

Trus Joist® TJI® Ceiling Joist Supporting Attic Load

The following information is intended to assist designers in the specification of TJI® for ceiling joist applications supporting only attic load, as prescribed in 2015/2018/2021 IRC Chapter 8. It is the responsibility of the designer of record to confirm the conditions of the ceiling joist to be within the limitations of the tables provided in this document. For additional design information regarding TJI® joists, reference *Trus Joist® TJI® Joist Specifier's Guide* ([TJ-4000](#)).

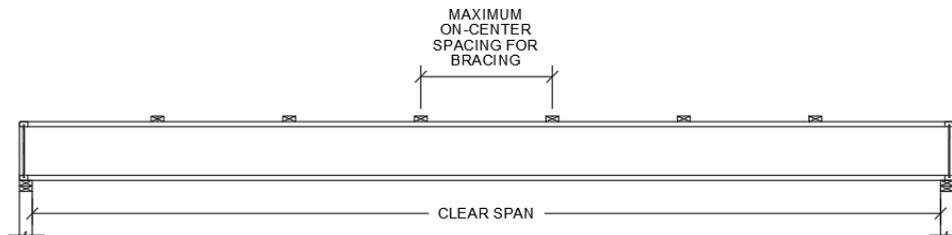
Ceiling Joists Supporting Attic Load

Table 1 provides maximum clear spans for TJI® ceiling joists supporting “uninhabitable attics with limited storage” or “areas other than sleeping areas” as defined by 2015/2018/2021 IRC Table R301.5. The values in the table have been calculated assuming no thrust load. For ceiling joists supporting both attic load and roof thrust load, reference *Trus Joist® TJI® Ceiling Joist Supporting Attic Load and Roof Thrust Load* ([TB-824](#)).

TABLE 1: TJI® CEILING JOIST SUPPORTING ATTIC LOAD^[1]

Depth	TJI®	Maximum Clear Span ^{[2][3][4][5]}							
		20 PSF Live Load / 10 PSF Dead Load				40 PSF Live Load / 10 PSF Dead Load			
		12" o.c.	16" o.c.	19.2" o.c.	24" o.c.	12" o.c.	16" o.c.	19.2" o.c.	24" o.c.
9½"	110	22'-3"	20'-1"	18'-11"	17'-6"	17'-6"	15'-10"	14'-10"	13'-8"
	210	23'-6"	21'-3"	20'-0"	18'-6"	18'-6"	16'-8"	15'-8"	14'-5"
	230	24'-4"	22'-0"	20'-8"	19'-1"	19'-1"	17'-3"	16'-2"	14'-11"
11⅞"	110	26'-7"	24'-1"	22'-7"	20'-5"	20'-11"	18'-11"	17'-8"	15'-9"
	210	28'-1"	25'-5"	23'-10"	22'-1"	22'-1"	19'-11"	18'-8"	17'-3"
	230	29'-0"	26'-3"	24'-8"	22'-9"	22'-9"	20'-7"	19'-4"	17'-10"
	360	30'-10"	27'-11"	26'-2"	24'-3"	24'-3"	21'-11"	20'-6"	18'-11"
	560	35'-6"	32'-1"	30'-2"	27'-11"	27'-11"	25'-2"	23'-7"	21'-10"
14"	110	30'-3"	27'-2"	24'-10"	22'-2"	23'-10"	21'-0"	19'-2"	17'-2"
	210	31'-11"	28'-11"	27'-2"	24'-4"	25'-1"	22'-9"	21'-1"	18'-10"
	230	32'-11"	29'-10"	28'-0"	25'-8"	25'-11"	23'-5"	22'-0"	19'-10"
	360	35'-0"	31'-9"	29'-9"	27'-7"	27'-7"	24'-11"	23'-4"	21'-5"
	560	40'-3"	36'-5"	34'-3"	31'-8"	31'-8"	28'-7"	26'-10"	24'-9"
16"	110	33'-7"	29'-1"	26'-7"	23'-9"	26'-0"	22'-6"	20'-7"	18'-1"
	210	35'-5"	31'-11"	29'-1"	26'-0"	27'-10"	24'-8"	22'-6"	19'-11"
	230	36'-6"	33'-1"	30'-8"	27'-5"	28'-9"	26'-0"	23'-9"	21'-1"
	360	38'-10"	35'-2"	33'-0"	30'-6"	30'-6"	27'-7"	25'-10"	21'-5"
	560	44'-6"	40'-4"	37'-10"	35'-1"	35'-1"	31'-8"	29'-9"	25'-2"

- [1] Uniform loads only.
- [2] Simple span only.
- [3] Minimum bearing length of 2¼" end.
- [4] Total load deflection limited to L/240 and live load deflection limited to L/360; assumed no composite action.
- [5] For TJI® 110, maximum on-center spacing of bracing is 32" o.c.; for all other TJI® joists, use 36" o.c.



FOR TAPERED END CUT CEILING JOISTS, SEE TRUS JOIST TJI® RAFTER CUT DETAIL

Trus Joist® TJI® Rafter Cut Detail

NOTES: DETAIL NOT APPLICABLE TO CEILING JOISTS RESISTING THRUST FORCE FROM ROOF RAFTERS. FOR CEILING JOISTS RESISTING THRUST FORCE SEE TB-824. CONCENTRATED LOADS MUST BE LOCATED AT LEAST 24" AWAY FROM THE END OF THE TOP FLANGE. FOR SLOPES LESS THAN 6:12, CONTACT YOUR WEYERHAEUSER REPRESENTATIVE.

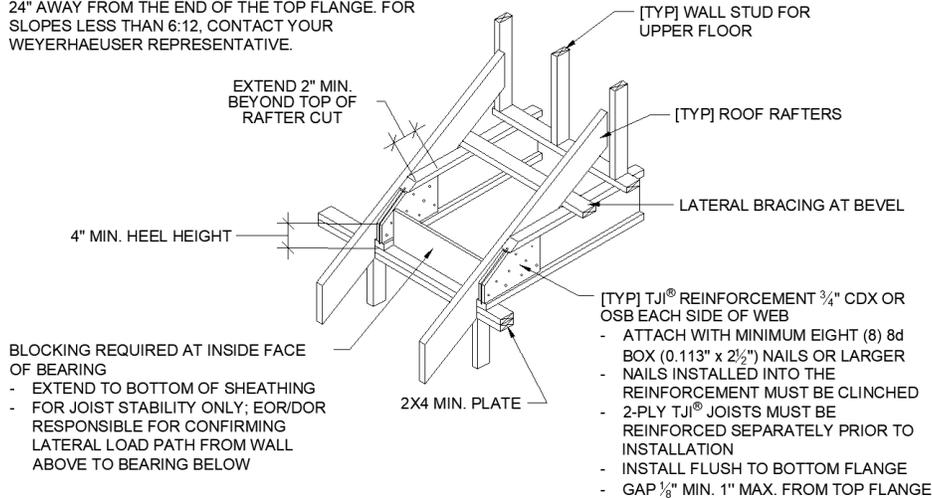


TABLE 2: ALLOWABLE END REACTION – TJI® RAFTER CUT^{[1][2][3][4]}

Depth	TJI®	Allowable End Reaction (lb)			
		Roof Slope			
		6/12 to 7/12	8/12 to 9/12	10/12 to 11/12	12/12
9 1/2"	110	870	1,020	1,130	1,220
	210	945	1,110	1,235	1,330
	230	945	1,110	1,235	1,330
11 7/8"	110	1,020	1,215	1,360	1,400
	210	1,085	1,285	1,445	1,490
	230	1,085	1,285	1,445	1,540
	360	1,115	1,325	1,485	1,560
	560	1,345	1,595	1,790	1,870
14"	110	1,160	1,385	1,400	1,400
	210	1,215	1,450	1,490	1,490
	230	1,215	1,450	1,540	1,540
	360	1,220	1,455	1,560	1,560
	560	1,495	1,780	1,870	1,870
16"	110	1,300	1,400	1,400	1,400
	210	1,325	1,490	1,490	1,490
	230	1,325	1,540	1,540	1,540
	360	1,325	1,560	1,560	1,560
	560	1,640	1,870	1,870	1,870

[1] Minimum bearing length of 2 1/4" end.
 [2] Reactions may not be increased for duration of load.
 [3] Reinforcement must extend 2" beyond the top of the rafter (see detail above).
 [4] All TJI® with rafter cuts must be checked to confirm the given reaction capacity is not exceeded.

If you have any questions, please contact your Weyerhaeuser representative.