

**Table 3.18B Floor Joist Spans for Common Lumber Species**(Residential Living Areas) Live Load = 40 psf,  $L/\Delta_L = 360$ **LL = 40 psf**  
 **$L/\Delta_L = 360$** 

Joist Spacing	Species and Grade	Dead Load = 10 psf				Dead Load = 20 psf				
		2x6	2x8	2x10	2x12	2x6	2x8	2x10	2x12	
		Maximum Floor Joist Spans <sup>1</sup>								
(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)	(ft.-in.)		
12 in.	Douglas Fir-Larch	SS	11-4	15-0	19-1	23-3	11-4	15-0	19-1	23-3
	Douglas Fir-Larch	No.1	10-11	14-5	18-5	22-0	10-11	14-2	17-4	20-1
	Douglas Fir-Larch	No.2	10-9	14-2	18-0	20-11	10-8	13-6	16-5	19-1
	Douglas Fir-Larch	No.3	8-11	11-3	13-9	16-0	8-1	10-3	12-7	14-7
	Hem-Fir	SS	10-9	14-2	18-0	21-11	10-9	14-2	18-0	21-11
	Hem-Fir	No.1	10-6	13-10	17-8	21-6	10-6	13-10	17-1	19-10
	Hem-Fir	No.2	10-0	13-2	16-10	20-4	10-0	13-1	16-0	18-6
	Hem-Fir	No.3	8-8	11-0	13-5	15-7	7-11	10-0	12-3	14-3
	Southern Pine	SS	11-2	14-8	18-9	22-10	11-2	14-8	18-9	22-10
	Southern Pine	No.1	10-9	14-2	18-0	21-11	10-9	14-2	16-11	20-1
	Southern Pine	No.2	10-3	13-6	16-2	19-1	9-10	12-6	14-9	17-5
	Southern Pine	No.3	8-2	10-3	12-6	14-9	7-5	9-5	11-5	13-6
	Spruce-Pine Fir	SS	10-6	13-10	17-8	21-6	10-6	13-10	17-8	21-6
	Spruce-Pine Fir	No.1	10-3	13-6	17-3	20-7	10-3	13-3	16-3	18-10
Spruce-Pine Fir	No.2	10-3	13-6	17-3	20-7	10-3	13-3	16-3	18-10	
Spruce-Pine Fir	No.3	8-8	11-0	13-5	15-7	7-11	10-0	12-3	14-3	
16 in.	Douglas Fir-Larch	SS	10-4	13-7	17-4	21-1	10-4	13-7	17-4	21-1
	Douglas Fir-Larch	No.1	9-11	13-1	16-5	19-1	9-8	12-4	15-0	17-5
	Douglas Fir-Larch	No.2	9-9	12-9	15-7	18-1	9-3	11-8	14-3	16-6
	Douglas Fir-Larch	No.3	7-8	9-9	11-11	13-10	7-0	8-11	10-11	12-7
	Hem-Fir	SS	9-9	12-10	16-5	19-11	9-9	12-10	16-5	19-11
	Hem-Fir	No.1	9-6	12-7	16-0	18-10	9-6	12-2	14-10	17-2
	Hem-Fir	No.2	9-1	12-0	15-2	17-7	8-11	11-4	13-10	16-1
	Hem-Fir	No.3	7-6	9-6	11-8	13-6	6-10	8-8	10-7	12-4
	Southern Pine	SS	10-2	13-4	17-0	20-9	10-2	13-4	17-0	20-9
	Southern Pine	No.1	9-9	12-10	16-1	19-1	9-9	12-7	14-8	17-5
	Southern Pine	No.2	9-4	11-10	14-0	16-6	8-6	10-10	12-10	15-1
	Southern Pine	No.3	7-1	8-11	10-10	12-10	6-5	8-2	9-10	11-8
	Spruce-Pine Fir	SS	9-6	12-7	16-0	19-6	9-6	12-7	16-0	19-6
	Spruce-Pine Fir	No.1	9-4	12-3	15-5	17-10	9-1	11-6	14-1	16-3
Spruce-Pine Fir	No.2	9-4	12-3	15-5	17-10	9-1	11-6	14-1	16-3	
Spruce-Pine Fir	No.3	7-6	9-6	11-8	13-6	6-10	8-8	10-7	12-4	
19.2 in.	Douglas Fir-Larch	SS	9-8	12-10	16-4	19-10	9-8	12-10	16-4	19-6
	Douglas Fir-Larch	No.1	9-4	12-4	15-0	17-5	8-10	11-3	13-8	15-11
	Douglas Fir-Larch	No.2	9-2	11-8	14-3	16-6	8-5	10-8	13-0	15-1
	Douglas Fir-Larch	No.3	7-0	8-11	10-11	12-7	6-5	8-2	9-11	11-6
	Hem-Fir	SS	9-2	12-1	15-5	18-9	9-2	12-1	15-5	18-9
	Hem-Fir	No.1	9-0	11-10	14-10	17-2	8-9	11-1	13-6	15-8
	Hem-Fir	No.2	8-7	11-3	13-10	16-1	8-2	10-4	12-8	14-8
	Hem-Fir	No.3	6-10	8-8	10-7	12-4	6-3	7-11	9-8	11-3
	Southern Pine	SS	9-6	12-7	16-0	19-6	9-6	12-7	16-0	19-6
	Southern Pine	No.1	9-2	12-1	14-8	17-5	9-0	11-5	13-5	15-11
	Southern Pine	No.2	8-6	10-10	12-10	15-1	7-9	9-10	11-8	13-9
	Southern Pine	No.3	6-5	8-2	9-10	11-8	5-11	7-5	9-0	10-8
	Spruce-Pine Fir	SS	9-0	11-10	15-1	18-4	9-0	11-10	15-1	17-9
	Spruce-Pine Fir	No.1	8-9	11-6	14-1	16-3	8-3	10-6	12-10	14-10
Spruce-Pine Fir	No.2	8-9	11-6	14-1	16-3	8-3	10-6	12-10	14-10	
Spruce-Pine Fir	No.3	6-10	8-8	10-7	12-4	6-3	7-11	9-8	11-3	
24 in.	Douglas Fir-Larch	SS	9-0	11-11	15-2	18-5	9-0	11-11	15-0	17-5
	Douglas Fir-Larch	No.1	8-8	11-0	13-5	15-7	7-11	10-0	12-3	14-3
	Douglas Fir-Larch	No.2	8-3	10-5	12-9	14-9	7-6	9-6	11-8	13-6
	Douglas Fir-Larch	No.3	6-3	8-0	9-9	11-3	5-9	7-3	8-11	10-4
	Hem-Fir	SS	8-6	11-3	14-4	17-5	8-6	11-3	14-4	16-10
	Hem-Fir	No.1	8-4	10-10	13-3	15-5	7-10	9-11	12-1	14-0
	Hem-Fir	No.2	7-11	10-2	12-5	14-4	7-4	9-3	11-4	13-1
	Hem-Fir	No.3	6-2	7-9	9-6	11-0	5-7	7-1	8-8	10-1
	Southern Pine	SS	8-10	11-8	14-11	18-1	8-10	11-8	14-11	18-0
	Southern Pine	No.1	8-6	11-3	13-1	15-7	8-1	10-3	12-0	14-3
	Southern Pine	No.2	7-7	9-8	11-5	13-6	7-0	8-10	10-5	12-4
	Southern Pine	No.3	5-9	7-3	8-10	10-5	5-3	6-8	8-1	9-6
	Spruce-Pine Fir	SS	8-4	11-0	14-0	17-0	8-4	11-0	13-8	15-11
	Spruce-Pine Fir	No.1	8-1	10-3	12-7	14-7	7-5	9-5	11-6	13-4
Spruce-Pine Fir	No.2	8-1	10-3	12-7	14-7	7-5	9-5	11-6	13-4	
Spruce-Pine Fir	No.3	6-2	7-9	9-6	11-0	5-7	7-1	8-8	10-1	

Check sources for availability of lumber in lengths greater than 20 feet.

1. Spans checked for live load deflection only.