

LOW-SLOPE ROOF SPANS 115% SNOW

ALLOWABLE SPANS FOR PRI OR SSI JOISTS – 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.
PRI 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)
SSI 36X	14"	25'- 8" (1)	23'- 5" (1)	20'- 11" (1)	25'- 8" (1)	23'- 4" (1)	19'- 3" (1)
PRI 40	9½"	21'- 6" (1)	19'- 8" (1)	17'- 6" (1)	21'- 5" (1)	19'- 7" (1)	17'- 6" (1)
	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)
PRI 60	16"	29'- 0" (1)	26'- 6" (1)	23'- 8" (1)	28'- 11" (1)	26'- 5" (1)	23'- 7" (2)
	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)
PRI 80	16"	34'- 2" (1)	31'- 2" (1)	27'- 10" (1)	34'- 1" (2)	31'- 1" (2)	27'- 9" (2)
	11⅞"	30'- 6" (1)	28'- 7" (1)	26'- 5" (1)	34'- 0" (2)	31'- 4" (2)	28'- 0" (2)
	14"	34'- 8" (1)	32'- 6" (1)	30'- 1" (1)	37'- 8" (2)	34'- 5" (2)	30'- 9" (2)
	16"	38'- 5" (1)	36'- 1" (1)	33'- 2" (1)	40'- 7" (2)	37'- 0" (2)	33'- 1" (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.

ALLOWABLE SPANS FOR PRI OR SSI JOISTS – 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.
PRI 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)	17'- 1" (1)
SSI 36X	14"	24'- 3" (1)	22'- 1" (1)	19'- 9" (1)	24'- 2" (1)	21'- 5" (1)	17'- 1" (1)
PRI 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)
	16"	27'- 4" (1)	24'- 11" (1)	22'- 4" (1)	27'- 3" (1)	24'- 10" (1)	22'- 3" (2)
PRI 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)	24'- 3" (2)
PRI 80	16"	32'- 2" (1)	29'- 4" (1)	26'- 3" (1)	32'- 1" (2)	29'- 3" (2)	25'- 3" (2)
	11⅞"	29'- 3" (1)	27'- 5" (1)	25'- 5" (1)	32'- 4" (2)	29'- 6" (2)	26'- 4" (2)
	14"	33'- 3" (1)	31'- 3" (1)	28'- 11" (1)	35'- 6" (2)	32'- 5" (2)	28'- 11" (2)
	16"	36'- 11" (1)	34'- 8" (1)	31'- 3" (1)	38'- 3" (2)	34'- 11" (2)	30'- 7" (2)

See notes above

LOW-SLOPE ROOF SPANS

115% SNOW

ALLOWABLE SPANS FOR PRI OR SSI JOISTS – 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.
PRI 20	9½"	17'- 6" ⁽¹⁾	16'- 0" ⁽¹⁾	14'- 4" ⁽¹⁾	17'- 6" ⁽¹⁾	16'- 0" ⁽¹⁾	13'- 11" ⁽¹⁾
	11⅞"	20'- 1" ⁽¹⁾	18'- 3" ⁽¹⁾	16'- 4" ⁽¹⁾	20'- 0" ⁽¹⁾	17'- 6" ⁽¹⁾	13'- 11" ⁽¹⁾
SSI 36X	14"	21'- 11" ⁽¹⁾	20'- 0" ⁽¹⁾	17'- 2" ⁽¹⁾	21'- 1" ⁽¹⁾	17'- 6" ⁽¹⁾	13'- 11" ⁽¹⁾
PRI 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⁾
	16"	24'- 9" ⁽¹⁾	22'- 7" ⁽¹⁾	20'- 2" ⁽¹⁾	24'- 8" ⁽¹⁾	22'- 6" ⁽²⁾	20'- 1" ⁽²⁾
PRI 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⁾	20'- 0" ⁽²⁾
	14"	27'- 0" ⁽¹⁾	24'- 8" ⁽¹⁾	22'- 0" ⁽¹⁾	26'- 11" ⁽²⁾	24'- 7" ⁽²⁾	20'- 8" ⁽²⁾
	16"	29'- 1" ⁽¹⁾	26'- 6" ⁽¹⁾	23'- 9" ⁽¹⁾	29'- 0" ⁽²⁾	25'- 10" ⁽²⁾	20'- 8" ⁽²⁾
PRI 80	11⅞"	27'- 3" ⁽¹⁾	25'- 7" ⁽¹⁾	23'- 8" ⁽¹⁾	29'- 3" ⁽²⁾	26'- 8" ⁽²⁾	22'- 10" ⁽²⁾
	14"	31'- 0" ⁽¹⁾	29'- 1" ⁽¹⁾	26'- 3" ⁽¹⁾	32'- 1" ⁽²⁾	29'- 3" ⁽²⁾	25'- 0" ⁽²⁾
	16"	34'- 5" ⁽¹⁾	31'- 8" ⁽¹⁾	26'- 7" ⁽¹⁾	34'- 7" ⁽²⁾	31'- 3" ⁽²⁾	25'- 0" ⁽²⁾

See notes on page 65

ALLOWABLE SPANS FOR PRI OR SSI JOISTS – 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.
PRI 20	9½"	16'- 2" ⁽¹⁾	14'- 9" ⁽¹⁾	13'- 2" ⁽¹⁾	16'- 1" ⁽¹⁾	14'- 8" ⁽¹⁾	11'- 9" ⁽¹⁾
	11⅞"	18'- 5" ⁽¹⁾	16'- 10" ⁽¹⁾	14'- 6" ⁽¹⁾	17'- 9" ⁽¹⁾	14'- 9" ⁽¹⁾	11'- 9" ⁽¹⁾
SSI 36X	14"	20'- 2" ⁽¹⁾	18'- 2" ⁽¹⁾	14'- 6" ⁽¹⁾	17'- 9" ⁽¹⁾	14'- 9" ⁽¹⁾	11'- 9" ⁽¹⁾
PRI 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⁾	17'- 1" ⁽²⁾
	16"	22'- 9" ⁽¹⁾	20'- 9" ⁽¹⁾	18'- 6" ⁽¹⁾	22'- 8" ⁽²⁾	20'- 8" ⁽²⁾	17'- 5" ⁽²⁾
PRI 60	9½"	19'- 1" ⁽¹⁾	17'- 11" ⁽¹⁾	16'- 2" ⁽¹⁾	19'- 9" ⁽¹⁾	18'- 0" ⁽²⁾	15'- 0" ⁽²⁾
	11⅞"	22'- 7" ⁽¹⁾	20'- 7" ⁽¹⁾	18'- 5" ⁽¹⁾	22'- 6" ⁽²⁾	20'- 7" ⁽²⁾	17'- 5" ⁽²⁾
	14"	24'- 10" ⁽¹⁾	22'- 8" ⁽¹⁾	20'- 3" ⁽¹⁾	24'- 9" ⁽²⁾	21'- 10" ⁽²⁾	17'- 5" ⁽²⁾
	16"	26'- 9" ⁽¹⁾	24'- 5" ⁽¹⁾	21'- 0" ⁽¹⁾	26'- 3" ⁽²⁾	21'- 10" ⁽²⁾	17'- 5" ⁽²⁾
PRI 80	11⅞"	25'- 6" ⁽¹⁾	23'- 11" ⁽¹⁾	22'- 0" ⁽¹⁾	26'- 10" ⁽²⁾	24'- 2" ⁽²⁾	19'- 3" ⁽²⁾
	14"	29'- 0" ⁽¹⁾	27'- 0" ⁽¹⁾	22'- 5" ⁽¹⁾	29'- 6" ⁽²⁾	26'- 5" ⁽²⁾	21'- 1" ⁽²⁾
	16"	31'- 10" ⁽¹⁾	28'- 1" ⁽¹⁾	22'- 5" ⁽¹⁾	31'- 9" ⁽²⁾	26'- 5" ⁽²⁾	21'- 1" ⁽²⁾

See notes on page 65