

ALLOWABLE ROOF CLEAR SPANS 115% SNOW

Please refer to notes on page 35.

25 PSF LIVE LOAD – 15 PSF DEAD LOAD

Joist Depth	Joist Series	Slope of 4/12 or less			Slopes over 4/12 up to 8/12			Slopes over 8/12 up to 12/12		
		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.
9 1/2"	RFPI 20	19'-2"	18'-0"	16'-7"	18'-8"	16'-11"	15'-8"	16'-8"	15'-8"	14'-6"
	RFPI 30	19'-10"	18'-7"	17'-3"	18'-8"	17'-6"	16'-3"	17'-3"	16'-3"	15'-0"
	RFPI 40	21'-1"	19'-4"	17'-4"	19'-10"	18'-7"	16'-10"	18'-4"	17'-3"	15'-11"
	RFPI 50	20'-9"	19'-6"	18'-1"	19'-7"	18'-5"	17'-0"	18'-1"	17'-0"	15'-9"
	RFPI 70	22'-9"	21'-5"	19'-9"	21'-5"	20'-2"	18'-8"	19'-10"	18'-8"	17'-3"
11 1/8"	RFPI 20	23'-1"	21'-2"	18'-11"	21'-9"	20'-5"	17'-11"	20'-1"	18'-11"	16'-8"
	RFPI 30	23'-11"	22'-5"	20'-9"	22'-6"	21'-1"	19'-7"	20'-10"	19'-7"	18'-1"
	RFPI 40	24'-3"	22'-1"	19'-9"	23'-7"	21'-6"	19'-2"	22'-0"	20'-8"	18'-6"
	RFPI 50	25'-0"	23'-6"	21'-9"	23'-7"	22'-1"	20'-6"	21'-10"	20'-6"	19'-0"
	RFPI 70	27'-4"	25'-8"	23'-9"	25'-9"	24'-2"	22'-4"	23'-10"	22'-5"	20'-9"
14"	RFPI 90	30'-10"	28'-11"	26'-9"	29'-0"	27'-3"	25'-3"	26'-11"	25'-3"	23'-4"
	RFPI 40	26'-7"	24'-3"	21'-8"	25'-11"	23'-8"	21'-1"	25'-0"	22'-9"	20'-4"
	RFPI 50	28'-7"	26'-10"	22'-9"	26'-11"	25'-4"	21'-7"	24'-11"	23'-5"	20'-1"
	RFPI 70	31'-0"	29'-2"	26'-1"	29'-3"	27'-5"	24'-8"	27'-1"	25'-5"	23'-0"
16"	RFPI 90	35'-0"	32'-10"	30'-5"	32'-11"	30'-11"	28'-8"	30'-6"	28'-8"	26'-7"
	RFPI 40	28'-8"	26'-2"	23'-4"	27'-11"	25'-6"	22'-9"	26'-11"	24'-7"	21'-11"
	RFPI 50	31'-11"	28'-6"	22'-9"	30'-0"	27'-0"	21'-7"	27'-10"	25'-1"	20'-1"
	RFPI 70	34'-6"	32'-5"	26'-1"	32'-6"	30'-6"	24'-8"	30'-1"	28'-3"	23'-0"
RFPI 90	38'-9"	36'-4"	33'-8"	36'-6"	34'-3"	31'-9"	33'-10"	31'-9"	29'-5"	

30 PSF LIVE LOAD – 15 PSF DEAD LOAD

Joist Depth	Joist Series	Slope of 4/12 or less			Slopes over 4/12 up to 8/12			Slopes over 8/12 up to 12/12		
		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.
9 1/2"	RFPI 20	18'-5"	17'-3"	15'-8"	17'-4"	16'-3"	15'-1"	16'-1"	15'-1"	14'-0"
	RFPI 30	19'-0"	17'-10"	16'-6"	18'-0"	16'-10"	15'-7"	16'-8"	15'-8"	14'-6"
	RFPI 40	20'-0"	18'-3"	16'-4"	19'-1"	17'-10"	15'-11"	17'-9"	16'-8"	15'-5"
	RFPI 50	20'-0"	18'-9"	17'-4"	18'-10"	17'-8"	16'-5"	17'-6"	16'-5"	15'-3"
	RFPI 70	21'-11"	20'-6"	19'-0"	20'-8"	19'-5"	17'-11"	19'-2"	18'-0"	16'-8"
11 1/8"	RFPI 20	21'-11"	20'-0"	16'-10"	20'-11"	19'-6"	16'-0"	19'-5"	18'-3"	15'-0"
	RFPI 30	22'-11"	21'-7"	18'-10"	21'-8"	20'-4"	18'-0"	20'-1"	18'-11"	16'-10"
	RFPI 40	22'-10"	20'-10"	18'-7"	22'-4"	18'-2"	15'-8"	21'-3"	19'-8"	17'-8"
	RFPI 50	24'-0"	22'-7"	20'-3"	22'-8"	21'-4"	19'-3"	21'-1"	19'-9"	18'-1"
	RFPI 70	26'-3"	24'-8"	22'-10"	24'-9"	23'-3"	21'-6"	23'-0"	21'-7"	20'-0"
14"	RFPI 90	29'-7"	27'-9"	25'-8"	27'-11"	26'-3"	24'-3"	25'-11"	24'-4"	22'-7"
	RFPI 40	25'-1"	22'-11"	20'-5"	24'-6"	22'-4"	20'-0"	23'-9"	21'-8"	19'-4"
	RFPI 50	27'-6"	25'-4"	20'-3"	25'-11"	24'-2"	19'-3"	24'-1"	22'-8"	18'-1"
	RFPI 70	29'-10"	28'-0"	23'-2"	28'-2"	26'-5"	22'-1"	26'-2"	24'-6"	20'-9"
16"	RFPI 90	33'-7"	31'-6"	29'-2"	31'-9"	29'-9"	27'-7"	29'-6"	27'-8"	25'-7"
	RFPI 40	27'-1"	24'-8"	22'-0"	26'-5"	24'-1"	21'-6"	25'-7"	23'-4"	20'-10"
	RFPI 50	30'-6"	25'-4"	20'-3"	28'-11"	24'-2"	19'-3"	26'-10"	22'-8"	18'-1"
	RFPI 70	33'-2"	29'-1"	23'-2"	31'-4"	27'-8"	22'-1"	29'-1"	25'-11"	20'-9"
RFPI 90	37'-2"	34'-11"	32'-4"	35'-1"	33'-0"	30'-6"	32'-7"	30'-8"	28'-4"	

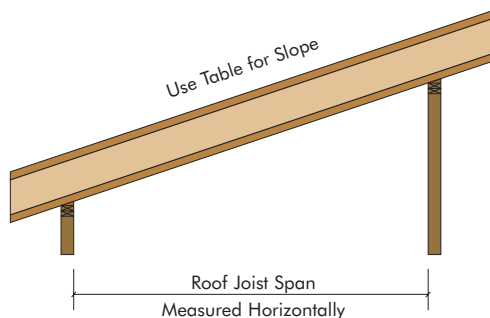
40 PSF LIVE LOAD – 15 PSF DEAD LOAD

Joist Depth	Joist Series	Slope of 4/12 or less			Slopes over 4/12 up to 8/12			Slopes over 8/12 up to 12/12		
		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.
9 1/2"	RFPI 20	17'-2"	15'-10"	13'-9"	16'-3"	15'-3"	13'-3"	15'-2"	14'-3"	12'-6"
	RFPI 30	17'-9"	16'-8"	15'-5"	16'-10"	15'-10"	14'-7"	15'-8"	14'-7"	13'-7"
	RFPI 40	18'-2"	16'-6"	14'-9"	17'-9"	16'-2"	14'-6"	16'-8"	15'-8"	14'-1"
	RFPI 50	18'-8"	17'-6"	16'-2"	17'-8"	16'-5"	15'-4"	16'-5"	15'-5"	14'-4"
	RFPI 70	20'-5"	19'-2"	17'-9"	19'-4"	18'-2"	16'-9"	18'-0"	16'-11"	15'-8"
11 1/8"	RFPI 20	19'-10"	17'-3"	13'-9"	19'-5"	16'-7"	13'-3"	18'-3"	15'-9"	12'-6"
	RFPI 30	21'-5"	19'-4"	15'-5"	20'-3"	18'-7"	14'-10"	18'-11"	17'-8"	14'-1"
	RFPI 40	20'-8"	18'-10"	16'-10"	20'-3"	18'-6"	16'-6"	19'-9"	18'-0"	16'-1"
	RFPI 50	22'-5"	20'-9"	16'-7"	21'-3"	19'-11"	15'-11"	19'-10"	18'-7"	15'-1"
	RFPI 70	24'-6"	23'-0"	19'-0"	23'-2"	21'-9"	18'-3"	21'-8"	20'-4"	17'-3"
14"	RFPI 90	27'-7"	25'-11"	23'-11"	26'-2"	24'-7"	22'-9"	24'-5"	22'-11"	21'-2"
	RFPI 40	22'-9"	20'-9"	18'-6"	22'-3"	20'-4"	18'-2"	21'-8"	19'-9"	17'-8"
	RFPI 50	25'-0"	20'-9"	16'-7"	24'-0"	19'-11"	15'-11"	22'-8"	18'-11"	15'-1"
	RFPI 70	27'-10"	23'-10"	19'-0"	26'-4"	22'-11"	18'-3"	24'-7"	21'-8"	17'-3"
16"	RFPI 90	31'-5"	29'-5"	27'-3"	29'-9"	27'-11"	25'-10"	27'-9"	26'-0"	24'-1"
	RFPI 40	24'-6"	22'-4"	19'-11"	24'-0"	21'-11"	19'-7"	23'-4"	21'-4"	18'-6"
	RFPI 50	25'-0"	20'-9"	16'-7"	24'-0"	19'-11"	15'-11"	22'-9"	18'-11"	15'-1"
	RFPI 70	28'-7"	23'-10"	19'-0"	27'-6"	22'-11"	18'-3"	26'-1"	21'-8"	17'-3"
RFPI 90	34'-9"	32'-7"	27'-5"	32'-11"	30'-11"	26'-4"	30'-8"	28'-10"	24'-11"	

50 PSF LIVE LOAD – 15 PSF DEAD LOAD

Joist Depth	Joist Series	Slope of 4/12 or less			Slopes over 4/12 up to 8/12			Slopes over 8/12 up to 12/12		
		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.
9 1/2"	RFPI 20	16'-0"	14'-7"	11'-7"	15'-5"	14'-1"	11'-3"	14'-4"	13'-6"	10'-9"
	RFPI 30	16'-9"	15'-8"	13'-1"	15'-11"	14'-11"	12'-7"	14'-11"	14'-0"	12'-1"
	RFPI 40	16'-8"	15'-2"	13'-7"	16'-5"	14'-11"	13'-4"	15'-10"	14'-7"	13'-0"
	RFPI 50	17'-6"	16'-5"	14'-0"	16'-8"	15'-8"	13'-6"	15'-7"	14'-8"	12'-11"
	RFPI 70	19'-2"	18'-0"	16'-1"	18'-4"	17'-2"	16'-1"	17'-1"	16'-1"	14'-10"
11 1/8"	RFPI 20	17'-7"	14'-7"	11'-7"	17'-0"	14'-1"	11'-3"	16'-3"	13'-6"	10'-9"
	RFPI 30	19'-9"	16'-5"	13'-1"	19'-1"	15'-10"	12'-7"	17'-11"	15'-1"	12'-1"
	RFPI 40	19'-0"	17'-4"	15'-6"	18'-8"	17'-1"	15'-3"	18'-3"	16'-8"	14'-10"
	RFPI 50	21'-1"	17'-7"	14'-0"	20'-1"	17'-0"	13'-6"	18'-10"	16'-3"	12'-11"
	RFPI 70	23'-0"	20'-2"	16'-1"	21'-11"	19'-6"	15'-6"	20'-6"	18'-7"	14'-10"
14"	RFPI 90	26'-0"	24'-4"	22'-6"	24'-9"	23'-3"	21'-6"	23'-2"	21'-9"	20'-1"
	RFPI 40	20'-11"	19'-1"	17'-0"	20'-7"	18'-9"	16'-8"	20'-1"	18'-4"	15'-11"
	RFPI 50	21'-2"	17'-7"	14'-0"	20'-5"	17'-0"	13'-6"	19'-6"	16'-3"	12'-11"
	RFPI 70	24'-3"	20'-2"	16'-1"	23'-5"	19'-6"	15'-6"	22'-4"	18'-7"	14'-10"
16"	RFPI 90	29'-6"	27'-8"	23'-2"	28'-1"	26'-5"	22'-5"	26'-4"	24'-8"	21'-5"
	RFPI 40	22'-6"	20'-6"	17'-3"	22'-2"	20'-2"	16'-8"	21'-8"	19'-9"	15'-11"
	RFPI 50	21'-2"	17'-7"	14'-0"	20'-5"	17'-0"	13'-6"	19'-6"	16'-3"	12'-11"
	RFPI 70	24'-3"	20'-2"	16'-1"	23'-5"	19'-6"	15'-6"	22'-4"	18'-7"	14'-10"
RFPI 90	32'-8"	29'-1"	23'-2"	31'-2"	28'-1"	22'-5"	29'-1"	26'-10"	21'-5"	

ALLOWABLE ROOF CLEAR SPANS 125% NON-SNOW



Notes:

1. Roofs must be sloped at least 1/4" in 12" to assure drainage.
2. Deflection under live load is limited to L/240. Deflection under total load is limited to L/180. Verify that the deflection criteria conform to local building code requirements.
3. Table values apply to uniformly loaded simple or multiple span joists. Span is the horizontal distance from face to face of supports. Use beam sizing software to analyze multiple span joists if the length of any span is less than half the length of an adjacent span.
4. Minimum end bearing length is 1 3/4". Minimum intermediate bearing length is 3 1/2".

20 PSF LIVE LOAD – 10 PSF DEAD LOAD

Joist Depth	Joist Series	Slope of 4/12 or less			Slopes over 4/12 up to 8/12			Slopes over 8/12 up to 12/12		
		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.
9 1/2"	RFPI 20	21'-2"	19'-10"	18'-5"	19'-11"	18'-9"	17'-4"	18'-6"	17'-5"	16'-1"
	RFPI 30	21'-11"	20'-7"	19'-0"	20'-8"	19'-5"	18'-0"	19'-2"	18'-0"	16'-8"
	RFPI 40	23'-3"	21'-10"	20'-3"	21'-11"	20'-7"	19'-1"	20'-4"	19'-1"	17'-9"
	RFPI 50	23'-0"	21'-7"	20'-0"	21'-8"	20'-4"	18'-10"	20'-1"	18'-11"	17'-6"
	RFPI 70	25'-2"	23'-8"	21'-11"	23'-9"	22'-4"	20'-8"	22'-0"	20'-8"	19'-2"
11 7/8"	RFPI 20	25'-6"	24'-0"	22'-2"	24'-1"	22'-7"	20'-11"	22'-4"	21'-0"	19'-5"
	RFPI 30	26'-5"	24'-9"	22'-11"	24'-11"	23'-4"	21'-8"	23'-1"	21'-8"	20'-1"
	RFPI 40	27'-10"	26'-2"	23'-10"	26'-3"	24'-8"	22'-10"	24'-5"	22'-11"	21'-3"
	RFPI 50	27'-8"	25'-11"	24'-0"	26'-1"	24'-6"	22'-8"	24'-2"	22'-9"	21'-1"
	RFPI 70	30'-2"	28'-4"	26'-3"	28'-6"	26'-9"	24'-9"	26'-5"	24'-10"	23'-0"
14"	RFPI 90	34'-0"	32'-0"	29'-7"	32'-1"	30'-2"	27'-11"	29'-10"	28'-0"	25'-11"
	RFPI 40	31'-8"	29'-4"	26'-2"	29'-10"	28'-1"	25'-7"	27'-8"	26'-0"	24'-1"
	RFPI 50	31'-7"	29'-8"	27'-6"	29'-10"	28'-0"	25'-11"	27'-8"	26'-0"	24'-1"
	RFPI 70	34'-3"	32'-2"	29'-10"	32'-4"	30'-5"	28'-2"	30'-0"	28'-2"	26'-4"
	RFPI 90	38'-8"	36'-4"	33'-7"	36'-6"	34'-3"	31'-9"	33'-10"	31'-10"	29'-6"
16"	RFPI 40	34'-7"	31'-7"	28'-2"	33'-2"	30'-10"	27'-7"	30'-9"	28'-11"	26'-8"
	RFPI 50	35'-3"	33'-1"	30'-8"	33'-3"	31'-3"	28'-11"	30'-10"	29'-0"	26'-10"
	RFPI 70	38'-1"	35'-10"	33'-2"	35'-11"	33'-9"	31'-4"	33'-4"	31'-4"	29'-1"
	RFPI 90	42'-9"	40'-2"	37'-2"	40'-4"	37'-11"	35'-1"	37'-6"	35'-3"	32'-7"

20 PSF LIVE LOAD – 15 PSF DEAD LOAD

Joist Depth	Joist Series	Slope of 4/12 or less			Slopes over 4/12 up to 8/12			Slopes over 8/12 up to 12/12		
		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.
9 1/2"	RFPI 20	20'-0"	18'-10"	17'-5"	18'-10"	17'-8"	16'-4"	17'-4"	16'-4"	15'-1"
	RFPI 30	20'-9"	19'-6"	18'-0"	19'-6"	18'-3"	16'-11"	18'-0"	16'-10"	15'-8"
	RFPI 40	22'-0"	20'-8"	19'-2"	20'-8"	19'-5"	18'-0"	19'-1"	17'-11"	16'-7"
	RFPI 50	21'-9"	20'-5"	18'-11"	20'-5"	19'-2"	17'-9"	18'-10"	17'-8"	16'-5"
	RFPI 70	23'-10"	22'-4"	20'-8"	22'-5"	21'-0"	19'-5"	20'-8"	19'-5"	18'-0"
11 7/8"	RFPI 20	24'-2"	22'-8"	21'-0"	22'-8"	21'-4"	19'-9"	20'-11"	19'-8"	18'-3"
	RFPI 30	25'-0"	23'-6"	21'-9"	23'-5"	22'-0"	20'-5"	21'-8"	20'-4"	18'-10"
	RFPI 40	26'-5"	24'-7"	22'-0"	24'-9"	23'-3"	21'-4"	22'-10"	21'-6"	19'-11"
	RFPI 50	26'-2"	24'-7"	22'-9"	24'-7"	23'-1"	21'-4"	22'-8"	21'-4"	19'-9"
	RFPI 70	28'-7"	26'-10"	24'-10"	26'-10"	25'-3"	23'-4"	24'-9"	23'-3"	21'-7"
14"	RFPI 90	32'-3"	30'-3"	28'-0"	30'-3"	28'-5"	26'-4"	27'-11"	26'-3"	24'-4"
	RFPI 40	29'-8"	27'-0"	24'-2"	28'-2"	26'-3"	24'-5"	26'-0"	24'-5"	22'-6"
	RFPI 50	29'-11"	28'-1"	26'-0"	28'-1"	26'-5"	24'-5"	25'-11"	24'-5"	22'-7"
	RFPI 70	32'-5"	30'-6"	28'-3"	30'-6"	28'-8"	26'-6"	28'-2"	26'-5"	24'-6"
	RFPI 90	36'-7"	34'-4"	31'-10"	34'-5"	32'-3"	29'-11"	31'-9"	29'-10"	27'-2"
16"	RFPI 40	31'-11"	29'-2"	26'-0"	31'-0"	28'-3"	25'-3"	28'-10"	27'-1"	24'-3"
	RFPI 50	33'-4"	31'-4"	28'-3"	31'-4"	29'-5"	26'-7"	28'-11"	27'-2"	24'-6"
	RFPI 70	36'-1"	33'-11"	31'-5"	33'-11"	31'-10"	29'-6"	31'-4"	29'-5"	27'-3"
	RFPI 90	40'-6"	38'-0"	35'-3"	38'-1"	35'-9"	33'-1"	35'-2"	33'-0"	30'-7"

20 PSF LIVE LOAD – 20 PSF DEAD LOAD

Joist Depth	Joist Series	Slope of 4/12 or less			Slopes over 4/12 up to 8/12			Slopes over 8/12 up to 12/12		
		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.
9 1/2"	RFPI 20	19'-1"	17'-11"	16'-7"	17'-10"	16'-9"	15'-6"	16'-5"	15'-5"	14'-3"
	RFPI 30	19'-9"	18'-7"	17'-2"	18'-6"	17'-5"	16'-1"	17'-0"	16'-0"	14'-10"
	RFPI 40	21'-0"	19'-9"	18'-0"	19'-8"	18'-6"	17'-1"	18'-1"	17'-0"	15'-9"
	RFPI 50	20'-9"	19'-6"	18'-0"	19'-5"	18'-3"	16'-11"	17'-10"	16'-9"	15'-6"
	RFPI 70	22'-9"	21'-4"	19'-9"	21'-3"	20'-0"	18'-6"	19'-7"	18'-5"	17'-0"
11 7/8"	RFPI 20	23'-0"	21'-8"	19'-8"	21'-7"	20'-3"	18'-9"	19'-10"	18'-7"	17'-3"
	RFPI 30	23'-10"	22'-4"	20'-9"	22'-4"	20'-11"	19'-5"	20'-6"	20'-3"	17'-10"
	RFPI 40	25'-2"	23'-0"	20'-6"	23'-7"	22'-1"	19'-10"	21'-8"	20'-4"	18'-10"
	RFPI 50	24'-11"	23'-5"	21'-8"	23'-4"	21'-11"	20'-4"	21'-6"	20'-2"	18'-8"
	RFPI 70	27'-3"	25'-7"	23'-8"	25'-6"	24'-0"	22'-2"	23'-6"	22'-1"	20'-5"
14"	RFPI 90	30'-9"	28'-10"	26'-8"	28'-9"	27'-0"	25'-0"	26'-6"	24'-10"	23'-0"
	RFPI 40	27'-8"	25'-3"	22'-6"	26'-8"	24'-4"	21'-9"	24'-7"	23'-1"	20'-9"
	RFPI 50	28'-7"	26'-10"	24'-7"	26'-9"	25'-1"	22'-11"	24'-7"	23'-1"	20'-10"
	RFPI 70	30'-11"	29'-1"	26'-11"	29'-0"	27'-3"	25'-2"	26'-8"	25'-0"	23'-2"
	RFPI 90	34'-11"	32'-9"	30'-4"	32'-8"	30'-8"	28'-5"	30'-1"	28'-3"	26'-2"
16"	RFPI 40	29'-10"	27'-2"	24'-3"	28'-9"	26'-3"	23'-5"	27'-4"	25'-1"	22'-5"
	RFPI 50	31'-10"	29'-11"	24'-7"	29'-10"	28'-0"	22'-11"	27'-5"	25'-9"	20'-10"
	RFPI 70	34'-5"	32'-4"	28'-2"	32'-3"	30'-3"	26'-3"	29'-8"	27'-10"	23'-11"
	RFPI 90	38'-8"	36'-3"	33'-7"	36'-2"	34'-0"	31'-5"	33'-3"	31'-3"	28'-11"