

Roof Spans 100% Heavy Snow

ALLOWABLE ROOF SPANS—60 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"	13'-11" (2)	12'-8" (2)	11'-4" (2)	13'-9" (3)	12'-6" (3)	11'-2" (3)	13'-5" (3)	12'-3" (3)	10'-11" (3)
	11½"	15'-11" (2)	14'-6" (2)	11'-11" (2)	15'-8" (3)	14'-3" (3)	11'-6" (3)	15'-4" (3)	13'-11" (3)	11'-1" (3)
	14"	17'-4" (2)	14'-11" (2)	11'-11" (2)	17'-1" (3)	14'-6" (3)	11'-6" (3)	16'-9" (3)	13'-11" (3)	11'-1" (3)
PWI 30	9½"	15'-8" (2)	14'-5" (2)	12'-3" (2)	15'-1" (3)	14'-1" (3)	11'-11" (3)	14'-3" (3)	13'-4" (3)	11'-5" (3)
	11½"	18'-0" (2)	15'-5" (2)	12'-3" (2)	17'-9" (3)	14'-11" (3)	11'-11" (3)	17'-2" (3)	14'-4" (3)	11'-5" (3)
	14"	19'-7" (2)	17'-7" (3)	14'-1" (3)	19'-4" (3)	17'-1" (3)	13'-8" (3)	18'-11" (3)	16'-5" (3)	13'-1" (3)
PWI 40	9½"	14'-6" (2)	13'-3" (2)	11'-10" (2)	14'-4" (3)	13'-1" (3)	11'-8" (3)	14'-0" (3)	12'-9" (3)	11'-5" (3)
	11½"	16'-7" (2)	15'-1" (2)	13'-6" (2)	16'-4" (3)	14'-11" (3)	13'-4" (3)	16'-0" (3)	14'-7" (3)	13'-0" (3)
	14"	18'-2" (2)	16'-7" (2)	14'-1" (3)	17'-11" (3)	16'-4" (3)	13'-8" (3)	17'-7" (3)	16'-0" (3)	13'-1" (3)
PWI 45	9½"	16'-1" (2)	14'-8" (2)	12'-9" (2)	15'-10" (3)	14'-5" (3)	12'-4" (3)	15'-1" (3)	14'-2" (3)	11'-11" (3)
	11½"	18'-4" (2)	16'-0" (2)	12'-9" (2)	18'-0" (3)	15'-6" (3)	12'-4" (3)	17'-8" (3)	14'-11" (3)	11'-11" (3)
	14"	19'-2" (2)	16'-0" (2)	12'-9" (2)	18'-8" (3)	15'-6" (3)	12'-4" (3)	17'-11" (3)	14'-11" (3)	11'-11" (3)
PWI 47	7½"	14'-5" (2)	13'-2" (2)	11'-3" (2)	14'-1" (3)	12'-11" (3)	10'-11" (3)	13'-4" (3)	12'-6" (3)	10'-6" (3)
	9½"	16'-1" (2)	14'-3" (2)	11'-4" (2)	15'-10" (3)	13'-10" (3)	11'-0" (3)	15'-5" (3)	13'-3" (3)	10'-7" (3)
	11½"	17'-4" (2)	14'-5" (2)	11'-6" (2)	16'-10" (3)	14'-0" (3)	11'-2" (3)	16'-2" (3)	13'-5" (3)	10'-9" (3)
PWI 50	14"	17'-7" (2)	14'-8" (2)	11'-8" (2)	17'-1" (3)	14'-3" (3)	11'-4" (3)	16'-5" (3)	13'-8" (3)	10'-11" (3)
	16"	17'-10" (2)	14'-10" (2)	11'-10" (2)	17'-4" (3)	14'-5" (3)	11'-6" (3)	16'-7" (3)	13'-10" (3)	11'-0" (3)
	18"	18'-0" (2)	15'-0" (2)	11'-11" (2)	17'-6" (3)	14'-7" (3)	11'-7" (3)	16'-10" (3)	14'-0" (3)	11'-2" (3)
PWI 60	9½"	18'-3" (2)	15'-2" (2)	12'-1" (2)	17'-8" (3)	14'-9" (3)	11'-9" (3)	17'-0" (3)	14'-2" (3)	11'-3" (3)
	11½"	16'-5" (2)	15'-5" (2)	13'-2" (2)	15'-9" (3)	14'-10" (3)	12'-10" (3)	14'-11" (3)	14'-0" (3)	12'-4" (3)
	14"	19'-6" (2)	16'-7" (2)	13'-2" (2)	19'-0" (3)	16'-1" (3)	12'-10" (3)	18'-0" (3)	15'-5" (3)	12'-4" (3)
PWI 70	9½"	19'-11" (2)	16'-7" (2)	13'-2" (2)	19'-4" (3)	16'-1" (3)	12'-10" (3)	18'-7" (3)	15'-5" (3)	12'-4" (3)
	11½"	17'-1" (2)	15'-7" (2)	13'-11" (3)	16'-10" (3)	15'-5" (3)	13'-8" (3)	16'-0" (3)	15'-1" (3)	13'-1" (3)
	14"	19'-6" (2)	17'-7" (3)	14'-1" (3)	19'-3" (3)	17'-1" (3)	13'-8" (3)	18'-10" (3)	16'-5" (3)	13'-1" (3)
PWI 77	16"	21'-2" (3)	17'-7" (3)	14'-1" (3)	20'-7" (3)	17'-1" (3)	13'-8" (3)	19'-9" (3)	16'-5" (3)	13'-1" (3)
	18"	21'-2" (3)	17'-7" (3)	14'-1" (3)	20'-7" (3)	17'-1" (3)	13'-8" (3)	19'-9" (3)	16'-5" (3)	13'-1" (3)
	11½"	21'-1" (3)	18'-11" (3)	15'-1" (3)	21'-1" (3)	18'-5" (3)	14'-8" (3)	19'-11" (3)	17'-8" (3)	14'-1" (3)
PWI 90	14"	22'-9" (3)	18'-11" (3)	15'-1" (3)	22'-1" (3)	18'-5" (3)	14'-8" (3)	21'-3" (3)	17'-8" (3)	14'-1" (3)
	16"	22'-9" (3)	18'-11" (3)	15'-1" (3)	22'-1" (3)	18'-5" (3)	14'-8" (3)	21'-3" (3)	17'-8" (3)	14'-1" (3)
	18"	22'-9" (3)	18'-11" (3)	15'-1" (3)	22'-1" (3)	18'-5" (3)	14'-8" (3)	21'-3" (3)	17'-8" (3)	14'-1" (3)
PWI 97	9½"	22'-9" (3)	18'-11" (3)	15'-1" (3)	22'-1" (3)	18'-5" (3)	14'-8" (3)	21'-3" (3)	17'-8" (3)	14'-1" (3)
	11½"	18'-6" (2)	17'-4" (3)	16'-0" (3)	17'-9" (3)	16'-8" (3)	15'-5" (3)	16'-9" (3)	15'-9" (3)	14'-7" (3)
	14"	22'-1" (3)	20'-8" (3)	16'-9" (3)	21'-2" (3)	19'-11" (3)	16'-3" (3)	20'-0" (3)	18'-9" (3)	15'-8" (3)
PWI 100	16"	24'-11" (3)	21'-0" (3)	16'-9" (3)	24'-1" (3)	20'-5" (3)	16'-3" (3)	22'-9" (3)	19'-7" (3)	15'-8" (3)
	18"	25'-3" (3)	21'-0" (3)	16'-9" (3)	24'-6" (3)	20'-5" (3)	16'-3" (3)	23'-7" (3)	19'-7" (3)	15'-8" (3)
	20"	25'-3" (3)	21'-0" (3)	16'-9" (3)	24'-6" (3)	20'-5" (3)	16'-3" (3)	23'-7" (3)	19'-7" (3)	15'-8" (3)
PWI 110	22"	31'-3" (3)	28'-7" (3)	25'-6" (3)	30'-10" (3)	28'-2" (3)	24'-9" (3)	30'-3" (3)	27'-7" (3)	23'-9" (4)
	24"	32'-8" (3)	29'-10" (3)	25'-6" (3)	32'-2" (3)	29'-4" (3)	24'-9" (3)	31'-7" (3)	28'-9" (4)	23'-9" (4)
	9½"	21'-1" (3)	19'-10" (3)	18'-3" (3)	20'-3" (3)	19'-0" (3)	17'-7" (3)	19'-2" (3)	18'-0" (3)	16'-8" (3)
PWI 120	11½"	25'-2" (3)	22'-11" (3)	18'-3" (3)	24'-2" (3)	22'-3" (3)	17'-9" (3)	22'-10" (3)	21'-4" (3)	17'-1" (3)
	14"	27'-6" (3)	22'-11" (3)	18'-3" (3)	26'-9" (3)	22'-3" (3)	17'-9" (3)	25'-8" (3)	21'-4" (3)	17'-1" (3)
	16"	27'-6" (3)	22'-11" (3)	18'-3" (3)	26'-9" (3)	22'-3" (3)	17'-9" (3)	25'-8" (3)	21'-4" (3)	17'-1" (3)
PWI 130	18"	27'-6" (3)	22'-11" (3)	18'-3" (3)	26'-9" (3)	22'-3" (3)	17'-9" (3)	25'-8" (3)	21'-4" (3)	17'-1" (3)
	20"	27'-6" (3)	22'-11" (3)	18'-3" (3)	26'-9" (3)	22'-3" (3)	17'-9" (3)	25'-8" (3)	21'-4" (3)	17'-1" (3)
	22"	38'-10" (3)	35'-5" (3)	31'-6" (3)	38'-3" (3)	34'-11" (3)	30'-7" (4)	36'-7" (4)	34'-3" (4)	28'-4" (4)
PWI 140	24"	40'-6" (3)	37'-0" (3)	31'-6" (3)	39'-11" (3)	36'-5" (3)	30'-7" (4)	39'-0" (4)	35'-6" (4)	28'-4" (4)

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 1¼" 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 (165 lbs. lateral capacity @ 100%), or joist hanger
 - Beveled plate and four nails (330 lbs. lateral capacity @ 100%), or (3)
 - Gussets at high support (1295 lbs. lateral capacity @ 100%), birdsmouth cut at low support, or (4)
 - Strap (1640 lbs. lateral capacity @ 100%) or pair of twist straps (950 lbs. lateral capacity each @ 100%) 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).

Roof Spans 100% Heavy Snow

ALLOWABLE ROOF SPANS—80 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"	12'-4" ⁽²⁾	11'-3" ⁽²⁾	9'-4" ⁽²⁾	12'-3" ⁽³⁾	11'-2" ⁽³⁾	9'-2" ⁽³⁾	12'-0" ⁽³⁾	11'-0" ⁽³⁾	8'-10" ⁽³⁾
	11½"	14'-1" ⁽²⁾	11'-9" ⁽²⁾	9'-4" ⁽²⁾	13'-10" ⁽³⁾	11'-6" ⁽³⁾	9'-2" ⁽³⁾	13'-4" ⁽³⁾	11'-1" ⁽³⁾	8'-10" ⁽³⁾
	14"	14'-2" ⁽²⁾	11'-9" ⁽²⁾	9'-4" ⁽²⁾	13'-10" ⁽³⁾	11'-6" ⁽³⁾	9'-2" ⁽³⁾	13'-4" ⁽³⁾	11'-1" ⁽³⁾	8'-10" ⁽³⁾
PWI 30	9½"	14'-0" ⁽²⁾	12'-2" ⁽²⁾	9'-8" ⁽²⁾	13'-7" ⁽³⁾	11'-10" ⁽³⁾	9'-5" ⁽³⁾	12'-11" ⁽³⁾	11'-6" ⁽³⁾	9'-2" ⁽³⁾
	11½"	14'-7" ⁽²⁾	12'-2" ⁽²⁾	9'-8" ⁽²⁾	14'-3" ⁽³⁾	11'-10" ⁽³⁾	9'-5" ⁽³⁾	13'-10" ⁽³⁾	11'-6" ⁽³⁾	9'-2" ⁽³⁾
PWI 40	9½"	12'-11" ⁽²⁾	11'-9" ⁽²⁾	10'-6" ⁽²⁾	12'-9" ⁽³⁾	11'-7" ⁽³⁾	10'-5" ⁽³⁾	12'-7" ⁽³⁾	11'-5" ⁽³⁾	10'-3" ⁽³⁾
	11½"	14'-9" ⁽²⁾	13'-5" ⁽²⁾	11'-1" ⁽³⁾	14'-7" ⁽³⁾	13'-3" ⁽³⁾	10'-10" ⁽³⁾	14'-4" ⁽³⁾	13'-1" ⁽³⁾	10'-6" ⁽³⁾
	14"	16'-2" ⁽³⁾	13'-11" ⁽³⁾	11'-1" ⁽³⁾	16'-0" ⁽³⁾	13'-7" ⁽³⁾	10'-10" ⁽³⁾	15'-9" ⁽³⁾	13'-2" ⁽³⁾	10'-6" ⁽³⁾
PWI 45	9½"	14'-3" ⁽²⁾	12'-7" ⁽²⁾	10'-0" ⁽²⁾	14'-1" ⁽³⁾	12'-4" ⁽³⁾	9'-10" ⁽³⁾	13'-9" ⁽³⁾	11'-11" ⁽³⁾	9'-6" ⁽³⁾
	11½"	15'-2" ⁽²⁾	12'-7" ⁽²⁾	10'-0" ⁽²⁾	14'-10" ⁽³⁾	12'-4" ⁽³⁾	9'-10" ⁽³⁾	14'-4" ⁽³⁾	11'-11" ⁽³⁾	9'-6" ⁽³⁾
	14"	15'-2" ⁽²⁾	12'-7" ⁽²⁾	10'-0" ⁽²⁾	14'-10" ⁽³⁾	12'-4" ⁽³⁾	9'-10" ⁽³⁾	14'-4" ⁽³⁾	11'-11" ⁽³⁾	9'-6" ⁽³⁾
PWI 47	7½"	12'-9" ⁽²⁾	11'-1" ⁽²⁾	8'-10" ⁽²⁾	12'-8" ⁽³⁾	10'-10" ⁽³⁾	8'-8" ⁽³⁾	12'-1" ⁽³⁾	10'-6" ⁽³⁾	8'-4" ⁽³⁾
	9½"	13'-6" ⁽²⁾	11'-3" ⁽²⁾	8'-11" ⁽²⁾	13'-2" ⁽³⁾	11'-0" ⁽³⁾	8'-9" ⁽³⁾	12'-9" ⁽³⁾	10'-7" ⁽³⁾	8'-5" ⁽³⁾
	11½"	13'-8" ⁽²⁾	11'-4" ⁽²⁾	9'-1" ⁽²⁾	13'-4" ⁽³⁾	11'-1" ⁽³⁾	8'-10" ⁽³⁾	12'-11" ⁽³⁾	10'-9" ⁽³⁾	8'-7" ⁽³⁾
	14"	13'-11" ⁽²⁾	11'-7" ⁽²⁾	9'-2" ⁽²⁾	13'-7" ⁽³⁾	11'-3" ⁽³⁾	9'-0" ⁽³⁾	13'-2" ⁽³⁾	10'-11" ⁽³⁾	8'-8" ⁽³⁾
	16"	14'-1" ⁽²⁾	11'-8" ⁽²⁾	9'-4" ⁽²⁾	13'-9" ⁽³⁾	11'-5" ⁽³⁾	9'-1" ⁽³⁾	13'-4" ⁽³⁾	11'-1" ⁽³⁾	8'-10" ⁽³⁾
	18"	14'-3" ⁽²⁾	11'-10" ⁽²⁾	9'-5" ⁽²⁾	13'-11" ⁽³⁾	11'-7" ⁽³⁾	9'-2" ⁽³⁾	13'-5" ⁽³⁾	11'-2" ⁽³⁾	8'-11" ⁽³⁾
PWI 50	9½"	14'-10" ⁽²⁾	13'-1" ⁽²⁾	10'-5" ⁽²⁾	14'-3" ⁽³⁾	12'-9" ⁽³⁾	10'-2" ⁽³⁾	13'-7" ⁽³⁾	12'-4" ⁽³⁾	9'-10" ⁽³⁾
	11½"	15'-8" ⁽²⁾	13'-1" ⁽²⁾	10'-5" ⁽²⁾	15'-4" ⁽³⁾	12'-9" ⁽³⁾	10'-2" ⁽³⁾	14'-10" ⁽³⁾	12'-4" ⁽³⁾	9'-10" ⁽³⁾
	14"	15'-8" ⁽²⁾	13'-1" ⁽²⁾	10'-5" ⁽²⁾	15'-4" ⁽³⁾	12'-9" ⁽³⁾	10'-2" ⁽³⁾	14'-10" ⁽³⁾	12'-4" ⁽³⁾	9'-10" ⁽³⁾
	16"	15'-8" ⁽²⁾	13'-1" ⁽²⁾	10'-5" ⁽²⁾	15'-4" ⁽³⁾	12'-9" ⁽³⁾	10'-2" ⁽³⁾	14'-10" ⁽³⁾	12'-4" ⁽³⁾	9'-10" ⁽³⁾
PWI 60	9½"	15'-2" ⁽²⁾	13'-10" ⁽³⁾	11'-1" ⁽³⁾	15'-0" ⁽³⁾	13'-7" ⁽³⁾	10'-10" ⁽³⁾	14'-7" ⁽³⁾	13'-2" ⁽³⁾	10'-6" ⁽³⁾
	11½"	16'-9" ⁽³⁾	13'-11" ⁽³⁾	11'-1" ⁽³⁾	16'-4" ⁽³⁾	13'-7" ⁽³⁾	10'-10" ⁽³⁾	15'-10" ⁽³⁾	13'-2" ⁽³⁾	10'-6" ⁽³⁾
	14"	16'-9" ⁽³⁾	13'-11" ⁽³⁾	11'-1" ⁽³⁾	16'-4" ⁽³⁾	13'-7" ⁽³⁾	10'-10" ⁽³⁾	15'-10" ⁽³⁾	13'-2" ⁽³⁾	10'-6" ⁽³⁾
PWI 70	11½"	18'-0" ⁽³⁾	14'-11" ⁽³⁾	11'-11" ⁽³⁾	17'-7" ⁽³⁾	14'-7" ⁽³⁾	11'-8" ⁽³⁾	17'-0" ⁽³⁾	14'-2" ⁽³⁾	11'-3" ⁽³⁾
	14"	18'-0" ⁽³⁾	14'-11" ⁽³⁾	11'-11" ⁽³⁾	17'-7" ⁽³⁾	14'-7" ⁽³⁾	11'-8" ⁽³⁾	17'-0" ⁽³⁾	14'-2" ⁽³⁾	11'-3" ⁽³⁾
	16"	18'-0" ⁽³⁾	14'-11" ⁽³⁾	11'-11" ⁽³⁾	17'-7" ⁽³⁾	14'-7" ⁽³⁾	11'-8" ⁽³⁾	17'-0" ⁽³⁾	14'-2" ⁽³⁾	11'-3" ⁽³⁾
	18"	18'-0" ⁽³⁾	14'-11" ⁽³⁾	11'-11" ⁽³⁾	17'-7" ⁽³⁾	14'-7" ⁽³⁾	11'-8" ⁽³⁾	17'-0" ⁽³⁾	14'-2" ⁽³⁾	11'-3" ⁽³⁾
	20"	18'-0" ⁽³⁾	14'-11" ⁽³⁾	11'-11" ⁽³⁾	17'-7" ⁽³⁾	14'-7" ⁽³⁾	11'-8" ⁽³⁾	17'-0" ⁽³⁾	14'-2" ⁽³⁾	11'-3" ⁽³⁾
PWI 77	9½"	16'-8" ⁽³⁾	15'-8" ⁽³⁾	13'-3" ⁽³⁾	16'-0" ⁽³⁾	15'-0" ⁽³⁾	12'-11" ⁽³⁾	15'-3" ⁽³⁾	14'-4" ⁽³⁾	12'-6" ⁽³⁾
	11½"	19'-11" ⁽³⁾	16'-7" ⁽³⁾	13'-3" ⁽³⁾	19'-2" ⁽³⁾	16'-2" ⁽³⁾	12'-11" ⁽³⁾	18'-3" ⁽³⁾	15'-8" ⁽³⁾	12'-6" ⁽³⁾
	14"	19'-11" ⁽³⁾	16'-7" ⁽³⁾	13'-3" ⁽³⁾	19'-6" ⁽³⁾	16'-2" ⁽³⁾	12'-11" ⁽³⁾	18'-10" ⁽³⁾	15'-8" ⁽³⁾	12'-6" ⁽³⁾
	16"	19'-11" ⁽³⁾	16'-7" ⁽³⁾	13'-3" ⁽³⁾	19'-6" ⁽³⁾	16'-2" ⁽³⁾	12'-11" ⁽³⁾	18'-10" ⁽³⁾	15'-8" ⁽³⁾	12'-6" ⁽³⁾
	18"	19'-11" ⁽³⁾	16'-7" ⁽³⁾	13'-3" ⁽³⁾	19'-6" ⁽³⁾	16'-2" ⁽³⁾	12'-11" ⁽³⁾	18'-10" ⁽³⁾	15'-8" ⁽³⁾	12'-6" ⁽³⁾
	20"	19'-11" ⁽³⁾	16'-7" ⁽³⁾	13'-3" ⁽³⁾	19'-6" ⁽³⁾	16'-2" ⁽³⁾	12'-11" ⁽³⁾	18'-10" ⁽³⁾	15'-8" ⁽³⁾	12'-6" ⁽³⁾
PWI 90	22"	27'-10" ⁽³⁾	25'-2" ⁽³⁾	20'-1" ⁽³⁾	27'-6" ⁽³⁾	24'-8" ⁽³⁾	19'-8" ⁽³⁾	27'-1" ⁽⁴⁾	23'-10" ⁽⁴⁾	19'-0" ⁽⁴⁾
	24"	29'-0" ⁽³⁾	25'-2" ⁽³⁾	20'-1" ⁽³⁾	28'-8" ⁽³⁾	24'-8" ⁽³⁾	19'-8" ⁽³⁾	28'-3" ⁽⁴⁾	23'-10" ⁽⁴⁾	19'-0" ⁽⁴⁾
	9½"	19'-1" ⁽³⁾	17'-11" ⁽³⁾	14'-5" ⁽³⁾	18'-4" ⁽³⁾	17'-2" ⁽³⁾	14'-1" ⁽³⁾	17'-5" ⁽³⁾	16'-4" ⁽³⁾	13'-8" ⁽³⁾
	11½"	21'-9" ⁽³⁾	18'-1" ⁽³⁾	14'-5" ⁽³⁾	21'-3" ⁽³⁾	17'-8" ⁽³⁾	14'-1" ⁽³⁾	20'-7" ⁽³⁾	17'-1" ⁽³⁾	13'-8" ⁽³⁾
	14"	21'-9" ⁽³⁾	18'-1" ⁽³⁾	14'-5" ⁽³⁾	21'-3" ⁽³⁾	17'-8" ⁽³⁾	14'-1" ⁽³⁾	20'-7" ⁽³⁾	17'-1" ⁽³⁾	13'-8" ⁽³⁾
	16"	21'-9" ⁽³⁾	18'-1" ⁽³⁾	14'-5" ⁽³⁾	21'-3" ⁽³⁾	17'-8" ⁽³⁾	14'-1" ⁽³⁾	20'-7" ⁽³⁾	17'-1" ⁽³⁾	13'-8" ⁽³⁾
	18"	21'-9" ⁽³⁾	18'-1" ⁽³⁾	14'-5" ⁽³⁾	21'-3" ⁽³⁾	17'-8" ⁽³⁾	14'-1" ⁽³⁾	20'-7" ⁽³⁾	17'-1" ⁽³⁾	13'-8" ⁽³⁾
	20"	21'-9" ⁽³⁾	18'-1" ⁽³⁾	14'-5" ⁽³⁾	21'-3" ⁽³⁾	17'-8" ⁽³⁾	14'-1" ⁽³⁾	20'-7" ⁽³⁾	17'-1" ⁽³⁾	13'-8" ⁽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 1¼" 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 (165 lbs. lateral capacity @ 100%), or joist hanger
 - Beveled plate and four nails (330 lbs. lateral capacity @ 100%), or (3)
 - Gussets at high support (1295 lbs. lateral capacity @ 100%), birdsmouth cut at low support, or (4)
 - Strap (1640 lbs. lateral capacity @ 100%) or pair of twist straps (950 lbs. lateral capacity each @ 100%) 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).

Roof Spans 100% Heavy Snow

ALLOWABLE ROOF SPANS – 100 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"	11'-3" ⁽²⁾	9'-8" ⁽²⁾	7'-9" ⁽²⁾	11'-2" ⁽³⁾	9'-6" ⁽³⁾	7'-7" ⁽³⁾	11'-0" ⁽³⁾	9'-3" ⁽³⁾	7'-4" ⁽³⁾
	11½"	11'-8" ⁽²⁾	9'-8" ⁽²⁾	7'-9" ⁽²⁾	11'-5" ⁽³⁾	9'-6" ⁽³⁾	7'-7" ⁽³⁾	11'-2" ⁽³⁾	9'-3" ⁽³⁾	7'-4" ⁽³⁾
	14"	11'-8" ⁽²⁾	9'-8" ⁽²⁾	7'-9" ⁽²⁾	11'-5" ⁽³⁾	9'-6" ⁽³⁾	7'-7" ⁽³⁾	11'-2" ⁽³⁾	9'-3" ⁽³⁾	7'-4" ⁽³⁾
PWI 30	9½"	12'-1" ⁽²⁾	10'-0" ⁽²⁾	8'-0" ⁽²⁾	11'-10" ⁽³⁾	9'-10" ⁽³⁾	7'-10" ⁽³⁾	11'-6" ⁽³⁾	9'-7" ⁽³⁾	7'-7" ⁽³⁾
	11½"	12'-1" ⁽²⁾	10'-0" ⁽²⁾	8'-0" ⁽²⁾	11'-10" ⁽³⁾	9'-10" ⁽³⁾	7'-10" ⁽³⁾	11'-6" ⁽³⁾	9'-7" ⁽³⁾	7'-7" ⁽³⁾
PWI 40	9½"	11'-9" ⁽²⁾	10'-8" ⁽²⁾	9'-2" ⁽³⁾	11'-7" ⁽³⁾	10'-7" ⁽³⁾	9'-0" ⁽³⁾	11'-5" ⁽³⁾	10'-5" ⁽³⁾	8'-9" ⁽³⁾
	11½"	13'-4" ⁽³⁾	11'-6" ⁽³⁾	9'-2" ⁽³⁾	13'-3" ⁽³⁾	11'-3" ⁽³⁾	9'-0" ⁽³⁾	13'-1" ⁽³⁾	10'-11" ⁽³⁾	8'-9" ⁽³⁾
	14"	13'-10" ⁽³⁾	11'-6" ⁽³⁾	9'-2" ⁽³⁾	13'-6" ⁽³⁾	11'-3" ⁽³⁾	9'-0" ⁽³⁾	13'-2" ⁽³⁾	10'-11" ⁽³⁾	8'-9" ⁽³⁾
PWI 45	9½"	12'-6" ⁽²⁾	10'-5" ⁽²⁾	8'-3" ⁽²⁾	12'-3" ⁽³⁾	10'-2" ⁽³⁾	8'-1" ⁽³⁾	11'-11" ⁽³⁾	9'-11" ⁽³⁾	7'-11" ⁽³⁾
	11½"	12'-6" ⁽²⁾	10'-5" ⁽²⁾	8'-3" ⁽²⁾	12'-3" ⁽³⁾	10'-2" ⁽³⁾	8'-1" ⁽³⁾	11'-11" ⁽³⁾	9'-11" ⁽³⁾	7'-11" ⁽³⁾
	14"	12'-6" ⁽²⁾	10'-5" ⁽²⁾	8'-3" ⁽²⁾	12'-3" ⁽³⁾	10'-2" ⁽³⁾	8'-1" ⁽³⁾	11'-11" ⁽³⁾	9'-11" ⁽³⁾	7'-11" ⁽³⁾
PWI 47	7½"	11'-0" ⁽²⁾	9'-2" ⁽²⁾	7'-3" ⁽²⁾	10'-10" ⁽³⁾	9'-0" ⁽³⁾	7'-2" ⁽³⁾	10'-6" ⁽³⁾	8'-9" ⁽³⁾	6'-11" ⁽³⁾
	9½"	11'-2" ⁽²⁾	9'-3" ⁽²⁾	7'-4" ⁽²⁾	10'-11" ⁽³⁾	9'-1" ⁽³⁾	7'-3" ⁽³⁾	10'-8" ⁽³⁾	8'-10" ⁽³⁾	7'-0" ⁽³⁾
	11½"	11'-3" ⁽²⁾	9'-4" ⁽²⁾	7'-5" ⁽²⁾	11'-1" ⁽³⁾	9'-2" ⁽³⁾	7'-4" ⁽³⁾	10'-9" ⁽³⁾	8'-11" ⁽³⁾	7'-1" ⁽³⁾
	14"	11'-6" ⁽²⁾	9'-6" ⁽²⁾	7'-7" ⁽²⁾	11'-3" ⁽³⁾	9'-4" ⁽³⁾	7'-5" ⁽³⁾	10'-11" ⁽³⁾	9'-1" ⁽³⁾	7'-3" ⁽³⁾
	16"	11'-7" ⁽²⁾	9'-8" ⁽²⁾	7'-8" ⁽²⁾	11'-5" ⁽³⁾	9'-5" ⁽³⁾	7'-6" ⁽³⁾	11'-1" ⁽³⁾	9'-2" ⁽³⁾	7'-4" ⁽³⁾
	18"	11'-9" ⁽²⁾	9'-9" ⁽²⁾	7'-9" ⁽²⁾	11'-6" ⁽³⁾	9'-7" ⁽³⁾	7'-7" ⁽³⁾	11'-2" ⁽³⁾	9'-4" ⁽³⁾	7'-5" ⁽³⁾
PWI 50	9½"	13'-0" ⁽²⁾	10'-9" ⁽²⁾	8'-7" ⁽²⁾	12'-9" ⁽³⁾	10'-7" ⁽³⁾	8'-5" ⁽³⁾	12'-4" ⁽³⁾	10'-3" ⁽³⁾	8'-2" ⁽³⁾
	11½"	13'-0" ⁽²⁾	10'-9" ⁽²⁾	8'-7" ⁽²⁾	12'-9" ⁽³⁾	10'-7" ⁽³⁾	8'-5" ⁽³⁾	12'-4" ⁽³⁾	10'-3" ⁽³⁾	8'-2" ⁽³⁾
	14"	13'-0" ⁽²⁾	10'-9" ⁽²⁾	8'-7" ⁽²⁾	12'-9" ⁽³⁾	10'-7" ⁽³⁾	8'-5" ⁽³⁾	12'-4" ⁽³⁾	10'-3" ⁽³⁾	8'-2" ⁽³⁾
	16"	13'-0" ⁽²⁾	10'-9" ⁽²⁾	8'-7" ⁽²⁾	12'-9" ⁽³⁾	10'-7" ⁽³⁾	8'-5" ⁽³⁾	12'-4" ⁽³⁾	10'-3" ⁽³⁾	8'-2" ⁽³⁾
PWI 60	9½"	13'-10" ⁽³⁾	11'-6" ⁽³⁾	9'-2" ⁽³⁾	13'-6" ⁽³⁾	11'-3" ⁽³⁾	9'-0" ⁽³⁾	13'-2" ⁽³⁾	10'-11" ⁽³⁾	8'-9" ⁽³⁾
	11½"	13'-10" ⁽³⁾	11'-6" ⁽³⁾	9'-2" ⁽³⁾	13'-6" ⁽³⁾	11'-3" ⁽³⁾	9'-0" ⁽³⁾	13'-2" ⁽³⁾	10'-11" ⁽³⁾	8'-9" ⁽³⁾
	14"	13'-10" ⁽³⁾	11'-6" ⁽³⁾	9'-2" ⁽³⁾	13'-6" ⁽³⁾	11'-3" ⁽³⁾	9'-0" ⁽³⁾	13'-2" ⁽³⁾	10'-11" ⁽³⁾	8'-9" ⁽³⁾
PWI 70	11½"	14'-10" ⁽³⁾	12'-4" ⁽³⁾	9'-10" ⁽³⁾	14'-7" ⁽³⁾	12'-1" ⁽³⁾	9'-8" ⁽³⁾	14'-2" ⁽³⁾	11'-9" ⁽³⁾	9'-5" ⁽³⁾
	14"	14'-10" ⁽³⁾	12'-4" ⁽³⁾	9'-10" ⁽³⁾	14'-7" ⁽³⁾	12'-1" ⁽³⁾	9'-8" ⁽³⁾	14'-2" ⁽³⁾	11'-9" ⁽³⁾	9'-5" ⁽³⁾
	16"	14'-10" ⁽³⁾	12'-4" ⁽³⁾	9'-10" ⁽³⁾	14'-7" ⁽³⁾	12'-1" ⁽³⁾	9'-8" ⁽³⁾	14'-2" ⁽³⁾	11'-9" ⁽³⁾	9'-5" ⁽³⁾
	18"	14'-10" ⁽³⁾	12'-4" ⁽³⁾	9'-10" ⁽³⁾	14'-7" ⁽³⁾	12'-1" ⁽³⁾	9'-8" ⁽³⁾	14'-2" ⁽³⁾	11'-9" ⁽³⁾	9'-5" ⁽³⁾
	20"	14'-10" ⁽³⁾	12'-4" ⁽³⁾	9'-10" ⁽³⁾	14'-7" ⁽³⁾	12'-1" ⁽³⁾	9'-8" ⁽³⁾	14'-2" ⁽³⁾	11'-9" ⁽³⁾	9'-5" ⁽³⁾
PWI 77	9½"	15'-5" ⁽³⁾	13'-8" ⁽³⁾	10'-11" ⁽³⁾	14'-10" ⁽³⁾	13'-5" ⁽³⁾	10'-8" ⁽³⁾	14'-1" ⁽³⁾	13'-1" ⁽³⁾	10'-5" ⁽³⁾
	11½"	16'-5" ⁽³⁾	13'-8" ⁽³⁾	10'-11" ⁽³⁾	16'-2" ⁽³⁾	13'-5" ⁽³⁾	10'-8" ⁽³⁾	15'-9" ⁽³⁾	13'-1" ⁽³⁾	10'-5" ⁽³⁾
	14"	16'-5" ⁽³⁾	13'-8" ⁽³⁾	10'-11" ⁽³⁾	16'-2" ⁽³⁾	13'-5" ⁽³⁾	10'-8" ⁽³⁾	15'-9" ⁽³⁾	13'-1" ⁽³⁾	10'-5" ⁽³⁾
	16"	16'-5" ⁽³⁾	13'-8" ⁽³⁾	10'-11" ⁽³⁾	16'-2" ⁽³⁾	13'-5" ⁽³⁾	10'-8" ⁽³⁾	15'-9" ⁽³⁾	13'-1" ⁽³⁾	10'-5" ⁽³⁾
	18"	16'-5" ⁽³⁾	13'-8" ⁽³⁾	10'-11" ⁽³⁾	16'-2" ⁽³⁾	13'-5" ⁽³⁾	10'-8" ⁽³⁾	15'-9" ⁽³⁾	13'-1" ⁽³⁾	10'-5" ⁽³⁾
	20"	16'-5" ⁽³⁾	13'-8" ⁽³⁾	10'-11" ⁽³⁾	16'-2" ⁽³⁾	13'-5" ⁽³⁾	10'-8" ⁽³⁾	15'-9" ⁽³⁾	13'-1" ⁽³⁾	10'-5" ⁽³⁾
PWI 90	22"	25'-0" ⁽³⁾	20'-10" ⁽³⁾	16'-7" ⁽³⁾	24'-7" ⁽³⁾	20'-5" ⁽³⁾	16'-4" ⁽³⁾	23'-11" ⁽⁴⁾	19'-11" ⁽⁴⁾	15'-10" ⁽⁴⁾
	24"	25'-0" ⁽³⁾	20'-10" ⁽³⁾	16'-7" ⁽³⁾	24'-7" ⁽³⁾	20'-5" ⁽³⁾	16'-4" ⁽³⁾	23'-11" ⁽⁴⁾	19'-11" ⁽⁴⁾	15'-10" ⁽⁴⁾
	9½"	17'-7" ⁽³⁾	14'-11" ⁽³⁾	11'-11" ⁽³⁾	16'-11" ⁽³⁾	14'-8" ⁽³⁾	11'-8" ⁽³⁾	16'-1" ⁽³⁾	14'-3" ⁽³⁾	11'-4" ⁽³⁾
	11½"	17'-11" ⁽³⁾	14'-11" ⁽³⁾	11'-11" ⁽³⁾	17'-7" ⁽³⁾	14'-8" ⁽³⁾	11'-8" ⁽³⁾	17'-2" ⁽³⁾	14'-3" ⁽³⁾	11'-4" ⁽³⁾
	14"	17'-11" ⁽³⁾	14'-11" ⁽³⁾	11'-11" ⁽³⁾	17'-7" ⁽³⁾	14'-8" ⁽³⁾	11'-8" ⁽³⁾	17'-2" ⁽³⁾	14'-3" ⁽³⁾	11'-4" ⁽³⁾
	16"	17'-11" ⁽³⁾	14'-11" ⁽³⁾	11'-11" ⁽³⁾	17'-7" ⁽³⁾	14'-8" ⁽³⁾	11'-8" ⁽³⁾	17'-2" ⁽³⁾	14'-3" ⁽³⁾	11'-4" ⁽³⁾
	18"	17'-11" ⁽³⁾	14'-11" ⁽³⁾	11'-11" ⁽³⁾	17'-7" ⁽³⁾	14'-8" ⁽³⁾	11'-8" ⁽³⁾	17'-2" ⁽³⁾	14'-3" ⁽³⁾	11'-4" ⁽³⁾
	20"	17'-11" ⁽³⁾	14'-11" ⁽³⁾	11'-11" ⁽³⁾	17'-7" ⁽³⁾	14'-8" ⁽³⁾	11'-8" ⁽³⁾	17'-2" ⁽³⁾	14'-3" ⁽³⁾	11'-4" ⁽³⁾
22"	30'-11" ⁽³⁾	25'-9" ⁽³⁾	20'-6" ⁽³⁾	30'-4" ⁽⁴⁾	25'-3" ⁽⁴⁾	20'-2" ⁽⁴⁾	28'-6" ⁽⁴⁾	23'-9" ⁽⁴⁾	18'-11" ⁽⁴⁾	
24"	30'-11" ⁽³⁾	25'-9" ⁽³⁾	20'-6" ⁽³⁾	30'-4" ⁽⁴⁾	25'-3" ⁽⁴⁾	20'-2" ⁽⁴⁾	28'-6" ⁽⁴⁾	23'-9" ⁽⁴⁾	18'-11" ⁽⁴⁾	

See notes on page 52

Roof Spans 100% Heavy Snow

ALLOWABLE ROOF SPANS – 120 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"	9'-11" ⁽²⁾	8'-3" ⁽²⁾	6'-7" ⁽²⁾	9'-9" ⁽³⁾	8'-1" ⁽³⁾	6'-5" ⁽³⁾	9'-6" ⁽³⁾	7'-11" ⁽³⁾	6'-4" ⁽³⁾
	11½"	9'-11" ⁽²⁾	8'-3" ⁽²⁾	6'-7" ⁽²⁾	9'-9" ⁽³⁾	8'-1" ⁽³⁾	6'-5" ⁽³⁾	9'-6" ⁽³⁾	7'-11" ⁽³⁾	6'-4" ⁽³⁾
	14"	9'-11" ⁽²⁾	8'-3" ⁽²⁾	6'-7" ⁽²⁾	9'-9" ⁽³⁾	8'-1" ⁽³⁾	6'-5" ⁽³⁾	9'-6" ⁽³⁾	7'-11" ⁽³⁾	6'-4" ⁽³⁾
PWI 30	9½"	10'-3" ⁽²⁾	8'-6" ⁽²⁾	6'-9" ⁽²⁾	10'-1" ⁽³⁾	8'-4" ⁽³⁾	6'-8" ⁽³⁾	9'-10" ⁽³⁾	8'-2" ⁽³⁾	6'-6" ⁽³⁾
	11½"	10'-3" ⁽²⁾	8'-6" ⁽²⁾	6'-9" ⁽²⁾	10'-1" ⁽³⁾	8'-4" ⁽³⁾	6'-8" ⁽³⁾	9'-10" ⁽³⁾	8'-2" ⁽³⁾	6'-6" ⁽³⁾
	14"	10'-3" ⁽²⁾	8'-6" ⁽²⁾	6'-9" ⁽²⁾	10'-1" ⁽³⁾	8'-4" ⁽³⁾	6'-8" ⁽³⁾	9'-10" ⁽³⁾	8'-2" ⁽³⁾	6'-6" ⁽³⁾
PWI 40	9½"	10'-10" ⁽²⁾	9'-9" ⁽³⁾	7'-9" ⁽³⁾	10'-9" ⁽³⁾	9'-7" ⁽³⁾	7'-8" ⁽³⁾	10'-7" ⁽³⁾	9'-4" ⁽³⁾	7'-6" ⁽³⁾
	11½"	11'-9" ⁽³⁾	9'-9" ⁽³⁾	7'-9" ⁽³⁾	11'-7" ⁽³⁾	9'-7" ⁽³⁾	7'-8" ⁽³⁾	11'-3" ⁽³⁾	9'-4" ⁽³⁾	7'-6" ⁽³⁾
	14"	11'-9" ⁽³⁾	9'-9" ⁽³⁾	7'-9" ⁽³⁾	11'-7" ⁽³⁾	9'-7" ⁽³⁾	7'-8" ⁽³⁾	11'-3" ⁽³⁾	9'-4" ⁽³⁾	7'-6" ⁽³⁾
PWI 45	9½"	10'-8" ⁽²⁾	8'-10" ⁽²⁾	7'-0" ⁽²⁾	10'-6" ⁽³⁾	8'-8" ⁽³⁾	6'-11" ⁽³⁾	10'-3" ⁽³⁾	8'-6" ⁽³⁾	6'-9" ⁽³⁾
	11½"	10'-8" ⁽²⁾	8'-10" ⁽²⁾	7'-0" ⁽²⁾	10'-6" ⁽³⁾	8'-8" ⁽³⁾	6'-11" ⁽³⁾	10'-3" ⁽³⁾	8'-6" ⁽³⁾	6'-9" ⁽³⁾
	14"	10'-8" ⁽²⁾	8'-10" ⁽²⁾	7'-0" ⁽²⁾	10'-6" ⁽³⁾	8'-8" ⁽³⁾	6'-11" ⁽³⁾	10'-3" ⁽³⁾	8'-6" ⁽³⁾	6'-9" ⁽³⁾
PWI 47	7½"	9'-4" ⁽²⁾	7'-9" ⁽²⁾	6'-2" ⁽²⁾	9'-3" ⁽³⁾	7'-8" ⁽³⁾	6'-1" ⁽³⁾	9'-0" ⁽³⁾	7'-6" ⁽³⁾	5'-11" ⁽³⁾
	9½"	9'-6" ⁽²⁾	7'-10" ⁽²⁾	6'-3" ⁽²⁾	9'-4" ⁽³⁾	7'-9" ⁽³⁾	6'-2" ⁽³⁾	9'-1" ⁽³⁾	7'-7" ⁽³⁾	6'-0" ⁽³⁾
	11½"	9'-7" ⁽²⁾	7'-11" ⁽²⁾	6'-4" ⁽²⁾	9'-5" ⁽³⁾	7'-10" ⁽³⁾	6'-3" ⁽³⁾	9'-3" ⁽³⁾	7'-8" ⁽³⁾	6'-1" ⁽³⁾
PWI 50	14"	9'-9" ⁽²⁾	8'-1" ⁽²⁾	6'-5" ⁽²⁾	9'-7" ⁽³⁾	8'-0" ⁽³⁾	6'-4" ⁽³⁾	9'-4" ⁽³⁾	7'-9" ⁽³⁾	6'-2" ⁽³⁾
	16"	9'-10" ⁽²⁾	8'-2" ⁽²⁾	6'-6" ⁽²⁾	9'-8" ⁽³⁾	8'-1" ⁽³⁾	6'-5" ⁽³⁾	9'-6" ⁽³⁾	7'-10" ⁽³⁾	6'-3" ⁽³⁾
	18"	10'-0" ⁽²⁾	8'-3" ⁽²⁾	6'-7" ⁽²⁾	9'-10" ⁽³⁾	8'-2" ⁽³⁾	6'-6" ⁽³⁾	9'-7" ⁽³⁾	7'-11" ⁽³⁾	6'-4" ⁽³⁾
PWI 55	9½"	11'-0" ⁽²⁾	9'-2" ⁽²⁾	7'-3" ⁽²⁾	10'-10" ⁽³⁾	9'-0" ⁽³⁾	7'-2" ⁽³⁾	10'-7" ⁽³⁾	8'-10" ⁽³⁾	7'-0" ⁽³⁾
	11½"	11'-0" ⁽²⁾	9'-2" ⁽²⁾	7'-3" ⁽²⁾	10'-10" ⁽³⁾	9'-0" ⁽³⁾	7'-2" ⁽³⁾	10'-7" ⁽³⁾	8'-10" ⁽³⁾	7'-0" ⁽³⁾
	14"	11'-0" ⁽²⁾	9'-2" ⁽²⁾	7'-3" ⁽²⁾	10'-10" ⁽³⁾	9'-0" ⁽³⁾	7'-2" ⁽³⁾	10'-7" ⁽³⁾	8'-10" ⁽³⁾	7'-0" ⁽³⁾
PWI 60	9½"	11'-9" ⁽³⁾	9'-9" ⁽³⁾	7'-9" ⁽³⁾	11'-7" ⁽³⁾	9'-7" ⁽³⁾	7'-8" ⁽³⁾	11'-3" ⁽³⁾	9'-4" ⁽³⁾	7'-6" ⁽³⁾
	11½"	11'-9" ⁽³⁾	9'-9" ⁽³⁾	7'-9" ⁽³⁾	11'-7" ⁽³⁾	9'-7" ⁽³⁾	7'-8" ⁽³⁾	11'-3" ⁽³⁾	9'-4" ⁽³⁾	7'-6" ⁽³⁾
	14"	11'-9" ⁽³⁾	9'-9" ⁽³⁾	7'-9" ⁽³⁾	11'-7" ⁽³⁾	9'-7" ⁽³⁾	7'-8" ⁽³⁾	11'-3" ⁽³⁾	9'-4" ⁽³⁾	7'-6" ⁽³⁾
PWI 70	11½"	12'-7" ⁽³⁾	10'-6" ⁽³⁾	8'-4" ⁽³⁾	12'-5" ⁽³⁾	10'-4" ⁽³⁾	8'-3" ⁽³⁾	12'-2" ⁽³⁾	10'-1" ⁽³⁾	8'-0" ⁽³⁾
	14"	12'-7" ⁽³⁾	10'-6" ⁽³⁾	8'-4" ⁽³⁾	12'-5" ⁽³⁾	10'-4" ⁽³⁾	8'-3" ⁽³⁾	12'-2" ⁽³⁾	10'-1" ⁽³⁾	8'-0" ⁽³⁾
	16"	12'-7" ⁽³⁾	10'-6" ⁽³⁾	8'-4" ⁽³⁾	12'-5" ⁽³⁾	10'-4" ⁽³⁾	8'-3" ⁽³⁾	12'-2" ⁽³⁾	10'-1" ⁽³⁾	8'-0" ⁽³⁾
PWI 77	9½"	14'-0" ⁽³⁾	11'-8" ⁽³⁾	9'-3" ⁽³⁾	13'-9" ⁽³⁾	11'-5" ⁽³⁾	9'-1" ⁽³⁾	13'-3" ⁽³⁾	11'-2" ⁽³⁾	8'-11" ⁽³⁾
	11½"	14'-0" ⁽³⁾	11'-8" ⁽³⁾	9'-3" ⁽³⁾	13'-9" ⁽³⁾	11'-5" ⁽³⁾	9'-1" ⁽³⁾	13'-3" ⁽³⁾	11'-2" ⁽³⁾	8'-11" ⁽³⁾
	14"	14'-0" ⁽³⁾	11'-8" ⁽³⁾	9'-3" ⁽³⁾	13'-9" ⁽³⁾	11'-5" ⁽³⁾	9'-1" ⁽³⁾	13'-3" ⁽³⁾	11'-2" ⁽³⁾	8'-11" ⁽³⁾
PWI 90	9½"	15'-3" ⁽³⁾	12'-8" ⁽³⁾	10'-1" ⁽³⁾	15'-0" ⁽³⁾	12'-6" ⁽³⁾	9'-11" ⁽³⁾	14'-8" ⁽³⁾	12'-2" ⁽³⁾	9'-9" ⁽³⁾
	11½"	15'-3" ⁽³⁾	12'-8" ⁽³⁾	10'-1" ⁽³⁾	15'-0" ⁽³⁾	12'-6" ⁽³⁾	9'-11" ⁽³⁾	14'-8" ⁽³⁾	12'-2" ⁽³⁾	9'-9" ⁽³⁾
	14"	15'-3" ⁽³⁾	12'-8" ⁽³⁾	10'-1" ⁽³⁾	15'-0" ⁽³⁾	12'-6" ⁽³⁾	9'-11" ⁽³⁾	14'-8" ⁽³⁾	12'-2" ⁽³⁾	9'-9" ⁽³⁾
PWI 95	16"	15'-3" ⁽³⁾	12'-8" ⁽³⁾	10'-1" ⁽³⁾	15'-0" ⁽³⁾	12'-6" ⁽³⁾	9'-11" ⁽³⁾	14'-8" ⁽³⁾	12'-2" ⁽³⁾	9'-9" ⁽³⁾
	18"	15'-3" ⁽³⁾	12'-8" ⁽³⁾	10'-1" ⁽³⁾	15'-0" ⁽³⁾	12'-6" ⁽³⁾	9'-11" ⁽³⁾	14'-8" ⁽³⁾	12'-2" ⁽³⁾	9'-9" ⁽³⁾
	20"	15'-3" ⁽³⁾	12'-8" ⁽³⁾	10'-1" ⁽³⁾	15'-0" ⁽³⁾	12'-6" ⁽³⁾	9'-11" ⁽³⁾	14'-8" ⁽³⁾	12'-2" ⁽³⁾	9'-9" ⁽³⁾
PWI 100	22"	26'-4" ⁽⁴⁾	21'-11" ⁽³⁾	17'-6" ⁽³⁾	25'-11" ⁽⁴⁾	21'-7" ⁽⁴⁾	17'-2" ⁽⁴⁾	24'-5" ⁽⁴⁾	20'-4" ⁽⁴⁾	16'-3" ⁽⁴⁾
	24"	26'-4" ⁽⁴⁾	21'-11" ⁽³⁾	17'-6" ⁽³⁾	25'-11" ⁽⁴⁾	21'-7" ⁽⁴⁾	17'-2" ⁽⁴⁾	24'-5" ⁽⁴⁾	20'-4" ⁽⁴⁾	16'-3" ⁽⁴⁾

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 1¼" 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 (165 lbs. lateral capacity @ 100%), or joist hanger
 - Beveled plate and four nails (330 lbs. lateral capacity @ 100%), or (3)
 - Gussets at high support (1295 lbs. lateral capacity @ 100%), birdsmouth cut at low support, or (4)
 - Strap (1640 lbs. lateral capacity @ 100%) or pair of twist straps (950 lbs. lateral capacity each @ 100%) 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).

Roof Spans 100% Heavy Snow

ALLOWABLE ROOF SPANS—60 PSF LIVE LOAD - 20 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"	13'-6" ⁽²⁾	12'-3" ⁽²⁾	11'-0" ⁽²⁾	13'-3" ⁽³⁾	12'-1" ⁽³⁾	10'-8" ⁽³⁾	12'-11" ⁽³⁾	11'-9" ⁽³⁾	10'-2" ⁽³⁾
	11½"	15'-4" ⁽²⁾	13'-11" ⁽²⁾	11'-1" ⁽²⁾	15'-1" ⁽³⁾	13'-5" ⁽³⁾	10'-8" ⁽³⁾	14'-9" ⁽³⁾	12'-9" ⁽³⁾	10'-2" ⁽³⁾
	14"	16'-9" ⁽²⁾	13'-11" ⁽²⁾	11'-1" ⁽²⁾	16'-2" ⁽³⁾	13'-5" ⁽³⁾	10'-8" ⁽³⁾	15'-4" ⁽³⁾	12'-9" ⁽³⁾	10'-2" ⁽³⁾
PWI 30	9½"	15'-3" ⁽²⁾	13'-11" ⁽²⁾	11'-6" ⁽²⁾	14'-10" ⁽³⁾	13'-8" ⁽³⁾	11'-1" ⁽³⁾	13'-10" ⁽³⁾	13'-0" ⁽³⁾	10'-6" ⁽³⁾
	11½"	17'-4" ⁽²⁾	14'-5" ⁽²⁾	11'-6" ⁽²⁾	16'-8" ⁽³⁾	13'-10" ⁽³⁾	11'-1" ⁽³⁾	15'-10" ⁽³⁾	13'-2" ⁽³⁾	10'-6" ⁽³⁾
	14"	17'-7" ⁽²⁾	16'-0" ⁽³⁾	13'-2" ⁽³⁾	17'-3" ⁽³⁾	15'-9" ⁽³⁾	12'-8" ⁽³⁾	16'-10" ⁽³⁾	15'-1" ⁽³⁾	12'-1" ⁽³⁾
PWI 40	9½"	14'-0" ⁽²⁾	12'-10" ⁽²⁾	11'-5" ⁽²⁾	13'-9" ⁽³⁾	12'-7" ⁽³⁾	11'-3" ⁽³⁾	13'-5" ⁽³⁾	12'-3" ⁽³⁾	10'-11" ⁽³⁾
	11½"	16'-0" ⁽²⁾	14'-7" ⁽²⁾	13'-0" ⁽³⁾	15'-9" ⁽³⁾	14'-4" ⁽³⁾	12'-8" ⁽³⁾	15'-4" ⁽³⁾	14'-0" ⁽³⁾	12'-1" ⁽³⁾
	14"	17'-7" ⁽²⁾	16'-0" ⁽³⁾	13'-2" ⁽³⁾	17'-3" ⁽³⁾	15'-9" ⁽³⁾	12'-8" ⁽³⁾	16'-10" ⁽³⁾	15'-1" ⁽³⁾	12'-1" ⁽³⁾
PWI 45	9½"	15'-7" ⁽²⁾	14'-2" ⁽²⁾	11'-11" ⁽²⁾	15'-3" ⁽³⁾	13'-11" ⁽³⁾	11'-6" ⁽³⁾	14'-8" ⁽³⁾	13'-7" ⁽³⁾	10'-11" ⁽³⁾
	11½"	17'-8" ⁽²⁾	14'-11" ⁽²⁾	11'-11" ⁽²⁾	17'-4" ⁽³⁾	14'-5" ⁽³⁾	11'-6" ⁽³⁾	16'-6" ⁽³⁾	13'-8" ⁽³⁾	10'-11" ⁽³⁾
	14"	17'-11" ⁽²⁾	14'-11" ⁽²⁾	11'-11" ⁽²⁾	17'-4" ⁽³⁾	14'-5" ⁽³⁾	11'-6" ⁽³⁾	16'-6" ⁽³⁾	13'-8" ⁽³⁾	10'-11" ⁽³⁾
PWI 47	7½"	13'-11" ⁽²⁾	12'-8" ⁽²⁾	10'-6" ⁽²⁾	13'-8" ⁽³⁾	12'-6" ⁽³⁾	10'-1" ⁽³⁾	12'-11" ⁽³⁾	12'-1" ⁽³⁾	9'-7" ⁽³⁾
	9½"	15'-6" ⁽²⁾	13'-4" ⁽²⁾	10'-7" ⁽²⁾	15'-3" ⁽³⁾	12'-10" ⁽³⁾	10'-3" ⁽³⁾	14'-8" ⁽³⁾	12'-2" ⁽³⁾	9'-9" ⁽³⁾
	11½"	16'-2" ⁽²⁾	13'-5" ⁽²⁾	10'-9" ⁽²⁾	15'-7" ⁽³⁾	13'-0" ⁽³⁾	10'-4" ⁽³⁾	14'-10" ⁽³⁾	12'-4" ⁽³⁾	9'-10" ⁽³⁾
PWI 50	9½"	16'-4" ⁽²⁾	15'-1" ⁽²⁾	12'-4" ⁽²⁾	15'-6" ⁽³⁾	14'-7" ⁽³⁾	11'-11" ⁽³⁾	14'-6" ⁽³⁾	13'-7" ⁽³⁾	11'-4" ⁽³⁾
	11½"	18'-7" ⁽²⁾	15'-6" ⁽²⁾	12'-4" ⁽²⁾	17'-11" ⁽³⁾	14'-11" ⁽³⁾	11'-11" ⁽³⁾	17'-1" ⁽³⁾	14'-2" ⁽³⁾	11'-4" ⁽³⁾
	14"	18'-7" ⁽²⁾	15'-6" ⁽²⁾	12'-4" ⁽²⁾	17'-11" ⁽³⁾	14'-11" ⁽³⁾	11'-11" ⁽³⁾	17'-1" ⁽³⁾	14'-2" ⁽³⁾	11'-4" ⁽³⁾
PWI 60	9½"	16'-6" ⁽²⁾	15'-1" ⁽²⁾	13'-2" ⁽³⁾	16'-3" ⁽³⁾	14'-10" ⁽³⁾	12'-8" ⁽³⁾	15'-7" ⁽³⁾	14'-5" ⁽³⁾	12'-1" ⁽³⁾
	11½"	18'-10" ⁽²⁾	16'-6" ⁽³⁾	13'-2" ⁽³⁾	18'-6" ⁽³⁾	15'-11" ⁽³⁾	12'-8" ⁽³⁾	18'-1" ⁽³⁾	15'-1" ⁽³⁾	12'-1" ⁽³⁾
	14"	19'-10" ⁽³⁾	16'-6" ⁽³⁾	13'-2" ⁽³⁾	19'-1" ⁽³⁾	15'-11" ⁽³⁾	12'-8" ⁽³⁾	18'-2" ⁽³⁾	15'-1" ⁽³⁾	12'-1" ⁽³⁾
PWI 70	11½"	21'-3" ⁽³⁾	17'-8" ⁽³⁾	14'-1" ⁽³⁾	20'-6" ⁽³⁾	17'-1" ⁽³⁾	13'-7" ⁽³⁾	19'-6" ⁽³⁾	16'-3" ⁽³⁾	12'-11" ⁽³⁾
	14"	21'-3" ⁽³⁾	17'-8" ⁽³⁾	14'-1" ⁽³⁾	20'-6" ⁽³⁾	17'-1" ⁽³⁾	13'-7" ⁽³⁾	19'-6" ⁽³⁾	16'-3" ⁽³⁾	12'-11" ⁽³⁾
	16"	21'-3" ⁽³⁾	17'-8" ⁽³⁾	14'-1" ⁽³⁾	20'-6" ⁽³⁾	17'-1" ⁽³⁾	13'-7" ⁽³⁾	19'-6" ⁽³⁾	16'-3" ⁽³⁾	12'-11" ⁽³⁾
PWI 77	9½"	18'-5" ⁽²⁾	17'-3" ⁽³⁾	15'-8" ⁽³⁾	17'-5" ⁽³⁾	16'-4" ⁽³⁾	15'-1" ⁽³⁾	16'-3" ⁽³⁾	15'-3" ⁽³⁾	14'-2" ⁽³⁾
	11½"	22'-0" ⁽³⁾	19'-7" ⁽³⁾	15'-8" ⁽³⁾	20'-10" ⁽³⁾	18'-11" ⁽³⁾	15'-1" ⁽³⁾	19'-5" ⁽³⁾	18'-0" ⁽³⁾	14'-4" ⁽³⁾
	14"	23'-7" ⁽³⁾	19'-7" ⁽³⁾	15'-8" ⁽³⁾	22'-9" ⁽³⁾	18'-11" ⁽³⁾	15'-1" ⁽³⁾	21'-8" ⁽³⁾	18'-0" ⁽³⁾	14'-4" ⁽³⁾
PWI 90	9½"	21'-0" ⁽³⁾	19'-9" ⁽³⁾	17'-1" ⁽³⁾	19'-11" ⁽³⁾	18'-8" ⁽³⁾	16'-6" ⁽³⁾	18'-7" ⁽³⁾	17'-6" ⁽³⁾	15'-8" ⁽³⁾
	11½"	25'-1" ⁽³⁾	21'-5" ⁽³⁾	17'-1" ⁽³⁾	23'-9" ⁽³⁾	20'-8" ⁽³⁾	16'-6" ⁽³⁾	22'-3" ⁽³⁾	19'-8" ⁽³⁾	15'-8" ⁽³⁾
	14"	25'-9" ⁽³⁾	21'-5" ⁽³⁾	17'-1" ⁽³⁾	24'-10" ⁽³⁾	20'-8" ⁽³⁾	16'-6" ⁽³⁾	23'-7" ⁽³⁾	19'-8" ⁽³⁾	15'-8" ⁽³⁾
PWI 90	16"	25'-9" ⁽³⁾	21'-5" ⁽³⁾	17'-1" ⁽³⁾	24'-10" ⁽³⁾	20'-8" ⁽³⁾	16'-6" ⁽³⁾	23'-7" ⁽³⁾	19'-8" ⁽³⁾	15'-8" ⁽³⁾
	18"	25'-9" ⁽³⁾	21'-5" ⁽³⁾	17'-1" ⁽³⁾	24'-10" ⁽³⁾	20'-8" ⁽³⁾	16'-6" ⁽³⁾	23'-7" ⁽³⁾	19'-8" ⁽³⁾	15'-8" ⁽³⁾
	20"	25'-9" ⁽³⁾	21'-5" ⁽³⁾	17'-1" ⁽³⁾	24'-10" ⁽³⁾	20'-8" ⁽³⁾	16'-6" ⁽³⁾	23'-7" ⁽³⁾	19'-8" ⁽³⁾	15'-8" ⁽³⁾
PWI 90	22"	37'-7" ⁽³⁾	34'-3" ⁽³⁾	29'-5" ⁽³⁾	36'-11" ⁽³⁾	33'-8" ⁽³⁾	28'-4" ⁽⁴⁾	35'-7" ⁽⁴⁾	32'-8" ⁽⁴⁾	26'-1" ⁽⁴⁾
	24"	39'-2" ⁽³⁾	35'-9" ⁽³⁾	29'-5" ⁽³⁾	38'-6" ⁽³⁾	35'-1" ⁽⁴⁾	28'-4" ⁽⁴⁾	37'-7" ⁽⁴⁾	32'-8" ⁽⁴⁾	26'-1" ⁽⁴⁾

See notes on page 54

Roof Spans 100% Heavy Snow

ALLOWABLE ROOF SPANS—80 PSF LIVE LOAD - 20 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"	12'-1" ⁽²⁾	11'-0" ⁽²⁾	8'-10" ⁽²⁾	11'-10" ⁽³⁾	10'-10" ⁽³⁾	8'-7" ⁽³⁾	11'-8" ⁽³⁾	10'-4" ⁽³⁾	8'-3" ⁽³⁾
	11½"	13'-5" ⁽²⁾	11'-2" ⁽²⁾	8'-10" ⁽²⁾	13'-0" ⁽³⁾	10'-10" ⁽³⁾	8'-7" ⁽³⁾	12'-6" ⁽³⁾	10'-4" ⁽³⁾	8'-3" ⁽³⁾
	14"	13'-5" ⁽²⁾	11'-2" ⁽²⁾	8'-10" ⁽²⁾	13'-0" ⁽³⁾	10'-10" ⁽³⁾	8'-7" ⁽³⁾	12'-6" ⁽³⁾	10'-4" ⁽³⁾	8'-3" ⁽³⁾
PWI 30	9½"	13'-8" ⁽²⁾	11'-6" ⁽²⁾	9'-2" ⁽²⁾	13'-5" ⁽³⁾	11'-2" ⁽³⁾	8'-11" ⁽³⁾	12'-10" ⁽³⁾	10'-9" ⁽³⁾	8'-6" ⁽³⁾
	11½"	13'-10" ⁽²⁾	11'-6" ⁽²⁾	9'-2" ⁽²⁾	13'-5" ⁽³⁾	11'-2" ⁽³⁾	8'-11" ⁽³⁾	12'-11" ⁽³⁾	10'-9" ⁽³⁾	8'-6" ⁽³⁾
	14"	13'-8" ⁽²⁾	11'-6" ⁽²⁾	9'-2" ⁽²⁾	13'-5" ⁽³⁾	11'-2" ⁽³⁾	8'-11" ⁽³⁾	12'-10" ⁽³⁾	10'-9" ⁽³⁾	8'-6" ⁽³⁾
PWI 40	9½"	12'-7" ⁽²⁾	11'-5" ⁽²⁾	10'-3" ⁽³⁾	12'-4" ⁽³⁾	11'-3" ⁽³⁾	10'-1" ⁽³⁾	12'-1" ⁽³⁾	11'-1" ⁽³⁾	9'-9" ⁽³⁾
	11½"	14'-4" ⁽²⁾	13'-1" ⁽³⁾	10'-6" ⁽³⁾	14'-1" ⁽³⁾	12'-9" ⁽³⁾	10'-2" ⁽³⁾	13'-10" ⁽³⁾	12'-3" ⁽³⁾	9'-9" ⁽³⁾
	14"	15'-9" ⁽³⁾	13'-2" ⁽³⁾	10'-6" ⁽³⁾	15'-5" ⁽³⁾	12'-9" ⁽³⁾	10'-2" ⁽³⁾	14'-9" ⁽³⁾	12'-3" ⁽³⁾	9'-9" ⁽³⁾
PWI 45	9½"	15'-10" ⁽³⁾	13'-2" ⁽³⁾	10'-6" ⁽³⁾	15'-5" ⁽³⁾	12'-9" ⁽³⁾	10'-2" ⁽³⁾	14'-9" ⁽³⁾	12'-3" ⁽³⁾	9'-9" ⁽³⁾
	11½"	13'-11" ⁽²⁾	11'-11" ⁽²⁾	9'-6" ⁽²⁾	13'-8" ⁽³⁾	11'-7" ⁽³⁾	9'-3" ⁽³⁾	13'-5" ⁽³⁾	11'-2" ⁽³⁾	8'-10" ⁽³⁾
	14"	14'-4" ⁽²⁾	11'-11" ⁽²⁾	9'-6" ⁽²⁾	13'-11" ⁽³⁾	11'-7" ⁽³⁾	9'-3" ⁽³⁾	13'-5" ⁽³⁾	11'-2" ⁽³⁾	8'-10" ⁽³⁾
PWI 47	7½"	14'-4" ⁽²⁾	11'-11" ⁽²⁾	9'-6" ⁽²⁾	13'-11" ⁽³⁾	11'-7" ⁽³⁾	9'-3" ⁽³⁾	13'-5" ⁽³⁾	11'-2" ⁽³⁾	8'-10" ⁽³⁾
	9½"	12'-5" ⁽²⁾	10'-6" ⁽²⁾	8'-4" ⁽²⁾	12'-3" ⁽³⁾	10'-2" ⁽³⁾	8'-2" ⁽³⁾	11'-10" ⁽³⁾	9'-10" ⁽³⁾	7'-10" ⁽³⁾
	11½"	12'-10" ⁽²⁾	10'-8" ⁽²⁾	8'-6" ⁽²⁾	12'-5" ⁽³⁾	10'-4" ⁽³⁾	8'-3" ⁽³⁾	11'-11" ⁽³⁾	9'-11" ⁽³⁾	7'-11" ⁽³⁾
PWI 50	9½"	12'-11" ⁽²⁾	10'-9" ⁽²⁾	8'-7" ⁽²⁾	12'-7" ⁽³⁾	10'-5" ⁽³⁾	8'-4" ⁽³⁾	12'-1" ⁽³⁾	10'-0" ⁽³⁾	8'-0" ⁽³⁾
	11½"	13'-2" ⁽²⁾	10'-11" ⁽²⁾	8'-9" ⁽²⁾	12'-9" ⁽³⁾	10'-8" ⁽³⁾	8'-6" ⁽³⁾	12'-3" ⁽³⁾	10'-2" ⁽³⁾	8'-1" ⁽³⁾
	14"	13'-4" ⁽²⁾	11'-1" ⁽²⁾	8'-10" ⁽²⁾	12'-11" ⁽³⁾	10'-9" ⁽³⁾	8'-7" ⁽³⁾	12'-5" ⁽³⁾	10'-4" ⁽³⁾	8'-3" ⁽³⁾
PWI 60	9½"	13'-6" ⁽²⁾	11'-2" ⁽²⁾	8'-11" ⁽²⁾	13'-1" ⁽³⁾	10'-10" ⁽³⁾	8'-8" ⁽³⁾	12'-7" ⁽³⁾	10'-5" ⁽³⁾	8'-4" ⁽³⁾
	11½"	13'-7" ⁽²⁾	11'-4" ⁽²⁾	9'-0" ⁽²⁾	13'-3" ⁽³⁾	11'-0" ⁽³⁾	8'-9" ⁽³⁾	12'-8" ⁽³⁾	10'-7" ⁽³⁾	8'-5" ⁽³⁾
	14"	13'-7" ⁽²⁾	11'-4" ⁽²⁾	9'-0" ⁽²⁾	13'-3" ⁽³⁾	11'-0" ⁽³⁾	8'-9" ⁽³⁾	12'-8" ⁽³⁾	10'-7" ⁽³⁾	8'-5" ⁽³⁾
PWI 70	9½"	14'-10" ⁽²⁾	12'-4" ⁽²⁾	9'-10" ⁽²⁾	14'-3" ⁽³⁾	12'-0" ⁽³⁾	9'-7" ⁽³⁾	13'-6" ⁽³⁾	11'-6" ⁽³⁾	9'-2" ⁽³⁾
	11½"	14'-10" ⁽²⁾	12'-4" ⁽²⁾	9'-10" ⁽²⁾	14'-5" ⁽³⁾	12'-0" ⁽³⁾	9'-7" ⁽³⁾	13'-10" ⁽³⁾	11'-6" ⁽³⁾	9'-2" ⁽³⁾
	14"	14'-10" ⁽²⁾	12'-4" ⁽²⁾	9'-10" ⁽²⁾	14'-5" ⁽³⁾	12'-0" ⁽³⁾	9'-7" ⁽³⁾	13'-10" ⁽³⁾	11'-6" ⁽³⁾	9'-2" ⁽³⁾
PWI 77	9½"	14'-10" ⁽²⁾	12'-4" ⁽²⁾	9'-10" ⁽²⁾	14'-5" ⁽³⁾	12'-0" ⁽³⁾	9'-7" ⁽³⁾	13'-10" ⁽³⁾	11'-6" ⁽³⁾	9'-2" ⁽³⁾
	11½"	14'-9" ⁽²⁾	13'-2" ⁽³⁾	10'-6" ⁽³⁾	14'-7" ⁽³⁾	12'-9" ⁽³⁾	10'-2" ⁽³⁾	14'-3" ⁽³⁾	12'-3" ⁽³⁾	9'-9" ⁽³⁾
	14"	15'-10" ⁽³⁾	13'-2" ⁽³⁾	10'-6" ⁽³⁾	15'-5" ⁽³⁾	12'-9" ⁽³⁾	10'-2" ⁽³⁾	14'-9" ⁽³⁾	12'-3" ⁽³⁾	9'-9" ⁽³⁾
PWI 90	9½"	15'-10" ⁽³⁾	13'-2" ⁽³⁾	10'-6" ⁽³⁾	15'-5" ⁽³⁾	12'-9" ⁽³⁾	10'-2" ⁽³⁾	14'-9" ⁽³⁾	12'-3" ⁽³⁾	9'-9" ⁽³⁾
	11½"	17'-0" ⁽³⁾	14'-3" ⁽³⁾	11'-3" ⁽³⁾	16'-6" ⁽³⁾	13'-9" ⁽³⁾	11'-0" ⁽³⁾	15'-11" ⁽³⁾	13'-2" ⁽³⁾	10'-6" ⁽³⁾
	14"	17'-0" ⁽³⁾	14'-2" ⁽³⁾	11'-3" ⁽³⁾	16'-6" ⁽³⁾	13'-9" ⁽³⁾	11'-0" ⁽³⁾	15'-11" ⁽³⁾	13'-2" ⁽³⁾	10'-6" ⁽³⁾
PWI 90	16"	17'-0" ⁽³⁾	14'-2" ⁽³⁾	11'-3" ⁽³⁾	16'-6" ⁽³⁾	13'-9" ⁽³⁾	11'-0" ⁽³⁾	15'-11" ⁽³⁾	13'-2" ⁽³⁾	10'-6" ⁽³⁾
	18"	17'-0" ⁽³⁾	14'-2" ⁽³⁾	11'-3" ⁽³⁾	16'-6" ⁽³⁾	13'-9" ⁽³⁾	11'-0" ⁽³⁾	15'-11" ⁽³⁾	13'-2" ⁽³⁾	10'-6" ⁽³⁾
	20"	17'-0" ⁽³⁾	14'-2" ⁽³⁾	11'-3" ⁽³⁾	16'-6" ⁽³⁾	13'-9" ⁽³⁾	11'-0" ⁽³⁾	15'-11" ⁽³⁾	13'-2" ⁽³⁾	10'-6" ⁽³⁾
PWI 90	9½"	16'-8" ⁽³⁾	15'-8" ⁽³⁾	12'-6" ⁽³⁾	16'-0" ⁽³⁾	15'-0" ⁽³⁾	12'-2" ⁽³⁾	15'-2" ⁽³⁾	14'-3" ⁽³⁾	11'-8" ⁽³⁾
	11½"	18'-11" ⁽³⁾	15'-8" ⁽³⁾	12'-6" ⁽³⁾	18'-4" ⁽³⁾	15'-3" ⁽³⁾	12'-2" ⁽³⁾	17'-7" ⁽³⁾	14'-8" ⁽³⁾	11'-8" ⁽³⁾
	14"	18'-11" ⁽³⁾	15'-8" ⁽³⁾	12'-6" ⁽³⁾	18'-4" ⁽³⁾	15'-3" ⁽³⁾	12'-2" ⁽³⁾	17'-7" ⁽³⁾	14'-8" ⁽³⁾	11'-8" ⁽³⁾
PWI 90	16"	18'-11" ⁽³⁾	15'-8" ⁽³⁾	12'-6" ⁽³⁾	18'-4" ⁽³⁾	15'-3" ⁽³⁾	12'-2" ⁽³⁾	17'-7" ⁽³⁾	14'-8" ⁽³⁾	11'-8" ⁽³⁾
	18"	18'-11" ⁽³⁾	15'-8" ⁽³⁾	12'-6" ⁽³⁾	18'-4" ⁽³⁾	15'-3" ⁽³⁾	12'-2" ⁽³⁾	17'-7" ⁽³⁾	14'-8" ⁽³⁾	11'-8" ⁽³⁾
	20"	18'-11" ⁽³⁾	15'-8" ⁽³⁾	12'-6" ⁽³⁾	18'-4" ⁽³⁾	15'-3" ⁽³⁾	12'-2" ⁽³⁾	17'-7" ⁽³⁾	14'-8" ⁽³⁾	11'-8" ⁽³⁾
PWI 90	22"	27'-1" ⁽³⁾	23'-11" ⁽³⁾	19'-1" ⁽³⁾	26'-8" ⁽³⁾	23'-2" ⁽³⁾	18'-6" ⁽³⁾	26'-2" ⁽⁴⁾	22'-3" ⁽⁴⁾	17'-9" ⁽⁴⁾
	24"	28'-3" ⁽³⁾	23'-11" ⁽³⁾	19'-1" ⁽³⁾	27'-10" ⁽³⁾	23'-2" ⁽³⁾	18'-6" ⁽³⁾	26'-9" ⁽⁴⁾	22'-3" ⁽⁴⁾	17'-9" ⁽⁴⁾
	9½"	19'-1" ⁽³⁾	17'-2" ⁽³⁾	13'-8" ⁽³⁾	18'-4" ⁽³⁾	16'-8" ⁽³⁾	13'-3" ⁽³⁾	17'-4" ⁽³⁾	16'-0" ⁽³⁾	12'-9" ⁽³⁾
PWI 90	11½"	20'-7" ⁽³⁾	17'-2" ⁽³⁾	13'-8" ⁽³⁾	20'-0" ⁽³⁾	16'-8" ⁽³⁾	13'-3" ⁽³⁾	19'-2" ⁽³⁾	16'-0" ⁽³⁾	12'-9" ⁽³⁾
	14"	20'-7" ⁽³⁾	17'-2" ⁽³⁾	13'-8" ⁽³⁾	20'-0" ⁽³⁾	16'-8" ⁽³⁾	13'-3" ⁽³⁾	19'-2" ⁽³⁾	16'-0" ⁽³⁾	12'-9" ⁽³⁾
	16"	20'-7" ⁽³⁾	17'-2" ⁽³⁾	13'-8" ⁽³⁾	20'-0" ⁽³⁾	16'-8" ⁽³⁾	13'-3" ⁽³⁾	19'-2" ⁽³⁾	16'-0" ⁽³⁾	12'-9" ⁽³⁾
PWI 90	18"	20'-7" ⁽³⁾	17'-2" ⁽³⁾	13'-8" ⁽³⁾	20'-0" ⁽³⁾	16'-8" ⁽³⁾	13'-3" ⁽³⁾	19'-2" ⁽³⁾	16'-0" ⁽³⁾	12'-9" ⁽³⁾
	20"	33'-7" ⁽³⁾	29'-6" ⁽³⁾	23'-7" ⁽³⁾	33'-2" ⁽³⁾	28'-8" ⁽⁴⁾	22'-11" ⁽⁴⁾	31'-11" ⁽⁴⁾	26'-7" ⁽⁴⁾	21'-3" ⁽⁴⁾
	24"	35'-1" ⁽³⁾	29'-6" ⁽³⁾	23'-7" ⁽³⁾	34'-5" ⁽⁴⁾	28'-8" ⁽⁴⁾	22'-11" ⁽⁴⁾	31'-11" ⁽⁴⁾	26'-7" ⁽⁴⁾	21'-3" ⁽⁴⁾

Notes:

1. Table values apply to uniformly loaded roof joists that are sloped at least ¼" in 12".
2. Span is measured on the horizontal from face to face of supports.
3. Table values do not account for stiffness added by glued or nailed sheathing.
4. Provide at least 1¼" of bearing length at end supports and 3½" at intermediate supports.
5. The numbers in parentheses refer to the minimum connection required at each support.
 - (1) Beveled plate and two nails (165 lbs. lateral capacity @ 100%), or joist hanger
 - (2) Beveled plate and four nails (330 lbs. lateral capacity @ 100%), or (3)
 - (3) Gussets at high support (1295 lbs. lateral capacity @ 100%), birdsmouth cut at low support, or (4)
 - (4) Strap (1640 lbs. lateral capacity @ 100%) or pair of twist straps (950 lbs. lateral capacity each @ 100%) at high support, birdsmouth cut at low support
6. 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).
7. Consult a professional engineer to analyze conditions outside the scope of this table (e.g. different bearing conditions, concentrated loads, multiple span joists).

Roof Spans 100% Heavy Snow

ALLOWABLE ROOF SPANS – 100 PSF LIVE LOAD - 20 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"	11'-0" ⁽²⁾	9'-3" ⁽²⁾	7'-4" ⁽²⁾	10'-10" ⁽³⁾	9'-0" ⁽³⁾	7'-2" ⁽³⁾	10'-6" ⁽³⁾	8'-9" ⁽³⁾	6'-11" ⁽³⁾
	11½"	11'-2" ⁽²⁾	9'-3" ⁽²⁾	7'-4" ⁽²⁾	10'-11" ⁽³⁾	9'-0" ⁽³⁾	7'-2" ⁽³⁾	10'-6" ⁽³⁾	8'-9" ⁽³⁾	6'-11" ⁽³⁾
	14"	11'-2" ⁽²⁾	9'-3" ⁽²⁾	7'-4" ⁽²⁾	10'-11" ⁽³⁾	9'-0" ⁽³⁾	7'-2" ⁽³⁾	10'-6" ⁽³⁾	8'-9" ⁽³⁾	6'-11" ⁽³⁾
PWI 30	9½"	11'-6" ⁽²⁾	9'-7" ⁽²⁾	7'-7" ⁽²⁾	11'-3" ⁽³⁾	9'-4" ⁽³⁾	7'-5" ⁽³⁾	10'-10" ⁽³⁾	9'-0" ⁽³⁾	7'-2" ⁽³⁾
	11½"	11'-6" ⁽²⁾	9'-7" ⁽²⁾	7'-7" ⁽²⁾	11'-3" ⁽³⁾	9'-4" ⁽³⁾	7'-5" ⁽³⁾	10'-10" ⁽³⁾	9'-0" ⁽³⁾	7'-2" ⁽³⁾
PWI 40	9½"	11'-5" ⁽²⁾	10'-5" ⁽²⁾	8'-9" ⁽³⁾	11'-4" ⁽³⁾	10'-4" ⁽³⁾	8'-6" ⁽³⁾	11'-1" ⁽³⁾	10'-2" ⁽³⁾	8'-3" ⁽³⁾
	11½"	13'-1" ⁽³⁾	11'-0" ⁽³⁾	8'-9" ⁽³⁾	12'-10" ⁽³⁾	10'-8" ⁽³⁾	8'-6" ⁽³⁾	12'-5" ⁽³⁾	10'-4" ⁽³⁾	8'-3" ⁽³⁾
	14"	13'-2" ⁽³⁾	11'-0" ⁽³⁾	8'-9" ⁽³⁾	12'-10" ⁽³⁾	10'-8" ⁽³⁾	8'-6" ⁽³⁾	12'-5" ⁽³⁾	10'-4" ⁽³⁾	8'-3" ⁽³⁾
	16"	13'-2" ⁽³⁾	11'-0" ⁽³⁾	8'-9" ⁽³⁾	12'-10" ⁽³⁾	10'-8" ⁽³⁾	8'-6" ⁽³⁾	12'-5" ⁽³⁾	10'-4" ⁽³⁾	8'-3" ⁽³⁾
PWI 45	9½"	11'-11" ⁽²⁾	9'-11" ⁽²⁾	7'-11" ⁽²⁾	11'-8" ⁽³⁾	9'-8" ⁽³⁾	7'-9" ⁽³⁾	11'-3" ⁽³⁾	9'-4" ⁽³⁾	7'-5" ⁽³⁾
	11½"	11'-11" ⁽²⁾	9'-11" ⁽²⁾	7'-11" ⁽²⁾	11'-8" ⁽³⁾	9'-8" ⁽³⁾	7'-9" ⁽³⁾	11'-3" ⁽³⁾	9'-4" ⁽³⁾	7'-5" ⁽³⁾
	14"	11'-11" ⁽²⁾	9'-11" ⁽²⁾	7'-11" ⁽²⁾	11'-8" ⁽³⁾	9'-8" ⁽³⁾	7'-9" ⁽³⁾	11'-3" ⁽³⁾	9'-4" ⁽³⁾	7'-5" ⁽³⁾
	16"	11'-11" ⁽²⁾	9'-11" ⁽²⁾	7'-11" ⁽²⁾	11'-8" ⁽³⁾	9'-8" ⁽³⁾	7'-9" ⁽³⁾	11'-3" ⁽³⁾	9'-4" ⁽³⁾	7'-5" ⁽³⁾
PWI 47	7½"	10'-6" ⁽²⁾	8'-9" ⁽²⁾	6'-11" ⁽²⁾	10'-3" ⁽³⁾	8'-6" ⁽³⁾	6'-9" ⁽³⁾	9'-11" ⁽³⁾	8'-3" ⁽³⁾	6'-7" ⁽³⁾
	9½"	10'-8" ⁽²⁾	8'-10" ⁽²⁾	7'-0" ⁽²⁾	10'-5" ⁽³⁾	8'-8" ⁽³⁾	6'-10" ⁽³⁾	10'-1" ⁽³⁾	8'-4" ⁽³⁾	6'-8" ⁽³⁾
	11½"	10'-9" ⁽²⁾	8'-11" ⁽²⁾	7'-1" ⁽²⁾	10'-6" ⁽³⁾	8'-9" ⁽³⁾	6'-11" ⁽³⁾	10'-2" ⁽³⁾	8'-5" ⁽³⁾	6'-9" ⁽³⁾
	14"	11'-0" ⁽²⁾	9'-1" ⁽²⁾	7'-3" ⁽²⁾	10'-8" ⁽³⁾	8'-11" ⁽³⁾	7'-1" ⁽³⁾	10'-4" ⁽³⁾	8'-7" ⁽³⁾	6'-10" ⁽³⁾
	16"	11'-1" ⁽²⁾	9'-2" ⁽²⁾	7'-4" ⁽²⁾	10'-10" ⁽³⁾	9'-0" ⁽³⁾	7'-2" ⁽³⁾	10'-5" ⁽³⁾	8'-8" ⁽³⁾	6'-11" ⁽³⁾
	18"	11'-3" ⁽²⁾	9'-4" ⁽²⁾	7'-5" ⁽²⁾	10'-11" ⁽³⁾	9'-1" ⁽³⁾	7'-3" ⁽³⁾	10'-7" ⁽³⁾	8'-9" ⁽³⁾	7'-0" ⁽³⁾
PWI 50	9½"	12'-5" ⁽²⁾	10'-3" ⁽²⁾	8'-2" ⁽²⁾	12'-1" ⁽³⁾	10'-0" ⁽³⁾	8'-0" ⁽³⁾	11'-8" ⁽³⁾	9'-8" ⁽³⁾	7'-9" ⁽³⁾
	11½"	12'-5" ⁽²⁾	10'-3" ⁽²⁾	8'-2" ⁽²⁾	12'-1" ⁽³⁾	10'-0" ⁽³⁾	8'-0" ⁽³⁾	11'-8" ⁽³⁾	9'-8" ⁽³⁾	7'-9" ⁽³⁾
	14"	12'-5" ⁽²⁾	10'-3" ⁽²⁾	8'-2" ⁽²⁾	12'-1" ⁽³⁾	10'-0" ⁽³⁾	8'-0" ⁽³⁾	11'-8" ⁽³⁾	9'-8" ⁽³⁾	7'-9" ⁽³⁾
	16"	12'-5" ⁽²⁾	10'-3" ⁽²⁾	8'-2" ⁽²⁾	12'-1" ⁽³⁾	10'-0" ⁽³⁾	8'-0" ⁽³⁾	11'-8" ⁽³⁾	9'-8" ⁽³⁾	7'-9" ⁽³⁾
PWI 60	9½"	13'-2" ⁽³⁾	11'-0" ⁽³⁾	8'-9" ⁽³⁾	12'-10" ⁽³⁾	10'-8" ⁽³⁾	8'-6" ⁽³⁾	12'-5" ⁽³⁾	10'-4" ⁽³⁾	8'-3" ⁽³⁾
	11½"	13'-2" ⁽³⁾	11'-0" ⁽³⁾	8'-9" ⁽³⁾	12'-10" ⁽³⁾	10'-8" ⁽³⁾	8'-6" ⁽³⁾	12'-5" ⁽³⁾	10'-4" ⁽³⁾	8'-3" ⁽³⁾
	14"	13'-2" ⁽³⁾	11'-0" ⁽³⁾	8'-9" ⁽³⁾	12'-10" ⁽³⁾	10'-8" ⁽³⁾	8'-6" ⁽³⁾	12'-5" ⁽³⁾	10'-4" ⁽³⁾	8'-3" ⁽³⁾
PWI 70	11½"	14'-2" ⁽³⁾	11'-9" ⁽³⁾	9'-5" ⁽³⁾	13'-10" ⁽³⁾	11'-6" ⁽³⁾	9'-2" ⁽³⁾	13'-5" ⁽³⁾	11'-1" ⁽³⁾	8'-10" ⁽³⁾
	14"	14'-2" ⁽³⁾	11'-9" ⁽³⁾	9'-5" ⁽³⁾	13'-10" ⁽³⁾	11'-6" ⁽³⁾	9'-2" ⁽³⁾	13'-5" ⁽³⁾	11'-1" ⁽³⁾	8'-10" ⁽³⁾
	16"	14'-2" ⁽³⁾	11'-9" ⁽³⁾	9'-5" ⁽³⁾	13'-10" ⁽³⁾	11'-6" ⁽³⁾	9'-2" ⁽³⁾	13'-5" ⁽³⁾	11'-1" ⁽³⁾	8'-10" ⁽³⁾
	18"	14'-2" ⁽³⁾	11'-9" ⁽³⁾	9'-5" ⁽³⁾	13'-10" ⁽³⁾	11'-6" ⁽³⁾	9'-2" ⁽³⁾	13'-5" ⁽³⁾	11'-1" ⁽³⁾	8'-10" ⁽³⁾
	20"	14'-2" ⁽³⁾	11'-9" ⁽³⁾	9'-5" ⁽³⁾	13'-10" ⁽³⁾	11'-6" ⁽³⁾	9'-2" ⁽³⁾	13'-5" ⁽³⁾	11'-1" ⁽³⁾	8'-10" ⁽³⁾
PWI 77	9½"	15'-5" ⁽³⁾	13'-1" ⁽³⁾	10'-5" ⁽³⁾	14'-10" ⁽³⁾	12'-9" ⁽³⁾	10'-2" ⁽³⁾	14'-1" ⁽³⁾	12'-4" ⁽³⁾	9'-10" ⁽³⁾
	11½"	15'-9" ⁽³⁾	13'-1" ⁽³⁾	10'-5" ⁽³⁾	15'-4" ⁽³⁾	12'-9" ⁽³⁾	10'-2" ⁽³⁾	14'-10" ⁽³⁾	12'-4" ⁽³⁾	9'-10" ⁽³⁾
	14"	15'-9" ⁽³⁾	13'-1" ⁽³⁾	10'-5" ⁽³⁾	15'-4" ⁽³⁾	12'-9" ⁽³⁾	10'-2" ⁽³⁾	14'-10" ⁽³⁾	12'-4" ⁽³⁾	9'-10" ⁽³⁾
	16"	15'-9" ⁽³⁾	13'-1" ⁽³⁾	10'-5" ⁽³⁾	15'-4" ⁽³⁾	12'-9" ⁽³⁾	10'-2" ⁽³⁾	14'-10" ⁽³⁾	12'-4" ⁽³⁾	9'-10" ⁽³⁾
	18"	15'-9" ⁽³⁾	13'-1" ⁽³⁾	10'-5" ⁽³⁾	15'-4" ⁽³⁾	12'-9" ⁽³⁾	10'-2" ⁽³⁾	14'-10" ⁽³⁾	12'-4" ⁽³⁾	9'-10" ⁽³⁾
	20"	15'-9" ⁽³⁾	13'-1" ⁽³⁾	10'-5" ⁽³⁾	15'-4" ⁽³⁾	12'-9" ⁽³⁾	10'-2" ⁽³⁾	14'-10" ⁽³⁾	12'-4" ⁽³⁾	9'-10" ⁽³⁾
PWI 90	22"	23'-11" ⁽³⁾	19'-11" ⁽³⁾	15'-11" ⁽³⁾	23'-4" ⁽³⁾	19'-5" ⁽³⁾	15'-6" ⁽³⁾	22'-7" ⁽⁴⁾	18'-9" ⁽⁴⁾	15'-0" ⁽⁴⁾
	24"	23'-11" ⁽³⁾	19'-11" ⁽³⁾	15'-11" ⁽³⁾	23'-4" ⁽³⁾	19'-5" ⁽³⁾	15'-6" ⁽³⁾	22'-7" ⁽⁴⁾	18'-9" ⁽⁴⁾	15'-0" ⁽⁴⁾
	9½"	17'-2" ⁽³⁾	14'-3" ⁽³⁾	11'-4" ⁽³⁾	16'-9" ⁽³⁾	13'-11" ⁽³⁾	11'-1" ⁽³⁾	16'-1" ⁽³⁾	13'-5" ⁽³⁾	10'-9" ⁽³⁾
	11½"	17'-2" ⁽³⁾	14'-3" ⁽³⁾	11'-4" ⁽³⁾	16'-9" ⁽³⁾	13'-11" ⁽³⁾	11'-1" ⁽³⁾	16'-2" ⁽³⁾	13'-5" ⁽³⁾	10'-9" ⁽³⁾
	14"	17'-2" ⁽³⁾	14'-3" ⁽³⁾	11'-4" ⁽³⁾	16'-9" ⁽³⁾	13'-11" ⁽³⁾	11'-1" ⁽³⁾	16'-2" ⁽³⁾	13'-5" ⁽³⁾	10'-9" ⁽³⁾
	16"	17'-2" ⁽³⁾	14'-3" ⁽³⁾	11'-4" ⁽³⁾	16'-9" ⁽³⁾	13'-11" ⁽³⁾	11'-1" ⁽³⁾	16'-2" ⁽³⁾	13'-5" ⁽³⁾	10'-9" ⁽³⁾
	18"	17'-2" ⁽³⁾	14'-3" ⁽³⁾	11'-4" ⁽³⁾	16'-9" ⁽³⁾	13'-11" ⁽³⁾	11'-1" ⁽³⁾	16'-2" ⁽³⁾	13'-5" ⁽³⁾	10'-9" ⁽³⁾
	20"	17'-2" ⁽³⁾	14'-3" ⁽³⁾	11'-4" ⁽³⁾	16'-9" ⁽³⁾	13'-11" ⁽³⁾	11'-1" ⁽³⁾	16'-2" ⁽³⁾	13'-5" ⁽³⁾	10'-9" ⁽³⁾
	22"	29'-7" ⁽³⁾	24'-7" ⁽³⁾	19'-8" ⁽³⁾	28'-10" ⁽⁴⁾	24'-0" ⁽⁴⁾	19'-2" ⁽⁴⁾	26'-11" ⁽⁴⁾	22'-5" ⁽⁴⁾	17'-11" ⁽⁴⁾
	24"	29'-7" ⁽³⁾	24'-7" ⁽³⁾	19'-8" ⁽³⁾	28'-10" ⁽⁴⁾	24'-0" ⁽⁴⁾	19'-2" ⁽⁴⁾	26'-11" ⁽⁴⁾	22'-5" ⁽⁴⁾	17'-11" ⁽⁴⁾

See notes on page 56

Roof Spans 100% Heavy Snow

ALLOWABLE ROOF SPANS – 120 PSF LIVE LOAD – 20 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"	9'-6" ⁽²⁾	7'-11" ⁽²⁾	6'-4" ⁽²⁾	9'-4" ⁽³⁾	7'-9" ⁽³⁾	6'-2" ⁽³⁾	9'-1" ⁽³⁾	7'-6" ⁽³⁾	6'-0" ⁽³⁾
	11½"	9'-6" ⁽²⁾	7'-11" ⁽²⁾	6'-4" ⁽²⁾	9'-4" ⁽³⁾	7'-9" ⁽³⁾	6'-2" ⁽³⁾	9'-1" ⁽³⁾	7'-6" ⁽³⁾	6'-0" ⁽³⁾
	14"	9'-6" ⁽²⁾	7'-11" ⁽²⁾	6'-4" ⁽²⁾	9'-4" ⁽³⁾	7'-9" ⁽³⁾	6'-2" ⁽³⁾	9'-1" ⁽³⁾	7'-6" ⁽³⁾	6'-0" ⁽³⁾
PWI 30	9½"	9'-10" ⁽²⁾	8'-2" ⁽²⁾	6'-6" ⁽²⁾	9'-8" ⁽³⁾	8'-0" ⁽³⁾	6'-4" ⁽³⁾	9'-4" ⁽³⁾	7'-9" ⁽³⁾	6'-2" ⁽³⁾
	11½"	9'-10" ⁽²⁾	8'-2" ⁽²⁾	6'-6" ⁽²⁾	9'-8" ⁽³⁾	8'-0" ⁽³⁾	6'-4" ⁽³⁾	9'-4" ⁽³⁾	7'-9" ⁽³⁾	6'-2" ⁽³⁾
PWI 40	9½"	10'-7" ⁽²⁾	9'-5" ⁽³⁾	7'-6" ⁽³⁾	10'-6" ⁽³⁾	9'-2" ⁽³⁾	7'-4" ⁽³⁾	10'-4" ⁽³⁾	8'-11" ⁽³⁾	7'-1" ⁽³⁾
	11½"	11'-4" ⁽³⁾	9'-5" ⁽³⁾	7'-6" ⁽³⁾	11'-1" ⁽³⁾	9'-2" ⁽³⁾	7'-4" ⁽³⁾	10'-9" ⁽³⁾	8'-11" ⁽³⁾	7'-1" ⁽³⁾
	14"	11'-4" ⁽³⁾	9'-5" ⁽³⁾	7'-6" ⁽³⁾	11'-1" ⁽³⁾	9'-2" ⁽³⁾	7'-4" ⁽³⁾	10'-9" ⁽³⁾	8'-11" ⁽³⁾	7'-1" ⁽³⁾
	16"	11'-4" ⁽³⁾	9'-5" ⁽³⁾	7'-6" ⁽³⁾	11'-1" ⁽³⁾	9'-2" ⁽³⁾	7'-4" ⁽³⁾	10'-9" ⁽³⁾	8'-11" ⁽³⁾	7'-1" ⁽³⁾
PWI 45	9½"	10'-3" ⁽²⁾	8'-6" ⁽²⁾	6'-9" ⁽²⁾	10'-3" ⁽³⁾	8'-4" ⁽³⁾	6'-7" ⁽³⁾	9'-9" ⁽³⁾	8'-1" ⁽³⁾	6'-5" ⁽³⁾
	11½"	10'-3" ⁽²⁾	8'-6" ⁽²⁾	6'-9" ⁽²⁾	10'-0" ⁽³⁾	8'-4" ⁽³⁾	6'-7" ⁽³⁾	9'-9" ⁽³⁾	8'-1" ⁽³⁾	6'-5" ⁽³⁾
	14"	10'-3" ⁽²⁾	8'-6" ⁽²⁾	6'-9" ⁽²⁾	10'-0" ⁽³⁾	8'-4" ⁽³⁾	6'-7" ⁽³⁾	9'-9" ⁽³⁾	8'-1" ⁽³⁾	6'-5" ⁽³⁾
	16"	10'-3" ⁽²⁾	8'-6" ⁽²⁾	6'-9" ⁽²⁾	10'-0" ⁽³⁾	8'-4" ⁽³⁾	6'-7" ⁽³⁾	9'-9" ⁽³⁾	8'-1" ⁽³⁾	6'-5" ⁽³⁾
PWI 47	7½"	9'-0" ⁽²⁾	7'-6" ⁽²⁾	5'-11" ⁽²⁾	8'-10" ⁽³⁾	7'-4" ⁽³⁾	5'-10" ⁽³⁾	8'-7" ⁽³⁾	7'-1" ⁽³⁾	5'-8" ⁽³⁾
	9½"	9'-1" ⁽²⁾	7'-7" ⁽²⁾	6'-0" ⁽²⁾	8'-11" ⁽³⁾	7'-5" ⁽³⁾	5'-11" ⁽³⁾	8'-8" ⁽³⁾	7'-2" ⁽³⁾	5'-9" ⁽³⁾
	11½"	9'-3" ⁽²⁾	7'-8" ⁽²⁾	6'-1" ⁽²⁾	9'-0" ⁽³⁾	7'-6" ⁽³⁾	5'-11" ⁽³⁾	8'-9" ⁽³⁾	7'-3" ⁽³⁾	5'-9" ⁽³⁾
	14"	9'-5" ⁽²⁾	7'-9" ⁽²⁾	6'-2" ⁽²⁾	9'-2" ⁽³⁾	7'-7" ⁽³⁾	6'-1" ⁽³⁾	8'-11" ⁽³⁾	7'-5" ⁽³⁾	5'-11" ⁽³⁾
	16"	9'-6" ⁽²⁾	7'-11" ⁽²⁾	6'-3" ⁽²⁾	9'-3" ⁽³⁾	7'-9" ⁽³⁾	6'-2" ⁽³⁾	9'-0" ⁽³⁾	7'-6" ⁽³⁾	5'-11" ⁽³⁾
	18"	9'-7" ⁽²⁾	8'-0" ⁽²⁾	6'-4" ⁽²⁾	9'-5" ⁽³⁾	7'-10" ⁽³⁾	6'-2" ⁽³⁾	9'-1" ⁽³⁾	7'-7" ⁽³⁾	6'-0" ⁽³⁾
PWI 50	9½"	9'-8" ⁽²⁾	8'-1" ⁽²⁾	6'-5" ⁽²⁾	9'-6" ⁽³⁾	7'-11" ⁽³⁾	6'-3" ⁽³⁾	9'-3" ⁽³⁾	7'-8" ⁽³⁾	6'-1" ⁽³⁾
	11½"	10'-7" ⁽²⁾	8'-10" ⁽²⁾	7'-0" ⁽²⁾	10'-5" ⁽³⁾	8'-7" ⁽³⁾	6'-10" ⁽³⁾	10'-1" ⁽³⁾	8'-4" ⁽³⁾	6'-8" ⁽³⁾
	14"	10'-7" ⁽²⁾	8'-10" ⁽²⁾	7'-0" ⁽²⁾	10'-5" ⁽³⁾	8'-7" ⁽³⁾	6'-10" ⁽³⁾	10'-1" ⁽³⁾	8'-4" ⁽³⁾	6'-8" ⁽³⁾
	16"	10'-7" ⁽²⁾	8'-10" ⁽²⁾	7'-0" ⁽²⁾	10'-5" ⁽³⁾	8'-7" ⁽³⁾	6'-10" ⁽³⁾	10'-1" ⁽³⁾	8'-4" ⁽³⁾	6'-8" ⁽³⁾
PWI 60	9½"	11'-4" ⁽³⁾	9'-5" ⁽³⁾	7'-6" ⁽³⁾	11'-1" ⁽³⁾	9'-2" ⁽³⁾	7'-4" ⁽³⁾	10'-9" ⁽³⁾	8'-11" ⁽³⁾	7'-1" ⁽³⁾
	11½"	11'-4" ⁽³⁾	9'-5" ⁽³⁾	7'-6" ⁽³⁾	11'-1" ⁽³⁾	9'-2" ⁽³⁾	7'-4" ⁽³⁾	10'-9" ⁽³⁾	8'-11" ⁽³⁾	7'-1" ⁽³⁾
	14"	11'-4" ⁽³⁾	9'-5" ⁽³⁾	7'-6" ⁽³⁾	11'-1" ⁽³⁾	9'-2" ⁽³⁾	7'-4" ⁽³⁾	10'-9" ⁽³⁾	8'-11" ⁽³⁾	7'-1" ⁽³⁾
	16"	11'-4" ⁽³⁾	9'-5" ⁽³⁾	7'-6" ⁽³⁾	11'-1" ⁽³⁾	9'-2" ⁽³⁾	7'-4" ⁽³⁾	10'-9" ⁽³⁾	8'-11" ⁽³⁾	7'-1" ⁽³⁾
PWI 70	11½"	12'-2" ⁽³⁾	10'-1" ⁽³⁾	8'-0" ⁽³⁾	11'-11" ⁽³⁾	9'-11" ⁽³⁾	7'-10" ⁽³⁾	11'-7" ⁽³⁾	9'-7" ⁽³⁾	7'-8" ⁽³⁾
	14"	12'-2" ⁽³⁾	10'-1" ⁽³⁾	8'-0" ⁽³⁾	11'-11" ⁽³⁾	9'-11" ⁽³⁾	7'-10" ⁽³⁾	11'-7" ⁽³⁾	9'-7" ⁽³⁾	7'-8" ⁽³⁾
	16"	12'-2" ⁽³⁾	10'-1" ⁽³⁾	8'-0" ⁽³⁾	11'-11" ⁽³⁾	9'-11" ⁽³⁾	7'-10" ⁽³⁾	11'-7" ⁽³⁾	9'-7" ⁽³⁾	7'-8" ⁽³⁾
	18"	12'-2" ⁽³⁾	10'-1" ⁽³⁾	8'-0" ⁽³⁾	11'-11" ⁽³⁾	9'-11" ⁽³⁾	7'-10" ⁽³⁾	11'-7" ⁽³⁾	9'-7" ⁽³⁾	7'-8" ⁽³⁾
	20"	12'-2" ⁽³⁾	10'-1" ⁽³⁾	8'-0" ⁽³⁾	11'-11" ⁽³⁾	9'-11" ⁽³⁾	7'-10" ⁽³⁾	11'-7" ⁽³⁾	9'-7" ⁽³⁾	7'-8" ⁽³⁾
PWI 77	9½"	13'-6" ⁽³⁾	11'-2" ⁽³⁾	8'-11" ⁽³⁾	13'-2" ⁽³⁾	11'-0" ⁽³⁾	8'-9" ⁽³⁾	12'-10" ⁽³⁾	10'-8" ⁽³⁾	8'-6" ⁽³⁾
	11½"	13'-6" ⁽³⁾	11'-2" ⁽³⁾	8'-11" ⁽³⁾	13'-2" ⁽³⁾	11'-0" ⁽³⁾	8'-9" ⁽³⁾	12'-10" ⁽³⁾	10'-8" ⁽³⁾	8'-6" ⁽³⁾
	14"	13'-6" ⁽³⁾	11'-2" ⁽³⁾	8'-11" ⁽³⁾	13'-2" ⁽³⁾	11'-0" ⁽³⁾	8'-9" ⁽³⁾	12'-10" ⁽³⁾	10'-8" ⁽³⁾	8'-6" ⁽³⁾
	16"	13'-6" ⁽³⁾	11'-2" ⁽³⁾	8'-11" ⁽³⁾	13'-2" ⁽³⁾	11'-0" ⁽³⁾	8'-9" ⁽³⁾	12'-10" ⁽³⁾	10'-8" ⁽³⁾	8'-6" ⁽³⁾
	18"	13'-6" ⁽³⁾	11'-2" ⁽³⁾	8'-11" ⁽³⁾	13'-2" ⁽³⁾	11'-0" ⁽³⁾	8'-9" ⁽³⁾	12'-10" ⁽³⁾	10'-8" ⁽³⁾	8'-6" ⁽³⁾
	20"	13'-6" ⁽³⁾	11'-2" ⁽³⁾	8'-11" ⁽³⁾	13'-2" ⁽³⁾	11'-0" ⁽³⁾	8'-9" ⁽³⁾	12'-10" ⁽³⁾	10'-8" ⁽³⁾	8'-6" ⁽³⁾
	24"	20'-6" ⁽³⁾	17'-1" ⁽³⁾	13'-7" ⁽³⁾	20'-1" ⁽³⁾	16'-8" ⁽³⁾	13'-4" ⁽³⁾	19'-6" ⁽⁴⁾	16'-3" ⁽⁴⁾	12'-11" ⁽⁴⁾
PWI 90	9½"	14'-8" ⁽³⁾	12'-3" ⁽³⁾	9'-9" ⁽³⁾	14'-5" ⁽³⁾	12'-0" ⁽³⁾	9'-6" ⁽³⁾	14'-0" ⁽³⁾	11'-7" ⁽³⁾	9'-3" ⁽³⁾
	11½"	14'-8" ⁽³⁾	12'-3" ⁽³⁾	9'-9" ⁽³⁾	14'-5" ⁽³⁾	12'-0" ⁽³⁾	9'-6" ⁽³⁾	14'-0" ⁽³⁾	11'-7" ⁽³⁾	9'-3" ⁽³⁾
	14"	14'-8" ⁽³⁾	12'-3" ⁽³⁾	9'-9" ⁽³⁾	14'-5" ⁽³⁾	12'-0" ⁽³⁾	9'-6" ⁽³⁾	14'-0" ⁽³⁾	11'-7" ⁽³⁾	9'-3" ⁽³⁾
	16"	14'-8" ⁽³⁾	12'-3" ⁽³⁾	9'-9" ⁽³⁾	14'-5" ⁽³⁾	12'-0" ⁽³⁾	9'-6" ⁽³⁾	14'-0" ⁽³⁾	11'-7" ⁽³⁾	9'-3" ⁽³⁾
	18"	14'-8" ⁽³⁾	12'-3" ⁽³⁾	9'-9" ⁽³⁾	14'-5" ⁽³⁾	12'-0" ⁽³⁾	9'-6" ⁽³⁾	14'-0" ⁽³⁾	11'-7" ⁽³⁾	9'-3" ⁽³⁾
	20"	14'-8" ⁽³⁾	12'-3" ⁽³⁾	9'-9" ⁽³⁾	14'-5" ⁽³⁾	12'-0" ⁽³⁾	9'-6" ⁽³⁾	14'-0" ⁽³⁾	11'-7" ⁽³⁾	9'-3" ⁽³⁾
	24"	25'-4" ⁽³⁾	21'-1" ⁽³⁾	16'-10" ⁽³⁾	24'-10" ⁽⁴⁾	20'-8" ⁽⁴⁾	16'-6" ⁽⁴⁾	23'-3" ⁽⁴⁾	19'-4" ⁽⁴⁾	15'-5" ⁽⁴⁾

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 1¼" 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 (165 lbs. lateral capacity @ 100%), or joist hanger
 - Beveled plate and four nails (330 lbs. lateral capacity @ 100%), or (3)
 - Gussets at high support (1295 lbs. lateral capacity @ 100%), birdsmouth cut at low support, or (4)
 - Strap (1640 lbs. lateral capacity @ 100%) or pair of twist straps (950 lbs. lateral capacity each @ 100%) 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).