

WEYERHAEUSER PREMIUM™ JOISTS

**Achieve Premium Performance
While Using Less Wood**

- Premium Lumber for Floors and Roofs
- Easy Installation
- Improved Efficiency Using Less Wood





WHY USE WEYERHAEUSER PREMIUM™ JOISTS?

Here's why—

- Dimensional stability
- Uniform size from joist to joist
- Fast installation
- Dependable performance
- Less waste

The products in this guide are readily available through our nationwide network of distributors and dealers. For more information on other applications or other Weyerhaeuser products, contact your Weyerhaeuser representative.



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ACHIEVE PREMIUM PERFORMANCE WHILE USING LESS WOOD

Using the superior strength and dimensional properties of Premium™ Joists, you can build more efficiently throughout the construction process. The high strength values of Premium™ Joists mean you can use less wood and simplify your installations while consistently delivering a higher level of performance.

Premium Roof and Floor Performance

Exceptional dimensional stability helps floors meet the stringent flatness criteria for hardwood and tile installations. This same product stability also helps framers deliver crisp roof lines and ripple-free ceilings.

Advanced performance testing ensures optimum fiber strength and product density, helping floors feel solid without many of the annoying vibrations and soft spots found in floors built with standard commodity grades.

Premium™ Joist Installation Benefits

- Kiln drying to a low, consistent moisture content—KD15, with no wet spots—decreases joist-to-joist variability, so you'll spend less time shimming and sanding.
- Superior dimensional stability also means less culling and improved build times.
- Improved efficiency with less wood—use fewer joists while still providing premium floor and roof performance.
- Stringent wane specifications reduce gluing and nailing issues along edges.

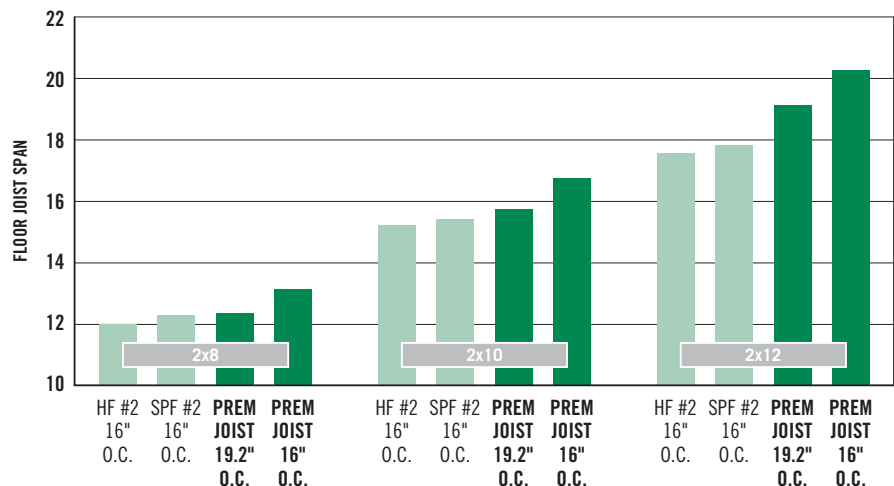
Available Sizes

Weyerhaeuser Premium™ Joists are available in the following sizes:

Nominal Size	Lengths
2x6, 2x8, 2x10, 2x12	8' to 20' in 2' increments

Span Comparisons

Based on 40 psf live load, 10 psf dead load, and deflection of L/360



SPAN AND LOAD TABLES

SP, M-29 Premium™ Joist Maximum Floor Spans

Nominal Size	Width	Depth	40 psf Live Load, 10 psf Dead Load, L/360 ⁽¹⁾				40 psf Live Load, 10 psf Dead Load, L/480				30 psf Live Load ⁽²⁾ , 10 psf Dead Load, L/360 ⁽¹⁾				30 psf Live Load ⁽²⁾ , 10 psf Dead Load, L/480			
			12" o.c.	16" o.c.	19.2" o.c.	24" o.c.	12" o.c.	16" o.c.	19.2" o.c.	24" o.c.	12" o.c.	16" o.c.	19.2" o.c.	24" o.c.	12" o.c.	16" o.c.	19.2" o.c.	24" o.c.
2x8	1½"	7¼"	14'-5"	13'-1"	12'-4"	11'-5"	13'-1"	11'-11"	11'-2"	10'-5"	15'-10"	14'-5"	13'-7"	12'-7"	14'-5"	13'-1"	12'-4"	11'-5"
2x10	1½"	9¼"	18'-5"	16'-9"	15'-9"	14'-7"	16'-9"	15'-2"	14'-4"	13'-3"	20'-3"	18'-5"	17'-4"	16'-1"	18'-5"	16'-9"	15'-9"	14'-7"
2x12	1½"	11¼"	22'-5"	20'-4"	19'-2"	17'-9"	20'-4"	18'-6"	17'-5"	16'-2"	24'-8"	22'-5"	21'-1"	19'-7"	22'-5"	20'-4"	19'-2"	17'-9"

(1) Minimum criteria per code. For stricter deflection criteria, use shorter spans or the L/480 spans.

(2) Some codes permit 30 psf live load for residential sleeping areas.

SP, M-29 Premium™ Joist Maximum Rafter Spans

Nominal Size	Width	Depth	20 psf Live Load, 10 psf Dead Load, L/240 ⁽¹⁾				30 psf Live Load, 10 psf Dead Load, L/240 ⁽¹⁾			
			12" o.c.	16" o.c.	19.2" o.c.	24" o.c.	12" o.c.	16" o.c.	19.2" o.c.	24" o.c.
2x6	1½"	5½"	15'-9"	14'-4"	13'-6"	12'-6"	13'-9"	12'-6"	11'-9"	10'-11"
2x8	1½"	7¼"	20'-10"	18'-11"	17'-9"	16'-6"	18'-2"	16'-6"	15'-6"	14'-5"
2x10	1½"	9¼"	26'-6"	24'-1"	22'-8"	21'-1"	23'-2"	21'-1"	19'-10"	18'-5"
2x12	1½"	11¼"	32'-3"	29'-4"	27'-7"	25'-7"	28'-2"	25'-7"	24'-1"	22'-5"

(1) Based on 115% duration of load (snow areas).

SP, M-29 Premium™ Joist Maximum Ceiling Spans

Nominal Size	Width	Depth	20 psf Live Load, 10 psf Dead Load, L/240 ⁽¹⁾				10 psf Live Load, 5 psf Dead Load, L/240 ⁽¹⁾			
			12" o.c.	16" o.c.	19.2" o.c.	24" o.c.	12" o.c.	16" o.c.	19.2" o.c.	24" o.c.
2x6	1½"	5½"	15'-9"	14'-4"	13'-6"	12'-3"	19'-11"	18'-1"	17'-0"	15'-9"
2x8	1½"	7¼"	20'-10"	18'-11"	17'-9"	16'-2"	26'-2"	23'-10"	22'-5"	20'-10"
2x10	1½"	9¼"	26'-6"	24'-1"	22'-8"	20'-7"	33'-5"	30'-5"	28'-7"	26'-6"
2x12	1½"	11¼"	32'-3"	29'-4"	27'-7"	25'-0"	40'-8"	36'-11"	34'-9"	32'-3"

(1) Based on 100% duration of load.

SP, M-29 Premium™ Joist Beam or Header Allowable Loads (PLF)

Clear Span ⁽¹⁾	Condition	1½" Width			3" Width (2-ply)			4½" Width (3-ply)			6" Width (4-ply)		
		2x8	2x10	2x12	2x8	2x10	2x12	2x8	2x10	2x12	2x8	2x10	2x12
4'	Total Load	776	1,180	1,556	1,553	2,361	3,113	2,548	3,542	4,670	3,397	4,723	6,227
	Live Load	776	1,180	1,556	1,553	2,361	3,113	2,548	3,542	4,670	3,397	4,723	6,227
	Min. End Bearing (in.)	3.0	3.0	4.5	3.0	3.0	4.5	3.0	3.0	4.5	3.0	3.0	4.5
6'	Total Load	360	574	825	721	1,148	1,650	1,238	1,963	2,660	1,651	2,618	3,547
	Live Load	360	574	825	721	1,148	1,650	1,238	1,963	2,660	1,651	2,618	3,547
	Min. End Bearing (in.)	1.5	3.0	4.5	1.5	3.0	4.5	1.5	3.0	4.5	1.5	3.0	4.5
8'	Total Load	205	330	481	410	660	963	706	1,135	1,650	942	1,514	2,200
	Live Load	205	330	481	410	660	963	677	1,135	1,650	903	1,514	2,200
	Min. End Bearing (in.)	1.5	3.0	3.0	1.5	3.0	3.0	1.5	3.0	3.0	1.5	3.0	3.0
10'	Total Load	131	212	312	262	425	625	453	733	1,074	604	978	1,432
	Live Load	117	212	312	235	425	625	351	719	1,074	468	959	1,432
	Min. End Bearing (in.)	1.5	1.5	3.0	1.5	1.5	3.0	1.5	1.5	3.0	1.5	1.5	3.0
12'	Total Load	90	147	217	181	295	435	299	510	751	399	680	1,001
	Live Load	68	140	217	136	281	435	205	421	748	273	561	998
	Min. End Bearing (in.)	1.5	1.5	3.0	1.5	1.5	3.0	1.5	1.5	3.0	1.5	1.5	3.0
14'	Total Load	62	108	160	124	216	320	187	374	552	249	498	736
	Live Load	43	89	159	86	178	318	129	267	476	173	356	635
	Min. End Bearing (in.)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	3.0	1.5	1.5	3.0
16'	Total Load	41	82	122	82	164	244	123	260	422	164	346	562
	Live Load	29	60	107	58	120	214	87	180	321	116	240	428
	Min. End Bearing (in.)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
18'	Total Load	28	60	95	56	120	191	84	180	327	112	240	437
	Live Load	20	42	75	40	84	151	61	126	226	81	169	302
	Min. End Bearing (in.)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
20'	Total Load	19	43	77	39	86	154	59	129	236	79	172	315
	Live Load	14	30	55	29	61	110	44	92	166	59	123	221
	Min. End Bearing (in.)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5

(1) Interpolation between spans is permitted.

General Notes for Floor, Rafter, and Ceiling Span Tables

- Maximum available length is 20'.
- Joists shall bear directly on beams, girders, ledgers, or load-bearing walls; or be supported by hangers or framing anchors.
- Spans shown are horizontal clear distances between supports, and assume uniformly loaded joists only.
- Minimum bearing:** 1½" on wood or steel, 3" on masonry. Bearing across the full joist width is required.
- Provide lateral restraint at the end of each joist by fastening to a rim, band joist, header, or other member or by using full-height blocking between floor joist ends.

General Notes for Joist, Beam, or Header Load Table

- Table is based on deflection criteria of L/240 total load, L/360 live load, and 100% duration of load.
- Allowable loads shown are the maximum uniform loads (plf) that can be applied to the member in addition to its own weight, provided that the minimum end-bearing requirements are met.
- Beams and girders shall bear on load-bearing walls, piles, or concrete or masonry foundations.

For framing instructions, including recommended fastening schedules, please refer to the AWC Wood Frame Construction Manual or your applicable building code.

Premium™ Joists are intended for dry-use applications

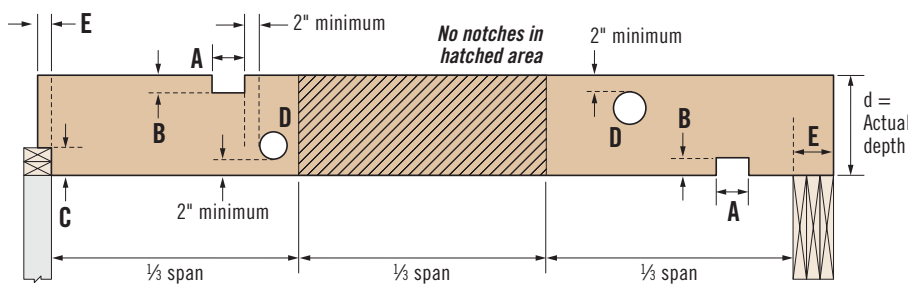
DESIGN STRESSES AND ALLOWABLE HOLES AND NOTCHES

SP, M-29 Premium™ Joist Allowable Design Stresses (100% Load Duration)

Modulus of elasticity	E	=	1.7 x 10 ⁶ psi
Flexural stress	F _b	=	1,550 psi
Tension stress	F _t	=	850 psi
Compression perpendicular to grain	F _{c⊥}	=	565 psi
Compression parallel to grain	F _c	=	1,650 psi
Horizontal shear parallel to grain	F _v	=	175 psi

- Design values based on Table 4C, 2018 NDS® Supplement.
- Use specific gravity of 0.55 when designing connections.
- M-29 design values meet or exceed those of #2 Southern pine, making Weyerhaeuser Premium™ Joists acceptable for use in any code-evaluated application that allows those products.

Allowable Holes and Notches



If the thickness of a built-up member is greater than 3½", no notches are permitted on the tension side, except at ends.

Maximum Notch and Hole Sizes

Nominal Joist Size	A	B	C	D	E	
	Maximum Notch Length not to exceed d/3	Maximum Notch Depth not to exceed d/6	Maximum End Notch Depth not to exceed d/4	Maximum Hole Diameter not to exceed d/3	Minimum Bearing Length	
2x6	1 13/16"	7/8"	1 3/8"	1 13/16"	Wood or Steel	3"
2x8	2 3/8"	1 3/16"	1 13/16"	2 3/8"	1 1/2"	3"
2x10	3 1/16"	1 1/2"	2 5/16"	3 1/16"	1 1/2"	3"
2x12	3 3/4"	1 7/8"	2 13/16"	3 3/4"	1 1/2"	3"

Safety

- Use care when handling joists to prevent injuries. Always wear gloves and eye protection when handling building materials.
- Do not use joists as ramps, planks, etc. Use only as directed in this guide.
- After sheathing, do not overload joists with construction material in excess of design loads.

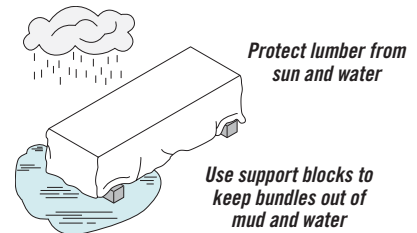
Storage and Handling

In Warehouse

- Store bundles on a hard and level surface in a covered shed and protect from weather. Avoid contact with water or extended exposure to direct sunlight.
- Do not store joists in direct contact with the ground. All bundles come with corner protection under the strap, and with 2x3 dunnage to keep joists off the ground when breaking bundles.
- To avoid physical damage to lumber, use care when handling bundles or individual components, especially when handling with forklifts or cranes.

At Job Site

- Keep joists wrapped and covered during transit from lumberyard to the job site.
- Do not open bundles until ready to install.
- To ensure that materials retain a low moisture content after bundle is broken, rewrap the unused portion and make sure all four sides and the top are covered.
- Keep joists off of the ground and covered at the job site.



Contact your local representative or dealer at:

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