

ROOF SPANS 115% SNOW

ALLOWABLE SPANS FOR PWI JOISTS – 25 PSF LIVE LOAD – 15 PSF DEAD LOAD

| Joist Series | Joist Depth | Simple Span | | | | | | | | |
|--------------|-------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| | | Slopes to 4 in 12 | | | Slopes to 8 in 12 | | | Slopes to 12 in 12 | | |
| | | 16" o.c. | 19.2" o.c. | 24" o.c. | 16" o.c. | 19.2" o.c. | 24" o.c. | 16" o.c. | 19.2" o.c. | 24" o.c. |
| PWI 20 | 9½" | 19'-2" ⁽¹⁾ | 18'-0" ⁽¹⁾ | 16'-8" ⁽²⁾ | 18'-0" ⁽²⁾ | 16'-11" ⁽²⁾ | 15'-8" ⁽²⁾ | 16'-8" ⁽²⁾ | 15'-8" ⁽³⁾ | 14'-6" ⁽³⁾ |
| | 11⅞" | 23'-1" ⁽²⁾ | 21'-3" ⁽²⁾ | 19'-0" ⁽²⁾ | 21'-9" ⁽²⁾ | 20'-5" ⁽³⁾ | 18'-6" ⁽³⁾ | 20'-1" ⁽³⁾ | 18'-11" ⁽³⁾ | 17'-6" ⁽³⁾ |
| | 14" | 25'-5" ⁽²⁾ | 23'-3" ⁽²⁾ | 20'-9" ⁽²⁾ | 24'-9" ⁽³⁾ | 22'-7" ⁽³⁾ | 20'-2" ⁽³⁾ | 22'-11" ⁽³⁾ | 21'-7" ⁽³⁾ | 19'-6" ⁽³⁾ |
| PWI 30 | 9½" | 19'-10" ⁽¹⁾ | 18'-7" ⁽²⁾ | 17'-3" ⁽²⁾ | 18'-8" ⁽²⁾ | 17'-6" ⁽²⁾ | 16'-3" ⁽³⁾ | 17'-3" ⁽³⁾ | 16'-3" ⁽³⁾ | 15'-0" ⁽³⁾ |
| | 11⅞" | 23'-11" ⁽²⁾ | 22'-5" ⁽²⁾ | 20'-9" ⁽²⁾ | 22'-6" ⁽²⁾ | 21'-1" ⁽³⁾ | 19'-7" ⁽³⁾ | 20'-10" ⁽³⁾ | 19'-7" ⁽³⁾ | 18'-1" ⁽³⁾ |
| | 14" | 25'-5" ⁽²⁾ | 23'-3" ⁽²⁾ | 20'-9" ⁽²⁾ | 22'-6" ⁽²⁾ | 21'-1" ⁽³⁾ | 19'-7" ⁽³⁾ | 20'-10" ⁽³⁾ | 19'-7" ⁽³⁾ | 18'-1" ⁽³⁾ |
| PWI 40 | 9½" | 21'-1" ⁽¹⁾ | 19'-5" ⁽²⁾ | 17'-4" ⁽²⁾ | 19'-10" ⁽²⁾ | 18'-7" ⁽²⁾ | 16'-11" ⁽³⁾ | 18'-4" ⁽³⁾ | 17'-3" ⁽³⁾ | 15'-11" ⁽³⁾ |
| | 11⅞" | 24'-4" ⁽²⁾ | 22'-2" ⁽²⁾ | 19'-10" ⁽²⁾ | 23'-8" ⁽²⁾ | 21'-7" ⁽³⁾ | 19'-3" ⁽³⁾ | 22'-0" ⁽³⁾ | 20'-8" ⁽³⁾ | 18'-7" ⁽³⁾ |
| | 14" | 26'-8" ⁽²⁾ | 24'-4" ⁽²⁾ | 21'-9" ⁽²⁾ | 26'-0" ⁽³⁾ | 23'-8" ⁽³⁾ | 21'-2" ⁽³⁾ | 25'-0" ⁽³⁾ | 22'-10" ⁽³⁾ | 20'-5" ⁽³⁾ |
| PWI 50 | 9½" | 20'-9" ⁽¹⁾ | 19'-6" ⁽²⁾ | 18'-1" ⁽²⁾ | 19'-7" ⁽²⁾ | 18'-5" ⁽²⁾ | 17'-0" ⁽³⁾ | 18'-1" ⁽³⁾ | 17'-0" ⁽³⁾ | 15'-9" ⁽³⁾ |
| | 11⅞" | 25'-0" ⁽²⁾ | 23'-6" ⁽²⁾ | 21'-9" ⁽²⁾ | 23'-7" ⁽²⁾ | 22'-1" ⁽³⁾ | 20'-6" ⁽³⁾ | 21'-10" ⁽³⁾ | 20'-6" ⁽³⁾ | 19'-0" ⁽³⁾ |
| | 14" | 28'-7" ⁽²⁾ | 26'-10" ⁽²⁾ | 24'-10" ⁽²⁾ | 26'-11" ⁽³⁾ | 25'-4" ⁽³⁾ | 23'-5" ⁽³⁾ | 24'-11" ⁽³⁾ | 23'-5" ⁽³⁾ | 21'-8" ⁽³⁾ |
| PWI 60 | 9½" | 22'-4" ⁽²⁾ | 21'-0" ⁽²⁾ | 19'-5" ⁽²⁾ | 21'-0" ⁽²⁾ | 19'-9" ⁽³⁾ | 18'-3" ⁽³⁾ | 19'-6" ⁽³⁾ | 18'-4" ⁽³⁾ | 16'-11" ⁽³⁾ |
| | 11⅞" | 26'-0" ⁽²⁾ | 25'-2" ⁽²⁾ | 23'-3" ⁽²⁾ | 23'-8" ⁽²⁾ | 23'-8" ⁽³⁾ | 21'-11" ⁽³⁾ | 23'-4" ⁽³⁾ | 21'-11" ⁽³⁾ | 20'-8" ⁽³⁾ |
| | 14" | 30'-6" ⁽²⁾ | 28'-8" ⁽²⁾ | 25'-7" ⁽²⁾ | 28'-9" ⁽³⁾ | 27'-0" ⁽³⁾ | 24'-11" ⁽³⁾ | 26'-8" ⁽³⁾ | 25'-0" ⁽³⁾ | 23'-2" ⁽³⁾ |
| PWI 70 | 9½" | 27'-9" ⁽²⁾ | 26'-1" ⁽²⁾ | 24'-1" ⁽²⁾ | 26'-1" ⁽³⁾ | 24'-6" ⁽³⁾ | 22'-9" ⁽³⁾ | 24'-2" ⁽³⁾ | 22'-9" ⁽³⁾ | 21'-1" ⁽³⁾ |
| | 11⅞" | 31'-6" ⁽²⁾ | 29'-7" ⁽²⁾ | 27'-5" ⁽²⁾ | 29'-8" ⁽³⁾ | 27'-11" ⁽³⁾ | 25'-10" ⁽³⁾ | 27'-6" ⁽³⁾ | 25'-10" ⁽³⁾ | 23'-11" ⁽³⁾ |
| | 14" | 34'-11" ⁽²⁾ | 32'-10" ⁽²⁾ | 30'-4" ⁽³⁾ | 32'-11" ⁽³⁾ | 30'-11" ⁽³⁾ | 28'-7" ⁽³⁾ | 30'-6" ⁽³⁾ | 28'-8" ⁽³⁾ | 26'-6" ⁽³⁾ |
| PWI 77 | 9½" | 23'-4" ⁽²⁾ | 21'-11" ⁽²⁾ | 20'-3" ⁽²⁾ | 21'-11" ⁽²⁾ | 20'-3" ⁽³⁾ | 19'-1" ⁽³⁾ | 20'-4" ⁽³⁾ | 19'-1" ⁽³⁾ | 17'-8" ⁽³⁾ |
| | 11⅞" | 27'-10" ⁽²⁾ | 26'-2" ⁽²⁾ | 24'-2" ⁽²⁾ | 26'-2" ⁽³⁾ | 24'-7" ⁽³⁾ | 22'-9" ⁽³⁾ | 24'-3" ⁽³⁾ | 22'-9" ⁽³⁾ | 21'-1" ⁽³⁾ |
| | 14" | 31'-8" ⁽²⁾ | 29'-9" ⁽²⁾ | 27'-6" ⁽²⁾ | 29'-10" ⁽³⁾ | 28'-0" ⁽³⁾ | 25'-11" ⁽³⁾ | 27'-7" ⁽³⁾ | 25'-11" ⁽³⁾ | 24'-0" ⁽³⁾ |
| PWI 90 | 9½" | 26'-8" ⁽²⁾ | 25'-0" ⁽²⁾ | 23'-2" ⁽²⁾ | 25'-1" ⁽³⁾ | 23'-7" ⁽³⁾ | 21'-10" ⁽³⁾ | 23'-3" ⁽³⁾ | 21'-10" ⁽³⁾ | 20'-3" ⁽³⁾ |
| | 11⅞" | 31'-9" ⁽²⁾ | 29'-10" ⁽²⁾ | 27'-7" ⁽²⁾ | 29'-11" ⁽³⁾ | 28'-1" ⁽³⁾ | 26'-0" ⁽³⁾ | 27'-9" ⁽³⁾ | 26'-1" ⁽³⁾ | 24'-1" ⁽³⁾ |
| | 14" | 36'-1" ⁽²⁾ | 33'-11" ⁽²⁾ | 31'-5" ⁽³⁾ | 34'-0" ⁽³⁾ | 31'-11" ⁽³⁾ | 29'-7" ⁽³⁾ | 31'-6" ⁽³⁾ | 29'-7" ⁽³⁾ | 27'-5" ⁽³⁾ |

Notes:

- Table values apply to uniformly loaded roof joists that are sloped at least ¼" in 12".
- Span is measured on the horizontal from face to face of supports.
- Table values do not account for stiffness added by glued or nailed sheathing.
- Provide at least 1¾" of bearing length at end supports and 3½" at intermediate supports.
- The numbers in parentheses refer to the minimum connection required at each support.
 - Beveled plate and two nails (190 lbs. lateral capacity @ 115%), or joist hanger
 - Beveled plate and four nails (380 lbs. lateral capacity @ 115%), or (3)
 - Gussets at high support (1490 lbs. lateral capacity @ 115%), birdsmouth cut at low support, or (4)
 - Strap (1640 lbs. lateral capacity @ 115%) or pair of twist straps (950 lbs. lateral capacity each @ 115%) at high support, birdsmouth cut at low support
- Provide lateral restraint at supports (e.g. blocking panels, rim board) and along the compression flange of each joist (e.g. roof sheathing, gypsum board ceiling).
- Consult a professional engineer to analyze conditions outside the scope of this table (e.g. different bearing conditions, concentrated loads, multiple span joists).

HOW TO USE ROOF SPAN TABLES

- Check the local building code for deflection requirements. Table values are limited to L/180 at total load and L/240 at live load.
- Choose the appropriate load duration category – 100% for heavy snow, 115% for snow or 125% for non-snow. When in doubt, consult the local building department.
- Choose the appropriate live and dead load combination and a joist spacing.
- Scan down the spacing column to find a span that exceeds the horizontal design span and the minimum connection required at each support.
- Scan to the left from that span to determine the joist size required.
- Web stiffeners are required at all supports for 22" and 24" joists. See *Web Stiffener Requirements* on page 81 more details.

ROOF SPANS 115% SNOW

ALLOWABLE SPANS FOR PWI JOISTS – 30 PSF LIVE LOAD – 15 PSF DEAD LOAD

| Joist Series | Joist Depth | Simple Span | | | | | | | | |
|--------------|-------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| | | Slopes to 4 in 12 | | | Slopes to 8 in 12 | | | Slopes to 12 in 12 | | |
| | | 16" o.c. | 19.2" o.c. | 24" o.c. | 16" o.c. | 19.2" o.c. | 24" o.c. | 16" o.c. | 19.2" o.c. | 24" o.c. |
| PWI 20 | 9½" | 18'-5" ⁽¹⁾ | 17'-3" ⁽²⁾ | 15'-9" ⁽²⁾ | 17'-4" ⁽²⁾ | 16'-3" ⁽²⁾ | 15'-1" ⁽³⁾ | 16'-1" ⁽³⁾ | 15'-1" ⁽³⁾ | 14'-0" ⁽³⁾ |
| | 11⅞" | 22'-0" ⁽²⁾ | 20'-1" ⁽²⁾ | 17'-11" ⁽²⁾ | 20'-11" ⁽²⁾ | 19'-7" ⁽³⁾ | 17'-6" ⁽³⁾ | 19'-5" ⁽³⁾ | 18'-3" ⁽³⁾ | 16'-11" ⁽³⁾ |
| | 14" | 24'-0" ⁽²⁾ | 21'-11" ⁽²⁾ | 19'-7" ⁽²⁾ | 23'-5" ⁽³⁾ | 21'-5" ⁽³⁾ | 19'-1" ⁽³⁾ | 22'-2" ⁽³⁾ | 20'-9" ⁽³⁾ | 18'-6" ⁽³⁾ |
| PWI 30 | 9½" | 19'-0" ⁽¹⁾ | 17'-10" ⁽²⁾ | 16'-6" ⁽²⁾ | 18'-0" ⁽²⁾ | 16'-10" ⁽²⁾ | 15'-7" ⁽³⁾ | 16'-8" ⁽³⁾ | 15'-8" ⁽³⁾ | 14'-6" ⁽³⁾ |
| | 11⅞" | 22'-11" ⁽²⁾ | 21'-7" ⁽²⁾ | 19'-11" ⁽²⁾ | 21'-8" ⁽³⁾ | 20'-4" ⁽³⁾ | 18'-10" ⁽³⁾ | 20'-1" ⁽³⁾ | 18'-11" ⁽³⁾ | 17'-6" ⁽³⁾ |
| | 14" | 24'-0" ⁽²⁾ | 21'-11" ⁽²⁾ | 19'-7" ⁽²⁾ | 23'-5" ⁽³⁾ | 21'-5" ⁽³⁾ | 19'-1" ⁽³⁾ | 22'-2" ⁽³⁾ | 20'-9" ⁽³⁾ | 18'-6" ⁽³⁾ |
| PWI 40 | 9½" | 20'-1" ⁽²⁾ | 18'-4" ⁽²⁾ | 16'-5" ⁽²⁾ | 19'-1" ⁽²⁾ | 17'-11" ⁽³⁾ | 16'-0" ⁽³⁾ | 17'-9" ⁽³⁾ | 16'-8" ⁽³⁾ | 15'-5" ⁽³⁾ |
| | 11⅞" | 22'-11" ⁽²⁾ | 20'-11" ⁽²⁾ | 18'-8" ⁽²⁾ | 22'-8" ⁽³⁾ | 20'-5" ⁽³⁾ | 18'-3" ⁽³⁾ | 21'-3" ⁽³⁾ | 19'-9" ⁽³⁾ | 17'-8" ⁽³⁾ |
| | 14" | 25'-2" ⁽²⁾ | 23'-0" ⁽²⁾ | 20'-6" ⁽²⁾ | 24'-7" ⁽³⁾ | 22'-5" ⁽³⁾ | 20'-0" ⁽³⁾ | 23'-10" ⁽³⁾ | 21'-8" ⁽³⁾ | 19'-5" ⁽³⁾ |
| PWI 50 | 9½" | 20'-0" ⁽²⁾ | 18'-9" ⁽²⁾ | 17'-4" ⁽²⁾ | 18'-10" ⁽²⁾ | 17'-8" ⁽³⁾ | 16'-5" ⁽³⁾ | 17'-6" ⁽³⁾ | 16'-5" ⁽³⁾ | 15'-3" ⁽³⁾ |
| | 11⅞" | 22'-0" ⁽²⁾ | 22'-11" ⁽²⁾ | 20'-11" ⁽²⁾ | 22'-8" ⁽³⁾ | 21'-4" ⁽³⁾ | 19'-9" ⁽³⁾ | 21'-1" ⁽³⁾ | 19'-9" ⁽³⁾ | 18'-4" ⁽³⁾ |
| | 14" | 27'-6" ⁽²⁾ | 25'-10" ⁽²⁾ | 23'-11" ⁽²⁾ | 25'-11" ⁽³⁾ | 24'-4" ⁽³⁾ | 22'-7" ⁽³⁾ | 24'-1" ⁽³⁾ | 22'-8" ⁽³⁾ | 20'-11" ⁽³⁾ |
| PWI 60 | 9½" | 21'-6" ⁽²⁾ | 20'-2" ⁽²⁾ | 18'-8" ⁽²⁾ | 20'-3" ⁽²⁾ | 19'-0" ⁽³⁾ | 17'-7" ⁽³⁾ | 18'-10" ⁽³⁾ | 17'-8" ⁽³⁾ | 16'-4" ⁽³⁾ |
| | 11⅞" | 25'-9" ⁽²⁾ | 24'-2" ⁽²⁾ | 22'-0" ⁽²⁾ | 24'-3" ⁽³⁾ | 22'-0" ⁽³⁾ | 21'-1" ⁽³⁾ | 22'-7" ⁽³⁾ | 21'-2" ⁽³⁾ | 19'-7" ⁽³⁾ |
| | 14" | 29'-4" ⁽²⁾ | 27'-0" ⁽²⁾ | 24'-2" ⁽²⁾ | 27'-8" ⁽³⁾ | 26'-0" ⁽³⁾ | 23'-7" ⁽³⁾ | 25'-8" ⁽³⁾ | 24'-2" ⁽³⁾ | 22'-4" ⁽³⁾ |
| PWI 70 | 11⅞" | 26'-8" ⁽²⁾ | 25'-0" ⁽²⁾ | 23'-2" ⁽²⁾ | 25'-2" ⁽³⁾ | 23'-7" ⁽³⁾ | 21'-10" ⁽³⁾ | 23'-4" ⁽³⁾ | 21'-11" ⁽³⁾ | 20'-4" ⁽³⁾ |
| | 14" | 30'-4" ⁽²⁾ | 28'-5" ⁽²⁾ | 26'-4" ⁽³⁾ | 28'-7" ⁽³⁾ | 26'-10" ⁽³⁾ | 24'-10" ⁽³⁾ | 26'-7" ⁽³⁾ | 24'-11" ⁽³⁾ | 23'-1" ⁽³⁾ |
| | 16" | 33'-7" ⁽²⁾ | 31'-6" ⁽²⁾ | 28'-11" ⁽³⁾ | 31'-8" ⁽³⁾ | 29'-9" ⁽³⁾ | 27'-7" ⁽³⁾ | 29'-5" ⁽³⁾ | 27'-8" ⁽³⁾ | 25'-7" ⁽³⁾ |
| PWI 77 | 9½" | 22'-5" ⁽²⁾ | 21'-0" ⁽²⁾ | 19'-5" ⁽²⁾ | 21'-1" ⁽²⁾ | 19'-10" ⁽³⁾ | 18'-4" ⁽³⁾ | 19'-7" ⁽³⁾ | 18'-5" ⁽³⁾ | 17'-1" ⁽³⁾ |
| | 11⅞" | 26'-9" ⁽²⁾ | 25'-1" ⁽²⁾ | 23'-3" ⁽²⁾ | 25'-3" ⁽³⁾ | 23'-8" ⁽³⁾ | 21'-11" ⁽³⁾ | 23'-5" ⁽³⁾ | 22'-0" ⁽³⁾ | 20'-4" ⁽³⁾ |
| | 14" | 30'-5" ⁽²⁾ | 28'-7" ⁽²⁾ | 26'-5" ⁽³⁾ | 28'-8" ⁽³⁾ | 26'-11" ⁽³⁾ | 24'-11" ⁽³⁾ | 26'-8" ⁽³⁾ | 25'-0" ⁽³⁾ | 23'-2" ⁽³⁾ |
| PWI 90 | 9½" | 25'-7" ⁽²⁾ | 24'-0" ⁽²⁾ | 22'-3" ⁽²⁾ | 24'-2" ⁽³⁾ | 22'-8" ⁽³⁾ | 21'-0" ⁽³⁾ | 22'-5" ⁽³⁾ | 21'-1" ⁽³⁾ | 19'-6" ⁽³⁾ |
| | 11⅞" | 30'-6" ⁽²⁾ | 28'-8" ⁽²⁾ | 26'-6" ⁽³⁾ | 28'-10" ⁽³⁾ | 27'-1" ⁽³⁾ | 25'-1" ⁽³⁾ | 26'-9" ⁽³⁾ | 25'-2" ⁽³⁾ | 23'-3" ⁽³⁾ |
| | 14" | 34'-8" ⁽²⁾ | 32'-7" ⁽²⁾ | 30'-2" ⁽³⁾ | 32'-9" ⁽³⁾ | 30'-9" ⁽³⁾ | 28'-6" ⁽³⁾ | 30'-5" ⁽³⁾ | 28'-7" ⁽³⁾ | 26'-5" ⁽³⁾ |

See notes on page 24

ROOF SPANS 115% SNOW

ALLOWABLE SPANS FOR PWI JOISTS – 40 PSF LIVE LOAD – 15 PSF DEAD LOAD

| Joist Series | Joist Depth | Simple Span | | | | | | | | |
|--------------|-------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| | | Slopes to 4 in 12 | | | Slopes to 8 in 12 | | | Slopes to 12 in 12 | | |
| | | 16" o.c. | 19.2" o.c. | 24" o.c. | 16" o.c. | 19.2" o.c. | 24" o.c. | 16" o.c. | 19.2" o.c. | 24" o.c. |
| PWI 20 | 9½" | 17'-2" ⁽²⁾ | 15'-11" ⁽²⁾ | 14'-3" ⁽²⁾ | 16'-3" ⁽²⁾ | 15'-3" ⁽³⁾ | 13'-11" ⁽³⁾ | 15'-2" ⁽³⁾ | 14'-3" ⁽³⁾ | 13'-2" ⁽³⁾ |
| | 11⅞" | 19'-11" ⁽²⁾ | 18'-2" ⁽²⁾ | 16'-3" ⁽²⁾ | 19'-6" ⁽³⁾ | 17'-10" ⁽³⁾ | 15'-11" ⁽³⁾ | 18'-3" ⁽³⁾ | 17'-2" ⁽³⁾ | 15'-6" ⁽³⁾ |
| | 14" | 21'-9" ⁽²⁾ | 19'-10" ⁽²⁾ | 17'-9" ⁽²⁾ | 21'-4" ⁽³⁾ | 19'-5" ⁽³⁾ | 17'-4" ⁽³⁾ | 20'-9" ⁽³⁾ | 18'-11" ⁽³⁾ | 16'-11" ⁽³⁾ |
| PWI 30 | 9½" | 17'-9" ⁽²⁾ | 16'-8" ⁽²⁾ | 15'-5" ⁽²⁾ | 16'-10" ⁽²⁾ | 15'-10" ⁽³⁾ | 14'-7" ⁽³⁾ | 15'-8" ⁽³⁾ | 14'-9" ⁽³⁾ | 13'-7" ⁽³⁾ |
| | 11⅞" | 21'-5" ⁽²⁾ | 20'-1" ⁽²⁾ | 18'-4" ⁽²⁾ | 20'-3" ⁽³⁾ | 19'-1" ⁽³⁾ | 17'-7" ⁽³⁾ | 18'-11" ⁽³⁾ | 17'-9" ⁽³⁾ | 16'-5" ⁽³⁾ |
| | 14" | 24'-7" ⁽²⁾ | 22'-5" ⁽²⁾ | 20'-0" ⁽²⁾ | 24'-1" ⁽³⁾ | 22'-0" ⁽³⁾ | 19'-7" ⁽³⁾ | 23'-5" ⁽³⁾ | 21'-5" ⁽³⁾ | 19'-1" ⁽³⁾ |
| PWI 40 | 9½" | 18'-2" ⁽²⁾ | 16'-7" ⁽²⁾ | 14'-10" ⁽²⁾ | 17'-10" ⁽³⁾ | 16'-3" ⁽³⁾ | 14'-6" ⁽³⁾ | 16'-8" ⁽³⁾ | 15'-8" ⁽³⁾ | 14'-2" ⁽³⁾ |
| | 11⅞" | 22'-5" ⁽²⁾ | 18'-1" ⁽²⁾ | 19'-6" ⁽²⁾ | 21'-3" ⁽³⁾ | 19'-11" ⁽³⁾ | 18'-5" ⁽³⁾ | 19'-10" ⁽³⁾ | 18'-1" ⁽³⁾ | 16'-3" ⁽³⁾ |
| | 14" | 22'-9" ⁽²⁾ | 20'-9" ⁽²⁾ | 18'-7" ⁽²⁾ | 22'-4" ⁽³⁾ | 20'-5" ⁽³⁾ | 18'-3" ⁽³⁾ | 21'-9" ⁽³⁾ | 19'-10" ⁽³⁾ | 17'-9" ⁽³⁾ |
| PWI 50 | 9½" | 18'-8" ⁽²⁾ | 17'-6" ⁽²⁾ | 16'-2" ⁽²⁾ | 17'-8" ⁽³⁾ | 16'-7" ⁽³⁾ | 15'-4" ⁽³⁾ | 16'-5" ⁽³⁾ | 15'-5" ⁽³⁾ | 14'-4" ⁽³⁾ |
| | 11⅞" | 22'-5" ⁽²⁾ | 21'-1" ⁽²⁾ | 19'-6" ⁽²⁾ | 21'-3" ⁽³⁾ | 19'-11" ⁽³⁾ | 18'-5" ⁽³⁾ | 19'-10" ⁽³⁾ | 18'-1" ⁽³⁾ | 16'-3" ⁽³⁾ |
| | 14" | 25'-8" ⁽²⁾ | 24'-1" ⁽²⁾ | 20'-9" ⁽²⁾ | 24'-4" ⁽³⁾ | 22'-10" ⁽³⁾ | 19'-11" ⁽³⁾ | 22'-8" ⁽³⁾ | 21'-3" ⁽³⁾ | 18'-11" ⁽³⁾ |
| PWI 60 | 9½" | 20'-0" ⁽²⁾ | 18'-10" ⁽²⁾ | 17'-5" ⁽²⁾ | 19'-0" ⁽³⁾ | 17'-10" ⁽³⁾ | 16'-6" ⁽³⁾ | 17'-8" ⁽³⁾ | 16'-7" ⁽³⁾ | 15'-4" ⁽³⁾ |
| | 11⅞" | 24'-0" ⁽²⁾ | 22'-3" ⁽²⁾ | 19'-11" ⁽²⁾ | 22'-9" ⁽³⁾ | 21'-4" ⁽³⁾ | 19'-6" ⁽³⁾ | 21'-3" ⁽³⁾ | 19'-11" ⁽³⁾ | 18'-5" ⁽³⁾ |
| | 14" | 26'-10" ⁽²⁾ | 24'-5" ⁽²⁾ | 21'-10" ⁽³⁾ | 25'-11" ⁽³⁾ | 24'-0" ⁽³⁾ | 21'-5" ⁽³⁾ | 24'-2" ⁽³⁾ | 22'-9" ⁽³⁾ | 20'-10" ⁽³⁾ |
| PWI 70 | 9½" | 28'-11" ⁽²⁾ | 26'-4" ⁽²⁾ | 23'-7" ⁽³⁾ | 28'-4" ⁽³⁾ | 25'-10" ⁽³⁾ | 23'-1" ⁽³⁾ | 26'-10" ⁽³⁾ | 25'-2" ⁽³⁾ | 22'-4" ⁽³⁾ |
| | 11⅞" | 24'-11" ⁽²⁾ | 23'-4" ⁽²⁾ | 21'-7" ⁽³⁾ | 23'-7" ⁽³⁾ | 22'-1" ⁽³⁾ | 20'-6" ⁽³⁾ | 22'-0" ⁽³⁾ | 20'-8" ⁽³⁾ | 19'-1" ⁽³⁾ |
| | 14" | 28'-4" ⁽²⁾ | 26'-7" ⁽²⁾ | 23'-9" ⁽³⁾ | 26'-10" ⁽³⁾ | 25'-2" ⁽³⁾ | 22'-10" ⁽³⁾ | 25'-0" ⁽³⁾ | 23'-6" ⁽³⁾ | 21'-7" ⁽³⁾ |
| PWI 77 | 9½" | 31'-4" ⁽²⁾ | 29'-5" ⁽³⁾ | 23'-9" ⁽³⁾ | 29'-8" ⁽³⁾ | 27'-11" ⁽³⁾ | 22'-10" ⁽³⁾ | 27'-8" ⁽³⁾ | 26'-0" ⁽³⁾ | 21'-7" ⁽³⁾ |
| | 11⅞" | 34'-4" ⁽³⁾ | 29'-8" ⁽³⁾ | 23'-9" ⁽³⁾ | 32'-6" ⁽³⁾ | 28'-7" ⁽³⁾ | 22'-10" ⁽³⁾ | 30'-4" ⁽³⁾ | 27'-1" ⁽³⁾ | 21'-7" ⁽³⁾ |
| | 14" | 35'-8" ⁽³⁾ | 29'-8" ⁽³⁾ | 23'-9" ⁽³⁾ | 34'-4" ⁽³⁾ | 28'-7" ⁽³⁾ | 22'-10" ⁽³⁾ | 32'-6" ⁽³⁾ | 27'-1" ⁽³⁾ | 21'-7" ⁽³⁾ |
| PWI 90 | 9½" | 20'-11" ⁽²⁾ | 19'-7" ⁽²⁾ | 18'-2" ⁽²⁾ | 19'-9" ⁽³⁾ | 18'-7" ⁽³⁾ | 17'-2" ⁽³⁾ | 18'-5" ⁽³⁾ | 17'-4" ⁽³⁾ | 16'-0" ⁽³⁾ |
| | 11⅞" | 25'-0" ⁽²⁾ | 23'-5" ⁽²⁾ | 21'-8" ⁽³⁾ | 23'-8" ⁽³⁾ | 22'-2" ⁽³⁾ | 20'-6" ⁽³⁾ | 22'-0" ⁽³⁾ | 20'-8" ⁽³⁾ | 19'-2" ⁽³⁾ |
| | 14" | 28'-5" ⁽²⁾ | 26'-8" ⁽²⁾ | 24'-8" ⁽³⁾ | 26'-11" ⁽³⁾ | 25'-3" ⁽³⁾ | 23'-4" ⁽³⁾ | 25'-1" ⁽³⁾ | 23'-6" ⁽³⁾ | 21'-10" ⁽³⁾ |
| PWI 90 | 16" | 31'-6" ⁽²⁾ | 29'-7" ⁽³⁾ | 26'-3" ⁽³⁾ | 29'-10" ⁽³⁾ | 28'-0" ⁽³⁾ | 25'-3" ⁽³⁾ | 27'-10" ⁽³⁾ | 26'-1" ⁽³⁾ | 23'-11" ⁽³⁾ |
| | 18" | 34'-6" ⁽³⁾ | 32'-4" ⁽³⁾ | 26'-3" ⁽³⁾ | 32'-8" ⁽³⁾ | 30'-8" ⁽³⁾ | 25'-3" ⁽³⁾ | 30'-5" ⁽³⁾ | 28'-7" ⁽³⁾ | 23'-11" ⁽³⁾ |
| | 20" | 37'-4" ⁽³⁾ | 32'-11" ⁽³⁾ | 26'-3" ⁽³⁾ | 35'-5" ⁽³⁾ | 31'-8" ⁽³⁾ | 25'-3" ⁽³⁾ | 33'-0" ⁽³⁾ | 30'-0" ⁽³⁾ | 23'-11" ⁽³⁾ |
| PWI 90 | 22" | 39'-2" ⁽³⁾ | 35'-9" ⁽³⁾ | 31'-11" ⁽³⁾ | 38'-0" ⁽³⁾ | 35'-0" ⁽³⁾ | 31'-4" ⁽³⁾ | 35'-5" ⁽³⁾ | 33'-4" ⁽³⁾ | 30'-6" ⁽³⁾ |
| | 24" | 40'-10" ⁽³⁾ | 37'-3" ⁽³⁾ | 33'-4" ⁽³⁾ | 40'-1" ⁽³⁾ | 36'-7" ⁽³⁾ | 32'-8" ⁽³⁾ | 37'-10" ⁽³⁾ | 35'-7" ⁽³⁾ | 31'-10" ⁽³⁾ |
| | 9½" | 23'-11" ⁽²⁾ | 22'-5" ⁽²⁾ | 20'-9" ⁽²⁾ | 22'-8" ⁽³⁾ | 21'-3" ⁽³⁾ | 19'-8" ⁽³⁾ | 21'-1" ⁽³⁾ | 19'-10" ⁽³⁾ | 18'-4" ⁽³⁾ |
| PWI 90 | 11⅞" | 28'-6" ⁽²⁾ | 26'-9" ⁽³⁾ | 24'-9" ⁽³⁾ | 27'-0" ⁽³⁾ | 25'-4" ⁽³⁾ | 23'-5" ⁽³⁾ | 25'-2" ⁽³⁾ | 23'-8" ⁽³⁾ | 21'-11" ⁽³⁾ |
| | 14" | 32'-5" ⁽³⁾ | 30'-5" ⁽³⁾ | 28'-2" ⁽³⁾ | 30'-8" ⁽³⁾ | 28'-10" ⁽³⁾ | 26'-8" ⁽³⁾ | 28'-7" ⁽³⁾ | 26'-10" ⁽³⁾ | 24'-10" ⁽³⁾ |
| | 16" | 35'-11" ⁽³⁾ | 33'-8" ⁽³⁾ | 28'-8" ⁽³⁾ | 34'-0" ⁽³⁾ | 31'-11" ⁽³⁾ | 27'-7" ⁽³⁾ | 31'-8" ⁽³⁾ | 29'-9" ⁽³⁾ | 26'-1" ⁽³⁾ |
| PWI 90 | 18" | 39'-3" ⁽³⁾ | 35'-10" ⁽³⁾ | 28'-8" ⁽³⁾ | 37'-2" ⁽³⁾ | 34'-6" ⁽³⁾ | 27'-7" ⁽³⁾ | 34'-8" ⁽³⁾ | 32'-6" ⁽³⁾ | 26'-1" ⁽³⁾ |
| | 20" | 42'-6" ⁽³⁾ | 35'-10" ⁽³⁾ | 28'-8" ⁽³⁾ | 40'-3" ⁽³⁾ | 34'-6" ⁽³⁾ | 27'-7" ⁽³⁾ | 37'-6" ⁽³⁾ | 32'-8" ⁽³⁾ | 26'-1" ⁽³⁾ |
| | 22" | 45'-7" ⁽³⁾ | 42'-10" ⁽³⁾ | 39'-8" ⁽³⁾ | 43'-2" ⁽³⁾ | 40'-7" ⁽³⁾ | 37'-7" ⁽³⁾ | 40'-3" ⁽³⁾ | 37'-10" ⁽³⁾ | 35'-0" ⁽⁴⁾ |
| PWI 90 | 24" | 48'-8" ⁽³⁾ | 45'-9" ⁽³⁾ | 41'-4" ⁽³⁾ | 46'-1" ⁽³⁾ | 43'-3" ⁽³⁾ | 40'-1" ⁽³⁾ | 43'-0" ⁽³⁾ | 40'-4" ⁽³⁾ | 37'-5" ⁽⁴⁾ |

See notes on page 24

ROOF SPANS 115% SNOW

ALLOWABLE SPANS FOR PWI JOISTS – 50 PSF LIVE LOAD – 15 PSF DEAD LOAD

| Joist Series | Joist Depth | Simple Span | | | | | | | | |
|--------------|-------------|-------------------|-------------|-------------|-------------------|-------------|-------------|--------------------|-------------|-------------|
| | | Slopes to 4 in 12 | | | Slopes to 8 in 12 | | | Slopes to 12 in 12 | | |
| | | 16" o.c. | 19.2" o.c. | 24" o.c. | 16" o.c. | 19.2" o.c. | 24" o.c. | 16" o.c. | 19.2" o.c. | 24" o.c. |
| PWI 20 | 9½" | 16'-1" (2) | 14'-8" (2) | 13'-1" (2) | 15'-5" (3) | 14'-5" (3) | 12'-10" (3) | 14'-4" (3) | 13'-6" (3) | 12'-6" (3) |
| | 11⅞" | 18'-4" (2) | 16'-8" (2) | 14'-11" (2) | 18'-0" (3) | 16'-5" (3) | 14'-8" (3) | 17'-4" (3) | 16'-1" (3) | 14'-4" (3) |
| | 14" | 20'-0" (2) | 18'-3" (2) | 15'-10" (2) | 19'-8" (3) | 17'-11" (3) | 15'-3" (3) | 19'-3" (3) | 17'-6" (3) | 14'-7" (3) |
| PWI 30 | 9½" | 16'-9" (2) | 15'-8" (2) | 14'-6" (2) | 15'-11" (3) | 14'-11" (3) | 13'-10" (3) | 14'-11" (3) | 14'-0" (3) | 12'-11" (3) |
| | 11⅞" | 20'-2" (2) | 18'-11" (2) | 16'-4" (2) | 19'-2" (3) | 18'-0" (3) | 15'-9" (3) | 17'-11" (3) | 16'-10" (3) | 15'-1" (3) |
| PWI 40 | 9½" | 16'-9" (2) | 15'-3" (2) | 13'-8" (2) | 16'-6" (3) | 15'-0" (3) | 13'-5" (3) | 15'-10" (3) | 14'-8" (3) | 13'-1" (3) |
| | 11⅞" | 19'-1" (2) | 17'-5" (2) | 15'-7" (2) | 18'-9" (3) | 17'-1" (3) | 15'-4" (3) | 18'-4" (3) | 17'-8" (3) | 16'-11" (3) |
| | 14" | 21'-0" (2) | 19'-2" (2) | 17'-1" (2) | 20'-7" (3) | 18'-10" (3) | 16'-10" (3) | 20'-2" (3) | 18'-5" (3) | 16'-5" (3) |
| PWI 50 | 9½" | 17'-6" (2) | 16'-5" (2) | 15'-2" (2) | 16'-8" (3) | 15'-8" (3) | 14'-6" (3) | 15'-7" (3) | 14'-8" (3) | 13'-7" (3) |
| | 11⅞" | 21'-1" (2) | 19'-10" (2) | 17'-7" (2) | 20'-1" (3) | 18'-10" (3) | 17'-0" (3) | 18'-10" (3) | 17'-8" (3) | 16'-2" (3) |
| | 14" | 24'-2" (2) | 22'-0" (2) | 17'-7" (2) | 23'-0" (3) | 21'-3" (3) | 17'-0" (3) | 21'-6" (3) | 20'-2" (3) | 16'-2" (3) |
| PWI 60 | 9½" | 18'-10" (2) | 17'-8" (2) | 16'-1" (2) | 17'-11" (3) | 16'-10" (3) | 15'-7" (3) | 16'-9" (3) | 15'-9" (3) | 14'-7" (3) |
| | 11⅞" | 22'-6" (2) | 20'-6" (2) | 18'-4" (2) | 21'-1" (3) | 20'-2" (3) | 18'-0" (3) | 20'-2" (3) | 18'-11" (3) | 17'-3" (3) |
| | 14" | 24'-8" (2) | 22'-6" (2) | 20'-1" (2) | 24'-3" (3) | 22'-2" (3) | 19'-9" (3) | 22'-11" (3) | 21'-7" (3) | 19'-2" (3) |
| PWI 70 | 16" | 26'-7" (2) | 24'-3" (3) | 20'-9" (3) | 26'-2" (3) | 23'-10" (3) | 20'-1" (3) | 25'-6" (3) | 23'-4" (3) | 19'-5" (3) |
| | 11⅞" | 23'-5" (2) | 21'-11" (2) | 20'-1" (3) | 22'-4" (3) | 20'-11" (3) | 19'-4" (3) | 20'-10" (3) | 19'-7" (3) | 18'-1" (3) |
| | 14" | 26'-7" (2) | 25'-0" (3) | 20'-1" (3) | 25'-4" (3) | 23'-10" (3) | 19'-5" (3) | 23'-9" (3) | 22'-3" (3) | 18'-7" (3) |
| | 16" | 29'-6" (3) | 25'-2" (3) | 20'-1" (3) | 28'-1" (3) | 24'-4" (3) | 19'-5" (3) | 26'-3" (3) | 23'-3" (3) | 18'-7" (3) |
| PWI 77 | 18" | 30'-3" (3) | 25'-2" (3) | 20'-1" (3) | 29'-3" (3) | 24'-4" (3) | 19'-5" (3) | 27'-11" (3) | 23'-3" (3) | 18'-7" (3) |
| | 20" | 30'-3" (3) | 25'-2" (3) | 20'-1" (3) | 29'-3" (3) | 24'-4" (3) | 19'-5" (3) | 27'-11" (3) | 23'-3" (3) | 18'-7" (3) |
| | 9½" | 19'-8" (2) | 18'-5" (2) | 17'-1" (2) | 18'-9" (3) | 17'-7" (3) | 16'-3" (3) | 17'-6" (3) | 16'-5" (3) | 15'-2" (3) |
| | 11⅞" | 23'-6" (2) | 22'-0" (2) | 20'-4" (3) | 22'-4" (3) | 21'-0" (3) | 19'-5" (3) | 20'-11" (3) | 19'-8" (3) | 18'-2" (3) |
| | 14" | 26'-9" (2) | 25'-1" (3) | 22'-3" (3) | 25'-5" (3) | 23'-11" (3) | 21'-6" (3) | 23'-10" (3) | 22'-4" (3) | 20'-7" (3) |
| | 16" | 29'-8" (3) | 27'-10" (3) | 22'-3" (3) | 28'-3" (3) | 26'-6" (3) | 21'-6" (3) | 26'-5" (3) | 24'-9" (3) | 20'-7" (3) |
| | 18" | 32'-5" (3) | 27'-11" (3) | 22'-3" (3) | 30'-11" (3) | 27'-0" (3) | 21'-6" (3) | 28'-11" (3) | 25'-9" (3) | 20'-7" (3) |
| PWI 90 | 20" | 33'-6" (3) | 27'-11" (3) | 22'-3" (3) | 32'-5" (3) | 27'-0" (3) | 21'-6" (3) | 30'-11" (3) | 25'-9" (3) | 20'-7" (3) |
| | 22" | 36'-1" (3) | 32'-11" (3) | 29'-5" (3) | 35'-5" (3) | 32'-4" (3) | 28'-11" (3) | 33'-8" (3) | 31'-7" (3) | 28'-3" (3) |
| | 24" | 37'-7" (3) | 34'-4" (3) | 30'-8" (3) | 37'-0" (3) | 33'-9" (3) | 30'-2" (3) | 36'-0" (3) | 33'-0" (3) | 29'-5" (4) |
| | 9½" | 22'-6" (2) | 21'-1" (2) | 19'-6" (3) | 21'-5" (3) | 20'-1" (3) | 18'-7" (3) | 20'-0" (3) | 18'-10" (3) | 17'-5" (3) |
| | 11⅞" | 26'-10" (2) | 25'-2" (3) | 23'-3" (3) | 25'-7" (3) | 24'-0" (3) | 22'-2" (3) | 23'-11" (3) | 22'-5" (3) | 20'-9" (3) |
| | 14" | 30'-5" (3) | 28'-7" (3) | 24'-3" (3) | 29'-0" (3) | 27'-3" (3) | 23'-6" (3) | 27'-2" (3) | 25'-6" (3) | 22'-5" (3) |
| | 16" | 33'-9" (3) | 30'-5" (3) | 24'-3" (3) | 32'-2" (3) | 29'-5" (3) | 23'-6" (3) | 30'-1" (3) | 28'-1" (3) | 22'-5" (3) |
| 18" | 36'-6" (3) | 30'-5" (3) | 24'-3" (3) | 35'-2" (3) | 29'-5" (3) | 23'-6" (3) | 32'-11" (3) | 28'-1" (3) | 22'-5" (3) | |
| PWI 90 | 20" | 36'-6" (3) | 30'-5" (3) | 24'-3" (3) | 35'-4" (3) | 29'-5" (3) | 23'-6" (3) | 33'-9" (3) | 28'-1" (3) | 22'-5" (3) |
| | 22" | 42'-11" (3) | 40'-3" (3) | 36'-6" (3) | 40'-11" (3) | 38'-5" (3) | 35'-6" (3) | 38'-3" (3) | 35'-11" (3) | 32'-5" (4) |
| | 24" | 45'-9" (3) | 42'-7" (3) | 38'-1" (3) | 43'-8" (3) | 41'-0" (3) | 37'-5" (3) | 40'-10" (3) | 38'-4" (4) | 32'-5" (4) |

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