

Table 3.26A Rafter Spans for Common Lumber Species
(Ceiling Not Attached to Rafters) Live Load = 20 psf, $L/\Delta_{LL} = 180$

LL = 20 psf
 $L/\Delta_{LL} = 180$

		Dead Load = 10 psf					Dead Load = 20 psf				
		2x4	2x6	2x8	2x10	2x12	2x4	2x6	2x8	2x10	2x12
		Maximum Rafter Spans ^{1,2,3,4}									
Joist Spacing (in.)	Species	Grade	(ft-in.)	(ft-in.)	(ft-in.)	(ft-in.)	(ft-in.)	(ft-in.)	(ft-in.)	(ft-in.)	(ft-in.)
12	Douglas Fir-Larch	SS	11-6	18-0	23-9	26-0*	26-0*	11-6	18-0	23-9	26-0*
	Douglas Fir-Larch	No.1	11-1	17-4	22-3	26-0*	26-0*	10-6	15-4	19-3	23-9
	Douglas Fir-Larch	No.2	10-10	16-10	21-4	26-0*	26-0*	10-0	14-7	18-3	22-6
	Douglas Fir-Larch	No.3	8-9	12-10	16-3	19-10	23-0	7-7	11-1	14-1	17-2
	Hem-Fir	SS	10-10	17-0	22-3	26-0*	26-0*	10-10	17-0	22-3	26-0*
	Hem-Fir	No.1	10-7	16-8	22-0	26-0*	26-0*	10-4	15-2	19-2	23-3
	Hem-Fir	No.2	10-1	15-11	20-8	25-3	26-0*	9-8	14-2	17-11	21-3
	Hem-Fir	No.3	8-7	12-6	15-10	19-3	22-6	7-3	10-10	13-9	16-9
	Southern Pine	SS	11-3	17-8	23-4	26-0*	26-0*	11-3	17-8	23-4	26-0*
	Southern Pine	No.1	10-10	17-0	22-3	26-0*	26-0*	10-6	15-8	19-10	23-2
	Southern Pine	No.2	10-4	15-7	19-8	23-3	26-0*	9-0	13-6	17-1	20-3
	Southern Pine	No.3	8-0	11-9	14-10	18-0	21-4	6-11	10-2	12-10	15-7
	Spruce-Pine Fir	SS	10-7	16-8	22-0	26-0*	26-0*	10-7	16-8	21-9	26-0*
	Spruce-Pine Fir	No.1	10-4	16-3	21-0	25-8	26-0*	9-10	14-4	18-2	22-3
Spruce-Pine Fir	No.2	10-4	16-3	21-0	25-8	26-0*	9-10	14-4	18-2	22-3	
Spruce-Pine Fir	No.3	8-7	12-6	15-10	19-3	22-6	7-3	10-10	13-9	16-9	
16	Douglas Fir-Larch	SS	10-3	16-4	21-7	26-0*	26-0*	10-3	16-3	20-7	25-2
	Douglas Fir-Larch	No.1	10-0	15-4	19-3	23-9	26-0*	9-1	13-3	16-10	20-7
	Douglas Fir-Larch	No.2	9-10	14-7	18-3	22-6	26-0*	8-7	12-7	16-0	19-6
	Douglas Fir-Larch	No.3	7-7	11-1	14-1	17-2	19-11	6-7	9-8	12-2	14-11
	Hem-Fir	SS	9-10	15-6	20-3	26-0*	26-0*	9-10	15-6	19-11	24-4
	Hem-Fir	No.1	9-8	15-2	19-2	23-3	26-0*	9-0	13-3	16-7	20-4
	Hem-Fir	No.2	9-2	14-2	17-11	21-11	25-3	8-3	12-3	15-6	19-0
	Hem-Fir	No.3	7-3	10-10	13-9	16-9	19-6	6-3	9-3	11-11	14-6
	Southern Pine	SS	10-3	16-1	21-2	26-0*	26-0*	10-3	16-1	21-2	25-7
	Southern Pine	No.1	9-10	15-6	19-10	23-2	26-0*	9-1	13-7	17-2	20-1
	Southern Pine	No.2	9-0	13-6	17-1	20-3	23-10	7-9	11-8	14-9	17-6
	Southern Pine	No.3	6-11	10-2	12-10	15-7	18-6	6-0	8-10	11-2	13-6
	Spruce-Pine Fir	SS	9-8	15-2	19-11	23-3	26-0*	9-8	14-10	18-10	23-0
	Spruce-Pine Fir	No.1	9-3	14-4	18-2	22-3	25-9	8-6	12-3	15-9	19-3
Spruce-Pine Fir	No.2	8-3	14-4	18-2	22-3	25-8	8-6	12-3	15-9	19-3	
Spruce-Pine Fir	No.3	7-3	10-10	13-9	16-9	19-6	6-3	9-3	11-11	14-6	
19.2	Douglas Fir-Larch	SS	9-10	15-3	20-4	25-11	26-0*	9-10	14-10	18-10	23-0
	Douglas Fir-Larch	No.1	9-3	14-0	17-9	21-8	25-2	8-4	12-2	15-4	18-9
	Douglas Fir-Larch	No.2	9-1	13-3	16-10	20-7	23-10	7-10	11-6	14-7	17-10
	Douglas Fir-Larch	No.3	6-11	10-2	12-10	15-8	18-3	6-0	8-9	11-2	13-7
	Hem-Fir	SS	8-3	14-7	19-2	24-6	26-0*	8-3	14-4	18-2	22-3
	Hem-Fir	No.1	8-1	13-10	17-6	21-3	24-10	8-2	12-0	15-1	18-6
	Hem-Fir	No.2	8-8	12-11	16-4	20-0	23-2	7-6	11-2	14-2	17-4
	Hem-Fir	No.3	6-9	9-11	12-7	15-4	17-9	5-10	8-7	10-10	13-3
	Southern Pine	SS	9-8	15-2	19-11	23-3	26-0*	9-8	15-2	19-7	23-4
	Southern Pine	No.1	9-3	14-3	18-1	21-2	25-2	8-4	12-4	15-8	18-4
	Southern Pine	No.2	8-2	12-3	15-7	18-6	21-9	7-1	10-8	13-6	16-0
	Southern Pine	No.3	6-4	9-4	11-9	14-3	16-10	5-6	8-1	10-2	12-4
	Spruce-Pine Fir	SS	9-1	14-3	18-9	24-0	26-0*	9-1	13-7	17-2	21-0
	Spruce-Pine Fir	No.1	8-10	13-1	16-7	20-3	23-6	7-9	11-4	14-4	17-7
Spruce-Pine Fir	No.2	8-10	13-1	16-7	20-3	23-6	7-9	11-4	14-4	17-7	
Spruce-Pine Fir	No.3	6-9	9-11	12-7	15-4	17-9	5-10	8-7	10-10	13-3	
24	Douglas Fir-Larch	SS	9-1	14-4	18-10	23-9	26-0*	9-1	13-3	16-10	20-7
	Douglas Fir-Larch	No.1	8-7	12-6	15-10	19-3	22-6	7-3	10-10	13-9	16-9
	Douglas Fir-Larch	No.2	8-2	11-11	15-1	18-3	21-4	7-0	10-4	13-0	15-11
	Douglas Fir-Larch	No.3	6-2	9-1	11-6	14-1	16-3	5-4	7-10	10-0	12-2
	Hem-Fir	SS	8-7	13-6	17-10	22-9	26-0*	8-7	12-10	16-3	19-10
	Hem-Fir	No.1	8-3	12-4	15-8	19-2	22-2	7-4	10-9	13-7	16-7
	Hem-Fir	No.2	7-11	11-7	14-8	17-10	20-8	6-10	10-0	12-8	15-6
	Hem-Fir	No.3	6-1	8-10	11-3	13-6	15-11	5-3	7-8	9-9	11-10
	Southern Pine	SS	8-11	14-1	18-6	23-8	26-0*	8-11	13-10	17-6	20-10
	Southern Pine	No.1	8-7	12-9	16-2	18-11	22-6	7-3	11-1	14-0	16-3
	Southern Pine	No.2	7-4	11-0	13-11	16-6	19-6	6-4	9-6	12-1	14-4
	Southern Pine	No.3	5-8	8-4	10-6	12-9	15-1	4-11	7-3	9-1	11-0
	Spruce-Pine Fir	SS	8-3	13-3	17-3	21-8	25-2	8-4	12-2	15-4	18-9
	Spruce-Pine Fir	No.1	8-0	11-9	14-10	18-1	21-0	6-11	10-2	12-10	15-8
Spruce-Pine Fir	No.2	8-0	11-9	14-10	18-2	21-0	6-11	10-2	12-10	15-8	
Spruce-Pine Fir	No.3	6-1	8-10	11-3	13-6	15-11	5-3	7-8	9-9	11-10	

* Spans are limited to 26 feet in length.

See footnotes 1-4.