

TABLE R802.4(1)
CEILING JOIST SPANS FOR COMMON LUMBER SPECIES
 (Uninhabitable attics without storage, live load = 10 psf, L/Δ = 240)

CEILING JOIST SPACING (inches)	SPECIES AND GRADE	DEAD LOAD = 5 psf			
		2x4	2x6	2x8	2x10
		Maximum ceiling joist spans			
		(feet - inches)	(feet - inches)	(feet - inches)	(feet - inches)
12	Douglas fir-larch SS	13-2	20-8	Note a	Note a
	Douglas fir-larch #1	12-8	19-11	Note a	Note a
	Douglas fir-larch #2	12-5	19-6	25-8	Note a
	Douglas fir-larch #3	10-10	15-10	20-1	24-6
	Hem-fir SS	12-5	19-6	25-8	Note a
	Hem-fir #1	12-2	19-1	25-2	Note a
	Hem-fir #2	11-7	18-2	24-0	Note a
	Hem-fir #3	10-10	15-10	20-1	24-6
	Southern pine SS	12-11	20-3	Note a	Note a
	Southern pine #1	12-8	19-11	Note a	Note a
	Southern pine #2	12-5	19-6	25-8	Note a
	Southern pine #3	11-6	17-0	21-8	25-7
	Spruce-pine-fir SS	12-2	19-1	25-2	Note a
	Spruce-pine-fir #1	11-10	18-8	24-7	Note a
	Spruce-pine-fir #2	11-10	18-8	24-7	Note a
Spruce-pine-fir #3	10-10	15-10	20-1	24-6	
16	Douglas fir-larch SS	11-11	18-9	24-8	Note a
	Douglas fir-larch #1	11-6	18-1	23-10	Note a
	Douglas fir-larch #2	11-3	17-8	23-0	Note a
	Douglas fir-larch #3	9-5	13-9	17-5	21-3
	Hem-fir SS	11-3	17-8	23-4	Note a
	Hem-fir #1	11-0	17-4	22-10	Note a
	Hem-fir #2	10-6	16-6	21-9	Note a
	Hem-fir #3	9-5	13-9	17-5	21-3
	Southern pine SS	11-9	18-5	24-3	Note a
	Southern pine #1	11-6	18-1	23-1	Note a
	Southern pine #2	11-3	17-8	23-4	Note a
	Southern pine #3	10-0	14-9	18-9	22- 2
	Spruce-pine-fir SS	11-0	17-4	22-10	Note a
	Spruce-pine-fir #1	10-9	16-11	22- 4	Note a
	Spruce-pine-fir #2	10-9	16-11	22- 4	Note a
Spruce-pine-fir #3	9-5	13-9	17-5	21-3	
19.2	Douglas fir-larch SS	11-3	17-8	23-3	Note a
	Douglas fir-larch #1	10-10	17-0	22-5	Note a
	Douglas fir-larch #2	10-7	16-7	21-0	25-8
	Douglas fir-larch #3	8-7	12-6	15-10	19-5
	Hem-fir SS	10-7	16-8	21-11	Note a
	Hem-fir #1	10-4	16-4	21-6	Note a
	Hem-fir #2	9-11	15-7	20-6	25-3
	Hem-fir #3	8-7	12-6	15-10	19-5
	Southern -pine SS	11-0	17-4	22-10	Note a
	Southern pine #1	10-10	17-0	22-5	Note a
	Southern pine #2	10-7	16-8	21-11	Note a
	Southern pine #3	9-1	13-6	17-2	20-3
	Spruce-pine-fir SS	10-4	16-4	21-6	Note a
	Spruce-pine-fir #1	10-2	15-11	21-0	25-8
	Spruce-pine-fir #2	10-2	15-11	21-0	25-8
Spruce-pine-fir #3	8-7	12-6	15-10	19-5	

(continued)

TABLE R802.4(1)—continued
CEILING JOIST SPANS FOR COMMON LUMBER SPECIES
(Uninhabitable attics without storage, live load = 10 psf, L/Δ = 240)

CEILING JOIST SPACING (inches)	SPECIES AND GRADE	DEAD LOAD = 5 psf			
		2x4	2x6	2x8	2x10
		Maximum ceiling joist spans			
		(feet - inches)	(feet - inches)	(feet - inches)	(feet - inches)
24	Douglas fir-larch SS	10-5	16-4	21-7	Note a
	Douglas fir-larch #1	10-0	15-9	20-1	24-6
	Douglas fir-larch #2	9-10	14-10	18-9	22-11
	Douglas fir-larch #3	7-8	11-2	14-2	17-4
	Hem-fir SS	9-10	15-6	20-5	Note a
	Hem-fir #1	9-8	15-2	19-7	23-11
	Hem-fir #2	9-2	14-5	18-6	22-7
	Hem-fir #3	7-8	11-2	14-2	17-4
	Southern pine SS	10-3	16-1	21-2	Note a
	Southern pine #1	10-0	15-9	20-10	Note a
	Southern pine #2	9-10	15-6	20-1	23-11
	Southern pine #3	8-2	12-0	15-4	18-1
	Spruce-pine-fir SS	9-8	15-2	19-11	25-5
	Spruce-pine-fir #1	9-5	14-9	18-9	22-11
	Spruce-pine-fir #2	9-5	14-9	18-9	22-11
	Spruce-pine-fir #3	7-8	11-2	14-2	17-4

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

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square foot = 0.0479 kN/m².

a. Span exceeds 26 feet in length.

TABLE R802.4(2)
CEILING JOIST SPANS FOR COMMON LUMBER SPECIES
(Uninhabitable attics with limited storage, live load = 20 psf, L/Δ = 240)

CEILING JOIST SPACING (inches)	SPECIES AND GRADE	DEAD LOAD = 10 psf			
		2x4	2x6	2x8	2x10
		Maximum ceiling joist spans			
		(feet - inches)	(feet - inches)	(feet - inches)	(feet - inches)
12	Douglas fir-larch SS	10-5	16-4	21-7	Note a
	Douglas fir-larch #1	10-0	15-9	20-1	24-6
	Douglas fir-larch #2	9-10	14-10	18-9	22-11
	Douglas fir-larch #3	7-8	11-2	14-2	17-4
	Hem-fir SS	9-10	15-6	20-5	Note a
	Hem-fir #1	9-8	15-2	19-7	23-11
	Hem-fir #2	9-2	14-5	18-6	22-7
	Hem-fir #3	7-8	11-2	14-2	17-4
	Southern pine SS	10-3	16-1	21-2	Note a
	Southern pine #1	10-0	15-9	20-10	Note a
	Southern pine #2	9-10	15-6	20-1	23-11
	Southern pine #3	8-2	12-0	15-4	18-1
	Spruce-pine-fir SS	9-8	15-2	19-11	25-5
	Spruce-pine-fir #1	9-5	14-9	18-9	22-11
	Spruce-pine-fir #2	9-5	14-9	18-9	22-11
	Spruce-pine-fir #3	7-8	11-2	14-2	17-4
16	Douglas fir-larch SS	9-6	14-11	19-7	25-0
	Douglas fir-larch #1	9-1	13-9	17-5	21-3
	Douglas fir-larch #2	8-9	12-10	16-3	19-10
	Douglas fir-larch #3	6-8	9-8	12-4	15-0
	Hem-fir SS	8-11	14-1	18-6	23-8
	Hem-fir #1	8-9	13-5	16-10	20-8
	Hem-fir #2	8-4	12-8	16-0	19-7
	Hem-fir #3	6-8	9-8	12-4	15-0
	Southern pine SS	9-4	14-7	19-3	24-7
	Southern pine #1	9-1	14-4	18-11	23-1
	Southern pine #2	8-11	13-6	17-5	20-9
	Southern pine #3	7-1	10-5	13-3	15-8
	Spruce-pine-fir SS	8-9	13-9	18-1	23-1
	Spruce-pine-fir #1	8-7	12-10	16-3	19-10
	Spruce-pine-fir #2	8-7	12-10	16-3	19-10
	Spruce-pine-fir #3	6-8	9-8	12-4	15-0
19.2	Douglas fir-larch SS	8-11	14-0	18-5	23-4
	Douglas fir-larch #1	8-7	12-6	15-10	19-5
	Douglas fir-larch #2	8-0	11-9	14-10	18-2
	Douglas fir-larch #3	6-1	8-10	11-3	13-8
	Hem-fir SS	8-5	13-3	17-5	22-3
	Hem-fir #1	8-3	12-3	15-6	18-11
	Hem-fir #2	7-10	11-7	14-8	17-10
	Hem-fir #3	6-1	8-10	11-3	13-8
	Southern pine SS	8-9	13-9	18-1	23-1
	Southern pine #1	8-7	13-6	17-9	21-1
	Southern pine #2	8-5	12-3	15-10	18-11
	Southern pine #3	6-5	9-6	12-1	14-4
	Spruce-pine-fir SS	8-3	12-11	17-1	21-8
	Spruce-pine-fir #1	8-0	11-9	14-10	18-2
	Spruce-pine-fir #2	8-0	11-9	14-10	18-2
	Spruce-pine-fir #3	6-1	8-10	11-3	13-8

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TABLE R802.4(2)—continued
CEILING JOIST SPANS FOR COMMON LUMBER SPECIES
 (Uninhabitable attics with limited storage, live load = 20 psf, L/Δ = 240)

CEILING JOIST SPACING (inches)	SPECIES AND GRADE	DEAD LOAD = 10 psf			
		2x4	2x6	2x8	2x10
		Maximum Ceiling Joist Spans			
		(feet - inches)	(feet - inches)	(feet - inches)	(feet - inches)
24	Douglas fir-larch SS	8-3	13-0	17-1	20-11
	Douglas fir-larch #1	7-8	11-2	14-2	17-4
	Douglas fir-larch #2	7-2	10-6	13-3	16-3
	Douglas fir-larch #3	5-5	7-11	10-0	12-3
	Hem-fir SS	7-10	12-3	16-2	20-6
	Hem-fir #1	7-6	10-11	13-10	16-11
	Hem-fir #2	7-1	10-4	13-1	16-0
	Hem-fir #3	5-5	7-11	10-0	12-3
	Southern pine SS	8-1	12-9	16-10	21-6
	Southern pine #1	8-0	12-6	15-10	18-10
	Southern pine #2	7-8	11-0	14-2	16-11
	Southern pine #3	5-9	8-6	10-10	12-10
	Spruce-pine-fir SS	7-8	12-0	15-10	19-5
	Spruce-pine-fir #1	7-2	10-6	13-3	16-3
	Spruce-pine-fir #2	7-2	10-6	13-3	16-3
	Spruce-pine-fir #3	5-5	7-11	10-0	12-3

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

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square foot = 0.0479 kN/m².

a. Span exceeds 26 feet in length