

LOW-SLOPE ROOF SPANS 115% SNOW

ALLOWABLE ROOF SPANS—25 PSF LIVE LOAD – 15 PSF DEAD LOAD

Joist Series	Joist Depth	Simple Span			Multiple Spans		
		Slopes to 1 in 12			Slopes to 1 in 12		
		16" o.c.	19.2" o.c.	24" o.c.	16" o.c.	19.2" o.c.	24" o.c.
PWI 20	9½"	19'-7" ⁽¹⁾	18'-4" ⁽¹⁾	16'-10" ⁽¹⁾	20'-7" ⁽¹⁾	18'-9" ⁽¹⁾	16'-9" ⁽¹⁾
	11⅞"	23'-6" ⁽¹⁾	21'-6" ⁽¹⁾	19'-2" ⁽¹⁾	23'-5" ⁽¹⁾	21'-5" ⁽¹⁾	19'-1" ⁽¹⁾
	14"	25'-8" ⁽¹⁾	23'-5" ⁽¹⁾	20'-11" ⁽¹⁾	25'-8" ⁽¹⁾	23'-4" ⁽¹⁾	20'-11" ⁽¹⁾
PWI 30	9½"	20'-3" ⁽¹⁾	19'-0" ⁽¹⁾	17'-7" ⁽¹⁾	22'-8" ⁽¹⁾	21'-3" ⁽¹⁾	19'-0" ⁽¹⁾
	11⅞"	24'-5" ⁽¹⁾	22'-11" ⁽¹⁾	21'-3" ⁽¹⁾	26'-7" ⁽¹⁾	24'-2" ⁽¹⁾	21'-7" ⁽¹⁾
	14"	21'-6" ⁽¹⁾	19'-8" ⁽¹⁾	17'-6" ⁽¹⁾	21'-5" ⁽¹⁾	19'-7" ⁽¹⁾	17'-6" ⁽¹⁾
PWI 40	11⅞"	24'-6" ⁽¹⁾	22'-4" ⁽¹⁾	20'-0" ⁽¹⁾	24'-5" ⁽¹⁾	22'-4" ⁽¹⁾	19'-11" ⁽¹⁾
	14"	26'-11" ⁽¹⁾	24'-7" ⁽¹⁾	21'-11" ⁽¹⁾	26'-10" ⁽¹⁾	24'-6" ⁽¹⁾	21'-11" ⁽¹⁾
	16"	29'-0" ⁽¹⁾	26'-6" ⁽¹⁾	23'-8" ⁽¹⁾	28'-11" ⁽¹⁾	26'-5" ⁽¹⁾	23'-7" ⁽²⁾
	18"	31'-8" ⁽¹⁾	28'-10" ⁽¹⁾	25'-10" ⁽¹⁾	31'-7" ⁽¹⁾	28'-10" ⁽²⁾	25'-7" ⁽²⁾
PWI 45	9½"	21'-6" ⁽¹⁾	20'-2" ⁽¹⁾	18'-8" ⁽¹⁾	23'-9" ⁽¹⁾	21'-8" ⁽¹⁾	19'-4" ⁽¹⁾
	11⅞"	25'-9" ⁽¹⁾	24'-2" ⁽¹⁾	22'-1" ⁽¹⁾	27'-0" ⁽¹⁾	24'-8" ⁽¹⁾	22'-0" ⁽¹⁾
	14"	29'-4" ⁽¹⁾	27'-0" ⁽¹⁾	24'-1" ⁽¹⁾	29'-6" ⁽¹⁾	26'-11" ⁽¹⁾	24'-0" ⁽²⁾
	16"	31'-8" ⁽¹⁾	28'-10" ⁽¹⁾	25'-10" ⁽¹⁾	31'-7" ⁽¹⁾	28'-10" ⁽²⁾	25'-7" ⁽²⁾
PWI 47	7⅞"	19'-0" ⁽¹⁾	17'-10" ⁽¹⁾	16'-6" ⁽¹⁾	21'-2" ⁽¹⁾	19'-5" ⁽¹⁾	17'-4" ⁽¹⁾
	9½"	22'-0" ⁽¹⁾	20'-8" ⁽¹⁾	19'-1" ⁽¹⁾	23'-9" ⁽¹⁾	21'-7" ⁽¹⁾	19'-4" ⁽¹⁾
	11⅞"	26'-2" ⁽¹⁾	24'-6" ⁽¹⁾	22'-0" ⁽¹⁾	26'-11" ⁽¹⁾	24'-6" ⁽¹⁾	21'-11" ⁽¹⁾
	14"	29'-5" ⁽¹⁾	26'-10" ⁽¹⁾	23'-11" ⁽¹⁾	29'-4" ⁽¹⁾	26'-9" ⁽¹⁾	22'-8" ⁽²⁾
	16"	31'-5" ⁽¹⁾	28'-8" ⁽¹⁾	25'-7" ⁽¹⁾	31'-4" ⁽¹⁾	28'-7" ⁽²⁾	23'-5" ⁽²⁾
	18"	33'-3" ⁽¹⁾	30'-4" ⁽¹⁾	26'-3" ⁽¹⁾	33'-2" ⁽¹⁾	30'-2" ⁽²⁾	24'-1" ⁽²⁾
	20"	35'-0" ⁽¹⁾	32'-0" ⁽¹⁾	26'-6" ⁽¹⁾	35'-0" ⁽²⁾	31'-0" ⁽²⁾	24'-9" ⁽²⁾
PWI 50	9½"	21'-3" ⁽¹⁾	19'-11" ⁽¹⁾	18'-6" ⁽¹⁾	23'-9" ⁽¹⁾	22'-3" ⁽¹⁾	20'-7" ⁽¹⁾
	11⅞"	25'-7" ⁽¹⁾	24'-0" ⁽¹⁾	22'-3" ⁽¹⁾	28'-7" ⁽¹⁾	26'-4" ⁽¹⁾	23'-2" ⁽²⁾
	14"	29'-3" ⁽¹⁾	27'-6" ⁽¹⁾	25'-5" ⁽¹⁾	31'-6" ⁽¹⁾	28'-9" ⁽²⁾	23'-2" ⁽²⁾
	16"	32'-7" ⁽¹⁾	30'-7" ⁽¹⁾	27'-7" ⁽¹⁾	33'-9" ⁽¹⁾	29'-0" ⁽²⁾	23'-2" ⁽²⁾
PWI 60	9½"	22'-10" ⁽¹⁾	21'-5" ⁽¹⁾	19'-10" ⁽¹⁾	25'-3" ⁽¹⁾	23'-0" ⁽¹⁾	20'-7" ⁽¹⁾
	11⅞"	27'-5" ⁽¹⁾	25'-9" ⁽¹⁾	23'-6" ⁽¹⁾	28'-10" ⁽¹⁾	26'-3" ⁽¹⁾	23'-6" ⁽²⁾
	14"	31'-3" ⁽¹⁾	28'-11" ⁽¹⁾	25'-10" ⁽¹⁾	31'-7" ⁽¹⁾	28'-10" ⁽²⁾	25'-9" ⁽²⁾
	16"	34'-2" ⁽¹⁾	31'-2" ⁽¹⁾	27'-10" ⁽¹⁾	34'-1" ⁽²⁾	31'-1" ⁽²⁾	26'-6" ⁽²⁾
PWI 70	11⅞"	28'-4" ⁽¹⁾	26'-7" ⁽¹⁾	24'-8" ⁽¹⁾	31'-8" ⁽¹⁾	29'-9" ⁽²⁾	27'-6" ⁽²⁾
	14"	32'-3" ⁽¹⁾	30'-3" ⁽¹⁾	28'-0" ⁽¹⁾	36'-0" ⁽²⁾	33'-8" ⁽²⁾	28'-0" ⁽²⁾
	16"	35'-9" ⁽¹⁾	33'-6" ⁽¹⁾	31'-0" ⁽¹⁾	39'-7" ⁽²⁾	35'-1" ⁽²⁾	28'-0" ⁽²⁾
	18"	39'-1" ⁽¹⁾	36'-8" ⁽¹⁾	33'-1" ⁽¹⁾	42'-0" ⁽²⁾	35'-1" ⁽²⁾	28'-0" ⁽²⁾
	20"	42'-4" ⁽¹⁾	39'-9" ⁽¹⁾	33'-1" ⁽¹⁾	42'-1" ⁽²⁾	35'-1" ⁽²⁾	28'-0" ⁽²⁾
PWI 77	9½"	23'-10" ⁽¹⁾	22'-5" ⁽¹⁾	20'-9" ⁽¹⁾	26'-8" ⁽¹⁾	25'-0" ⁽¹⁾	23'-2" ⁽²⁾
	11⅞"	28'-6" ⁽¹⁾	26'-9" ⁽¹⁾	24'-9" ⁽¹⁾	31'-10" ⁽¹⁾	29'-11" ⁽²⁾	27'-5" ⁽²⁾
	14"	32'-5" ⁽¹⁾	30'-5" ⁽¹⁾	28'-2" ⁽¹⁾	36'-3" ⁽²⁾	33'-7" ⁽²⁾	30'-0" ⁽²⁾
	16"	35'-11" ⁽¹⁾	33'-9" ⁽¹⁾	31'-3" ⁽¹⁾	39'-5" ⁽²⁾	35'-11" ⁽²⁾	30'-8" ⁽²⁾
	18"	39'-4" ⁽¹⁾	36'-11" ⁽¹⁾	34'-2" ⁽¹⁾	41'-10" ⁽²⁾	38'-2" ⁽²⁾	30'-8" ⁽²⁾
	20"	42'-7" ⁽¹⁾	40'-0" ⁽¹⁾	36'-0" ⁽¹⁾	44'-1" ⁽²⁾	38'-5" ⁽²⁾	30'-8" ⁽²⁾
	22"	45'-10" ⁽¹⁾	42'-3" ⁽¹⁾	37'-9" ⁽¹⁾	46'-2" ⁽²⁾	42'-2" ⁽²⁾	37'-8" ⁽²⁾
PWI 90	14"	36'-11" ⁽¹⁾	34'-8" ⁽¹⁾	32'-1" ⁽¹⁾	41'-4" ⁽²⁾	38'-9" ⁽²⁾	35'-10" ⁽²⁾
	16"	40'-11" ⁽¹⁾	38'-5" ⁽¹⁾	35'-7" ⁽¹⁾	45'-9" ⁽²⁾	42'-11" ⁽²⁾	38'-3" ⁽²⁾
	18"	44'-9" ⁽¹⁾	42'-0" ⁽¹⁾	38'-11" ⁽¹⁾	50'-0" ⁽²⁾	47'-0" ⁽²⁾	38'-3" ⁽²⁾
	20"	48'-5" ⁽¹⁾	45'-6" ⁽¹⁾	40'-0" ⁽¹⁾	54'-2" ⁽²⁾	47'-11" ⁽²⁾	38'-3" ⁽²⁾
	22"	52'-0" ⁽¹⁾	48'-10" ⁽¹⁾	45'-3" ⁽¹⁾	57'-4" ⁽²⁾	52'-4" ⁽²⁾	45'-5" ⁽²⁾
	24"	55'-6" ⁽¹⁾	52'-1" ⁽¹⁾	48'-3" ⁽¹⁾	59'-10" ⁽²⁾	54'-7" ⁽²⁾	45'-5" ⁽²⁾

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 hangers at end supports
 - Beveled plate and four nails (380 lbs. lateral capacity @ 115%) at intermediate supports, two nails or joist hangers at end supports
- 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).
- Use sizing software or consult a professional engineer to analyze conditions outside the scope of this table (e.g. different bearing conditions, concentrated loads) or for multiple span joists if the length of any span is less than half the length of an adjacent span.

LOW-SLOPE ROOF SPANS 115% SNOW

ALLOWABLE ROOF SPANS—30 PSF LIVE LOAD – 15 PSF DEAD LOAD

Joist Series	Joist Depth	Simple Span			Multiple Spans		
		Slopes to 1 in 12			Slopes to 1 in 12		
		16" o.c.	19.2" o.c.	24" o.c.	16" o.c.	19.2" o.c.	24" o.c.
PWI 20	9½"	18'-9" ⁽¹⁾	17'-8" ⁽¹⁾	15'-10" ⁽¹⁾	19'-5" ⁽¹⁾	17'-8" ⁽¹⁾	15'-9" ⁽¹⁾
	11⅞"	22'-2" ⁽¹⁾	20'-3" ⁽¹⁾	18'-1" ⁽¹⁾	22'-1" ⁽¹⁾	20'-2" ⁽¹⁾	18'-0" ⁽¹⁾
	14"	24'-3" ⁽¹⁾	22'-1" ⁽¹⁾	19'-9" ⁽¹⁾	24'-2" ⁽¹⁾	22'-0" ⁽¹⁾	19'-8" ⁽¹⁾
PWI 30	9½"	19'-5" ⁽¹⁾	18'-3" ⁽¹⁾	16'-11" ⁽¹⁾	21'-9" ⁽¹⁾	20'-0" ⁽¹⁾	17'-11" ⁽¹⁾
	11⅞"	23'-5" ⁽¹⁾	22'-0" ⁽¹⁾	20'-4" ⁽¹⁾	25'-0" ⁽¹⁾	22'-10" ⁽¹⁾	19'-2" ⁽¹⁾
PWI 40	9½"	20'-3" ⁽¹⁾	18'-6" ⁽¹⁾	16'-6" ⁽¹⁾	20'-2" ⁽¹⁾	18'-5" ⁽¹⁾	16'-5" ⁽¹⁾
	11⅞"	23'-1" ⁽¹⁾	21'-1" ⁽¹⁾	18'-10" ⁽¹⁾	23'-0" ⁽¹⁾	21'-0" ⁽¹⁾	18'-9" ⁽¹⁾
	14"	25'-5" ⁽¹⁾	23'-2" ⁽¹⁾	20'-8" ⁽¹⁾	25'-4" ⁽¹⁾	23'-1" ⁽¹⁾	20'-7" ⁽²⁾
PWI 45	9½"	20'-8" ⁽¹⁾	19'-5" ⁽¹⁾	17'-11" ⁽¹⁾	22'-4" ⁽¹⁾	20'-5" ⁽¹⁾	18'-3" ⁽¹⁾
	11⅞"	24'-9" ⁽¹⁾	23'-3" ⁽¹⁾	20'-10" ⁽¹⁾	25'-5" ⁽¹⁾	23'-2" ⁽¹⁾	20'-9" ⁽²⁾
	14"	27'-10" ⁽¹⁾	25'-5" ⁽¹⁾	22'-9" ⁽¹⁾	27'-10" ⁽¹⁾	25'-4" ⁽²⁾	22'-8" ⁽²⁾
PWI 47	7⅞"	18'-2" ⁽¹⁾	17'-1" ⁽¹⁾	15'-10" ⁽¹⁾	20'-0" ⁽¹⁾	18'-3" ⁽¹⁾	16'-4" ⁽¹⁾
	9½"	21'-1" ⁽¹⁾	19'-10" ⁽¹⁾	18'-3" ⁽¹⁾	22'-4" ⁽¹⁾	20'-4" ⁽¹⁾	18'-2" ⁽¹⁾
	11⅞"	25'-1" ⁽¹⁾	23'-2" ⁽¹⁾	20'-9" ⁽¹⁾	25'-4" ⁽¹⁾	23'-1" ⁽¹⁾	19'-5" ⁽¹⁾
	14"	27'-8" ⁽¹⁾	25'-3" ⁽¹⁾	22'-7" ⁽¹⁾	27'-7" ⁽¹⁾	25'-2" ⁽²⁾	20'-1" ⁽²⁾
	16"	29'-7" ⁽¹⁾	27'-0" ⁽¹⁾	23'-0" ⁽¹⁾	29'-6" ⁽¹⁾	26'-0" ⁽²⁾	20'-9" ⁽²⁾
	18"	31'-4" ⁽¹⁾	28'-7" ⁽¹⁾	23'-4" ⁽¹⁾	31'-3" ⁽²⁾	26'-10" ⁽²⁾	21'-5" ⁽²⁾
PWI 50	9½"	20'-5" ⁽¹⁾	19'-2" ⁽¹⁾	17'-9" ⁽¹⁾	22'-9" ⁽¹⁾	21'-4" ⁽¹⁾	19'-5" ⁽¹⁾
	11⅞"	24'-7" ⁽¹⁾	23'-1" ⁽¹⁾	21'-4" ⁽¹⁾	27'-2" ⁽¹⁾	24'-9" ⁽¹⁾	20'-7" ⁽²⁾
	14"	28'-1" ⁽¹⁾	26'-4" ⁽¹⁾	24'-3" ⁽¹⁾	29'-8" ⁽¹⁾	25'-9" ⁽²⁾	20'-7" ⁽²⁾
PWI 60	9½"	21'-11" ⁽¹⁾	20'-7" ⁽¹⁾	19'-0" ⁽¹⁾	23'-10" ⁽¹⁾	21'-8" ⁽¹⁾	19'-5" ⁽¹⁾
	11⅞"	26'-4" ⁽¹⁾	24'-8" ⁽¹⁾	22'-2" ⁽¹⁾	27'-2" ⁽¹⁾	24'-9" ⁽¹⁾	22'-1" ⁽²⁾
	14"	29'-10" ⁽¹⁾	27'-3" ⁽¹⁾	24'-4" ⁽¹⁾	29'-9" ⁽¹⁾	27'-2" ⁽²⁾	23'-6" ⁽²⁾
PWI 70	11⅞"	27'-3" ⁽¹⁾	25'-7" ⁽¹⁾	23'-8" ⁽¹⁾	30'-5" ⁽²⁾	28'-6" ⁽²⁾	24'-10" ⁽²⁾
	14"	30'-11" ⁽¹⁾	29'-1" ⁽¹⁾	26'-11" ⁽¹⁾	34'-7" ⁽²⁾	31'-2" ⁽²⁾	24'-10" ⁽²⁾
	16"	34'-4" ⁽¹⁾	32'-2" ⁽¹⁾	29'-5" ⁽¹⁾	37'-3" ⁽²⁾	31'-2" ⁽²⁾	24'-10" ⁽²⁾
	18"	37'-6" ⁽¹⁾	35'-3" ⁽¹⁾	29'-5" ⁽¹⁾	37'-5" ⁽²⁾	31'-2" ⁽²⁾	24'-10" ⁽²⁾
	20"	40'-8" ⁽¹⁾	36'-10" ⁽¹⁾	29'-5" ⁽¹⁾	37'-5" ⁽²⁾	31'-2" ⁽²⁾	24'-10" ⁽²⁾
PWI 77	9½"	22'-11" ⁽¹⁾	21'-6" ⁽¹⁾	19'-11" ⁽¹⁾	25'-7" ⁽¹⁾	24'-0" ⁽¹⁾	22'-2" ⁽²⁾
	11⅞"	27'-4" ⁽¹⁾	25'-8" ⁽¹⁾	23'-9" ⁽¹⁾	30'-7" ⁽²⁾	28'-8" ⁽²⁾	25'-10" ⁽²⁾
	14"	31'-1" ⁽¹⁾	29'-3" ⁽¹⁾	27'-1" ⁽¹⁾	34'-8" ⁽²⁾	31'-7" ⁽²⁾	27'-3" ⁽²⁾
	16"	34'-6" ⁽¹⁾	32'-5" ⁽¹⁾	30'-0" ⁽¹⁾	37'-1" ⁽²⁾	33'-10" ⁽²⁾	27'-3" ⁽²⁾
	18"	37'-9" ⁽¹⁾	35'-6" ⁽¹⁾	32'-2" ⁽¹⁾	39'-5" ⁽²⁾	34'-2" ⁽²⁾	27'-3" ⁽²⁾
	20"	40'-11" ⁽¹⁾	37'-11" ⁽¹⁾	32'-7" ⁽¹⁾	41'-0" ⁽²⁾	34'-2" ⁽²⁾	27'-3" ⁽²⁾
PWI 90	22"	43'-7" ⁽¹⁾	39'-9" ⁽¹⁾	35'-7" ⁽¹⁾	43'-6" ⁽²⁾	39'-9" ⁽²⁾	35'-6" ⁽²⁾
	24"	45'-6" ⁽¹⁾	41'-6" ⁽¹⁾	37'-1" ⁽¹⁾	45'-5" ⁽²⁾	41'-5" ⁽²⁾	37'-1" ⁽²⁾
	9½"	26'-2" ⁽¹⁾	24'-7" ⁽¹⁾	22'-9" ⁽¹⁾	29'-3" ⁽¹⁾	27'-5" ⁽²⁾	25'-4" ⁽²⁾
	11⅞"	31'-3" ⁽¹⁾	29'-4" ⁽¹⁾	27'-2" ⁽¹⁾	34'-11" ⁽²⁾	32'-9" ⁽²⁾	30'-3" ⁽²⁾
	14"	35'-6" ⁽¹⁾	33'-4" ⁽¹⁾	30'-10" ⁽¹⁾	39'-8" ⁽²⁾	37'-3" ⁽²⁾	34'-0" ⁽²⁾
	16"	39'-3" ⁽¹⁾	36'-11" ⁽¹⁾	34'-2" ⁽¹⁾	43'-11" ⁽²⁾	41'-3" ⁽²⁾	34'-0" ⁽²⁾
	18"	43'-0" ⁽¹⁾	40'-4" ⁽¹⁾	35'-7" ⁽¹⁾	48'-0" ⁽²⁾	42'-7" ⁽²⁾	34'-0" ⁽²⁾
20"	46'-6" ⁽¹⁾	43'-8" ⁽¹⁾	35'-7" ⁽¹⁾	51'-1" ⁽²⁾	42'-7" ⁽²⁾	34'-0" ⁽²⁾	
22"	49'-11" ⁽¹⁾	46'-11" ⁽¹⁾	43'-5" ⁽¹⁾	54'-0" ⁽²⁾	49'-4" ⁽²⁾	40'-4" ⁽²⁾	
24"	53'-3" ⁽¹⁾	50'-1" ⁽¹⁾	46'-1" ⁽¹⁾	56'-5" ⁽²⁾	50'-6" ⁽²⁾	40'-4" ⁽²⁾	

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 hangers at end supports
 - Beveled plate and four nails (380 lbs. lateral capacity @ 115%) at intermediate supports, two nails or joist hangers at end supports
- 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).
- Use sizing software or consult a professional engineer to analyze conditions outside the scope of this table (e.g. different bearing conditions, concentrated loads) or for multiple span joists if the length of any span is less than half the length of an adjacent span.

LOW-SLOPE ROOF SPANS 115% SNOW

ALLOWABLE ROOF SPANS—40 PSF LIVE LOAD – 15 PSF DEAD LOAD

Joist Series	Joist Depth	Simple Span			Multiple Spans		
		Slopes to 1 in 12			Slopes to 1 in 12		
		16" o.c.	19.2" o.c.	24" o.c.	16" o.c.	19.2" o.c.	24" o.c.
PWI 20	9½"	17'-6" (1)	16'-0" (1)	14'-4" (1)	17'-6" (1)	16'-0" (1)	14'-3" (1)
	11⅞"	20'-1" (1)	18'-3" (1)	16'-4" (1)	20'-0" (1)	18'-2" (1)	16'-3" (1)
	14"	21'-11" (1)	20'-0" (1)	17'-10" (1)	21'-10" (1)	19'-11" (1)	16'-4" (2)
PWI 30	9½"	18'-2" (1)	17'-0" (1)	15'-9" (1)	19'-10" (1)	18'-1" (1)	15'-8" (1)
	11⅞"	21'-10" (1)	20'-6" (1)	18'-6" (1)	22'-7" (1)	19'-8" (1)	15'-8" (1)
PWI 40	9½"	18'-4" (1)	16'-9" (1)	14'-11" (1)	18'-3" (1)	16'-8" (1)	14'-10" (1)
	11⅞"	20'-11" (1)	19'-1" (1)	17'-0" (1)	20'-10" (1)	19'-0" (1)	16'-11" (2)
	14"	22'-11" (1)	20'-11" (1)	18'-8" (1)	22'-10" (1)	20'-10" (2)	18'-8" (2)
PWI 45	16"	24'-9" (1)	22'-7" (1)	20'-2" (1)	24'-8" (1)	22'-6" (2)	19'-3" (2)
	9½"	19'-3" (1)	18'-1" (1)	16'-6" (1)	20'-3" (1)	18'-5" (1)	16'-5" (2)
	11⅞"	23'-1" (1)	21'-1" (1)	18'-10" (1)	23'-0" (1)	21'-0" (2)	18'-6" (2)
PWI 47	14"	25'-2" (1)	23'-0" (1)	20'-3" (1)	25'-1" (2)	22'-11" (2)	18'-6" (2)
	16"	27'-0" (1)	24'-7" (1)	20'-3" (1)	26'-11" (2)	23'-3" (2)	18'-6" (2)
	7⅞"	17'-0" (1)	15'-11" (1)	14'-9" (1)	18'-1" (1)	16'-6" (1)	14'-9" (1)
PWI 50	9½"	19'-8" (1)	18'-6" (1)	16'-6" (1)	20'-2" (1)	18'-5" (1)	15'-3" (1)
	11⅞"	23'-0" (1)	20'-11" (1)	18'-4" (1)	22'-11" (1)	19'-11" (1)	15'-10" (1)
	14"	25'-0" (1)	22'-10" (1)	18'-7" (1)	24'-9" (2)	20'-7" (2)	16'-5" (2)
	16"	26'-9" (1)	23'-7" (1)	18'-10" (1)	25'-7" (2)	21'-3" (2)	16'-11" (2)
	18"	28'-4" (1)	23'-10" (1)	19'-0" (1)	26'-4" (2)	21'-11" (2)	17'-5" (2)
	20"	28'-11" (1)	24'-1" (1)	19'-3" (1)	27'-1" (2)	22'-6" (2)	17'-11" (2)
PWI 57	9½"	19'-0" (1)	17'-10" (1)	16'-6" (1)	21'-3" (1)	19'-8" (1)	16'-9" (2)
	11⅞"	22'-11" (1)	21'-6" (1)	19'-11" (1)	24'-7" (1)	21'-1" (2)	16'-9" (2)
	14"	26'-2" (1)	24'-7" (1)	21'-0" (1)	25'-4" (2)	21'-1" (2)	16'-9" (2)
	16"	28'-10" (1)	26'-4" (1)	21'-0" (1)	25'-4" (2)	21'-1" (2)	16'-9" (2)
PWI 60	9½"	20'-5" (1)	19'-2" (1)	17'-7" (1)	21'-6" (1)	19'-7" (1)	17'-6" (2)
	11⅞"	24'-6" (1)	22'-5" (1)	20'-1" (1)	24'-6" (1)	22'-4" (2)	19'-3" (2)
	14"	27'-0" (1)	24'-8" (1)	22'-0" (1)	26'-11" (2)	24'-1" (2)	19'-3" (2)
	16"	29'-1" (1)	26'-6" (1)	22'-4" (1)	28'-11" (2)	24'-1" (2)	19'-3" (2)
	11⅞"	25'-5" (1)	23'-10" (1)	22'-0" (1)	28'-4" (2)	25'-5" (2)	20'-4" (2)
PWI 70	14"	28'-10" (1)	27'-1" (1)	24'-1" (1)	30'-7" (2)	25'-5" (2)	20'-4" (2)
	16"	32'-0" (1)	30'-0" (1)	24'-1" (1)	30'-7" (2)	25'-5" (2)	20'-4" (2)
	18"	35'-0" (1)	30'-1" (1)	24'-1" (1)	30'-7" (2)	25'-5" (2)	20'-4" (2)
	20"	36'-2" (1)	30'-1" (1)	24'-1" (1)	30'-7" (2)	25'-5" (2)	20'-4" (2)
	9½"	21'-4" (1)	20'-1" (1)	18'-7" (1)	23'-10" (1)	22'-4" (2)	20'-6" (2)
PWI 77	11⅞"	25'-6" (1)	23'-11" (1)	22'-2" (1)	28'-6" (2)	26'-2" (2)	22'-3" (2)
	14"	29'-0" (1)	27'-3" (1)	25'-3" (1)	31'-4" (2)	27'-11" (2)	22'-3" (2)
	16"	32'-2" (1)	30'-3" (1)	26'-8" (1)	33'-6" (2)	27'-11" (2)	22'-3" (2)
	18"	35'-3" (1)	32'-7" (1)	26'-8" (1)	33'-6" (2)	27'-11" (2)	22'-3" (2)
	20"	37'-7" (1)	33'-4" (1)	26'-8" (1)	33'-6" (2)	27'-11" (2)	22'-3" (2)
	22"	39'-5" (1)	36'-0" (1)	32'-2" (1)	39'-4" (2)	35'-11" (2)	31'-0" (2)
	24"	41'-2" (1)	37'-7" (1)	33'-7" (1)	41'-1" (2)	37'-6" (2)	31'-0" (2)
PWI 90	9½"	24'-5" (1)	22'-11" (1)	21'-2" (1)	27'-3" (2)	25'-7" (2)	23'-7" (2)
	11⅞"	29'-2" (1)	27'-4" (1)	25'-4" (1)	32'-7" (2)	30'-6" (2)	27'-9" (2)
	14"	33'-1" (1)	31'-1" (1)	28'-9" (1)	37'-0" (2)	34'-8" (2)	27'-9" (2)
	16"	36'-8" (1)	34'-5" (1)	29'-1" (1)	41'-0" (2)	34'-9" (2)	27'-9" (2)
	18"	40'-1" (1)	36'-4" (1)	29'-1" (1)	41'-9" (2)	34'-9" (2)	27'-9" (2)
	20"	43'-5" (1)	36'-4" (1)	29'-1" (1)	41'-9" (2)	34'-9" (2)	27'-9" (2)
	22"	46'-7" (1)	43'-9" (1)	39'-11" (1)	48'-10" (2)	41'-4" (2)	33'-0" (2)
24"	49'-9" (1)	46'-7" (1)	41'-8" (2)	49'-7" (2)	41'-4" (2)	33'-0" (2)	

See notes on page 60

LOW-SLOPE ROOF SPANS 115% SNOW

ALLOWABLE ROOF SPANS—50 PSF LIVE LOAD – 15 PSF DEAD LOAD

Joist Series	Joist Depth	Simple Span			Multiple Spans		
		Slopes to 1 in 12			Slopes to 1 in 12		
		16" o.c.	19.2" o.c.	24" o.c.	16" o.c.	19.2" o.c.	24" o.c.
PWI 20	9½"	16'-2" ⁽¹⁾	14'-9" ⁽¹⁾	13'-2" ⁽¹⁾	16'-1" ⁽¹⁾	14'-8" ⁽¹⁾	13'-1" ⁽¹⁾
	11⅞"	18'-5" ⁽¹⁾	16'-10" ⁽¹⁾	15'-0" ⁽¹⁾	18'-4" ⁽¹⁾	16'-9" ⁽¹⁾	13'-10" ⁽²⁾
	14"	20'-2" ⁽¹⁾	18'-4" ⁽¹⁾	16'-0" ⁽¹⁾	20'-1" ⁽¹⁾	17'-4" ⁽²⁾	13'-10" ⁽²⁾
PWI 30	9½"	17'-0" ⁽¹⁾	15'-11" ⁽¹⁾	14'-9" ⁽¹⁾	18'-3" ⁽¹⁾	16'-7" ⁽¹⁾	13'-3" ⁽¹⁾
	11⅞"	20'-6" ⁽¹⁾	19'-0" ⁽¹⁾	16'-6" ⁽¹⁾	19'-11" ⁽¹⁾	16'-7" ⁽¹⁾	13'-3" ⁽¹⁾
	14"	22'-0" ⁽¹⁾	19'-0" ⁽¹⁾	16'-6" ⁽¹⁾	21'-0" ⁽²⁾	19'-2" ⁽²⁾	16'-3" ⁽²⁾
PWI 40	9½"	16'-10" ⁽¹⁾	15'-4" ⁽¹⁾	13'-9" ⁽¹⁾	16'-9" ⁽¹⁾	15'-3" ⁽¹⁾	13'-8" ⁽¹⁾
	11⅞"	19'-2" ⁽¹⁾	17'-6" ⁽¹⁾	15'-8" ⁽¹⁾	19'-2" ⁽¹⁾	17'-5" ⁽²⁾	15'-7" ⁽²⁾
	14"	21'-1" ⁽¹⁾	19'-3" ⁽¹⁾	17'-2" ⁽¹⁾	21'-0" ⁽²⁾	19'-2" ⁽²⁾	16'-3" ⁽²⁾
PWI 45	9½"	18'-0" ⁽¹⁾	16'-11" ⁽¹⁾	15'-2" ⁽¹⁾	18'-7" ⁽¹⁾	16'-11" ⁽¹⁾	15'-1" ⁽²⁾
	11⅞"	21'-2" ⁽¹⁾	19'-4" ⁽¹⁾	17'-2" ⁽¹⁾	21'-2" ⁽²⁾	19'-3" ⁽²⁾	15'-8" ⁽²⁾
	14"	23'-2" ⁽¹⁾	21'-2" ⁽¹⁾	19'-2" ⁽¹⁾	23'-1" ⁽²⁾	19'-8" ⁽²⁾	15'-8" ⁽²⁾
PWI 47	9½"	17'-10" ⁽¹⁾	16'-8" ⁽¹⁾	15'-5" ⁽¹⁾	19'-10" ⁽¹⁾	17'-9" ⁽²⁾	14'-2" ⁽²⁾
	11⅞"	21'-5" ⁽¹⁾	20'-1" ⁽¹⁾	17'-9" ⁽¹⁾	21'-5" ⁽²⁾	17'-9" ⁽²⁾	14'-2" ⁽²⁾
	14"	24'-6" ⁽¹⁾	22'-3" ⁽¹⁾	17'-9" ⁽¹⁾	21'-5" ⁽²⁾	17'-9" ⁽²⁾	14'-2" ⁽²⁾
PWI 50	9½"	17'-10" ⁽¹⁾	16'-8" ⁽¹⁾	15'-5" ⁽¹⁾	19'-10" ⁽¹⁾	17'-9" ⁽²⁾	14'-2" ⁽²⁾
	11⅞"	21'-5" ⁽¹⁾	20'-1" ⁽¹⁾	17'-9" ⁽¹⁾	21'-5" ⁽²⁾	17'-9" ⁽²⁾	14'-2" ⁽²⁾
	14"	24'-6" ⁽¹⁾	22'-3" ⁽¹⁾	17'-9" ⁽¹⁾	21'-5" ⁽²⁾	17'-9" ⁽²⁾	14'-2" ⁽²⁾
PWI 60	9½"	19'-1" ⁽¹⁾	17'-11" ⁽¹⁾	16'-2" ⁽¹⁾	19'-9" ⁽¹⁾	18'-0" ⁽²⁾	15'-7" ⁽²⁾
	11⅞"	22'-7" ⁽¹⁾	20'-7" ⁽¹⁾	18'-5" ⁽¹⁾	22'-6" ⁽²⁾	20'-4" ⁽²⁾	16'-3" ⁽²⁾
	14"	24'-10" ⁽¹⁾	22'-8" ⁽¹⁾	18'-11" ⁽¹⁾	24'-5" ⁽²⁾	20'-4" ⁽²⁾	16'-3" ⁽²⁾
PWI 70	9½"	20'-0" ⁽¹⁾	18'-9" ⁽¹⁾	17'-4" ⁽¹⁾	22'-4" ⁽²⁾	20'-11" ⁽²⁾	18'-10" ⁽²⁾
	11⅞"	23'-11" ⁽¹⁾	22'-5" ⁽¹⁾	20'-9" ⁽¹⁾	26'-4" ⁽²⁾	23'-7" ⁽²⁾	18'-10" ⁽²⁾
	14"	27'-2" ⁽¹⁾	25'-6" ⁽¹⁾	22'-6" ⁽¹⁾	28'-4" ⁽²⁾	23'-7" ⁽²⁾	18'-10" ⁽²⁾
PWI 77	9½"	20'-0" ⁽¹⁾	18'-9" ⁽¹⁾	17'-4" ⁽¹⁾	22'-4" ⁽²⁾	20'-11" ⁽²⁾	18'-10" ⁽²⁾
	11⅞"	23'-11" ⁽¹⁾	22'-5" ⁽¹⁾	20'-9" ⁽¹⁾	26'-4" ⁽²⁾	23'-7" ⁽²⁾	18'-10" ⁽²⁾
	14"	27'-2" ⁽¹⁾	25'-6" ⁽¹⁾	22'-6" ⁽¹⁾	28'-4" ⁽²⁾	23'-7" ⁽²⁾	18'-10" ⁽²⁾
PWI 90	9½"	22'-10" ⁽¹⁾	21'-5" ⁽¹⁾	19'-10" ⁽¹⁾	25'-6" ⁽²⁾	23'-11" ⁽²⁾	20'-0" ⁽²⁾
	11⅞"	27'-3" ⁽¹⁾	25'-7" ⁽¹⁾	23'-8" ⁽¹⁾	30'-5" ⁽²⁾	28'-6" ⁽²⁾	23'-6" ⁽²⁾
	14"	31'-0" ⁽¹⁾	29'-1" ⁽¹⁾	24'-7" ⁽¹⁾	34'-7" ⁽²⁾	29'-5" ⁽²⁾	23'-6" ⁽²⁾
PWI 90	16"	34'-4" ⁽¹⁾	30'-9" ⁽¹⁾	24'-7" ⁽¹⁾	35'-4" ⁽²⁾	29'-5" ⁽²⁾	23'-6" ⁽²⁾
	18"	36'-11" ⁽¹⁾	30'-9" ⁽¹⁾	24'-7" ⁽¹⁾	35'-4" ⁽²⁾	29'-5" ⁽²⁾	23'-6" ⁽²⁾
	20"	36'-11" ⁽¹⁾	30'-9" ⁽¹⁾	24'-7" ⁽¹⁾	35'-4" ⁽²⁾	29'-5" ⁽²⁾	23'-6" ⁽²⁾
PWI 90	22"	43'-8" ⁽¹⁾	40'-11" ⁽¹⁾	36'-8" ⁽²⁾	41'-11" ⁽²⁾	34'-11" ⁽²⁾	27'-11" ⁽²⁾
	24"	46'-7" ⁽¹⁾	42'-10" ⁽¹⁾	38'-4" ⁽²⁾	41'-11" ⁽²⁾	34'-11" ⁽²⁾	27'-11" ⁽²⁾

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.
 - (1) Beveled plate and two nails (190 lbs. lateral capacity @ 115%), or joist hangers at end supports
 - (2) Beveled plate and four nails (380 lbs. lateral capacity @ 115%) at intermediate supports, two nails or joist hangers at end supports
- 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).
- Use sizing software or consult a professional engineer to analyze conditions outside the scope of this table (e.g. different bearing conditions, concentrated loads) or for multiple span joists if the length of any span is less than half the length of an adjacent span.