

Engineered Lumber Products - Handouts

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by

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Table A-1
Maximum Spans for Floor Joists – General Cases⁽¹⁾
 Forming part of Sentence 9.23.4.2.(1)

Commercial Designation	Grade	Joist Size, mm	Maximum Span, m									
			With Strapping ⁽²⁾			With Bridging			With Strapping ⁽²⁾ and Bridging			
			Joist Spacing, mm			Joist Spacing, mm			Joist Spacing, mm			
			300	400	600	300	400	600	300	400	600	
Spruce – Pine – Fir (includes Spruce (all species except Coast Sitka Spruce), Jack Pine, Lodgepole Pine, Balsam Fir and Alpine Fir)	Select Structural	38 × 89	1.95	1.81	1.64	2.06	1.87	1.64	2.06	1.87	1.64	
		38 × 140	3.05	2.85	2.57	3.24	2.95	2.57	3.24	2.95	2.57	
		38 × 184	3.66	3.48	3.31	3.94	3.70	3.38	4.12	3.84	3.38	
		38 × 235	4.31	4.10	3.90	4.59	4.31	4.05	4.76	4.44	4.14	
		38 × 286	4.91	4.67	4.45	5.18	4.87	4.57	5.34	4.98	4.64	
	No. 1 and No. 2	38 × 89	1.86	1.72	1.58	1.99	1.81	1.58	1.99	1.81	1.58	
		38 × 140	2.92	2.71	2.49	3.14	2.85	2.49	3.14	2.85	2.49	
		38 × 184	3.54	3.36	3.20	3.81	3.58	3.27	3.99	3.72	3.27	
		38 × 235	4.17	3.96	3.77	4.44	4.17	3.92	4.60	4.29	4.00	
		38 × 286	4.75	4.52	4.30	5.01	4.71	4.42	5.17	4.82	4.49	
	No. 3	38 × 89	1.81	1.68	1.55	1.96	1.78	1.55	1.96	1.78	1.55	
		38 × 140	2.84	2.64	2.43	3.08	2.80	2.43	3.08	2.80	2.43	
		38 × 184	3.47	3.30	2.95	3.74	3.52	2.95	3.92	3.61	2.95	
		38 × 235	4.09	3.89	3.61	4.36	4.09	3.61	4.52	4.22	3.61	
		38 × 286	4.67	4.44	4.19	4.92	4.62	4.19	5.08	4.73	4.19	
	Construction	38 × 89	1.81	1.68	1.55	1.96	1.78	1.55	1.96	1.78	1.55	
	Standard	38 × 89	1.70	1.58	1.44	1.88	1.71	1.44	1.88	1.71	1.44	
	Northern Species (includes any Canadian species covered by the NLGA Standard Grading Rules)	Select Structural	38 × 89	1.65	1.53	1.42	1.84	1.68	1.46	1.84	1.68	1.46
			38 × 140	2.59	2.41	2.24	2.90	2.63	2.30	2.90	2.63	2.30
			38 × 184	A 9-1/2" (241mm) TJI 230 joist meets or exceeds the spans highlighted in yellow above.								
38 × 235)									
38 × 286			5									
No. 1 and No. 2		38 × 89	Design Assumptions: - Residential floor loads: 40psf (1.9kPa) Live load 15psf (0.7kPa) Dead load - 5/8" subfloor for joists spaced at 12" (300mm) or 16" (400mm) - 3/4" subfloor for joists spaced at 24" (600mm)									3
		38 × 140										5
		38 × 184										3
		38 × 235										2
		38 × 286										3
No. 3		38 × 89	- Refer to Trus Joist framing guide for installation: http://www.woodbywy.com/document/tj-9001/									3
		38 × 140										4
		38 × 184										7
		38 × 235										3
38 × 286		4.19	3.98	3.36	4.42	4.11	3.36	4.55	4.11	3.36		
Construction		38 × 89	1.54	1.43	1.32	1.74	1.57	1.40	1.76	1.60	1.40	
Standard		38 × 89	1.48	1.37	1.15	1.63	1.41	1.15	1.63	1.41	1.15	

Notes to Table A-1:

- (1) Spans apply only where the floors serve residential areas as described in Table 4.1.5.3., or the uniformly distributed *live load* on the floors does not exceed that specified for residential areas as described in Table 4.1.5.3.
- (2) See Sentence 9.23.9.4.(5) for alternatives to strapping.

Engineered Lumber Layout Checklist

- 1) Do framing patterns of layout & structural match?
 - Joist Direction same?
 - Beam / Column Locations same?
 - Roof Truss pattern same?

- 2) Loads from upper levels transferred through floor? (blocking).....

- 3) Reference to architectural, structural plans

- 4) Contact info (for layout designer).....

- 5) Loads used in analysis (ie 40psf Live, 15 psf Dead)

- 6) Floor assembly info (sheathing thickness, ceiling: Y/N).....

- 7) Table of ELP components

- 8) Hangers with nailing requirements

- 9) Column loads identified (under major beams)

- 10) Reference to typical details

Engineered Lumber Site Review Checklist

In addition to checking that the installation of Engineered Lumber Products match the layout and design drawings, here are some key items to review on site:

- 1) Load transfer blocking.....
 - 2x__ vertical crush blocks under large columns
 - Blocking panels under interior bearing walls

- 2) Installed floor assembly matches plans?.....
 - (sheathing thickness, ceiling: Y/N)..

- 3) Hangers installed. Correctly.....

- 4) Dry Use:
 - No un-treated products in permanently weather-exposed conditions.....

- 5) Holes in right locations through joists, beams.....

(See hole chart for more information)

- 6) No “notches” in top or bottom of I-joists.....

(See attached sketch regarding small notches)

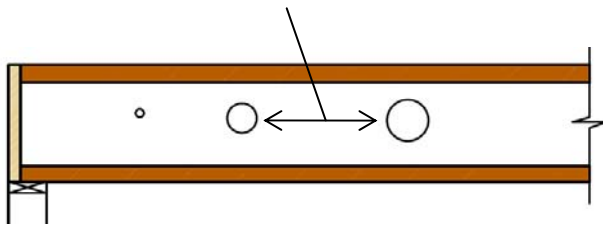
Holes and Notches in TJI®'s – Do's and Don'ts

Holes in Trus Joist products are permitted in many situations. Following are some guidelines to understand where holes are allowed (and where they aren't).

DO

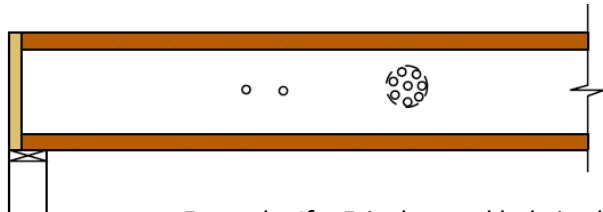
Keep large holes away from bearing walls and beam loads

Separate holes by 2x the larger hole size



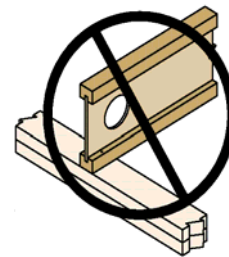
DO

Group little holes together, away from bearing walls

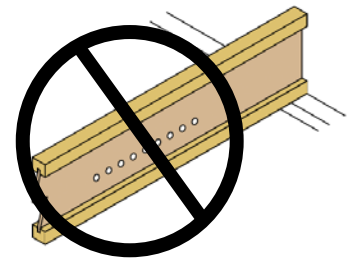


Example: If a 5-inch round hole is allowed, then 8 (eight) 1" holes are also allowed (if they can fit within the 5" round shape)

DON'T

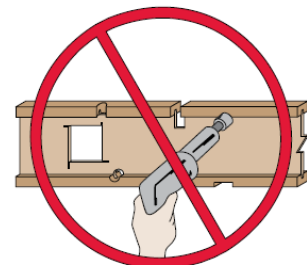


DON'T

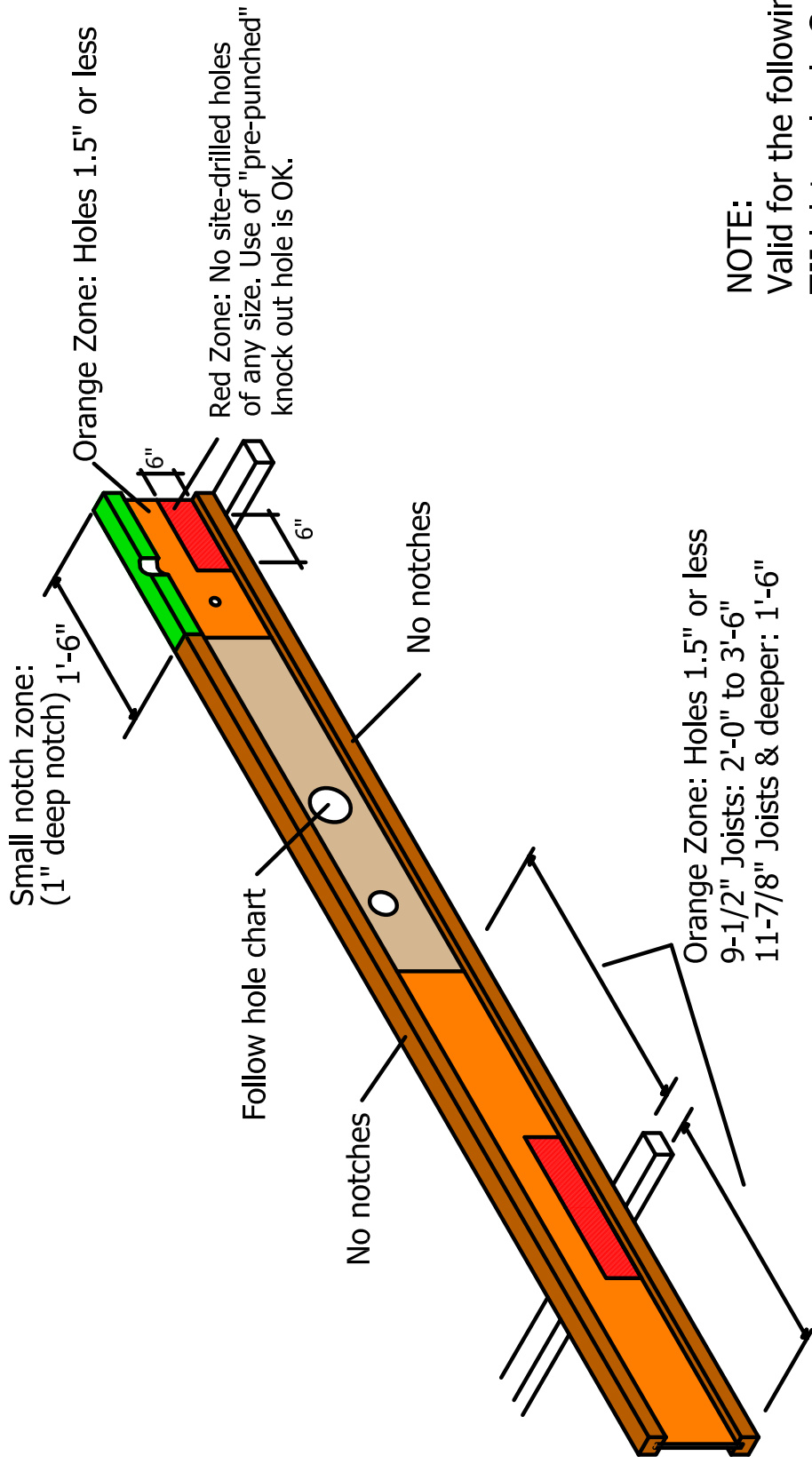


Do not create a line of closely-spaced holes.

DO NOT cut or notch flange.



For more information on allowable holes, see the Pocket Framers Guide, or contact your local Trus Joist product representative at www.woodbywy.com/canada.



NOTE:
Valid for the following
TJI joist series in Canada:
TJI 110,210,230,360,560
Depths 9-1/2" to 16"