	17-2	15-0	12-9
850	1.5	11-1	11-0	8-6	15-9	13-6	11-2	20-1	17-5	14-2	24-5	21-1	17-3	17-3	14-3	12-2	10-1	7-0	14-0	12-0	10-0	8-0	6-0	4-0	11-0	9-0	7-0

FLAT OR LOW SLOPED RAFTERS (NO ATTIC SPACE) SLOPE 3 IN 12 OR LESS  
Southern Yellow Pine - 20lb<sub>s</sub>/Ft

SELECT STRUCTURAL DENSE #1	DENSE #2	DENSE #3	2x6				2x8				2x10				2x12												
			"F <sub>b</sub> "	"E"	12"	16"	24"	12"	16"	24"	12"	16"	24"	12"	16"	24"	12"	16"	24"								
2150	1.8	16-2	14-7	12-10	21-3	19-3	16-10	27-1	24-7	21-6	33-0	29-1	26-1	26-1	23-1	21-0	18-9	16-8	24-4	21-0	17-2	15-1	13-0	10-9	17-2	15-0	12-9
2150	1.9	16-5	14-10	12-11	21-7	19-7	17-3	27-7	24-10	21-1	33-6	30-4	26-1	26-1	23-1	21-0	18-9	16-8	24-4	21-0	17-2	15-1	13-0	10-9	17-2	15-0	12-9
1750	1.7	15-10	13-6	11-0	20-11	18-1	15-9	28-7	25-0	22-0	32-4	29-3	25-9	25-9	22-9	20-8	18-7	16-6	24-4	21-0	17-2	15-1	13-0	10-9	17-2	15-0	12-9
875	1.5	12-0	10-8	8-7	15-1	13-1	11-3	20-2	17-6	14-3	24-6	21-2	17-4	17-4	14-4	12-3	10-2	7-1	14-0	12-0	10-0	8-0	6-0	4-0	11-0	9-0	7-0

MEDIUM OR HIGH SLOPED RAFTERS (NO ATTIC SPACE) SLOPE 3 IN 12 OR LESS  
Douglas Fir - Larch - 20lb<sub>s</sub>/Ft

SELECT STRUCTURAL DENSE #1	DENSE #2	DENSE #3	2x4				2x6				2x8				2x10												
			"F <sub>b</sub> "	"E"	12"	16"	24"	12"	16"	24"	12"	16"	24"	12"	16"	24"	12"	16"	24"								
2050	1.8	11-2	10-3	8-10	17-9	16-0	13-10	23-5	21-2	18-2	29-1	27-0	23-4	23-4	20-4	18-3	16-2	14-1	22-0	19-9	17-8	15-7	13-6	11-5	19-4	17-3	15-2
2050	1.9	11-6	10-3	8-10	18-0	16-6	13-10	23-3	21-1	18-2	30-5	28-3	24-2	24-2	21-2	19-1	17-0	14-9	22-0	20-0	17-9	15-8	13-7	11-6	19-4	17-3	15-2
1700	1.7	11-2	10-0	8-0	17-4	15-5	12-7	22-1	20-0	18-2	29-2	25-3	21-2	21-2	18-2	16-1	14-0	11-9	21-0	19-0	16-9	14-8	12-7	10-6	18-4	16-3	14-2
1450	1.7	10-5	9-1	7-4	16-5	14-6	11-10	21-8	19-9	18-4	27-6	24-0	20-4	20-4	17-4	15-3	13-2	11-1	20-0	18-0	15-9	13-8	11-7	9-6	17-4	15-3	13-2
850	1.5	8-0	7-0	5-9	12-8	10-10	8-11	16-7	14-4	11-9	21-8	18-4	15-1	15-1	12-1	10-0	7-9	5-8	17-0	15-0	12-9	10-8	8-7	6-6	14-4	12-3	10-2

MEDIUM OR HIGH SLOPED RAFTERS (NO ATTIC SPACE) SLOPE 3 IN 12 OR LESS  
Southern Yellow Pine - 20lb<sub>s</sub>/Ft

SELECT STRUCTURAL DENSE #1	DENSE #2	DENSE #3	2x4				2x6				2x8				2x10												
			"F <sub>b</sub> "	"E"	12"	16"	24"	12"	16"	24"	12"	16"	24"	12"	16"	24"	12"	16"	24"								
2150	1.8	11-2	10-3	8-10	17-9	16-0	13-10	23-5	21-2	18-2	29-1	27-0	23-4	23-4	20-4	18-3	16-2	14-1	22-0	19-9	17-8	15-7	13-6	11-5	19-4	17-3	15-2
2150	1.9	11-6	10-3	8-10	18-0	16-6	13-10	23-3	21-1	18-2	30-5	28-3	24-2	24-2	21-2	19-1	17-0	14-9	22-0	20-0	17-9	15-8	13-7	11-6	19-4	17-3	15-2
1750	1.7	11-2	10-0	8-0	17-4	15-5	12-7	22-1	20-0	18-2	29-2	25-3	21-2	21-2	18-2	16-1	14-0	11-9	21-0	19-0	16-9	14-8	12-7	10-6	18-4	16-3	14-2
1500	1.6	10-9	9-1	7-4	16-5	14-6	11-10	21-8	19-9	18-4	27-6	24-0	20-4	20-4	17-4	15-3	13-2	11-1	20-0	18-0	15-9	13-8	11-7	9-6	17-4	15-3	