

# WOOD SPECIES USED IN CONSTRUCTION

## Canadian Species

SPECIES COMBINATION	SPECIES INCLUDED IN COMBINATION	PHYSICAL CHARACTERISTICS	COLOR RANGES
<b>Spruce-Pine-Fir</b>	Spruce (all Species except Coast Sitka), Jack Pine, Lodgepole Pine, Balsam Fir, Alpine Fir	-Lightweight -Works easily, paints well -Holds nails well -Small knots	White to pale yellow
<b>Douglas-Fir-Larch (North)</b>	Douglas Fir Western Larch	-High degree of hardness -Good resistance to decay	Reddish brown to yellowish brown
<b>Hem-Fir (North)</b>	Pacific-Hemlock Amabilis Fir	-Works easily, paints well -Holds nails well	Yellow brown to white
<b>Northern Species</b>	Western Red Cedar	-Resists decay -High appearance qualities -Works & finishes easily -Takes fine finishes	Reddish brown heartwood, light sapwood
	Red Pine	-Works easily	Reddish to pale brown heartwood
	Ponderosa Pine	-Works easily - finishes well -Little splitting or splintering	Pale yellow sapwood
	Western White Pine Eastern White Pine	-Works easily - finishes easily -Little splitting - holds nails well	Creamy white, straw brown heartwood
	Trembling Aspen Largetooth Aspen Balsam Poplar	-Works and finishes easily -Holds nails well	Almost white to greyish white

## Western US Wood Species

SPECIES COMBINATION	SPECIES INCLUDED IN COMBINATION	PHYSICAL CHARACTERISTICS	COLOR RANGES
<b>Douglas Fir-Larch</b>	Douglas Fir Western Larch	-Clear of knots, strong -High hardness - Holds paint well	Reddish brown
<b>Hem-Fir</b>	Western Hemlock, Noble Fir, California Red Fir, Grand Fir, Pacific Silver Fir, White Fir	-Strong, stiff -Easy to work -Straight grained	Yellow brown to white
<b>Spruce-Pine-Fir South</b>	Sitka Spruce, Engelmann Spruce, Lodgepole Pine, Ponderosa Pine	-High grade, light knots -Smooth, straight grain	Yellowish white with reddish streaks
<b>Western Woods</b>	Sugar Pine, Idaho White Pine, Mountain Hemlock, Alpine Fir	-Straight grained -Works & paints well	Pale yellow to reddish brown
<b>Western Cedars</b>	Incense Cedar, Western Red Cedar, Port Orford Cedar, Alaskan Cedar	-Coarse grain, lightweight -Resists decay	Rich earthy red

## WESTERN CANADIAN LUMBER SPAN CHARTS

These span charts represent the most commonly available grades of Canadian Dimensional Lumber. Spans are for use in the U.S.A. and for dry service conditions. For other grades and loading conditions and spacing refer to *The U.S. Span Book for Major Lumber Species* published by the Canadian Wood Council. [www.cwc.ca](http://www.cwc.ca)

# WOOD SPECIES USED IN CONSTRUCTION

## U.S. Spans For Canadian Species

### FLOOR JOISTS - SLEEPING ROOMS & ATTICS, 30 PSF LIVE LOAD, 10 PSF DEAD LOAD, L360

Spruce-Pine-Fir	2x6 Grade			2x8 Grade			2x10 Grade			2x12 Grade		
	O.C.	Sel. Str.	No. 1 No. 2	No. 3	Sel. Str.	No. 1 No. 2	No. 3	Sel. Str.	No. 1 No. 2	No. 3	Sel. Str.	No. 1 No. 2
12"	11-7	11-3	9-8	15-3	14-11	12-4	19-5	19-0	15-0	23-7	23-0	17-5
16"	10-6	10-3	8-5	13-10	13-6	10-8	17-8	17-2	13-0	21-6	19-11	15-1
24"	9-2	8-11	6-10	12-1	11-6	8-8	15-5	14-1	10-7	18-9	16-3	12-4

Doug Fir-Larch	2x6 Grade			2x8 Grade			2x10 Grade			2x12 Grade		
	O.C.	Sel. Str.	No. 1 No. 2	No. 3	Sel. Str.	No. 1 No. 2	No. 3	Sel. Str.	No. 1 No. 2	No. 3	Sel. Str.	No. 1 No. 2
12"	12-6	11-10	9-6	16-6	15-7	12-0	21-0	19-7	14-8	25-7	22-8	17-0
16"	11-4	10-9	8-2	15-0	13-11	10-5	19-1	16-11	12-8	23-3	19-8	14-8
24"	9-11	8-11	6-8	13-1	11-4	8-6	16-8	13-10	10-4	20-3	16-1	12-0

Hem-Fir North	2x6 Grade			2x8 Grade			2x10 Grade			2x12 Grade		
	O.C.	Sel. Str.	No. 1 No. 2	No. 3	Sel. Str.	No. 1 No. 2	No. 3	Sel. Str.	No. 1 No. 2	No. 3	Sel. Str.	No. 1 No. 2
12"	12-0	11-10	10-5	15-10	15-7	13-2	20-3	19-10	16-1	24-8	24-2	18-8
16"	10-11	10-9	9-0	14-5	14-2	11-5	18-5	18-0	13-11	22-5	21-4	16-2
24"	9-7	9-4	7-4	12-7	12-4	9-4	16-1	15-0	11-5	19-7	17-5	13-2

North Species	2x6 Grade			2x8 Grade			2x10 Grade			2x12 Grade		
	O.C.	Sel. Str.	No. 1 No. 2	No. 3	Sel. Str.	No. 1 No. 2	No. 3	Sel. Str.	No. 1 No. 2	No. 3	Sel. Str.	No. 1 No. 2
12"	10-5	10-5	8-1	13-9	13-6	10-3	17-6	16-5	12-7	21-4	19-1	14-7
16"	9-6	9-3	7-0	12-6	11-8	8-11	15-11	14-3	10-11	19-4	16-6	12-7
24"	8-3	7-6	5-9	10-11	9-6	7-3	13-11	11-8	8-11	16-11	13-6	10-4

MSR Lumber	2x6			2x8			2x10			2x12		
	O.C.	2400f-2.0E	2250f-1.9E	2100f-1.8E	2400f-2.0E	2250f-1.9E	2100f-1.8E	2400f-2.0E	2250f-1.9E	2100f-1.8E	2400f-2.0E	2250f-1.9E
12"	12-9	12-6	12-3	16-9	16-6	16-2	21-5	21-0	20-8	26-0	25-7	25-1
16"	11-7	11-4	11-2	15-3	15-0	14-8	19-5	19-1	18-9	23-7	23-3	22-10
24"	10-1	9-11	9-9	13-4	13-1	12-10	17-0	16-8	16-5	20-8	20-3	19-11

MSR Lumber	2x6			2x8			2x10			2x12		
	O.C.	1950f-1.7E	1800f-1.6E	1650f-1.5E	1950f-1.7E	1800f-1.6E	1650f-1.5E	1950f-1.7E	1800f-1.6E	1650f-1.5E	1950f-1.7E	1800f-1.6E
12"	12-0	11-10	11-7	15-10	15-7	15-3	20-3	19-10	19-5	24-8	24-2	23-7
16"	10-11	10-9	10-6	14-5	14-2	13-10	18-5	18-0	17-8	22-5	21-11	21-6
24"	9-7	9-4	9-2	12-7	12-4	12-1	16-1	15-9	15-5	19-7	19-2	18-9

# WOOD SPECIES USED IN CONSTRUCTION

## FLOOR JOISTS - ALL EXCEPT SLEEPING ROOMS & ATTICS, 40 PSF LIVE LOAD, 10 PSF DEAD, L360

Spruce-Pine-Fir	2x6 Grade			2x8 Grade			2x10 Grade			2x12 Grade		
	O.C.	Sel. Str.	No. 1 No. 2 No. 3	Sel. Str.	No. 1 No. 2 No. 3	No. 3	Sel. Str.	No. 1 No. 2 No. 3	No. 3	Sel. Str.	No. 1 No. 2 No. 3	No. 3
12"	10-6	10-3	8-8	13-10	13-6	11-0	17-8	17-3	13-5	21-6	20-7	15-7
16"	9-6	9-4	7-6	12-7	12-3	9-6	16-0	15-5	11-8	19-6	17-10	13-6
24"	8-4	8-1	6-2	11-0	10-3	7-9	14-0	12-7	9-6	17-0	14-7	11-0

Doug Fir-Larch	2x6 Grade			2x8 Grade			2x10 Grade			2x12 Grade		
	O.C.	Sel. Str.	No. 1 No. 2 No. 3	Sel. Str.	No. 1 No. 2 No. 3	No. 3	Sel. Str.	No. 1 No. 2 No. 3	No. 3	Sel. Str.	No. 1 No. 2 No. 3	No. 3
12"	11-4	10-9	8-6	15-0	14-2	10-9	19-1	17-6	13-1	23-3	20-4	15-2
16"	10-4	9-9	7-4	13-7	12-5	9-3	17-4	15-2	11-4	21-1	17-7	13-2
24"	9-0	8-0	6-0	11-11	10-2	7-7	15-2	12-5	9-3	18-1	14-4	10-9

Hem-Fir North	2x6 Grade			2x8 Grade			2x10 Grade			2x12 Grade		
	O.C.	Sel. Str.	No. 1 No. 2 No. 3	Sel. Str.	No. 1 No. 2 No. 3	No. 3	Sel. Str.	No. 1 No. 2 No. 3	No. 3	Sel. Str.	No. 1 No. 2 No. 3	No. 3
12"	10-11	10-9	9-4	14-5	14-2	11-9	18-5	18-0	14-5	22-5	21-11	16-8
16"	9-11	9-9	8-1	13-1	12-10	10-3	16-9	16-5	12-6	20-4	19-1	14-6
24"	8-8	8-6	6-7	11-5	11-0	8-4	14-7	13-5	10-2	17-9	15-7	11-10

North Species	2x6 Grade			2x8 Grade			2x10 Grade			2x12 Grade		
	O.C.	Sel. Str.	No. 1 No. 2 No. 3	Sel. Str.	No. 1 No. 2 No. 3	No. 3	Sel. Str.	No. 1 No. 2 No. 3	No. 3	Sel. Str.	No. 1 No. 2 No. 3	No. 3
12"	9-6	9-6	7-3	12-6	12-1	9-2	15-11	14-9	11-3	19-4	17-1	13-0
16"	8-7	8-3	6-3	11-4	10-5	8-0	14-6	12-9	9-9	17-7	14-9	11-3
24"	7-6	6-9	5-2	9-11	8-6	6-6	12-8	10-5	7-11	15-4	12-1	9-3

MSR Lumber	2x6			2x8			2x10			2x12		
	O.C.	2400f-2.0E	2250f-1.9E	2100f-1.8E	2400f-2.0E	2250f-1.9E	2100f-1.8E	2400f-2.0E	2250f-1.9E	2100f-1.8E	2400f-2.0E	2250f-1.9E
12"	11-7	11-4	11-2	15-3	15-0	14-8	19-5	19-1	18-9	23-7	23-3	22-10
16"	10-6	10-4	10-2	13-10	13-7	13-4	17-8	17-4	17-0	21-6	21-1	20-9
24"	9-2	9-0	8-10	12-1	11-11	11-8	15-5	15-2	14-11	18-9	18-5	18-1

MSR Lumber	2x6			2x8			2x10			2x12		
	O.C.	1950f-1.7E	1800f-1.6E	1650f-1.5E	1950f-1.7E	1800f-1.6E	1650f-1.5E	1950f-1.7E	1800f-1.6E	1650f-1.5E	1950f-1.7E	1800f-1.6E
12"	10-11	10-9	10-6	14-5	14-2	13-10	18-5	18-0	17-8	22-5	21-11	21-6
16"	9-11	9-9	9-6	13-1	12-10	12-7	16-9	16-5	16-0	20-4	19-11	19-6
24"	8-8	8-6	8-4	11-5	11-3	11-0	14-7	14-4	14-0	17-9	17-5	17-0

Publisher is not responsible for errors or omissions in this book. Always check your local building codes for updated information.

# WOOD SPECIES USED IN CONSTRUCTION

## CEILING JOISTS - NO FUTURE ROOMS & LIMITED ATTIC STORAGE, 20 PSF LIVE, 10 PSF DEAD LOAD, L240

Spruce-Pine-Fir	2x4 Grade			2x6 Grade			2x8 Grade			2x10 Grade		
	O.C.	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1
12"	9-8	9-5	7-8	15-2	14-9	11-2	19-11	18-9	14-2	25-5	22-11	17-4
16"	8-9	8-7	6-8	13-9	12-10	9-8	18-2	16-3	12-4	23-2	19-10	15-0
24"	7-8	7-2	5-5	12-0	10-6	7-11	15-10	13-3	10-0	19-5	16-3	12-3

Doug Fir-Larch	2x4 Grade			2x6 Grade			2x8 Grade			2x10 Grade		
	O.C.	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1
12"	10-5	9-10	7-6	16-4	14-7	10-11	21-7	18-6	13-10	27-6	22-7	16-11
16"	9-6	8-8	6-6	14-11	12-8	9-6	19-7	16-0	12-0	24-8	19-7	14-8
24"	8-3	7-1	5-3	13-0	10-4	7-6	16-6	13-1	9-9	20-2	16-0	11-11

Hem-Fir North	2x4 Grade			2x6 Grade			2x8 Grade			2x10 Grade		
	O.C.	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1
12"	10-0	9-10	8-3	15-9	15-6	12-0	20-10	20-1	15-3	26-6	24-6	18-7
16"	9-1	8-11	7-1	14-4	13-9	10-5	18-11	17-5	13-2	24-1	21-3	16-1
24"	8-0	7-8	5-10	12-6	11-2	8-6	16-2	14-2	10-9	19-9	17-4	13-2

North Species	2x4 Grade			2x6 Grade			2x8 Grade			2x10 Grade		
	O.C.	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1
12"	8-8	8-5	6-5	13-8	12-3	9-5	18-0	15-7	11-11	22-11	19-0	14-6
16"	7-11	7-3	5-7	12-5	10-8	8-1	16-4	13-6	10-3	20-10	16-5	12-7
24"	6-11	5-11	4-6	10-10	8-8	6-8	14-2	11-0	8-5	17-4	13-5	10-3

MSR Lumber	2x4			2x6			2x8			2x10		
	O.C.	2400f-2.0E	2250f-1.9E	2100f-1.8E	2400f-2.0E	2250f-1.9E	2100f-1.8E	2400f-2.0E	2250f-1.9E	2100f-1.8E	2400f-2.0E	2250f-1.9E
12"	10-7	10-5	10-3	16-8	16-4	16-1	21-11	21-7	21-2	28-0	27-6	27-1
16"	9-8	9-6	9-4	15-2	14-11	14-7	19-11	19-7	19-3	25-5	25-0	24-7
24"	8-5	8-3	8-1	13-3	13-0	12-9	17-5	17-2	16-10	22-3	21-10	21-6

MSR Lumber	2x4			2x6			2x8			2x10		
	O.C.	1950f-1.7E	1800f-1.6E	1650f-1.5E	1950f-1.7E	1800f-1.6E	1650f-1.5E	1950f-1.7E	1800f-1.6E	1650f-1.5E	1950f-1.7E	1800f-1.6E
12"	10-0	9-10	9-8	15-9	15-6	15-2	20-10	20-5	19-11	26-6	26-0	25-5
16"	9-1	8-11	8-9	14-4	14-1	13-9	18-11	18-6	18-2	24-1	23-8	23-2
24"	8-0	7-10	7-8	12-6	12-3	12-0	16-6	16-2	15-10	21-1	20-8	20-2

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# WOOD SPECIES USED IN CONSTRUCTION

## U.S. WESTERN LUMBER SPAN CHARTS

These span charts represent the most commonly available grades of domestic U.S. western dimensional lumber. Spans are for use in the U.S.A. and for dry service conditions. For other grades and loading conditions and spacing, please refer to the *Western Lumber Span Tables* published by the Western Wood Products Association. [www.wwpa.org](http://www.wwpa.org)

FLOOR JOIST SPANS 30 PSF LIVE LOAD, 10 PSF DEAD LOAD, L360												
Doug-Fir Larch	2x6 Grade			2x8 Grade			2x10 Grade			2x12 Grade		
O.C.	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2
12"	12-6	12-0	11-10	16-6	15-10	15-7	21-0	20-3	19-10	25-7	24-8	23-4
16"	11-4	10-11	10-9	15-0	14-5	14-2	19-1	18-5	17-5	23-3	21-4	20-3
24"	9-11	9-7	9-3	13-1	12-4	11-8	16-8	15-0	14-3	20-3	17-5	16-6

Doug-Fir South	2x6 Grade			2x8 Grade			2x10 Grade			2x12 Grade		
O.C.	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2
12"	11-3	11-0	10-9	14-11	14-6	14-2	19-0	18-6	18-0	23-1	22-6	21-11
16"	10-3	10-0	9-9	13-6	13-2	12-10	17-3	16-10	16-5	21-0	20-6	19-8
24"	8-11	8-9	8-6	11-10	11-6	11-3	15-1	14-5	13-10	18-4	16-9	16-1

Hem-Fir	2x6 Grade			2x8 Grade			2x10 Grade			2x12 Grade		
O.C.	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2
12"	11-10	11-7	11-0	15-7	15-3	14-6	19-10	19-5	18-6	24-2	23-7	22-6
16"	10-9	10-6	10-0	14-2	13-10	13-2	18-0	17-8	16-10	21-11	21-1	19-8
24"	9-4	9-2	8-9	12-4	12-1	11-4	15-9	14-10	13-10	19-2	17-2	16-1

Spruce-Pine-Fir South	2x6 Grade			2x8 Grade			2x10 Grade			2x12 Grade		
O.C.	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2
12"	11-0	10-9	10-5	14-6	14-2	13-9	18-6	18-0	17-6	22-6	21-11	21-4
16"	10-0	9-9	9-6	13-2	12-10	12-6	16-10	16-5	15-11	20-6	19-11	18-9
24"	8-9	8-6	8-3	11-6	11-3	10-10	14-8	14-1	13-3	17-11	16-3	15-4

Western Woods	2x6 Grade			2x8 Grade			2x10 Grade			2x12 Grade		
O.C.	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2
12"	10-9	10-5	10-1	14-2	13-9	13-4	18-0	17-5	17-0	21-11	20-3	20-3
16"	9-9	9-6	9-2	12-10	12-4	12-1	16-5	15-1	15-1	19-11	17-6	17-6
24"	8-6	8-0	8-0	11-3	10-1	10-1	14-3	12-4	12-4	16-6	14-4	14-4

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# WOOD SPECIES USED IN CONSTRUCTION

## Western Wood Species Continued

### FLOOR JOIST SPANS 40 PSF LIVE LOAD, 10 PSF DEAD LOAD, L360

Doug-Fir Larch	2x6 Grade			2x8 Grade			2x10 Grade			2x12 Grade		
	O.C.	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1
12"	11-4	10-11	10-9	15-0	14-5	14-2	19-1	18-5	18-0	23-3	22-0	20-11
16"	10-4	9-11	9-9	13-7	13-1	12-9	17-4	16-5	15-7	21-1	19-1	18-1
24"	9-0	8-8	8-3	11-11	11-0	10-5	15-2	13-5	12-9	18-5	15-7	14-9

Doug-Fir South	2x6 Grade			2x8 Grade			2x10 Grade			2x12 Grade		
	O.C.	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1
12"	10-3	10-0	9-9	13-6	13-2	12-10	17-3	16-10	16-5	21-0	20-6	19-11
16"	9-4	9-1	8-10	12-3	12-0	11-8	15-8	15-3	14-11	19-1	18-4	17-7
24"	8-2	7-11	7-9	10-9	10-6	10-2	13-8	12-11	12-5	16-8	15-0	14-4

Hem-Fir	2x6 Grade			2x8 Grade			2x10 Grade			2x12 Grade		
	O.C.	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1
12"	10-9	10-6	10-0	14-2	13-10	13-2	18-0	17-8	16-10	21-11	21-6	20-4
16"	9-9	9-6	9-1	12-10	12-7	12-0	16-5	16-0	15-2	19-11	18-10	17-7
24"	8-6	8-4	7-11	11-3	10-10	10-2	14-4	13-3	12-5	17-5	15-5	14-4

Spruce-Pine-Fir South	2x6 Grade			2x8 Grade			2x10 Grade			2x12 Grade		
	O.C.	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1
12"	10-0	9-9	9-6	13-2	12-10	12-6	16-10	16-5	15-11	20-6	19-11	19-4
16"	9-1	8-10	8-7	12-0	11-8	11-4	15-3	14-11	14-6	18-7	17-10	16-10
24"	7-11	7-9	7-6	10-6	10-2	9-8	13-4	12-7	11-10	16-3	14-7	13-9

Western Woods	2x6 Grade			2x8 Grade			2x10 Grade			2x12 Grade		
	O.C.	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1
12"	9-9	9-6	9-2	12-10	12-6	12-1	16-5	15-7	15-5	19-11	18-1	18-1
16"	8-10	8-7	8-4	11-8	11-1	11-0	14-11	13-8	13-6	18-1	15-8	15-8
24"	7-9	7-2	7-2	10-2	9-0	9-0	12-9	11-0	11-0	14-9	12-10	12-10

### CEILING JOIST SPANS 20 PSF LIVE LOAD, 10 PSF DEAD LOAD, L360

Doug-Fir Larch	2x4 Grade			2x6 Grade			2x8 Grade			2x10 Grade		
	O.C.	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1
12"	9-1	8-9	8-7	14-4	13-9	13-6	18-10	18-2	17-10	24-1	23-2	22-9
16"	8-3	8-0	7-10	13-0	12-6	12-3	17-2	16-6	16-2	21-10	21-1	20-2
24"	7-3	7-0	6-10	11-4	10-11	10-8	15-0	14-2	13-6	19-1	17-4	16-5

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# WOOD SPECIES USED IN CONSTRUCTION

## Western Wood Species Continued

Doug-Fir South	2x4 Grade			2x6 Grade			2x8 Grade			2x10 Grade		
	O.C.	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1
12"	8-3	8-0	7-10	12-11	12-7	12-3	17-0	16-7	16-2	21-9	21-2	20-8
16"	7-6	7-3	7-1	11-9	11-5	11-2	15-6	15-1	14-8	19-9	19-3	18-9
24"	6-6	6-4	6-2	10-3	10-0	9-9	13-6	13-2	12-10	17-3	16-8	16-0

Hem-Fir	2x4 Grade			2x6 Grade			2x8 Grade			2x10 Grade		
	O.C.	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1
12"	8-7	8-5	8-0	13-6	13-3	12-7	17-10	17-5	16-7	22-9	22-3	21-2
16"	7-10	7-8	7-3	12-3	12-0	11-5	16-2	15-10	15-1	20-8	20-2	19-3
24"	6-10	6-8	6-4	10-9	10-6	10-0	14-2	13-10	13-1	18-0	17-1	16-0

Spruce-Pine-Fir South	2x4 Grade			2x6 Grade			2x8 Grade			2x10 Grade		
	O.C.	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1
12"	8-0	7-10	7-7	12-7	12-3	11-11	16-7	16-2	15-9	21-2	20-8	20-1
16"	7-3	7-1	6-11	11-5	11-2	10-10	15-1	14-8	14-3	19-3	18-9	18-3
24"	6-4	6-2	6-0	10-0	9-9	9-6	13-2	12-10	12-6	16-10	16-3	15-3

Western Woods	2x4 Grade			2x6 Grade			2x8 Grade			2x10 Grade		
	O.C.	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1
12"	7-10	7-7	7-4	12-3	11-11	11-7	16-2	15-9	15-3	20-8	20-1	19-5
16"	7-1	6-11	6-8	11-2	10-10	10-6	14-8	14-3	13-10	18-9	17-5	17-5
24"	6-2	6-0	5-10	9-9	9-3	9-2	12-10	11-8	11-8	16-5	14-3	14-3

### ROOF RAFTERS SPANS 40 PSF SNOW LOAD, 15 PSF DEAD LOAD, L240

Doug-Fir Larch	2x6 Grade			2x8 Grade			2x10 Grade			2x12 Grade		
	O.C.	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1
12"	13-0	12-6	11-11	17-2	15-11	15-1	21-10	19-5	18-5	26-7	22-6	21-4
16"	11-10	10-10	10-4	15-7	13-9	13-1	19-10	16-10	15-11	23-11	19-6	18-6
24"	10-4	8-11	8-5	13-7	11-3	10-8	16-10	13-9	13-0	19-6	15-11	15-1

Doug-Fir South	2x6 Grade			2x8 Grade			2x10 Grade			2x12 Grade		
	O.C.	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1
12"	11-9	11-5	11-2	15-6	15-1	14-8	19-9	18-8	17-11	24-0	21-8	20-9
16"	10-8	10-5	10-0	14-1	13-3	12-8	17-11	16-2	15-6	21-10	18-9	18-0
24"	9-4	8-6	8-2	12-3	10-10	10-4	15-8	13-2	12-8	18-6	15-4	14-8

# WOOD SPECIES USED IN CONSTRUCTION

## Western Wood Species Continued

ROOF RAFTERS SPANS 40 PSF SNOW LOAD, 15 PSF DEAD LOAD, L260 (Cont.)

Hem-Fir	2x6 Grade			2x8 Grade			2x10 Grade			2x12 Grade		
	O.C.	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1
12"	12-3	12-0	11-5	16-2	15-8	14-8	20-8	19-2	17-11	25-1	22-3	20-9
16"	11-2	10-9	10-0	14-8	13-7	12-8	18-9	16-7	15-6	22-10	19-3	18-0
24"	9-9	8-9	8-2	12-10	11-1	10-4	16-3	13-7	12-8	18-10	15-9	14-8

Spruce-Pine-Fir South	2x6 Grade			2x8 Grade			2x10 Grade			2x12 Grade		
	O.C.	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1
12"	11-5	11-2	10-10	15-1	14-8	14-0	19-3	18-2	17-1	23-5	21-1	19-10
16"	10-5	10-2	9-7	13-9	12-11	12-1	17-6	15-9	14-10	21-3	18-3	17-2
24"	9-1	8-4	7-10	12-0	10-6	9-11	15-3	12-10	12-1	18-2	14-11	14-0

Western Woods	2x6 Grade			2x8 Grade			2x10 Grade			2x12 Grade		
	O.C.	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1
12"	11-2	10-4	10-4	14-8	13-1	13-1	18-5	15-11	15-11	21-4	18-6	18-6
16"	10-2	8-11	8-11	13-1	11-4	11-4	15-11	13-10	13-10	18-6	16-0	16-0
24"	8-5	7-4	7-4	10-8	9-3	9-3	13-0	11-3	11-3	15-1	13-1	13-1

## Southern Pine Species

SPECIES COMBINATION	SPECIES INCLUDED IN COMBINATION	CHARACTERISTICS	COLOR RANGES
Southern Pine	Long leaf pine, short leaf pine, slash pine and loblolly pine.	Heavy, dense and strong. Strongest structural lumber of engineered and framing applications. Cell structure allows for easy pressure treatment.	Cream pink sapwood, heartwood is yellow-red to reddish brown.

## SOUTHERN PINE LUMBER SPAN CHARTS

These span charts are based on *The Latest Edition of the AF&PA Span Tables for Joists and Rafters* and represent the most commonly available grade of SP lumber. For other grades, loading conditions and spacing, refer to Maximum Spans for Southern Pine Joists and Rafters published by the Southern Pine Council. [www.southernpine.com](http://www.southernpine.com). Span charts courtesy of the Southern Pine Council.

### Floor Joists

SLEEPING ROOMS & ATTICS, 30 PSF LIVE LOAD, 10 PSF DEAD LOAD, L360

SP	2x6 Grade			2x8 Grade			2x10 Grade			2x12 Grade		
	O.C.	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1
12"	12-3	11-10	11-3	16-2	15-7	14-11	20-8	19-10	18-1	25-1	24-2	21-4
16"	11-2	10-9	10-3	14-8	14-2	13-3	18-9	18-0	15-8	22-10	21-4	18-6
24"	9-9	9-4	8-6	12-10	12-4	10-10	16-5	14-8	12-10	19-11	17-5	15-1

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# WOOD SPECIES USED IN CONSTRUCTION

## SP Species Continued Floor Joists

ALL ROOMS EXCEPT SLEEPING ROOMS & ATTICS, 40 PSF LIVE LOAD, 10 PSF DEAD LOAD, L360

SP	2x6 Grade			2x8 Grade			2x10 Grade			2x12 Grade		
	O.C.	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1
12"	11-2	10-9	10-3	14-8	14-2	13-6	18-9	18-0	16-2	22-10	21-11	19-1
16"	10-2	9-9	9-4	13-4	12-10	11-10	17-0	16-1	14-0	20-9	19-1	16-6
24"	8-10	8-6	7-7	11-8	11-3	9-8	14-11	13-1	11-5	18-1	15-7	13-6

## Ceiling Joists

DRYWALL CEILINGS - NO FUTURE ROOMS & NO ATTIC, 10 PSF LIVE LOAD, 5 PSF DEAD LOAD, L240

SP	2x4 Grade			2x6 Grade			2x8 Grade			2x10 Grade		
	O.C.	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1
12"	12-11	12-5	11-10	20-3	19-6	18-8	26-0	25-8	24-7	26-0	26-0	26-0
16"	11-9	11-3	10-9	18-5	17-8	16-11	24-3	23-4	21-7	26-0	26-0	25-7
24"	10-3	9-10	9-3	16-1	15-6	13-11	21-2	20-5	17-7	26-0	23-11	20-11

DRYWALL CEILINGS - NO FUTURE ROOMS & LIMITED ATTIC, 20 PSF LIVE LOAD, 10 PSF DEAD LOAD, L240

SP	2x4 Grade			2x6 Grade			2x8 Grade			2x10 Grade		
	O.C.	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1
12"	10-3	9-10	9-3	16-1	15-6	13-11	21-2	20-5	17-7	26-0	23-11	20-11
16"	9-4	8-11	8-0	14-7	14-0	12-0	19-3	17-9	15-3	24-7	20-9	18-1
24"	8-1	7-8	6-7	12-9	11-5	9-10	16-10	14-6	12-6	21-6	16-11	14-9

## Rafters: (Span is not calculated with snow loads)

MED. ROOFING, DRYWALL CEILING, NO ATTIC - 30 PSF LIVE LOAD, 15 PSF DEAD LOAD, L240

SP	2x6 Grade			2x8 Grade			2x10 Grade			2x12 Grade		
	O.C.	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1
12"	14-1	13-6	12-8	18-6	17-10	16-1	23-8	21-10	19-1	26-0	25-11	22-6
16"	12-9	12-3	11-0	16-10	16-2	13-11	21-6	18-11	16-6	26-0	22-6	19-6
24"	11-2	10-5	9-0	14-8	13-3	11-5	18-9	15-6	13-6	22-10	18-4	15-11

MED. ROOFING, DRYWALL CEILING, NO ATTIC - 40 PSF LIVE LOAD, 15 PSF DEAD LOAD, L240

SP	2x6 Grade			2x8 Grade			2x10 Grade			2x12 Grade		
	O.C.	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1	No. 2	Sel. Str.	No. 1
12"	12-9	12-3	11-6	16-10	16-2	14-7	21-6	19-9	17-3	26-0	23-6	20-4
16"	11-7	11-2	9-11	15-3	14-8	12-7	19-6	17-2	14-11	23-9	20-4	17-7
24"	10-2	9-5	8-1	13-4	12-0	10-3	17-0	14-0	12-3	20-9	16-7	14-5

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