PINKWOOD

SPECIFIER GUIDE

I-JOISTS
Made even Better

PINKWOOD I-JOISTS

PKI10, PKI15, PKI20, PKI23, PKI35 Plus, PKI40, PKI50

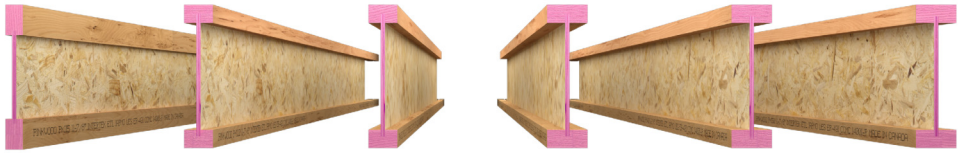
- CANADA

PKIjoist™

PinkWood manufactures premium I-joists, under the trade name “PKjoists”, for residential and commercial projects. Our Standard and Fire Rated (SAFEjoists) joists are available in six series ranging in depths of 9 1/2” to 24”, and up to 58’ in lengths. Our PKjoists are built to precise tolerances and will resist warping, crowning, and shrinkage.

PKI SERIES

PKI joists are manufactured with either 2x3 (PKI10, 15, 20, 23) or 2x4 (PKI35Plus, 40, 50) proprietary-grade solid-sawn lumber. Having only two flange sizes results in simplified selection of hangers and fasteners, thereby reducing the number of component SKUs required by dealers.



SERIES:	PKI 10	PKI 15	PKI 20	PKI 23	PKI 35 Plus	PKI 40	PKI 50
Depths:	9 1/2” thru 14”	9 1/2” thru 14”	9 1/2” thru 16”	9 1/2” thru 16”	9 1/2” thru 16”	9 1/2” thru 24”	11 7/8” thru 24”
Flange Size:	2 1/2” x 1 1/2”	1 1/2” x 2 1/2”	2 1/2” x 1 1/2”	2 1/2” x 1 1/2”	3 1/2” x 1 1/2”	3 1/2” x 1 1/2”	3 1/2” x 1 1/2”
Webstock:	3/8” OSB	3/8” OSB	3/8” OSB	7/16” OSB	3/8” OSB	3/8” OSB (7/16” for 18”-24”)	7/16” OSB

Note: PKI 10, 20, 23, 35 Plus, 40 & 50 series are currently available uncoated.
PKI 40 & 50 series are available up to 24” depths.

WEBSHIELD®

WHY ARE BUILDERS DEMANDING WEBSHIELD PROTECTED I-JOISTS IN THEIR HOUSES?

1. Meets 2012 IRC 501.3 exception 4 and 2015 IRC 302.13 Code Requirements.
2. Pinkwood offers WEBshield protection for 9-1/2” to 16” PKIjoists.
3. Framers prefer working with WEBshield protected i-joists for ease of handling, wide-flange nailing, and side nailing capabilities.
4. By utilizing standard PKIjoists, mechanical, electrical and plumbing penetrations are made with ease.
5. Home owners enjoy Pinkwood’s WEBshield protected joists for the peace of mind offered.

intertek
Total Quality. Assured.

PHYSICAL PROPERTIES FOR PKI Joists

Design properties are in Limit States Design, and for standard term load duration.

Joist Series	Joist Depth (inches)	Weight (plf)	Factored Moment Resistance (lbs-ft)	Factored Shear Resistance (lbs)	End Reaction (lbs)				Intermediate Reaction (lbs)				Bending Stiffness EI ($x10^6$ lbs-in^2)	Shear Deflection Coeffcient K ($x10^6$ lbs)
					1 1/2” or 2 1/2” Bearing (1)		4” or 3 1/2” Bearing (2)		3 1/2” Bearing		5 1/2” Bearing			
					Web Stiff.		Web Stiff.		Web Stiff.		Web Stiff.			
					No	Yes	No	Yes	No	Yes	No	Yes		
PKI 10	9 1/2	2.3	3760	1990	1420	1800	1750	1990	3465	3600	3865	3975	168	4.94
	11 7/8	2.7	4450	2345	1420	2010	1830	2345	3465	3920	3985	4435	286	6.18
	14	3.0	6185	2650	1420	2200	1895	2650	3465	4205	4080	4672	420	7.28
PKI 20	9 1/2	2.6	4675	1990	1530	1800	1750	1990	3465	3750	3865	4160	193	4.94
	11 7/8	2.9	6250	2345	1530	2010	1830	2345	3680	3985	4095	4465	327	6.18
	14	3.1	7325	2650	1530	2200	1895	2650	3875	4205	4300	4745	479	7.28
	16	3.3	8410	2950	1530	2385	1955	2950	4055	4410	4500	5010	652	8.32
PKI 23	9 1/2	2.7	5350	2500	1655	2255	2130	2370	3800	4370	4500	5065	208	4.94
	11 7/8	3.0	6940	2850	1655	2320	2265	2650	3800	4370	4500	5175	352	6.18
	14	3.3	8355	3165	1655	2375	2345	2910	3800	4370	4500	5270	515	7.28
	16	3.5	9685	3455	1655	2430	2370	3155	3800	4370	4500	5365	700	8.32
PKI 35 Plus	9 1/2	2.7	5580	1990	1420	1800	1750	1990	3465	3600	3865	3975	234	4.94
	11 7/8	2.9	7225	2345	1420	2010	1830	2345	3465	3920	3985	4435	396	6.18
	14	3.2	8665	2650	1420	2200	1895	2650	3465	4205	4080	4672	580	7.28
	16	3.4	9850	2950	1420	2385	1930	2945	3465	4545	4175	4900	787	8.32
PKI 40	9 1/2	3.4	8960	2115	1870	2115	2060	2115	4575	4885	4640	5045	328	4.94
	11 7/8	3.6	11590	2565	1965	2385	2520	2565	4775	5270	4925	5550	553	6.18
	14	3.9	13960	2960	2020	2620	2520	2960	4865	5625	5175	6005	807	7.28
	16	4.0	16180	3340	2040	2840	2520	3340	4960	5960	5420	6440	1092	8.32
	18	4.4	18300	4000	2065	3250	2650	4025	4495	6765	5420	7845	1421	9.36
	20	4.5	20250	4230	2065	3445	2650	4165	4495	6960	5420	7845	1799	10.40
	22	4.7	22175	4445	2065	3645	2650	4315	4495	7150	5420	7845	2224	11.44
	24	4.9	24080	4650	2065	3850	2650	4465	4495	7325	5420	7845	2698	12.48
PKI 50	11 7/8	4.5	13230	3370	1965	2385	2520	2565	4775	5270	4925	5550	565	6.18
	14	4.8	15300	3600	2020	2620	2520	2960	4865	5625	5175	6005	824	7.28
	16	5.0	17720	3810	2040	2840	2520	3340	4960	5960	5420	6440	1115	8.32
	18	5.3	21240	4000	2065	3250	2650	4025	4495	6765	5420	7845	1453	9.36
	20	5.5	23575	4230	2065	3445	2650	4165	4495	6960	5420	7845	1839	10.40
	22	5.8	24265	4445	2065	3645	2650	4315	4495	7150	5420	7845	2273	11.44
	24	6.0	26350	4650	2065	3850	2650	4465	4495	7325	5420	7845	2757	12.48

(1) For 9 1/2” to 16” I-joists, the minimum end reaction is based on 1 1/2” bearing length. For 18” to 24” joist, the minimum end reaction is based on 2 1/2” bearing length.

(2) For PKI 23 I-joist series, the maximum end reaction is based on 3 1/2” bearing length. For all other I-joists, the maximum end reaction is based on 4” bearing length.

SIMPLE SPANS: 40 Live Load / 15 Dead Load (L/480)

19/32” Sheathing Glued & Screwed

JOIST DEPTH	JOIST TYPE	W/O CEILING DIRECTLY APPLIED			WITH CEILING DIRECTLY APPLIED		
		O/C SPACING			O/C SPACING		
		12”	16”	19.2”	12”	16”	19.2”
9 1/2”	PKI 10	15'- 4”	14'- 6”	14'- 1”	15'- 10”	15'- 0”	14'- 6”
	PKI 20	15'- 9”	14'- 10”	14'- 5”	16'- 2”	15'- 3”	14'- 9”
	PKI 23	15'- 11”	15'- 0”	14'- 7”	16'- 4”	15'- 6”	14'- 11”
	PKI 35 Plus	16'- 3”	15'- 4”	14'- 10”	16'- 8”	15'- 9”	15'- 3”
	PKI 40	17'- 2”	16'- 2”	15'- 8”	17'- 7”	16'- 7”	16'- 0”
11 7/8”	PKI 10	17'- 3”	16'- 3”	15'- 9”	17'- 9”	16'- 9”	16'- 3”
	PKI 20	17'- 7”	16'- 7”	16'- 1”	18'- 1”	17'- 1”	16'- 7”
	PKI 23	17'- 10”	16'- 10”	16'- 3”	18'- 5”	17'- 4”	16'- 9”
	PKI 35 Plus	18'- 2”	17'- 2”	16'- 7”	18'- 10”	17'- 7”	17'- 1”
	PKI 40	19'- 7”	18'- 2”	17'- 6”	20'- 2”	18'- 8”	17'- 11”
	PKI 50	19'- 8”	18'- 3”	17'- 7”	20'- 3”	18'- 9”	18'- 0”
14”	PKI 10	18'- 10”	17'- 8”	17'- 1”	19'- 8”	18'- 3”	17'- 8”
	PKI 20	19'- 5”	18'- 1”	17'- 6”	20'- 2”	18'- 9”	18'- 0”
	PKI 23	19'- 8”	18'- 4”	17'- 8”	20'- 5”	19'- 0”	18'- 3”
	PKI 35 Plus	20'- 3”	18'- 9”	18'- 0”	20'- 11”	19'- 5”	18'- 8”
	PKI 40	21'- 9”	20'- 1”	19'- 3”	22'- 5”	20'- 9”	19'- 10”
	PKI 504	21'- 10”	20'- 2”	19'- 4”	22'- 6”	20'- 10”	19'- 11”
16”	PKI 20	21'- 1”	19'- 7”	18'- 10”	21'- 11”	20'- 5”	19'- 7”
	PKI 23	21'- 5”	19'- 11”	19'- 1”	22'- 3”	20'- 8”	19'- 10”
	PKI 35 Plus	22'- 0”	20'- 5”	19'- 7”	22'- 9”	21'- 2”	20'- 3”
	PKI 40	23'- 8”	21'- 10”	20'- 11”	24'- 5”	22'- 7”	21'- 7”
	PKI 50	23'- 9”	22'- 0”	21'- 0”	24'- 6”	22'- 8”	21'- 8”
18”	PKI 40	25'- 6”	23'- 6”	22'- 6”	26'- 3”	24'- 4”	23'- 3”
	PKI 50	25'- 7”	23'- 8”	22'- 7”	26'- 5”	24'- 5”	23'- 4”
20”	PKI 40	27'- 2”	25'- 2”	24'- 0”	28'- 1”	26'- 0”	24'- 10”
	PKI 50	27'- 4”	25'- 3”	24'- 1”	28'- 2”	26'- 1”	24'- 11”
22”	PKI 40	28'- 10”	26'- 8”	25'- 6”	29'- 9”	27'- 7”	26'- 4”
	PKI 50	29'- 0”	26'- 9”	25'- 7”	29'- 11”	27'- 8”	26'- 6”
24”	PKI 40	30'- 6”	28'- 2”	26'- 10”	31'- 5”	29'- 2”	27'- 10”
	PKI 50	30'- 8”	28'- 3”	27'- 0”	31'- 7”	29'- 3”	27'- 11”

23/32” Sheathing Glued & Screwed

JOIST DEPTH	JOIST TYPE	W/O CEILING DIRECTLY APPLIED				WITH CEILING DIRECTLY APPLIED			
		O/C SPACING				O/C SPACING			
		12”	16”	19.2”	24”	12”	16”	19.2”	24”
9 1/2”	PKI 10	16'- 3”	15'- 4”	14'- 10”	13'- 10”	16'- 8”	15'- 9”	15'- 2”	13'- 10”
	PKI 20	16'- 7”	15'- 8”	15'- 1”	14'- 6”	17'- 0”	16'- 1”	15'- 6”	14'- 8”
	PKI 23	16'- 10”	15'- 10”	15'- 4”	14'- 8”	17'- 3”	16'- 3”	15'- 8”	15'- 0”
	PKI 35 Plus	17'- 2”	16'- 2”	15'- 7”	15'- 0”	17'- 6”	16'- 7”	15'- 11”	15'- 4”
	PKI 40	18'- 2”	17'- 1”	16'- 5”	15'- 9”	18'- 7”	17'- 5”	16'- 9”	16'- 1”
11 7/8”	PKI 10	18'- 2”	17'- 2”	16'- 6”	15'- 0”	18'- 10”	17'- 8”	16'- 10”	15'- 0”
	PKI 20	18'- 8”	17'- 6”	16'- 11”	16'- 3”	19'- 4”	18'- 0”	17'- 4”	16'- 8”
	PKI 23	19'- 0”	17'- 9”	17'- 1”	16'- 5”	19'- 7”	18'- 3”	17'- 7”	16'- 10”
	PKI 35 Plus	19'- 6”	18'- 1”	17'- 5”	16'- 9”	20'- 1”	18'- 8”	17'- 10”	17'- 2”
	PKI 40	20'- 11”	19'- 4”	18'- 5”	17'- 8”	21'- 6”	19'- 11”	18'- 11”	18'- 0”
	PKI 50	21'- 1”	19'- 5”	18'- 6”	17'- 8”	21'- 7”	20'- 0”	19'- 0”	18'- 1”
14”	PKI 10	20'- 2”	18'- 9”	17'- 11”	17'- 3”	20'- 11”	19'- 6”	18'- 8”	17'- 9”
	PKI 20	20'- 9”	19'- 3”	18'- 5”	17'- 7”	21'- 6”	20'- 0”	19'- 1”	18'- 2”
	PKI 23	21'- 1”	19'- 7”	18'- 8”	17'- 10”	21'- 9”	20'- 3”	19'- 4”	18'- 4”
	PKI 35 Plus	21'- 7”	20'- 0”	19'- 1”	18'- 2”	22'- 3”	20'- 8”	19'- 9”	18'- 9”
	PKI 40	23'- 3”	21'- 6”	20'- 6”	19'- 5”	23'- 10”	22'- 1”	21'- 1”	19'- 11”
	PKI 50	23'- 4”	21'- 7”	20'- 7”	19'- 6”	23'- 11”	22'- 2”	21'- 2”	20'- 0”
16”	PKI 20	22'- 7”	20'- 11”	20'- 0”	19'- 0”	23'- 4”	21'- 9”	20'- 9”	19'- 9”
	PKI 23	22'- 11”	21'- 3”	20'- 3”	19'- 3”	23'- 8”	22'- 0”	21'- 1”	20'- 0”
	PKI 35 Plus	23'- 6”	21'- 9”	20'- 9”	19'- 9”	24'- 3”	22'- 6”	21'- 6”	20'- 5”
	PKI 40	25'- 3”	23'- 4”	22'- 3”	21'- 1”	25'- 11”	24'- 0”	22'- 11”	21'- 8”
	PKI 50	25'- 5”	23'- 6”	22'- 4”	21'- 2”	26'- 0”	24'- 1”	23'- 0”	21'- 9”
18”	PKI 40	27'- 2”	25'- 2”	23'- 11”	22'- 8”	27'- 11”	25'- 10”	24'- 8”	23'- 4”
	PKI 50	27'- 4”	25'- 3”	24'- 0”	22'- 9”	28'- 0”	26'- 0”	24'- 9”	23'- 5”
20”	PKI 40	29'- 1”	26'- 10”	25'- 6”	24'- 2”	29'- 10”	27'- 7”	26'- 4”	24'- 11”
	PKI 50	29'- 2”	26'- 11”	25'- 8”	24'- 3”	29'- 11”	27'- 9”	26'- 5”	25'- 0”
22”	PKI 40	30'- 10”	28'- 6”	27'- 1”	25'- 7”	31'- 8”	29'- 4”	27'- 11”	26'- 6”
	PKI 50	31'- 0”	28'- 7”	27'- 2”	25'- 9”	31'- 9”	29'- 5”	28'- 1”	26'- 7”
24”	PKI 40	32'- 8”	30'- 0”	28'- 7”	27'- 0”	33'- 10”	30'- 11”	29'- 6”	27'- 11”
	PKI 50	32'- 10”	30'- 2”	28'- 8”	27'- 2”	34'- 0”	31'- 1”	29'- 7”	28'- 1”

NOTES ON SPAN TABLES

1. The spans have been determined in accordance with CSA O86-14 “Engineering Design in Wood” and the vibration criteria developed by the Canadian Construction Materials Centre (CCMC).
2. The maximum simple spans in the tables are design spans measured from the center of minimum end bearing to the center of minimum end bearing.
3. Spans are based on composite action for sheathing glued and nailed to the I-joists. The spans are not applicable when the sheathing is nailed only to the joists.
4. Deflection due to total load is limited to 1/240 of the span.
5. Minimum end bearing length required is 1 ½”.
6. Pink shaded spans require 2 ½” end bearing for 9 1/2” to 16” deep I-joists and 4” end bearing for 18” to 24” deep I-joists.
7. The adhesive utilized to glue the sheathing to the joists shall comply with standard CAN/CGSB 71.26-M88.
8. The ceiling shall be a single layer of 1/2” thick gypsum board directly applied to the I-joists.
9. For multiple spans or load conditions not shown, please consult PinkWood approved software.

SIMPLE SPANS: 40 Live Load / 30 Dead Load (L/480)

19/32” Sheathing Glued & Screwed

JOIST DEPTH	JOIST TYPE	W/O CEILING DIRECTLY APPLIED			WITH CEILING DIRECTLY APPLIED		
		O/C SPACING			O/C SPACING		
		12”	16”	19.2”	12”	16”	19.2”
9 1/2”	PKI 10	15'- 4”	14'- 6”	13'- 11”	15'- 10”	15'- 0”	13'- 11”
	PKI 20	15'- 9”	14'- 10”	14'- 5”	16'- 2”	15'- 3”	14'- 9”
	PKI 23	15'- 11”	15'- 0”	14'- 7”	16'- 4”	15'- 6”	14'- 11”
	PKI 35 Plus	16'- 3”	15'- 4”	14'- 10”	16'- 8”	15'- 9”	15'- 3”
	PKI 40	17'- 2”	16'- 2”	15'- 8”	17'- 7”	16'- 7”	16'- 0”
11 7/8”	PKI 10	17'- 3”	16'- 3”	15'- 1”	17'- 9”	16'- 7”	15'- 1”
	PKI 20	17'- 7”	16'- 7”	16'- 1”	18'- 1”	17'- 1”	16'- 7”
	PKI 23	17'- 10”	16'- 10”	16'- 3”	18'- 5”	17'- 4”	16'- 9”
	PKI 35 Plus	18'- 2”	17'- 2”	16'- 7”	18'- 10”	17'- 7”	17'- 1”
	PKI 40	19'- 7”	18'- 2”	17'- 6”	20'- 2”	18'- 8”	17'- 11”
	PKI 50	19'- 8”	18'- 3”	17'- 7”	20'- 3”	18'- 9”	18'- 0”
14”	PKI 10	18'- 10”	17'- 8”	17'- 1”	19'- 8”	18'- 3”	17'- 8”
	PKI 20	19'- 5”	18'- 1”	17'- 6”	20'- 2”	18'- 9”	18'- 0”
	PKI 23	19'- 8”	18'- 4”	17'- 8”	20'- 5”	19'- 0”	18'- 3”
	PKI 35 Plus	20'- 3”	18'- 9”	18'- 0”	20'- 11”	19'- 5”	18'- 8”
	PKI 40	21'- 9”	20'- 1”	19'- 3”	22'- 5”	20'- 9”	19'- 10”
	PKI 50	21'- 10”	20'- 2”	19'- 4”	22'- 6”	20'- 10”	19'- 11”
16”	PKI 20	21'- 1”	19'- 7”	18'- 10”	21'- 11”	20'- 5”	19'- 7”
	PKI 23	21'- 5”	19'- 11”	19'- 1”	22'- 3”	20'- 8”	19'- 10”
	PKI 35 Plus	22'- 0”	20'- 5”	19'- 7”	22'- 9”	21'- 2”	20'- 3”
	PKI 40	23'- 8”	21'- 10”	20'- 11”	24'- 5”	22'- 7”	21'- 7”
	PKI 50	23'- 9”	22'- 0”	21'- 0”	24'- 6”	22'- 8”	21'- 8”
18”	PKI 40	25'- 6”	23'- 6”	22'- 6”	26'- 3”	24'- 4”	23'- 3”
	PKI 50	25'- 7”	23'- 8”	22'- 7”	26'- 5”	24'- 5”	23'- 4”
20”	PKI 40	27'- 2”	25'- 2”	24'- 0”	28'- 1”	26'- 0”	24'- 10”
	PKI 50	27'- 4”	25'- 3”	24'- 1”	28'- 2”	26'- 1”	24'- 11”
22”	PKI 40	28'- 10”	26'- 8”	25'- 6”	29'- 9”	27'- 7”	26'- 4”
	PKI 50	29'- 0”	26'- 9”	25'- 7”	29'- 11”	27'- 8”	26'- 6”
24”	PKI 40	30'- 6”	28'- 2”	26'- 10”	31'- 5”	29'- 2”	27'- 10”
	PKI 50	30'- 8”	28'- 3”	27'- 0”	31'- 7”	29'- 3”	27'- 11”

23/32” Sheathing Glued & Screwed

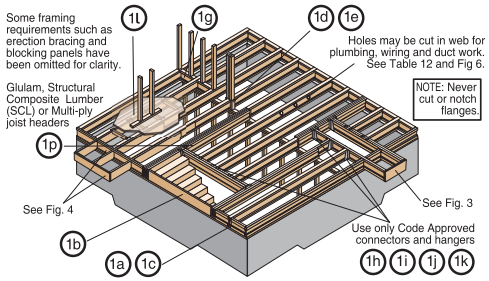
JOIST DEPTH	JOIST TYPE	W/O CEILING DIRECTLY APPLIED				WITH CEILING DIRECTLY APPLIED			
		O/C SPACING				O/C SPACING			
		12”	16”	19.2”	24”	12”	16”	19.2”	24”
9 1/2”	PKI 10	16'- 3”	15'- 3”	13'- 11”	12'- 5”	16'- 8”	15'- 3”	13'- 11”	12'- 5”
	PKI 20	16'- 7”	15'- 8”	15'- 1”	13'- 10”	17'- 0”	16'- 1”	15'- 6”	13'- 10”
	PKI 23	16'- 10”	15'- 10”	15'- 4”	14'- 8”	17'- 3”	16'- 3”	15'- 8”	14'- 10”
	PKI 35 Plus	17'- 2”	16'- 2”	15'- 7”	15'- 0”	17'- 6”	16'- 7”	15'- 11”	15'- 2”
	PKI 40	18'- 2”	17'- 1”	16'- 5”	15'- 9”	18'- 7”	17'- 5”	16'- 9”	16'- 1”
11 7/8”	PKI 10	18'- 2”	16'- 7”	15'- 1”	13'- 6”	18'- 10”	16'- 7”	15'- 1”	13'- 6”
	PKI 20	18'- 8”	17'- 6”	16'- 11”	16'- 0”	19'- 4”	18'- 0”	17'- 4”	16'- 0”
	PKI 23	19'- 0”	17'- 9”	17'- 1”	16'- 5”	19'- 7”	18'- 3”	17'- 7”	16'- 10”
	PKI 35 Plus	19'- 6”	18'- 1”	17'- 5”	16'- 3”	20'- 1”	18'- 8”	17'- 10”	16'- 3”
	PKI 40	20'- 11”	19'- 4”	18'- 5”	17'- 8”	21'- 6”	19'- 11”	18'- 11”	18'- 0”
	PKI 50	21'- 1”	19'- 5”	18'- 6”	17'- 8”	21'- 7”	20'- 0”	19'- 0”	18'- 1”
14”	PKI 10	20'- 2”	18'- 9”	17'- 10”	15'- 11”	20'- 11”	19'- 6”	17'- 10”	15'- 11”
	PKI 20	20'- 9”	19'- 3”	18'- 5”	17'- 2”	21'- 6”	20'- 0”	19'- 1”	17'- 2”
	PKI 23	21'- 1”	19'- 7”	18'- 8”	17'- 10”	21'- 9”	20'- 3”	19'- 4”	18'- 4”
	PKI 35 Plus	21'- 7”	20'- 0”	19'- 1”	16'- 6”	22'- 3”	20'- 8”	19'- 9”	16'- 6”
	PKI 40	23'- 3”	21'- 6”	20'- 6”	19'- 5”	23'- 10”	22'- 1”	21'- 1”	19'- 11”
	PKI 50	23'- 4”	21'- 7”	20'- 7”	19'- 6”	23'- 11”	22'- 2”	21'- 2”	20'- 0”
16”	PKI 20	22'- 7”	20'- 11”	20'- 0”	17'- 5”	23'- 4”	21'- 9”	20'- 9”	17'- 5”
	PKI 23	22'- 11”	21'- 3”	20'- 3”	19'- 3”	23'- 8”	22'- 0”	21'- 1”	19'- 11”
	PKI 35 Plus	23'- 6”	21'- 9”	20'- 9”	16'- 8”	24'- 3”	22'- 6”	20'- 10”	16'- 8”
	PKI 40	25'- 3”	23'- 4”	22'- 3”	21'- 1”	25'- 11”	24'- 0”	22'- 11”	21'- 8”
	PKI 50	25'- 5”	23'- 6”	22'- 4”	21'- 2”	26'- 0”	24'- 1”	23'- 0”	21'- 9”
18”	PKI 40	27'- 2”	25'- 2”	23'- 11”	22'- 8”	27'- 11”	25'- 10”	24'- 8”	23'- 4”
	PKI 50	27'- 4”	25'- 3”	24'- 0”	22'- 9”	28'- 0”	26'- 0”	24'- 9”	23'- 5”
20”	PKI 40	29'- 1”	26'- 10”	25'- 6”	24'- 2”	29'- 10”	27'- 7”	26'- 4”	24'- 11”
	PKI 50	29'- 2”	26'- 11”	25'- 8”	24'- 3”	29'- 11”	27'- 9”	26'- 5”	25'- 0”
22”	PKI 40	30'- 10”	28'- 6”	27'- 1”	25'- 7”	31'- 8”	29'- 4”	27'- 11”	26'- 6”
	PKI 50	31'- 0”	28'- 7”	27'- 2”	25'- 9”	31'- 9”	29'- 5”	28'- 1”	26'- 7”
24”	PKI 40	32'- 8”	30'- 0”	28'- 7”	27'- 0”	33'- 10”	30'- 11”	29'- 6”	27'- 2”
	PKI 50	32'- 10”	30'- 2”	28'- 8”	27'- 2”	34'- 0”	31'- 1”	29'- 7”	27'- 2”

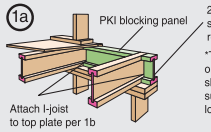
NOTES ON SPAN TABLES

1. The spans have been determined in accordance with CSA O86-14 “Engineering Design in Wood” and the vibration criteria developed by the Canadian Construction Materials Centre (CCMC).
2. The maximum simple spans in the tables are design spans measured from the center of minimum end bearing to the center of minimum end bearing.
3. Spans are based on composite action for sheathing glued and nailed to the I-joists. The spans are not applicable when the sheathing is nailed only to the joists.
4. Deflection due to total load is limited to 1/240 of the span.
5. Minimum end bearing length required is 1 ½”.
6. Pink shaded spans require 2 ½” end bearing for 9 1/2” to 16” deep I-joists and 4” end bearing for 18” to 24” deep I-joists.
7. The adhesive utilized to glue the sheathing to the joists shall comply with standard CAN/CGSB 71.26-M88.
8. The ceiling shall be a single layer of 1/2” thick gypsum board directly applied to the I-joists.
9. For multiple spans or load conditions not shown, please consult PinkWood approved software.

FLOOR INSTALLATION DETAILS - PKI 10, 20, 23, 35 Plus, 40 & 50

Canadian Handling & Installation Recommendations

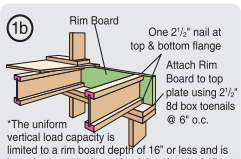




2-1/2" 8d box nails at 6" o.c. to top plate (when used for lateral shear transfer, nail to bearing plate with same nailing as required for decking).

*The uniform vertical load is limited to a joist depth of 16" or less and is based on standard term load duration. It shall not be used in the design of a bending member, such as joist, header or rafter. For concentrated vertical load transfer capacity, see 1d.

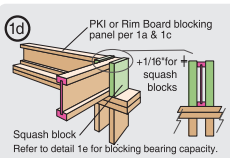
Blocking panel or rim joist	Max Factored Vertical Uniform Loads
PKI Rim joist	3300 (PLF)



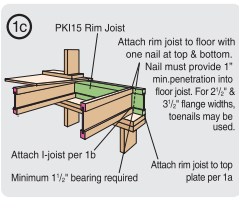
*The uniform vertical load capacity is limited to a rim board depth of 16" or less and is based on standard term load duration. It shall not be used in the design of a bending member, such as joist, header or rafter. For concentrated vertical load transfer capacity, see 1d.

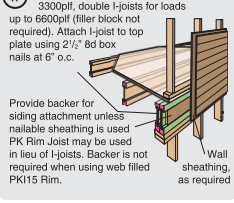
One 8d face nail at each side at bearing. To avoid splitting flange, start nails at least 1½" from end of I-joist. Nails may be driven at an angle to avoid splitting of bearing plate.

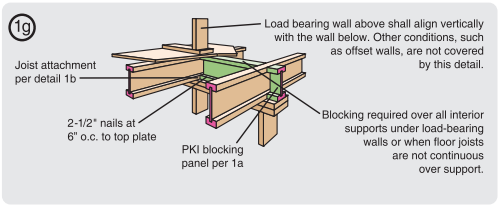
Blocking panel or rim joist	Max Factored Vertical Uniform Loads
1-1/8" Rim Board Plus	7033 PLF
1-1/8" Rim Board	7033 PLF
1' Rim Board	4785 PLF

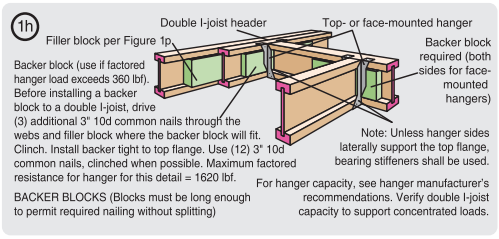


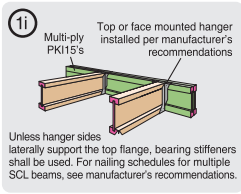
Refer to detail 1e for blocking bearing capacity.

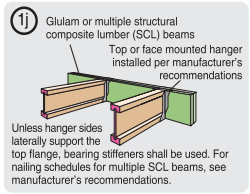


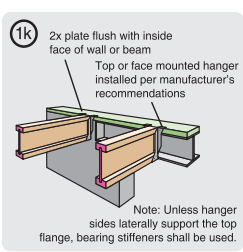


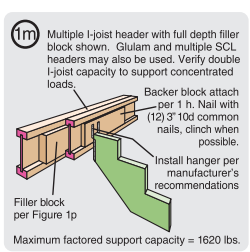


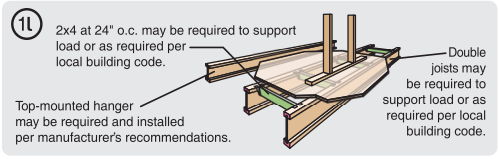




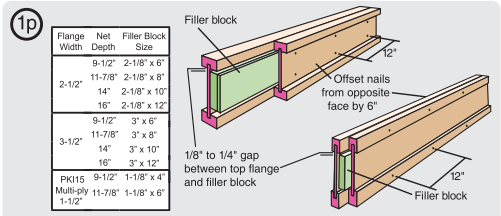








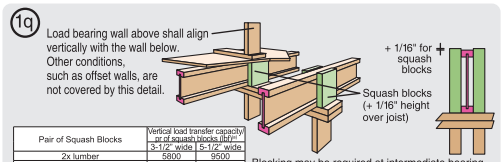
Disclaimer: The above details represent the most common details found in day to day construction of I-joist floor systems and are not intended to cover all scenarios that may be encountered in the field. When faced with an uncertain design detail, please contact your PKI supplier or PinkWood Ltd. for assistance.



Flange Width	Net Depth	Filler Block Size
2-1/2"	9-1/2"	2-1/8" x 6"
	11-7/8"	2-1/8" x 8"
	14"	2-1/8" x 10"
	16"	2-1/8" x 12"
3-1/2"	9-1/2"	3" x 6"
	11-7/8"	3" x 8"
	14"	3" x 10"
	16"	3" x 12"
PKI15 Multi-ply 1-1/2"	9-1/2"	1-1/8" x 4"
	11-7/8"	1-1/8" x 6"

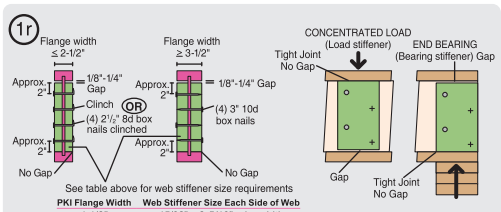
Notes:

1. Support back of I-joist web during nailing to prevent damage to web/flange connection.
2. Leave a 1/8-inch gap between top of filler block and bottom of top I-joist flange.
3. Filler block is required between joists for full length of span.
4. For flange widths of 2-1/2 inches or less, nail joists together with two rows of 3" 10d common nails, 12" o.c. (clinched when possible) on each side of the double I-joist (total 4 nails per foot). For flange widths greater than 2-1/2", use two rows of 3" 10d common nails at 6" o.c. on each side of the double I-joist (total 8 nails/ ft).
5. The maximum factored load that may be applied to one side of the double joist using this detail is 860 lbf/ft.
6. For I-joist depths greater than 16 inches, please contact your PinkWood representative for details.
7. Web fill may be omitted for some loading conditions. Please contact PinkWood representative for details.



Pair of Squash Blocks	Vertical load transfer capacity per of squash blocks (lbf)[2]	
	3-1/2" wide	5-1/2" wide
2x lumber	5800	9500
1-1/8" APA Rim Board, Rim Board Plus, C-1 or better[3] or Rated Sturd-I-Floor 32 oc	4500	5800
1" Rim Board, C-2 or better[3] or Rated Sturd-I-Floor 32 oc	4000	5800

Blocking may be required at intermediate bearing for floor diaphram. Consult local building regulations. See ANSI/APA PRR 410. Squash blocks are assumed to be in full bearing on the plate below.



See table above for web stiffener size requirements

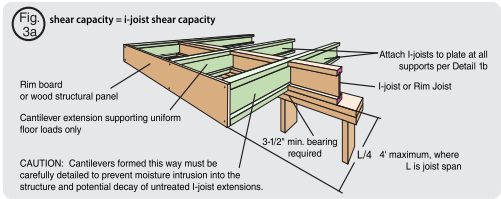
PKI Flange Width	Web Stiffener Size Each Side of Web
1-1/2"	15/32" x 2-5/16" min. width
2-1/2"	1" x 2-5/16" min. width
3-1/2"	1-1/2" x 2-5/16" min. width

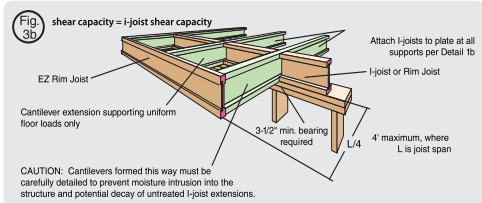
Refer to Table 4 of ER-431

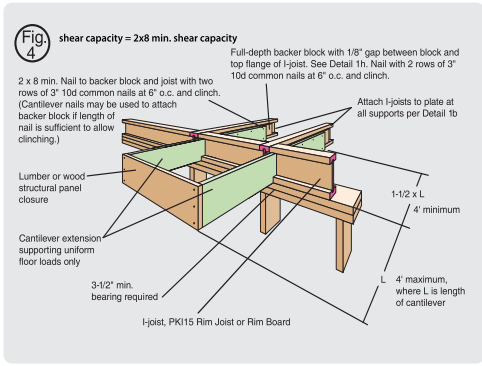
PHYSICAL DESCRIPTION:

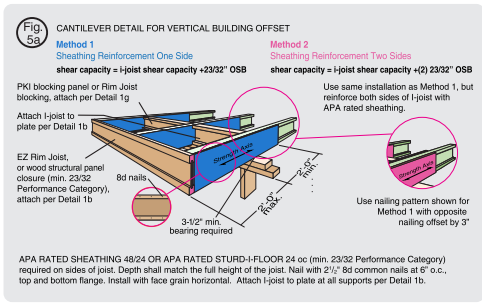
Web stiffener blocks may be compromised of lumber, PKI Rim Board or wood structural panels. The wood structural panels should be Rated Sheathing or Single Floor; minimum lumber grade is Utility grade SPF (south) or better.

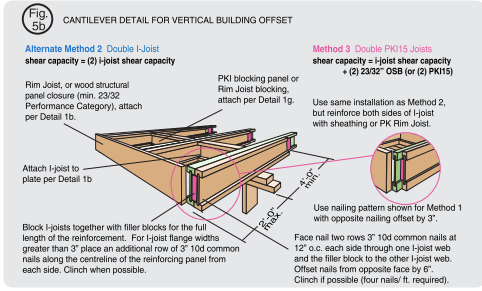
Ideally, the depth of the web stiffener should equal the distance between the flanges of the joist minus 1/8 inch to 1/4 inch. For **bearing stiffeners,** this gap is placed between the top of the stiffener and the bottom of the top flange. For **load stiffeners,** the gap is located at the bottom of the stiffener.











LOCATION OF CIRCULAR HOLES IN PKI JOIST WEBS

TABLE 5. Simple or Multiple Span for Live Loads up to 40 psf and Dead Loads up to 15 psf

Joist Depth	Series	SAF	Minimum Distance from Inside Face of Any Supports to Center of Hole (ft-in)																									
			Round Hole Diameter (in.)																									
			2	3	4	5	6	6 1/4	7	8	8 5/8	9	10	10 3/4	11	12	12 3/4	13	14	14 3/4	15	16	16 3/4	17	18	18 3/4	19	20	20 3/4
9 1/2"	PKI 10	12.91	1'-1"	1'-2"	1'-8"	2'-11"	4'-4"	4'-9"																					
	PKI 20	14.09	1'-1"	1'-2"	2'-5"	3'-9"	5'-2"	5'-7"																					
	PKI 23	14.83	1'-1"	1'-2"	1'-5"	3'-1"	4'-10"	5'-3"																					
	PKI 35 Plus	15.32	1'-1"	2'-1"	3'-5"	4'-9"	6'-3"	6'-9"																					
	PKI 40	16.81	2'-0"	3'-4"	4'-9"	6'-4"	7'-11"	8'-4"																					
11 7/8"	PKI 10	14.81	1'-1"	1'-2"	1'-2"	1'-8"	2'-10"	3'-2"	4'-2"	5'-6"	6'-7"																		
	PKI 20	16.32	1'-1"	1'-2"	1'-5"	2'-8"	3'-11"	4'-3"	5'-2"	6'-8"	7'-11"																		
	PKI 23	17.52	1'-1"	1'-2"	1'-2"	1'-8"	3'-1"	3'-6"	4'-8"	6'-4"	7'-6"																		
	PKI 35 Plus	17.67	1'-1"	1'-2"	2'-4"	3'-7"	4'-10"	5'-2"	6'-2"	7'-9"	9'-1"																		
	PKI 40	19.96	1'-5"	2'-9"	4'-1"	5'-6"	6'-11"	7'-3"	8'-5"	10'-1"	11'-2"																		
	PKI 50	20.08	1'-1"	1'-2"	1'-2"	2'-7"	4'-5"	4'-10"	6'-3"	8'-2"	9'-6"																		
14"	PKI 10	16.24	1'-1"	1'-2"	1'-2"	1'-3"	1'-8"	1'-11"	2'-9"	4'-0"	4'-9"	5'-3"	6'-8"	8'-2"															
	PKI 20	17.69	1'-1"	1'-2"	1'-2"	1'-5"	2'-7"	2'-10"	3'-9"	5'-0"	5'-10"	6'-4"	7'-10"	9'-8"															
	PKI 23	19.24	1'-1"	1'-2"	1'-2"	1'-3"	1'-10"	2'-2"	3'-2"	4'-7"	5'-7"	6'-2"	7'-9"	9'-6"															
	PKI 35 Plus	18.42	1'-1"	1'-2"	1'-3"	2'-5"	3'-7"	3'-10"	4'-9"	6'-1"	6'-11"	7'-6"	9'-4"	11'-5"															
	PKI 40	22.63	1'-1"	2'-2"	3'-5"	4'-9"	6'-1"	6'-5"	7'-6"	8'-11"	9'-11"	10'-6"	12'-2"	13'-7"															
	PKI 50	22.76	1'-1"	1'-2"	1'-2"	2'-4"	3'-11"	4'-4"	5'-6"	7'-3"	8'-4"	9'-0"	10'-11"	12'-5"															
16"	PKI 20	18.97	1'-1"	1'-2"	1'-2"	1'-3"	1'-5"	1'-8"	2'-6"	3'-8"	4'-5"	4'-10"	6'-1"	7'-1"	7'-5"	9'-3"	11'-3"												
	PKI 23	19.94	1'-1"	1'-2"	1'-2"	1'-3"	1'-3"	1'-4"	1'-5"	2'-9"	3'-7"	4'-1"	5'-8"	7'-0"	7'-5"	9'-5"	11'-7"												
	PKI 35 Plus	18.71	1'-1"	1'-2"	1'-2"	1'-5"	2'-6"	2'-10"	3'-8"	4'-10"	5'-7"	6'-1"	7'-4"	8'-4"	8'-9"	11'-0"	13'-0"												
	PKI 40	25.03	1'-1"	1'-2"	2'-3"	3'-7"	4'-10"	5'-2"	6'-2"	7'-6"	8'-5"	9'-0"	10'-6"	11'-9"	12'-2"	14'-3"	15'-10"												
	PKI 50	25.17	1'-1"	1'-2"	1'-2"	2'-2"	3'-7"	3'-11"	5'-1"	6'-7"	7'-7"	8'-2"	9'-10"	11'-1"	11'-7"	13'-5"	15'-0"												
18"	PKI 40	27.24	1'-1"	1'-2"	1'-2"	1'-3"	2'-5"	2'-9"	3'-9"	5'-1"	6'-0"	6'-6"	8'-0"	9'-2"	9'-6"	11'-2"	12'-8"	13'-2"	15'-6"	17'-6"									
	PKI 50	27.41	1'-1"	1'-2"	1'-2"	2'-3"	3'-7"	3'-11"	4'-11"	6'-4"	7'-3"	7'-9"	9'-3"	10'-5"	10'-10"	12'-5"	13'-9"	14'-2"	16'-0"	17'-8"									
20"	PKI 40	29.48	1'-1"	1'-2"	1'-2"	1'-3"	1'-7"	1'-11"	2'-10"	4'-2"	4'-11"	5'-5"	6'-10"	7'-10"	8'-2"	9'-7"	10'-9"	11'-1"	12'-11"	14'-8"	15'-3"	17'-9"	20'-1"						
	PKI 50	29.66	1'-1"	1'-2"	1'-2"	1'-10"	3'-1"	3'-5"	4'-4"	5'-8"	6'-6"	7'-0"	8'-5"	9'-6"	9'-10"	11'-3"	12'-5"	12'-10"	14'-5"	15'-9"	16'-3"	18'-5"	20'-3"						
22"	PKI 40	30.34	1'-1"	1'-2"	1'-2"	1'-3"	1'-3"	1'-4"	2'-1"	3'-3"	4'-1"	4'-6"	5'-9"	6'-9"	7'-1"	8'-5"	9'-5"	9'-9"	11'-2"	12'-4"	12'-9"	14'-10"	16'-7"	17'-4"	20'-5"	22'-10"			
	PKI 50	30.34	1'-1"	1'-2"	1'-2"	1'-3"	1'-10"	2'-1"	3'-0"	4'-3"	5'-0"	5'-6"	6'-9"	7'-9"	8'-1"	9'-5"	10'-5"	10'-9"	12'-2"	13'-6"	13'-11"	16'-1"	17'-10"	18'-5"	20'-10"	23'-1"			
24"	PKI 40	30.34	1'-1"	1'-2"	1'-2"	1'-3"	1'-3"	1'-4"	1'-4"	2'-6"	3'-3"	3'-8"	4'-10"	5'-9"	6'-1"	7'-4"	8'-3"	8'-7"	9'-10"	10'-10"	11'-2"	12'-7"	13'-11"	14'-5"	16'-10"	18'-11"	19'-8"	22'-9"	25'-2"
	PKI 50	30.34	1'-1"	1'-2"	1'-2"	1'-3"	1'-3"	1'-4"	2'-2"	3'-4"	4'-1"	4'-6"	5'-9"	6'-8"	6'-11"	8'-2"	9'-2"	9'-6"	10'-9"	11'-10"	12'-2"	13'-10"	15'-3"	15'-9"	17'-11"	19'-7"	20'-4"	23'-4"	25'-10"

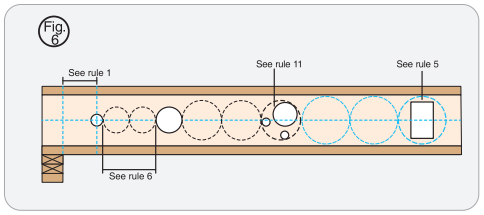
WEB HOLE SPECIFICATIONS

One of the benefits of using I-joists in residential floor construction is that holes may be cut in the joist webs to accommodate electrical wiring, plumbing lines and other mechanical systems, therefore minimizing the depth of the floor system.

Rules for cutting holes in PKI Joists

1. The distance between the inside edge of the support and the centerline of any hole shall be in compliance with the requirements of Table 5.
2. I-joist top and bottom flanges must NEVER be cut, notched or otherwise modified.
3. Whenever possible, field-cut holes should be centered on the middle of the web.
4. The maximum size hole that can be cut into an I-joist web shall equal the clear distance between the flanges of the I-joist minus 1/4 inch. A minimum of 1/8 inch should always be maintained between the top or bottom of the hole and the adjacent I-joist flange.
5. The sides of square holes or longest sides of rectangular holes should not exceed three-fourths of the diameter of the maximum round hole permitted at that location.
6. Where more than one hole is necessary, the distance between adjacent hole edges shall exceed twice the diameter of the largest round hole or twice the size of the largest square hole (or twice the length of the longest side of the longest rectangular hole) and each hole must be sized and located in compliance with the requirements of Table 5.
7. Holes measuring 1-1/2 inches or smaller shall be permitted anywhere in a cantilevered section of a PKI Joist. Holes of greater size may be permitted subject to verification.
8. A 1-1/2-inch hole or smaller can be placed anywhere in the web provided that it meets the requirements of rule number 6 above.
9. All holes shall be cut in a workman-like manner in accordance with the restrictions listed above and as illustrated in Figure 6.
10. Limit three maximum-size holes per span.
11. A group of round holes at approximately the same location shall be permitted if they meet the requirements for a single round hole circumscribed around them.

PKI JOIST TYPICAL HOLES



Cutting the Hole

- Never drill, cut or notch the flange, or over-cut the web.
- Holes in webs should be cut with a sharp saw.
- For rectangular holes, avoid over-cutting the corners, as this can cause unnecessary stress concentrations. Slightly rounding the corners is recommended. Starting the rectangular hole by drilling a 1-inch-diameter hole in each of the four corners and then making the cuts between the holes is another good method to minimize damage to the I-joist.

WEB HOLE SPECIFICATIONS

One of the benefits of using I-joists in residential floor construction is that holes may be cut in the joist webs to accommodate electrical wiring, plumbing lines and other mechanical systems, therefore minimizing the depth of the floor system.

Rules for cutting holes in PKI Joists

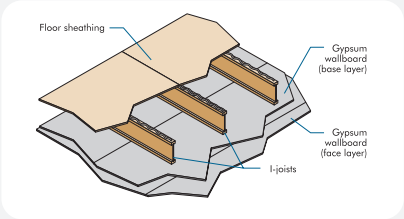
1. The distance between the inside edge of the support and the centerline of any hole shall be in compliance with the requirements of the table on the left.
2. I-joist top and bottom flanges must NEVER be cut, notched or otherwise modified.
3. Whenever possible, field-cut holes should be centered on the middle of the web.
4. The maximum size hole that can be cut into an I-joist web shall equal the clear distance between the flanges of the I-joist minus 1/4 inch. A minimum of 1/8 inch should always be maintained between the top or bottom of the hole and the adjacent I-joist flange.
5. The sides of square holes or longest sides of rectangular holes should not exceed three-fourths of the diameter of the maximum round hole permitted at that location.
6. Where more than one hole is necessary, the distance between adjacent hole edges shall exceed twice the diameter of the largest round hole or twice the size of the largest square hole (or twice the length of the longest side of the longest rectangular hole) and each hole must be sized and located in compliance with the requirements of table on the left.
7. Holes measuring 1-1/2 inches or smaller shall be permitted anywhere in a cantilevered section of a PKI Joist. Holes of greater size may be permitted subject to verification.
8. A 1-1/2-inch hole or smaller can be placed anywhere in the web provided that it meets the requirements of rule number 6 above.
9. All holes shall be cut in a workman-like manner in accordance with the restrictions listed above and as illustrated in Figure 6.
10. Limit three maximum-size holes per span.
11. A group of round holes at approximately the same location shall be permitted if they meet the requirements for a single round hole circumscribed around them.

FIRE RATED ASSEMBLIES

PinkWood Assembly PK1.5

One-Hour Fire Resistance Rated Floor/Ceiling Assembly
This fire resistance design is listed in accordance with American Wood Council's Design for Code Acceptance (DCA) 3

PKI 10, PKI 20, PKI 23, PKI 35Plus, PKI 40 and PKI 50



A. BASIC ASSEMBLIES

1. Floor Topping (Optional): Varies (reference sound ratings if applicable).
2. Floor Sheathing: Min. 23/32-inch (18-mm) T&G Wood Structural Panel. The sheets shall be installed with their long edge perpendicular to the joists with end joints centered over the top flange of joists. Floor sheathing must be installed per code requirements.
3. Structural Members: Min. 9-1/4 inches (235 mm) deep I-joists. Max. 24 inches (610 mm) on center spacing. Min. flange thickness of 1-1/2 inches (38 mm) and each flange area of at least 2.25 inches^2 (1,452 mm^2). Min. web thickness of 3/8 inch (9.5 mm).
4. Ceiling: Two layers of 1/2-inch (13-mm) Type C Gypsum Wallboard.
   a. Base Layer: Install with long dimension perpendicular to joist length. Attach to the bottom flange of the joists using 1-inch (25-mm) Type S drywall screws at 12 inches (305 mm) on center. The end joints of the wallboard must be centered on the bottom flange of the joist and must be staggered.
   b. Face Layer: Install with long dimension perpendicular to joist length. Attach to the bottom flange of the joists through the base layer using 1-5/8-inch (41-mm) Type S drywall screws spaced at 12 inches (305 mm) on center on intermediate joists and 8 inches (203 mm) on center at end joints. The longitudinal joints of this layer must be offset 24 inches (610 mm) from those of the base layer. The end joints must be centered on the bottom flange of the joists and offset a min. of 48 inches (1219 mm) from those of the base layer. Additionally, face layer end joints are attached to the base layer with 1-1/2-inch (38-mm) Type G drywall screws at 8 inches (203 mm) on center with a 4-inch (102-mm) stagger, placed 6 inches (152 mm) either side of the joint.
   c. Finish: The face layer joints must be covered with tape and coated with joint compound. Screw heads must also be covered with joint compound.

B. SOUND RATING(a)

Components	STC	IIC
Base Assembly with Carpet and Padding, Gypsum Concrete	49	55

(a) Sound ratings from the American Wood Council piblication Design for Code Acceptance (DCA) 3.

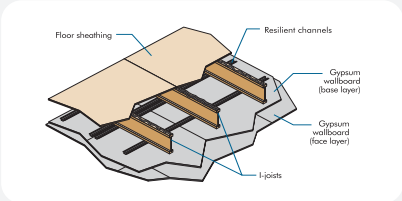
Full PinkWood Fire assembly listings can be found in APA Product Report PR-S315

FIRE RATED ASSEMBLIES

PinkWood Assembly PK1.6

One-Hour Fire Resistance Rated Floor/Ceiling Assembly
This fire resistance design is listed in accordance with American Wood Council's Design for Code Acceptance (DCA) 3

PKI 10, PKI 20, PKI 23, PKI 35 Plus, PKI 40 and PKI 50



A. BASIC ASSEMBLIES

1. Floor Topping (Optional): Varies (reference sound ratings if applicable).
2. Floor Sheathing: Min. 23/32-inch (18-mm) T&G Wood Structural Panel. The sheets shall be installed with their long edge perpendicular to the joists with end joints centered over the top flange of joists. Floor sheathing must be installed per code requirements.
3. Structural Members: Min. 9-1/4 inches (235 mm) Deep I-joists. Max. 24 inches (610 mm) on center spacing. Min. flange thickness of 1-1/2 inches (38 mm) and each flange area of at least 2.25 inches^2 (1,452 mm^2). Min. web thickness of 3/8 inch (9.5 mm).
4. Resilient Channels†: Min. 0.019-inch (0.5-mm) Galvanized Resilient Channels. Attached perpendicular to the bottom flange of the I-joist with 1-1/4-inch (32-mm) Type S drywall screws. Channels are spaced a max. of 16 inches (406 mm) on center (24 inches or 610 mm when I-joists are spaced a max. of 16 inches or 406 mm on center), are doubled at each base layer wallboard end joint, and extend to the next joist beyond each joint.
5. Ceiling: Two layers of 1/2-inch (13-mm) Type C Gypsum Wallboard.
   a. Base Layer: Install with long dimension perpendicular to resilient channels. Attach to the resilient channels using 1-1/4 inch (32-mm) Type S drywall screws at 12 inches (305 mm) on center. The end joints of the wallboard must be staggered.
   b. Face Layer: Install with long dimension perpendicular to resilient channels. Attach to the resilient channels through the base layer using 1-5/8-inch (41-mm) Type S drywall screws spaced at 12 inches (305 mm) on center. The longitudinal joints of this layer must be offset 24 inches (610 mm) from those of the base layer. Additionally, face layer end joints are attached to the base layer with 1-1/2-inch (38-mm) Type G drywall screws at 8 inches (203 mm) on center placed 1-1/2 inches (38 mm) either side of the joint.
   c. Finish: The face layer joints must be covered with tape and coated with joint compound. Screw heads must also be covered with joint compound.

B. SOUND RATING(a)

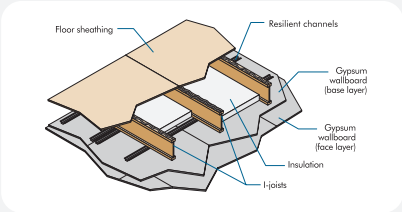
Components	STC	IIC
Base Assembly with Carpet and Padding	54	68
Base Assembly with Carpet and Padding, Gypsum Concrete	58	55

(a) Sound ratings from the American Wood Council piblication Design for Code Acceptance (DCA) 3.

PinkWood Assembly PK1.7

One-Hour Fire Resistance Rated Floor/Ceiling Assembly
This fire resistance design is listed in accordance with American Wood Council's Design for Code Acceptance (DCA) 3

PKI 10, PKI 20, PKI 23, PKI 35 Plus, PKI 40 and PKI 50



A. BASIC ASSEMBLIES

1. Floor Topping (Optional): Varies (reference sound ratings if applicable).
2. Floor Sheathing: Min. 23/32-inch (18-mm) T&G Wood Structural Panel. The sheets shall be installed with their long edge perpendicular to the joists with end joints centered over the top flange of joists. Floor sheathing must be installed per code requirements.
3. Insulation: Glass Fiber Insulation. Installed between I-joists and supported by resilient channels.
4. Structural Members: Min. 9-1/4 inches (235 mm) Deep I-joists. Max. 24 inches (610 mm) on center spacing. Min. flange thickness of 1-1/2 inches (38 mm) and each flange area of at least 2.25 inches^2 (1,452 mm^2). Min. web thickness of 3/8 inch (9.5 mm).
5. Resilient Channels†: Min. 0.019-inch (0.5-mm) Galvanized Resilient Channels. Attached perpendicular to the bottom flange of the I-joist with 1-1/4-inch (32-mm) Type S drywall screws. Channels are spaced a max. of 16 inches (406 mm) on center (24 inches or 610 mm when I-joists are spaced a max. of 16 inches or 406 mm on center), are doubled at each base layer wallboard end joint, and extend to the next joist beyond each joint.
6. Ceiling: Two layers of 1/2-inch (13-mm) Type C Gypsum Wallboard.
   a. Base Layer: Install with long dimension perpendicular to resilient channels. Attach to the resilient channels using 1-1/4 inch (32-mm) Type S drywall screws at 12 inches (305 mm) on center. The end joints of the wallboard must be staggered.
   b. Face Layer: Install with long dimension perpendicular to resilient channels. Attach to the resilient channels through the base layer using 1-5/8-inch (41-mm) Type S drywall screws spaced at 12 inches (305 mm) on center. The longitudinal joints of this layer must be offset 24 inches (610 mm) from those of the base layer. Additionally, face layer end joints are attached to the base layer with 1-1/2-inch (38-mm) Type G drywall screws at 8 inches (203 mm) on center placed 1-1/2 inches (38 mm) either side of the joint.
   c. Finish: The face layer joints must be covered with tape and coated with joint compound. Screw heads must also be covered with joint compound.

B. SOUND RATING(a)

Components	STC	IIC
Base Assembly with cushioned vinyl	59	50
Base Assembly with Carpet and Padding	55	68
Base Assembly with cushioned vinyl, Gypsum Concrete	65	51
Base Assembly with Carpet and Padding, Gypsum Concrete	63	65

(a) Sound ratings from the American Wood Council piblication Design for Code Acceptance (DCA) 3.

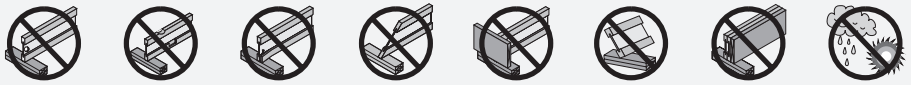
PRODUCT STORAGE

Protect products from sun and water.

Caution: Wrap is slippery when wet.

Use support blocks at 10' on centre to keep products out of mud and water.

SAFETY PRECAUTIONS



DO NOT... drill any holes over a support.

DO NOT... cut or notch top or bottom cords.

DO NOT... split the flange. Ensure proper toe nailing.

DO NOT... bevel cut the joist past the inside face of wall.

DO NOT... use conventional lumber for structural rim or band board.

DO NOT... install joists on an angle.

DO NOT... use conventional lumber combined with PKI Joists as built-up.

DO NOT... prolong exposure to the elements, (rain, snow, sun) either on-site or at lumber yard.

WARNING

Joists are unstable until braced laterally

Bracing includes:
- Blocking
- Hangers
- Rim Board
- Sheathing
- Rim
- Strut Lines

Lack of proper bracing during construction can result in serious injuries. Follow these guidelines:

1. All blocking, hangers, rim boards and rim joists at the end supports of the PKI Joists must be completely installed and properly nailed.
2. Lateral strength, like a braced end wall or an existing deck, must be established at the end of the bay. This can also be accomplished by a temporary or permanent deck (sheathing) fastened to the first four feet of joists at the end of the bay.
3. Safety bracing of 1x4 (minimum) must be nailed to a braced end wall or sheathed area (as in #2) and to each joist. Without this bracing, buckling sideways or rollover is highly probable under light construction loads - such as a worker or one layer of unnailed sheathing.
4. Sheathing must be completely attached to each PKI Joist before additional loads can be placed on the system.
5. Ends of cantilevers require safety bracing on both the top and bottom flanges.
6. The flanges must remain straight within a tolerance of $^1/_2$" from true alignment.

DO NOT walk on joists until braced. INJURY CAN OCCUR.

DO NOT stack building materials on unsheathed joists. Stack only over beams or walls.

DO NOT walk on joists that are lying flat.

ENGINEERED FLOOR SYSTEM GUARANTEE

PinkWood joists are manufactured to meet or exceed the rigorous engineering and testing standards set by every major code approval agency in North America.

All PinkWood joist products are unconditionally guaranteed to be free of manufacturing defects. When installed and handled as per the PKjoist Installation Guide, our joists will perform in accordance with the published structural specifications.

In the unlikely event that a problem occurs due to a manufacturing defect, PinkWood shall be given a reasonable opportunity to inspect the PinkWood product on site. If this evaluation reveals a problem due to manufacturing defects, the situation shall be promptly corrected.

Please feel free to contact a representative of PinkWood for specific details and limitations of this guarantee.

Authorized Dealer:

PINKWOOD

A product of PinkWood Ltd. Visit us at www.PinkWood.ca
5929, 6th Street NE Calgary, Alberta, Canada T2K 5R5

June. 2023 CND

Residential Install Guide

FIGURE 1

TYPICAL PERFORMANCE RATED I-JOIST FLOOR FRAMING AND CONSTRUCTION

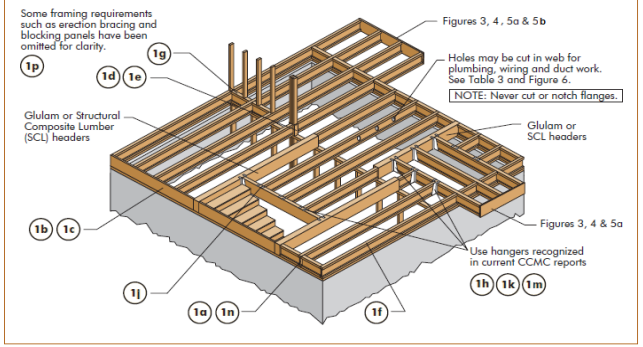
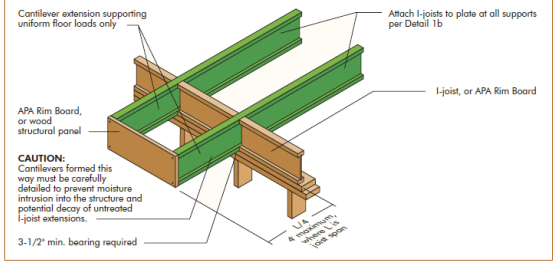


FIGURE 3 (C1)

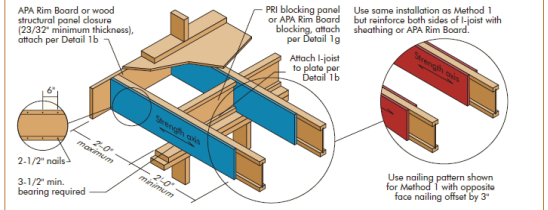
I-JOIST CANTILEVER DETAIL FOR BALCONIES



CANTILEVER DETAIL FOR VERTICAL BUILDING OFFSET

FIGURE 5a (C2)
SHEATHING REINFORCEMENT ONE SIDE

FIGURE 5b (C3)
SHEATHING REINFORCEMENT TWO SIDES

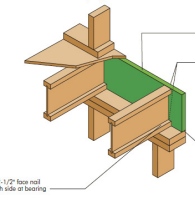


Note: APA RATED SHEATHING 48/24 (minimum thickness 23/32") required on sides of joist. Depth shall match the full height of the joist. Nail with 2-1/2" nails at 6" o.c., top and bottom flange. Install with face grain horizontal. Attach I-joist to plate at all supports per Detail 1b

(1b) (A1)

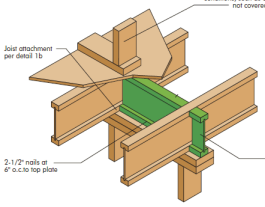
Blocking Panel or Rim Joist	Maximum Factored Uniform Vertical Load* (plf)
1-1/8" APA Rim Board Plus	8090
1-1/8" APA Rim Board	7540
1" APA Rim Board	5500

*The uniform vertical load capacity is limited to a joist depth of 16 inches or less and is based on standard term load duration. It shall not be used in the design of a bending member, such as joist, header, or rafter. For concentrated vertical load transfer capacity, see 1d.

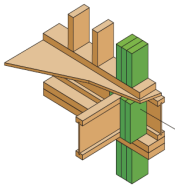


To avoid splitting flange, start nails at least 1-1/2" from end of I-joist. Nails may be driven at an angle to avoid splitting of bearing plate.

(1g) (B3)



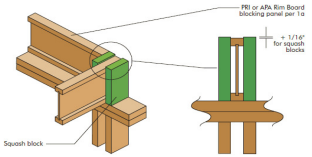
(1e) (D2)



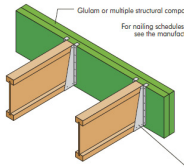
(1d) (B1)

Pair of Squash Blocks	Maximum factored vertical load per pair of squash blocks (lbs)	
	3-1/2" wide	5-1/2" wide
2x lumber	5800	9500
1-1/8" APA Rim Board, Rim Board Plus, or Rated Sturd-I-Floor 48 oc	4500	5800
1" APA Rim Board or Rated Sturd-I-Floor 32 oc	4000	5800

Provide lateral bracing per 1a, 1b, or 1c

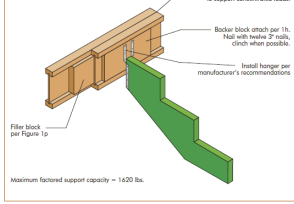


(1j) (E2)



Note: Unless hanger sides laterally support the top flange, bearing stiffeners shall be used.

(1m) (E1)



Maximum factored support capacity = 1620 lbs.

FIGURE 2 (W1)

WEB STIFFENER INSTALLATION DETAILS

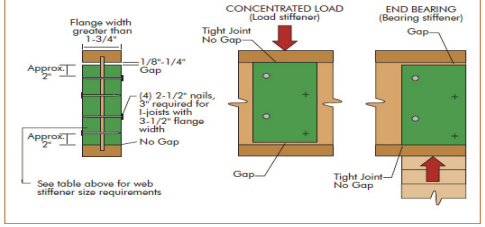


TABLE 1

STIFFENER SIZE REQUIREMENTS

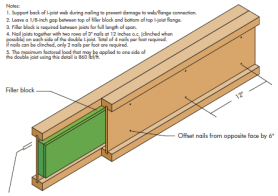
Flange Width	Web Stiffener Size Each Side of Web
2-1/2"	1" x 2-5/16" minimum width
3-1/2"	1-1/2" x 2-5/16" minimum width

(1p) (E5)

FILLER BLOCK REQUIREMENTS FOR DOUBLE I-JOIST CONSTRUCTION

Flange Width	Net Depth	Filler Block Size
1-1/2"	9-1/2"	1-1/8" x 6" high
	11-7/8"	1-1/8" x 8" high
1-3/4"	9-1/2"	1-3/8" x 6"
	11-7/8"	1-3/8" x 8"
	14"	1-3/8" x 10"
	16"	1-3/8" x 12"
2-5/16"	11-7/8"	2" x 8"
	14"	2" x 10"
	16"	2" x 12"
2-1/2"	9-1/2"	2-1/8" x 6"
	11-7/8"	2-1/8" x 8"
	14"	2-1/8" x 10"
	16"	2-1/8" x 12"
3-1/2"	11-7/8"	2" x 8"
	14"	2" x 10"
	16"	2" x 12"

Notes:
1. Support back of I-joist web during nailing to prevent damage to web/flange connection.
2. Leave a 1/8-inch gap between top of filler block and bottom of top I-joist flange.
3. Filler block is required between joists for full length of span.
4. Nail joists together with two rows of 3" nails at 12 inches o.c. (clinched when possible) on each side of the double I-joist. Total of 4 nails per foot required.
If nails can be clinched, only 3 nails per foot are required.
5. The maximum factored load shown may be applied to one side of the double joist using the detail in Note 3.



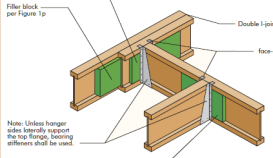
(1h) (E3)

Backer block (use if factored hanger load exceeds 260 lbs.) Before installing a backer block to a double I-joist, drive 3 additional 3" nails through the webs and filler block where the backer block will fit. Clinch. Install backer tight to top flange. Use twelve 3" nails, clinched when possible. Maximum factored resistance for hanger for this detail = 1620 lbs.

BACKER BLOCKS (Blocks must be long enough to permit required nailing without splitting)

Flange Width	Material Thickness Required*	Minimum Depth**
1-1/2"	19/32"	5-1/2"
1-3/4"	22/32"	5-1/2"
2-5/16"	1"	7-1/4"
2-1/2"	1"	5-1/2"
3-1/2"	1-1/2"	7-1/4"

* Minimum grade for backer block material shall be Utility grade SPF (south) or better for solid sawn lumber and Rated Sheathing grade for wood structural panels.
** For face-mount hangers use net joist depth minus 3-1/4" for joists with 1-1/2" thick flanges. For 1-5/16" thick flanges use net depth minus 2-7/8".



For hanger capacity see hanger manufacturer's recommendations. Verify double I-joist capacity to support concentrated loads.

Table 3

Max Loading - Live 40 psf , Dead 30 psf
Max Spacing = 24" o.c

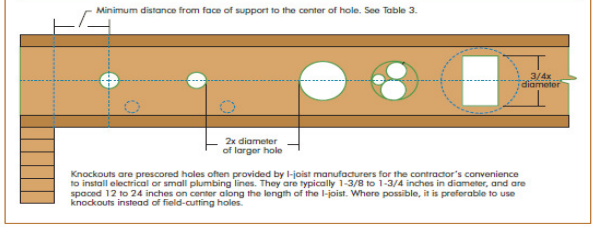
	Joist Depth	Joist Span	Round Hole Diameter (inches)								
			2"	3"	4"	5"	6"	6 1/4"	8 5/8"	10 3/4"	12 3/4"
PKI 10 & PKI 20	9 1/2	6	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"			
		10	1'-0"	1'-0"	1'-3"	2'-3"	3'-4"	3'-7"			
		14	1'-11"	2'-11"	3'-11"	5'-0"	6'-2"	6'-5"			
		18	4'-6"	5'-7"	6'-8"	7'-10"	9'-0"				
	11 7/8	8	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	2'-5"		
		12	1'-0"	1'-0"	1'-0"	1'-7"	2'-6"	2'-9"	5'-3"		
		16	1'-5"	2'-4"	3'-3"	4'-3"	5'-3"	5'-6"			
		20	4'-0"	5'-0"	6'-0"	7'-0"	8'-1"	8'-4"			
	14	12	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-1"	3'-3"	5'-4"	
		16	1'-0"	1'-0"	1'-8"	2'-7"	3'-6"	3'-8"	6'-0"		
		20	2'-6"	3'-4"	4'-3"	5'-3"	6'-2"	6'-5"	8'-10"		
		24	5'-1"	6'-0"	7'-0"	8'-0"	9'-0"	9'-3"	11'-9"		
	16	14	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	2'-11"	4'-10"	6'-11"
		18	1'-0"	1'-0"	1'-5"	2'-4"	3'-2"	3'-5"	5'-7"	7'-8"	
		22	2'-4"	3'-2"	4'-1"	4'-11"	5'-10"	6'-1"	8'-5"	10'-7"	
		26	4'-11"	5'-10"	6'-9"	7'-8"	8'-7"	8'-10"	11'-3"		

Max Loading - Live 40 psf , Dead 30 psf
Max Spacing = 24" o.c

	Joist Depth	Joist Span	Round Hole Diameter (inches)								
			2"	3"	4"	5"	6"	6 1/4"	8 5/8"	10 3/4"	12 3/4"
PKI 35 , PKI 40 & PKI 50	9 1/2	8	1'-0"	1'-0"	1'-0"	1'-0"	2'-0"	2'-3"			
		12	1'-0"	1'-7"	2'-7"	3'-8"	4'-9"	5'-0"			
		16	3'-2"	4'-3"	5'-4"	6'-5"	7'-7"	7'-11"			
		20	5'-11"	7'-0"	8'-1"	9'-3"					
	11 7/8	12	1'-0"	1'-0"	1'-0"	1'-7"	2'-6"	2'-9"	5'-3"		
		16	1'-5"	2'-4"	3'-3"	4'-3"	5'-3"	5'-6"			
		20	4'-0"	5'-0"	6'-0"	7'-0"	8'-1"	8'-4"			
		24	6'-8"	7'-9"	8'-9"	9'-10"	10'-11"	11'-2"			
	14	14	1'-0"	1'-0"	1'-0"	1'-3"	2'-2"	2'-4"	4'-7"	6'-10"	
		18	1'-2"	2'-1"	2'-11"	3'-10"	4'-10"	5'-1"	7'-5"		
		22	3'-9"	4'-8"	5'-7"	6'-7"	7'-7"	7'-10"	10'-3"		
		26	6'-5"	7'-5"	8'-4"	9'-4"	10'-5"	10'-8"			
	16	16	1'-0"	1'-0"	1'-0"	1'-0"	1'-11"	2'-1"	4'-3"	6'-3"	
		20	1'-0"	1'-10"	2'-9"	3'-7"	4'-6"	4'-9"	7'-0"	9'-2"	
		24	3'-7"	4'-6"	5'-5"	6'-4"	7'-3"	7'-6"	9'-10"	12'-0"	
		28	6'-3"	7'-2"	8'-1"	9'-1"	10'-0"	10'-3"	12'-8"		

FIGURE 6

PRI JOIST TYPICAL HOLES



Knockouts are prescored holes often provided by I-joist manufacturers for the contractor's convenience to install electrical or small plumbing lines. They are typically 1-3/8 to 1-3/4 inches in diameter, and are spaced 12 to 24 inches on center along the length of the I-joist. Where possible, it is preferable to use knockouts instead of field-cutting holes.

Cutting the Hole

- Never drill, cut or notch the flange, or over-cut the web.
- Holes in webs should be cut with a sharp saw.
- For rectangular holes, avoid over cutting the corners, as this can cause unnecessary stress concentrations. Slightly rounding the corners is recommended. Starting the rectangular hole by drilling a 1" diameter hole in each of the 4 corners and then making the cuts between the holes is another good method to minimize damage to I-joist.

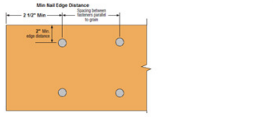
PINK WOOD

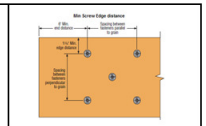
Equivalent LP Detail Callout

All nails shown in the detail above are assumed to be common nails unless otherwise noted. Framing lumber assumed to be Spruce-Pine-Fir. Individual components not shown to scale for clarity.

LVL Install Guide

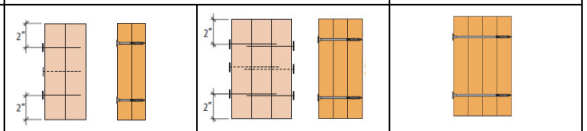
West Fraser LVL





Top Loaded Connection Table

*Applied loads are to be framed in a manner to ensure the loading is distributed equally to each LVL ply



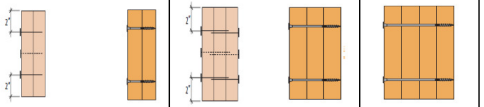
Depths	Detail #	2ply LVL	Detail #	3ply LVL	Detail #	- 1 1/4" x 6 3/4" SDW or FlatLok Screws from One Side
5 1/2" - 11 7/8 "	N2P212	2 Rows From one side 3 1/2" (16d) nails @ 12" o.c	N3P212	2 Rows from both sides 3 1/2" (16d) nails @ 12" o.c	S4P212	2 Rows from one side 1/4" x 6 3/4" @ 24" o.c
14" - 24"	N2P312	3 Rows From one side 3 1/2" (16d) nails @ 12" o.c	N3P312	3 Rows from both sides 3 1/2" (16d) nails @ 12" o.c	S4P312	3 Rows from one side 1/4" x 6 3/4" @ 24" o.c

- Lateral support of beam compression edges is required at intervals of 24" o/c or closer
- Lateral support of beams is required at bearing locations.

Side Loaded Connection Table

Maximum Factored
** **Uniform Load (PLF)** **
Applied to Either Outside Member

Please Refer to individual Beam Calculation sheets for concentrated load connection requirements



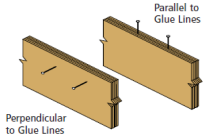
Connector	Detail #	Nail Spacing	Rows	2ply LVL Nails From One Side 1/4" x 3 1/2" SDW or FlatLok Screws from One Side		3ply LVL Nails From Both Sides 1/4" x 5 1/4" SDW or FlatLok Screws from One Side		4 ply LVL 1/4" x 6 3/4" SDW or FlatLok Screws from One Side
				West Fraser 1 3/4 2.0E 3100Fb	West Fraser 1 3/4 1.8E 3000Fb	West Fraser 1 3/4 2.0E 3100Fb	West Fraser 1 3/4 1.8E 3000Fb	West Fraser 1 3/4 2.0E 3100Fb
3 1/2" Common Wire Nails (16d) Min Ø = .160 (mm)	N212	12"	2 Rows	885	827	663	620	
	N312		3 Rows	1327	1241	995	930	
	N26	6"	2 Rows	1770	1654	1326	1240	
	N36		3 Rows	2654	2482	1990	1860	
	N24	4"	2 Rows	2655	2481	1989	1860	
	N34		3 Rows	3981	3723	2985	2790	
SDW or FlatLok SCREW	S224	24"	2 Rows	570		547		487
	S324		3 Rows	855		821		730
	S216	16"	2 Rows	855		821		730
	S316		3 Rows	1283		1231		1,095
	S212	12"	2 Rows	1140		1094		973
	S312		3 Rows	1710		1642		1,460

- Lateral support of beam compression edges is required at intervals of 24" o/c or closer
- Lateral support of beams is required at bearing locations.
- 4ply beams should only be side loaded when loads are applied to both sides of the member
- Values listed are for standard term loading
- SDW as per Simpson F-F- SDWCan13
  Each ply is assumed to carry same proportion of load
  Hangers face fasteners must be a minimum 3" long

MINIMUM NAIL SPACING

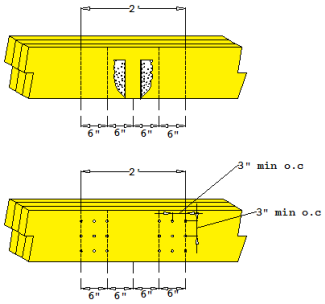
Connector	Nailing Parallel to Glue Line	Nailing Perpendicular to Glue Line
8d Box	3"	2"
8d Common	3"	2"
10d and 12d Box	4"	2"
10d and 12d Common	4"	3"
16d Common	8"*	3"

* Not allowed on product thickness less than 1½"



N1 N2 N3

3ply LVL
Required Connectors for Hanger load transfer into 3rd ply of LVL beam



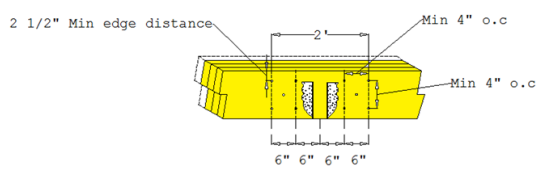
Nails to be applied from opposite side of hanger

Detail #	Nail Size	Total # Nails	Total # Nails Per Zone A	Maximum Factored Hanger Load (lbs)
N1	3 1/2" common (16d)	18	9	11,900
N2	3 1/2" common (16d)	12	6	7,900
N3	3 1/2" common (16d)	6	3	3,900

- Actual Hanger Capacity to be verified by others
- Lateral support of beam compression edges is required at intervals of 24" o/c or closer
- Lateral support of beams is required at bearing locations.
- Values listed are for standard term loading
  Hangers face fasteners must be a minimum 3" long
  Only applicable on depths greater than 9 1/2"

SD1 SD2

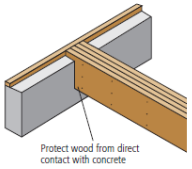
3ply and 4ply LVL Hanger Load Transfer
SDW and FlatLok Screws
(Load transfer into 3rd and 4th ply)



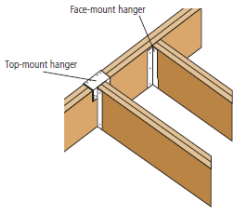
Detail #	# LVL Ply's	Total # SDW or FlatLok screws	Total # SDW or FlatLok Screws Per Zone A	SDW or FlatLok Screw Size	Maximum Factored Hanger Load (lbs)
SD1	3	10	5	1/4" x 5"	10,950
SD2	4	10	5	1/4" x 6 3/4"	10,950

- Actual Hanger Capacity to be verified by others
- Lateral support of beam compression edges is required at intervals of 24" o/c or closer
- Lateral support of beams is required at bearing locations.
- Values listed are for standard term loading
- SDW values as per Simpson F-F- SDWCan13
  Hangers face fasteners must be a minimum 3" long
  Only applicable on depths greater than 9 1/2"

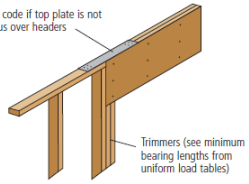
B4 BEARING AT CONCRETE WALL



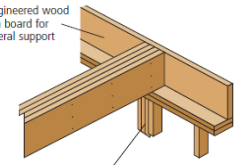
B3 BEAM-TO-BEAM CONNECTION



B2 BEARING FOR DOOR OR WINDOW HEADER

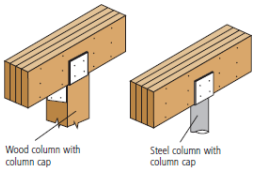


B1 BEARING AT WALL



B5 BEARING AT WOOD OR STEEL COLUMN

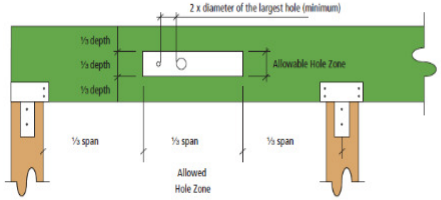
Verify column capacity and bearing length.



BEARING LENGTH IS EXTREMELY CRITICAL AND MUST BE CONSIDERED FOR EACH APPLICATION.

Multiple pieces of West Fraser™ LVL can be nailed or bolted together to form a header or beam of the required size, up to a maximum width of 5 inches for 1¾" wide pieces and 7 inches for 1¾" wide pieces. See pages 9, 15, 21 and 25 for details.

ALLOWABLE HOLES



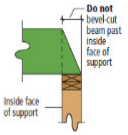
GENERAL NOTES

- The Allowed Hole Zone in this chart is suitable for **Uniformly loaded beams** using maximum loads for any tables listed. For other load conditions or hole configurations, please contact West Fraser.
- If more than one hole is to be cut in the beam, the length of the uncut beam between holes must be a minimum of twice the diameter of the largest hole.
- Rectangular holes are not allowed.
- Holes in cantilevers require additional analysis.
- For beam depths of 3⅛", 5⅛" and 7¼", the maximum hole diameter is ¾", 1¼" and 1½" respectively. For deeper beams, the maximum hole diameter is 2". The maximum number of holes for each span is limited to 3.

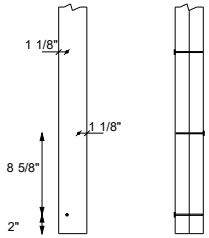
Do not cut, notch or drill holes in West Fraser™ LVL except as indicated in illustration for allowable holes

Do not overhang seat cuts on West Fraser™ LVL beams from inside face of support member

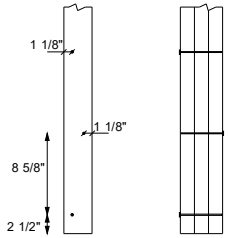
Do not notch underside of beam at bearing location



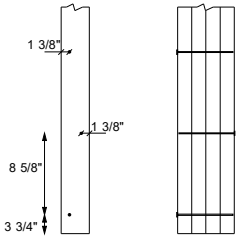
August 11, 2026 #53026
SOLE PROPRIETOR
BUILT-UP POST SCHEDULE



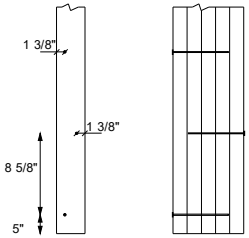
2 PLY 2X4 SPF#2
10d X 3" Long Box Nail



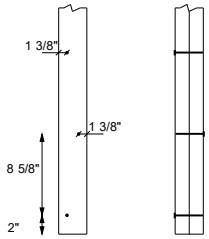
3 PLY 2X4 SPF#2
30d X 4 1/2" Long Common Nail



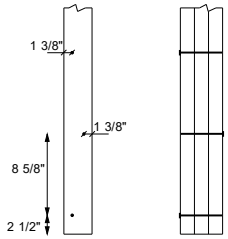
4 PLY 2X4 SPF#2
60d X 6" Long Common Nail



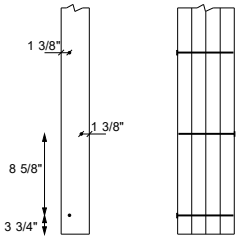
5 PLY 2X4 SPF#2
60d X 6" Long Common Nail



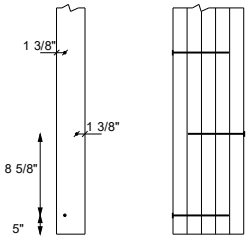
2 PLY 2X6 SPF#2
10d X 3" Long Box Nail



3 PLY 2X6 SPF#2
30d X 4 1/2" Long Common Nail



4 PLY 2X6 SPF#2
60d X 6" Long Common Nail



5 PLY 2X6 SPF#2
60d X 6" Long Common Nail

Built-up Post Size	COMPRESSIVE RESISTANCE					
	FREE STANDING AND BUILT INTO A SHEATHED WALL* 8'		FREE STANDING AND BUILT INTO A SHEATHED WALL* 9'		FREE STANDING AND BUILT INTO A SHEATHED WALL* 10'	
	UNFACTORED LOAD (lbs)	FACTORED LOAD (lbs)	UNFACTORED LOAD (lbs)	FACTORED LOAD (lbs)	UNFACTORED LOAD (lbs)	FACTORED LOAD (lbs)
2-2X4 SPF#2	2537 lbs	3552 lbs	1975 lbs	2765 lbs	1538 lbs	2154 lbs
3-2X4 SPF#2	6546 lbs	9164 lbs	5532 lbs	7745 lbs	4745 lbs	6643 lbs
4-2X4 SPF#2	10305 lbs	14427 lbs	8324 lbs	11654 lbs	6603 lbs	9244 lbs
5-2X4 SPF#2	12880 lbs	18032 lbs	10389 lbs	14545 lbs	8264 lbs	11569 lbs
2-2X6 SPF#2	3998 lbs	5598 lbs	3107 lbs	4350 lbs	2425 lbs	3395 lbs
3-2X6 SPF#2	11048 lbs	15467 lbs	9490 lbs	13286 lbs	8077 lbs	11308 lbs
4-2X6 SPF#2	17342 lbs	24279 lbs	15648 lbs	21907 lbs	13954 lbs	19536 lbs
5-2X6 SPF#2	23274 lbs	32584 lbs	21816 lbs	30543 lbs	20181 lbs	28254 lbs

* The unfactored and factored loads may be increased by 3.5% for built-up posts constructed within a sheathed wall

Davidson Enman Lumber Ltd.
Truss Division 9515 44st S.E., Calgary
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Toll Free (For Alberta & BC): 1-800 -268 - 3592
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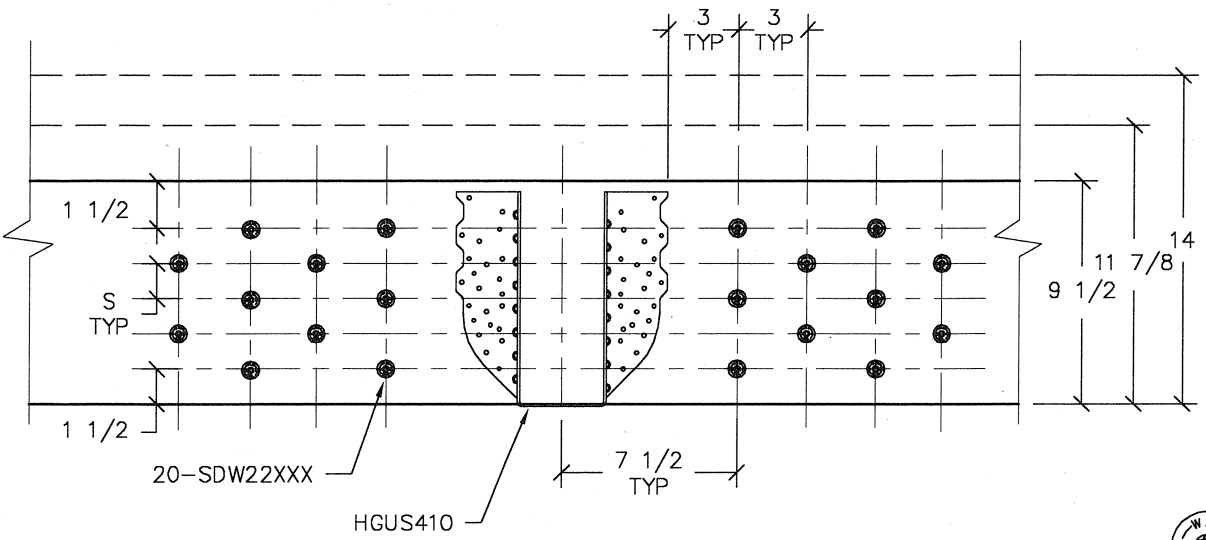
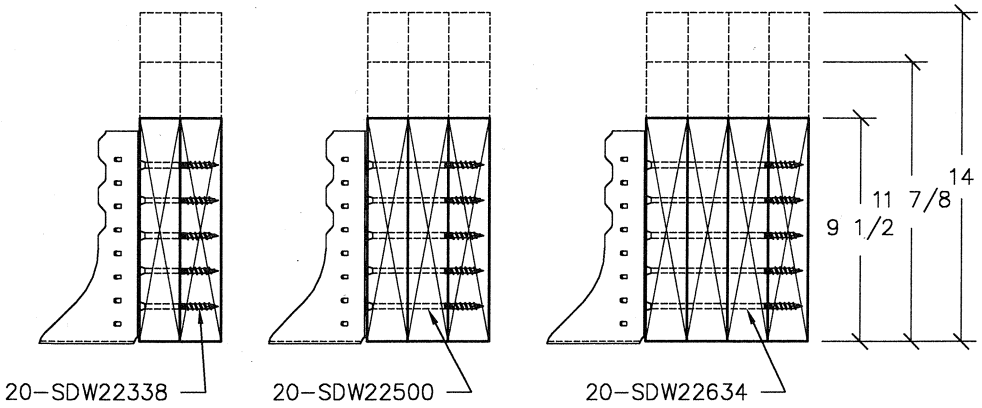
HGUS410

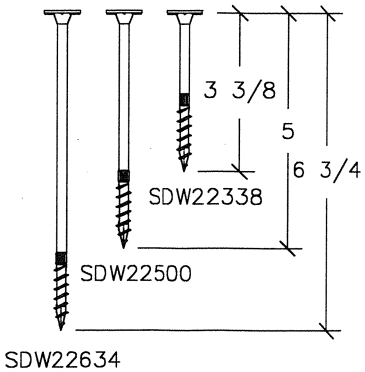
Load Transfer Between Plies Using SDW Strong-Drive® Screws



Spacing Between Rows	
Depth (in)	S (in)
9 1/2	1 5/8
11 7/8	2 3/16
14	2 3/4



2-PLY 3-PLY 4-PLY



INSTALLATION NOTES:

1. SDW screws install best with a low speed ½" drill and a T-40 6-lobe bit. The matched bit included with the screws is recommended for best results.
2. No pre-drilling is required.
3. Screw heads that are countersunk flush to the wood surface are acceptable if the screw head has not spun out.
4. This detail is only applicable for use with SDW Strong-Drive screws. Do not substitute with other fasteners.

DESIGN NOTES:

1. This detail transfers the load between plies up to the maximum factored resistance of the HGUS410 hanger as stated in the *Wood Construction Connectors - Canadian Limit States Design* C-CAN12 catalogue with the exception of 4-ply DF LVL header, which is restricted to a maximum factored load of 13200 lbs.
2. The detail above is applicable to 1 3/4" thick laminations of structural composite lumber (SCL) made using DF/SP or SPF materials.
3. Wood shear (effective and total) and/or the bending capacity of the member due to the reduced cross sectional area from the fasteners are not included in this detail and must be evaluated by the design engineer assuming a 0.220" diameter fastener.
4. This detail is only for use in interior dry conditions. Do not use in areas of high moisture or corrosive environments.

DWG NO: DHGUS410SDW	
BY: BRENT BUNTING	
DATE: 7/24/2012	

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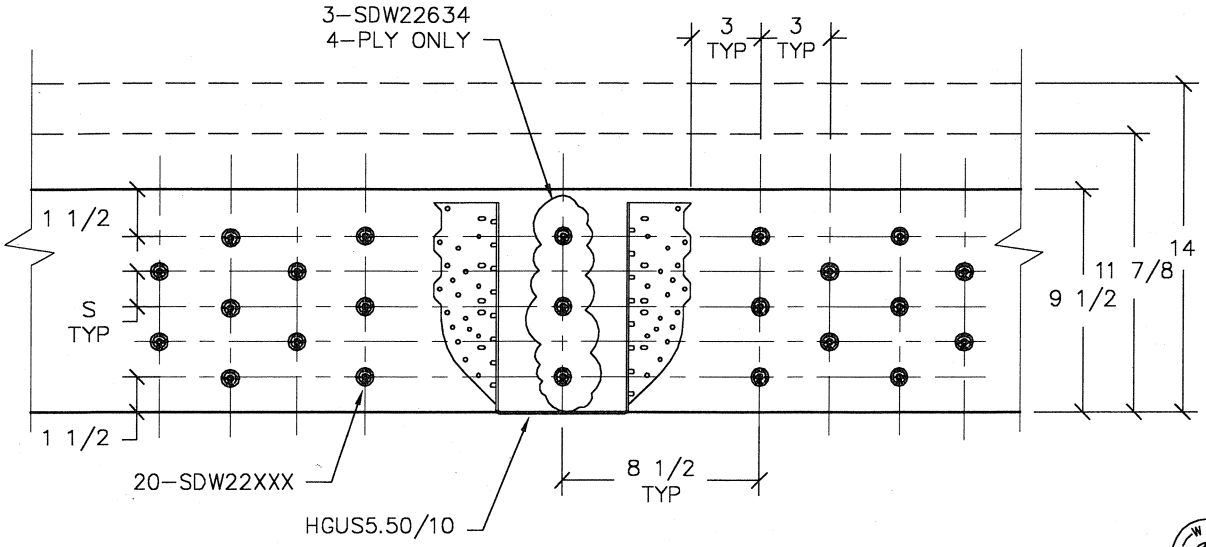
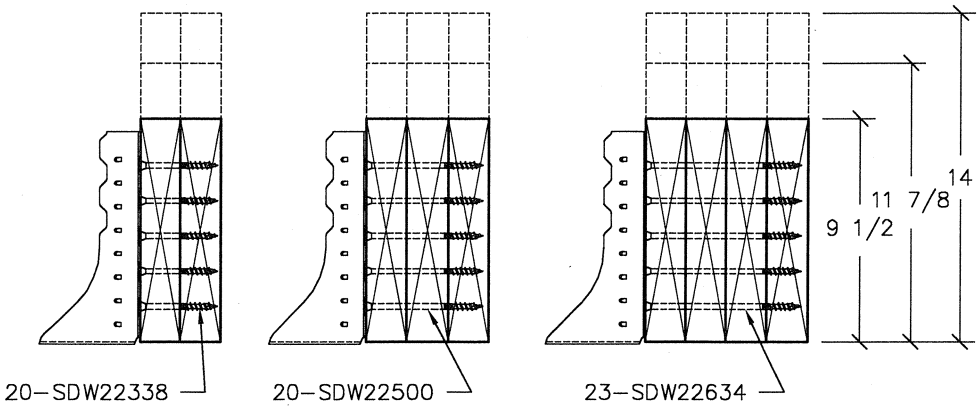
HGUS5.50/10

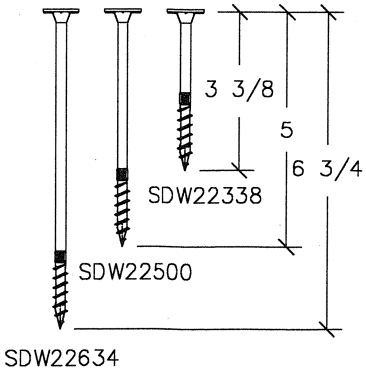
Load Transfer Between Plies Using SDW Strong-Drive® Screws



Spacing Between Rows	
Depth (in)	S (in)
9 1/2	1 5/8
11 7/8	2 3/16
14	2 3/4



2-PLY 3-PLY 4-PLY



INSTALLATION NOTES:

1. SDW screws install best with a low speed ½" drill and a T-40 6-lobe bit. The matched bit included with the screws is recommended for best results.
2. No pre-drilling is required.
3. Screw heads that are countersunk flush to the wood surface are acceptable if the screw head has not spun out.
4. This detail is only applicable for use with SDW Strong-Drive screws. Do not substitute with other fasteners.

DESIGN NOTES:

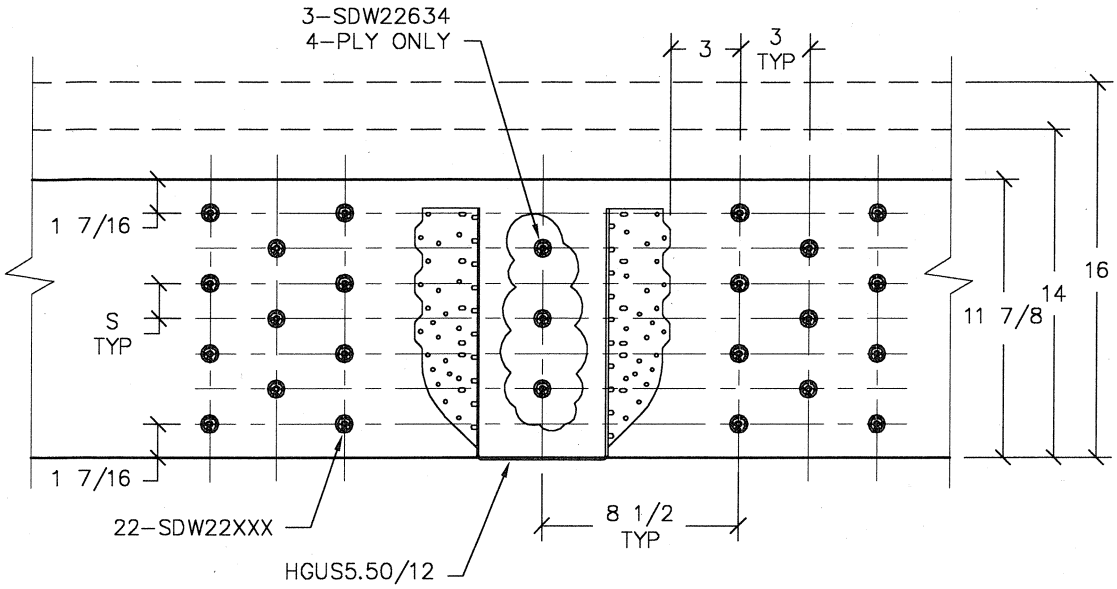
1. This detail transfers the load between plies up to the maximum factored resistance of the HGUS5.50/10 hanger as stated in the *Wood Construction Connectors - Canadian Limit States Design* C-CAN12 catalogue.
2. The detail above is applicable to 1 3/4" thick laminations of structural composite lumber (SCL) made using DF/SP or SPF materials.
3. Wood shear (effective and total) and/or the bending capacity of the member due to the reduced cross sectional area from the fasteners are not included in this detail and must be evaluated by the design engineer assuming a 0.220" diameter fastener.
4. This detail is only for use in interior dry conditions. Do not use in areas of high moisture or corrosive environments.

DWG NO: DHGUS55010SDW
BY: BRENT BUNTING
DATE: 7/24/2012

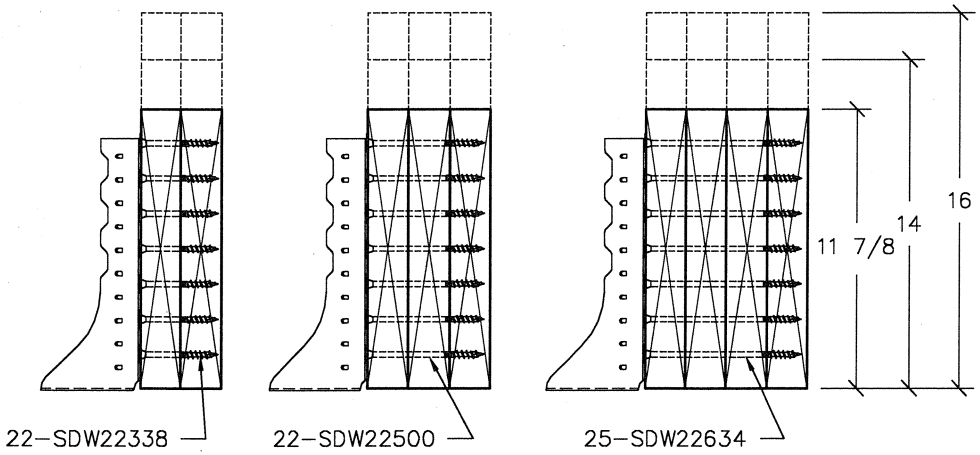
SIMPSON Strong-Tie®
Simpson Strong-Tie Canada, Ltd.
5 Kenview Blvd. Brampton, ON L6T 5G5
Tel: (800) 999-5099 Fax: (905) 458-7274
THERE IS NO EQUAL

HGUS5.50/12

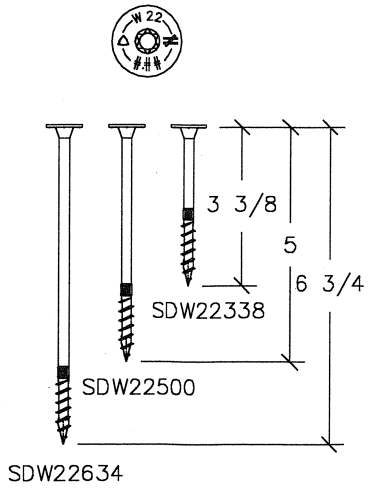
Load Transfer Between Plies Using SDW Strong-Drive® Screws



Spacing Between Rows	
Depth (in)	S (in)
11 7/8	1 1/2
14	1 13/16
16	2 3/16



2-PLY 3-PLY 4-PLY



INSTALLATION NOTES:

1. SDW screws install best with a low speed ½" drill and a T-40 6-lobe bit. The matched bit included with the screws is recommended for best results.
2. No pre-drilling is required.
3. Screw heads that are countersunk flush to the wood surface are acceptable if the screw head has not spun out.
4. This detail is only applicable for use with SDW Strong-Drive screws. Do not substitute with other fasteners.

DESIGN NOTES:

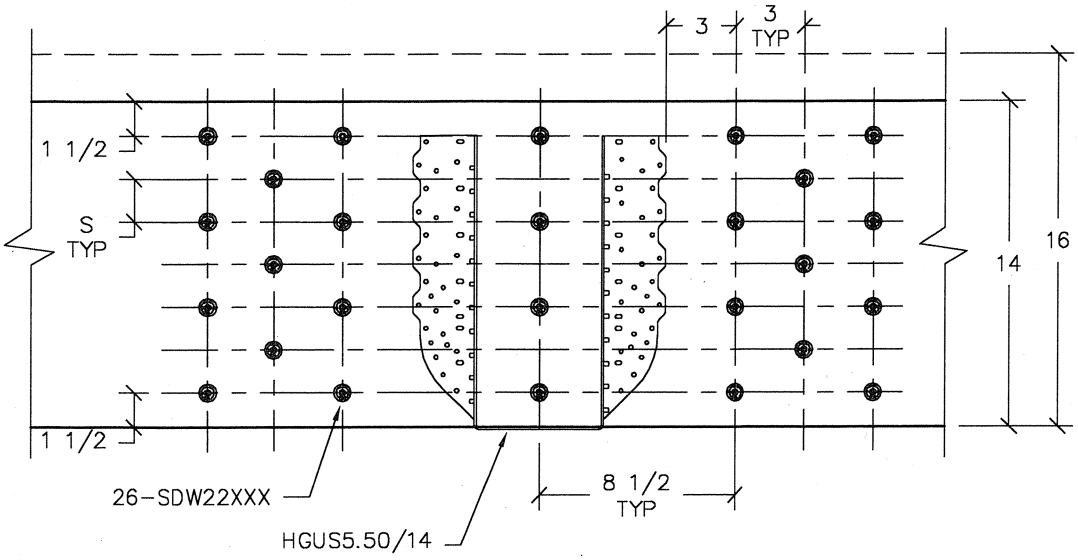
1. This detail transfers the load between plies up to the maximum factored resistance of the HGUS5.50/12 hanger as stated in the *Wood Construction Connectors - Canadian Limit States Design* C-CAN12 catalogue.
2. The detail above is applicable to 1 3/4" thick laminations of structural composite lumber (SCL) made using DF/SP or SPF materials.
3. Wood shear (effective and total) and/or the bending capacity of the member due to the reduced cross sectional area from the fasteners are not included in this detail and must be evaluated by the design engineer assuming a 0.220" diameter fastener.
4. This detail is only for use in interior dry conditions. Do not use in areas of high moisture or corrosive environments.

DWG NO: DHGUS55012SDW
BY: BRENT BUNTING
DATE: 7/24/2012

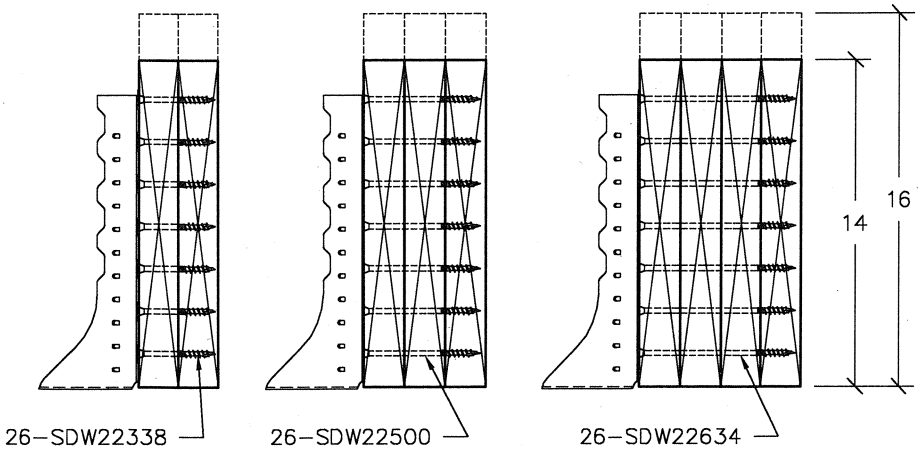
SIMPSON Strong-Tie®
Simpson Strong-Tie Canada, Ltd.
5 Kenview Blvd. Brampton, ON L6T 5G5
Tel: (800) 999-5099 Fax: (905) 458-7274
THERE IS NO EQUAL

HGUS5.50/14

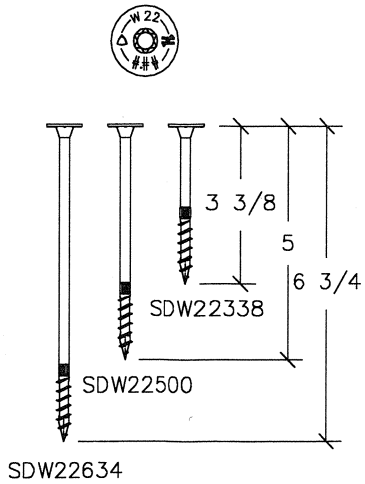
Load Transfer Between Plies Using SDW Strong-Drive® Screws



Spacing Between Rows	
Depth (in)	S (in)
14	1 13/16
16	2 3/16



2-PLY 3-PLY 4-PLY



INSTALLATION NOTES:

1. SDW screws install best with a low speed ½" drill and a T-40 6-lobe bit. The matched bit included with the screws is recommended for best results.
2. No pre-drilling is required.
3. Screw heads that are countersunk flush to the wood surface are acceptable if the screw head has not spun out.
4. This detail is only applicable for use with SDW Strong-Drive screws. Do not substitute with other fasteners.

DESIGN NOTES:

1. This detail transfers the load between plies up to the maximum factored resistance of the HGUS5.50/14 hanger as stated in the *Wood Construction Connectors - Canadian Limit States Design* C-CAN12 catalogue.
2. The detail above is applicable to 1 3/4" thick laminations of structural composite lumber (SCL) made using DF/SP or SPF materials.
3. Wood shear (effective and total) and/or the bending capacity of the member due to the reduced cross sectional area from the fasteners are not included in this detail and must be evaluated by the design engineer assuming a 0.220" diameter fastener.
4. This detail is only for use in interior dry conditions. Do not use in areas of high moisture or corrosive environments.

DWG NO: DHGUS55014SDW	
BY: BRENT BUNTING	
DATE: 7/24/2012	

SIMPSON Strong-Tie®
THERE IS NO EQUAL
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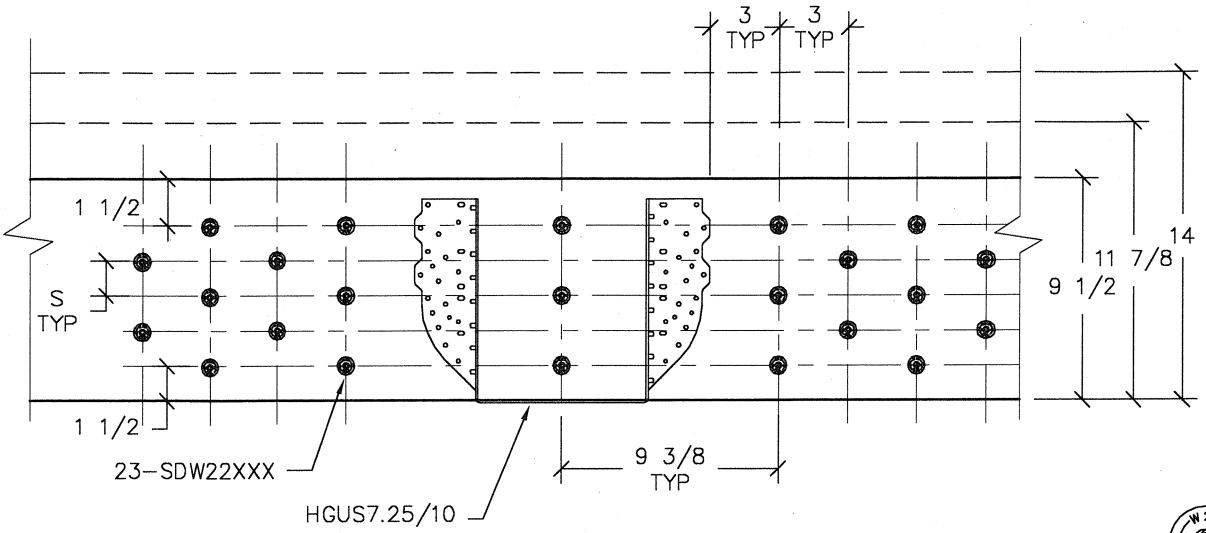
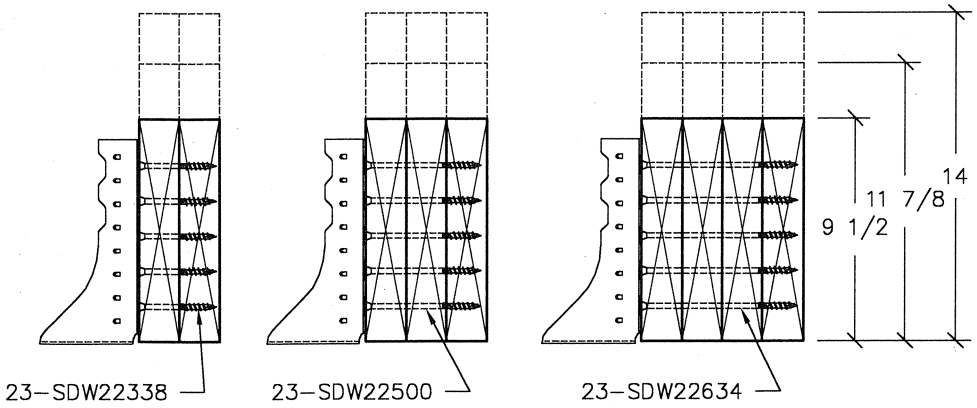
Tel: (800) 999-5099 Fax: (905) 458-7274

HGUS7.25/10

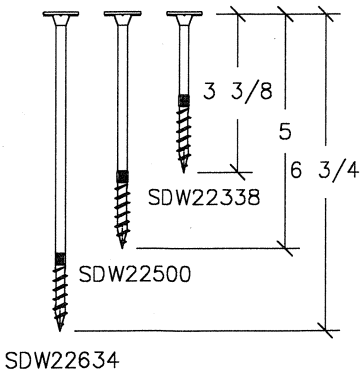
Load Transfer Between Plies Using SDW Strong-Drive® Screws



Spacing Between Rows	
Depth (in)	S (in)
9 1/2	1 5/8
11 7/8	2 3/16
14	2 3/4



2-PLY 3-PLY 4-PLY



INSTALLATION NOTES:

1. SDW screws install best with a low speed ½" drill and a T-40 6-lobe bit. The matched bit included with the screws is recommended for best results.
2. No pre-drilling is required.
3. Screw heads that are countersunk flush to the wood surface are acceptable if the screw head has not spun out.
4. This detail is only applicable for use with SDW Strong-Drive screws. Do not substitute with other fasteners.

DESIGN NOTES:

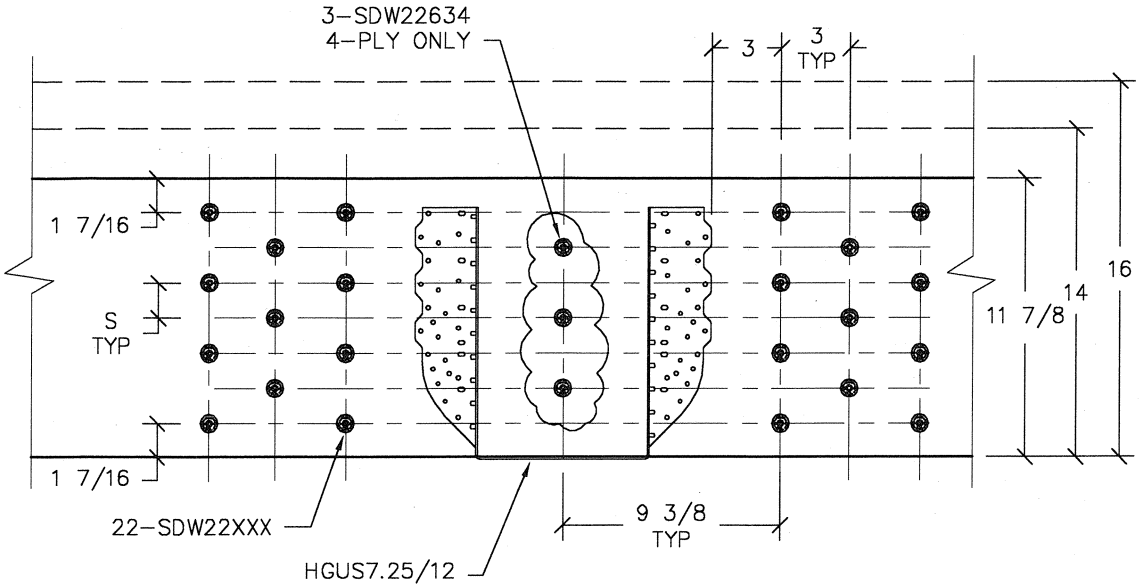
1. This detail transfers the load between plies up to the maximum factored resistance of the HGUS7.25/10 hanger as stated in the *Wood Construction Connectors - Canadian Limit States Design* C-CAN12 catalogue with the exception of 4-ply DF LVL header, which is restricted to a maximum factored load of 15165 lbs .
2. The detail above is applicable to 1 3/4" thick laminations of structural composite lumber (SCL) made using DF/SP or SPF materials.
3. Wood shear (effective and total) and/or the bending capacity of the member due to the reduced cross sectional area from the fasteners are not included in this detail and must be evaluated by the design engineer assuming a 0.220" diameter fastener.
4. This detail is only for use in interior dry conditions. Do not use in areas of high moisture or corrosive environments.

DWG NO: DHGUS72510SDW
BY: BRENT BUNTING
DATE: 7/24/2012

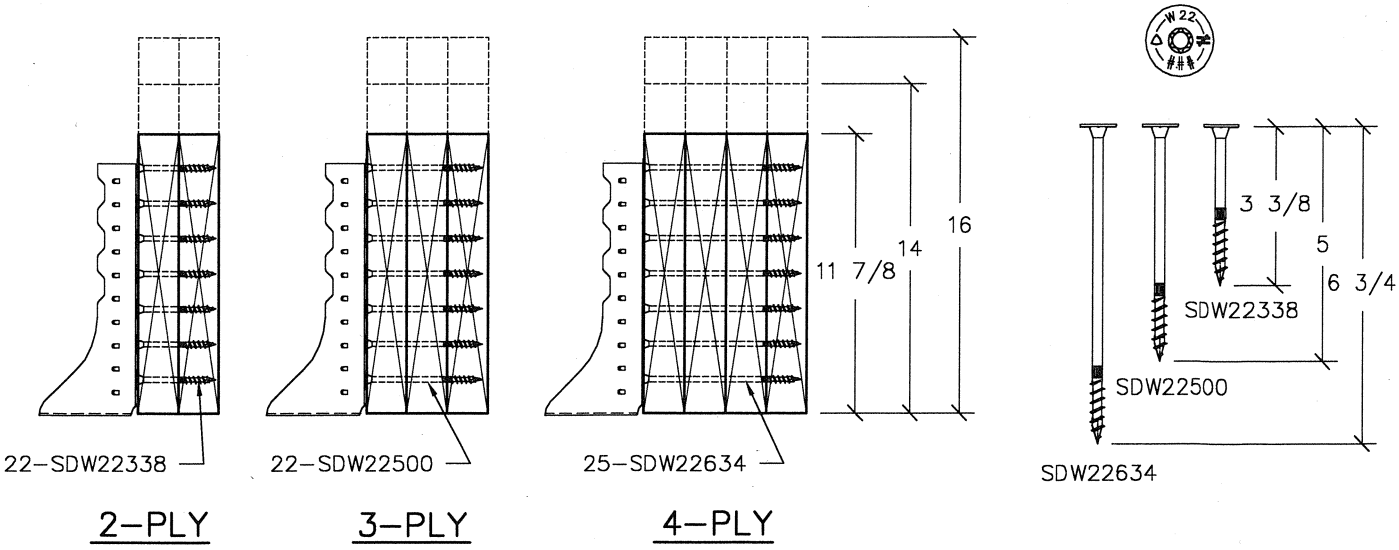
SIMPSON Strong-Tie®
THERE IS NO EQUAL
Simpson Strong-Tie Canada, Ltd.
5 Kenview Blvd. Brampton, ON L6T 5G5
Tel: (800) 999-5099 Fax: (905) 458-7274

HGUS7.25/12

Load Transfer Between Plies Using SDW Strong-Drive® Screws



Spacing Between Rows	
Depth (in)	S (in)
11 7/8	1 1/2
14	1 13/16
16	2 3/16



2-PLY 3-PLY 4-PLY

INSTALLATION NOTES:

1. SDW screws install best with a low speed ½" drill and a T-40 6-lobe bit. The matched bit included with the screws is recommended for best results.
2. No pre-drilling is required.
3. Screw heads that are countersunk flush to the wood surface are acceptable if the screw head has not spun out.
4. This detail is only applicable for use with SDW Strong-Drive screws. Do not substitute with other fasteners.

DESIGN NOTES:

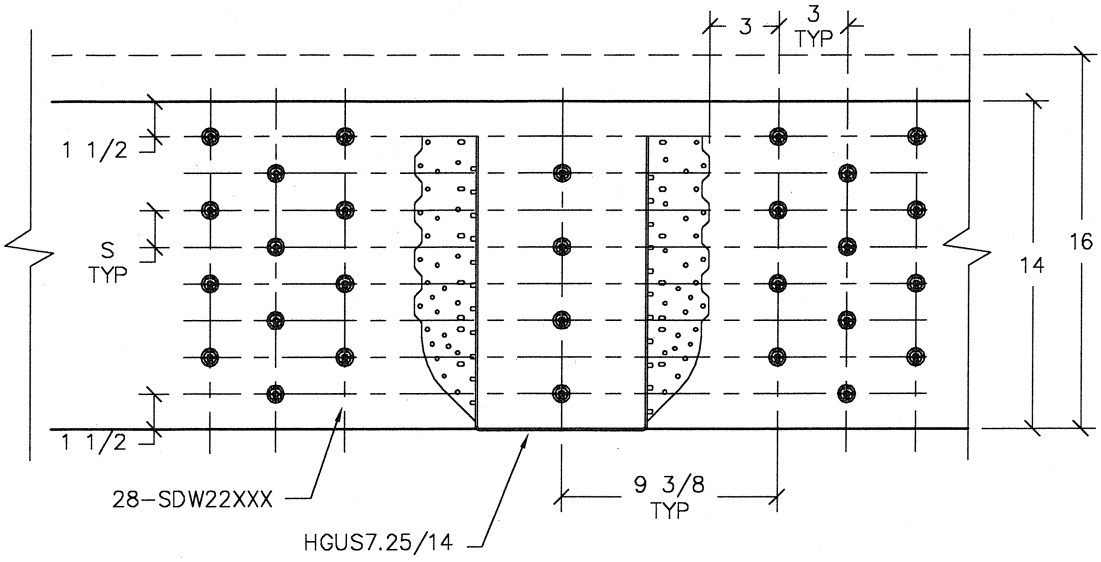
1. This detail transfers the load between plies up to the maximum factored resistance of the HGUS7.25/12 hanger as stated in the *Wood Construction Connectors - Canadian Limit States Design* C-CAN12 catalogue.
2. The detail above is applicable to 1 3/4" thick laminations of structural composite lumber (SCL) made using DF/SP or SPF materials.
3. Wood shear (effective and total) and/or the bending capacity of the member due to the reduced cross sectional area from the fasteners are not included in this detail and must be evaluated by the design engineer assuming a 0.220" diameter fastener.
4. This detail is only for use in interior dry conditions. Do not use in areas of high moisture or corrosive environments.

DWG NO: DHGUS72512SDW
BY: BRENT BUNTING
DATE: 7/24/2012

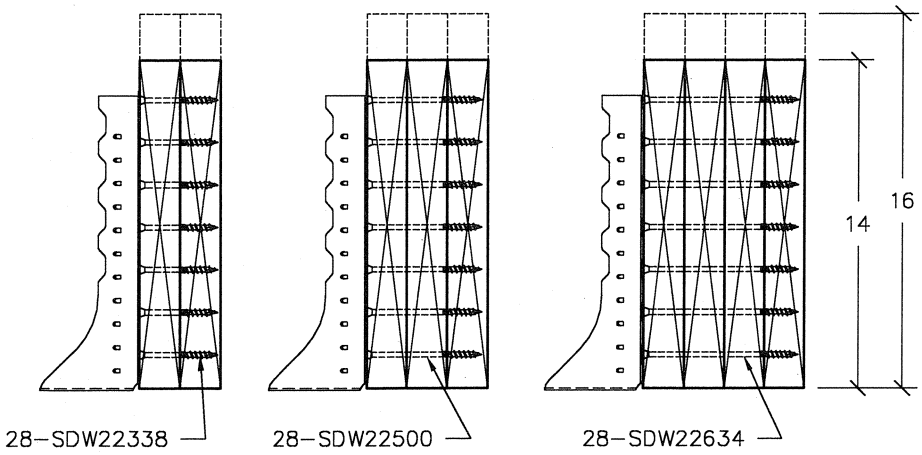
SIMPSON Strong-Tie®
THERE IS NO EQUAL
Simpson Strong-Tie Canada, Ltd.
5 Kenview Blvd. Brampton, ON L6T 5G5
Tel: (800) 999-5099 Fax: (905) 458-7274

HGUS7.25/14

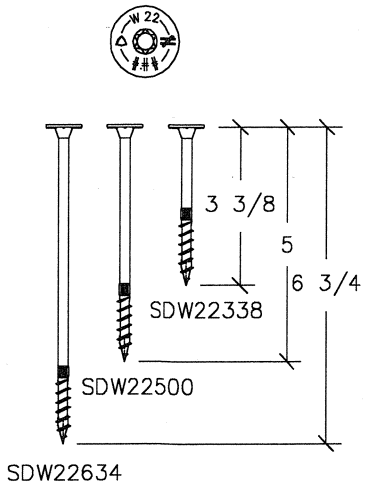
Load Transfer Between Plies Using SDW Strong-Drive® Screws



Spacing Between Rows	
Depth (in)	S (in)
14	1 9/16
16	1 7/8



2-PLY 3-PLY 4-PLY



INSTALLATION NOTES:

1. SDW screws install best with a low speed ½" drill and a T-40 6-lobe bit. The matched bit included with the screws is recommended for best results.
2. No pre-drilling is required.
3. Screw heads that are countersunk flush to the wood surface are acceptable if the screw head has not spun out.
4. This detail is only applicable for use with SDW Strong-Drive screws. Do not substitute with other fasteners.

DESIGN NOTES:

1. This detail transfers the load between plies up to the maximum factored resistance of the HGUS7.25/14 hanger as stated in the *Wood Construction Connectors - Canadian Limit States Design* C-CAN12 catalogue.
2. The detail above is applicable to 1 3/4" thick laminations of structural composite lumber (SCL) made using DF/SP or SPF materials.
3. Wood shear (effective and total) and/or the bending capacity of the member due to the reduced cross sectional area from the fasteners are not included in this detail and must be evaluated by the design engineer assuming a 0.220" diameter fastener.
4. This detail is only for use in interior dry conditions. Do not use in areas of high moisture or corrosive environments.

DWG NO: DHGUS55014SDW
BY: BRENT BUNTING
DATE: 7/24/2012

Axial Factored Resistances (lbs) for 2.1E RigidLam LVL Columns

Column Size - Douglas Fir and Southern Pine RigidLam LVL						
Effective Column Length (ft)	**3-1/2" x 3-1/2"**	**3-1/2" x 5-1/4"**	**3-1/2" x 7"**	**5-1/4" x 5-1/4"**	**5-1/4" x 7"**	**7" x 7"**
6	20,885	31,330	41,770	57,290	76,390	105,340
7	17,230	25,845	34,460	54,065	72,085	102,750
8	14,150	21,225	28,300	50,245	66,995	99,465
9	11,620	17,435	23,245	46,015	61,355	95,500
10	9,565	14,350	19,135	40,680	54,240	90,915
11	7,895	11,845	15,795	35,755	47,675	85,825
12	6,540	9,810	13,085	31,390	41,855	80,370
13	5,440	8,160	10,880	27,565	36,750	73,720
14	4,545	6,820	9,090	24,220	32,295	67,010
15				21,305	28,405	60,845
16				18,760	25,015	55,230
17				16,545	22,060	50,130
18				14,615	19,485	45,515
19				12,930	17,240	41,345
20				11,460	15,280	37,580
21				10,180	13,575	34,185
22						31,115
23						28,345
24						25,840
25						23,580

Table is based on the following criteria:

1. Column is a single, one-piece member for dry-use applications only.
2. Column is assumed to have adequate bracing in all directions at both ends.
3. Loads are calculated per Section 5.1 of CWC "Wood Design Manual 2010" and CSA O86-14 for simple columns with axial loads only.
4. For side-loaded columns, see the CSA O86-14 provisions or consult with a design professional.
5. Table assumes the worst case of an eccentricity of 1/6 of either column dimension.
6. Table assumes column bearing to be on a steel plate that has been adequately sized for bearing on the material below.
7. When bearing on a 1-1/2" thick wood plate, axial factored loads (lbs) shall not exceed the following values:

Column size	3-1/2" x 3-1/2"	3-1/2" x 5-1/4"	3-1/2" x 7"	5-1/4" x 5-1/4"	5-1/4" x 7"	7" x 7"
D Fir-L plate	11,439	17,159	22,878	25,738	34,317	45,756
Hem-Fir plate	7,517	11,276	15,034	16,913	22,551	30,068
Spruce-Pine-Fir plate	8,661	12,991	17,322	19,487	25,983	34,644
Northern plate	5,720	8,579	11,439	12,869	17,159	22,878

2.1E RIGIDLAM LVL Specified Strengths[1]	
True Modulus of Elasticity	E = 2,100,000 psi
Bending edgewise	Fb = 5,729 psi[2]
Bending flatwise	Fb = 5,013 psi[3]
Compression Parallel to Grain	Fc = 4,788 psi

Notes:

1. These specified strengths are for standard term load duration and apply to dry service conditions.
2. The tabulated values are based on a reference depth of 12 inches. For other depths, when loaded edgewise, the allowable bending stress (F_b) shall be modified by a depth factor, K_{zb} = $(12/d)^{1/8}$ for Douglas fir LVL (Mill #1055) or K_{zb} = $(12/d)^{1/5}$ for Southern Pine LVL (Mill #1125), where d is the LVL depth in inches. For depths less than 3-1/2 inches, multiply the tabulated value by 1.17 for DF LVL or 1.28 for SP LVL.
3. Tabulated F_b flat values are based on a thickness of 1-3/4". For other thicknesses, when loaded flatwise, multiply F_b flat by $(1.75/t)^{1/5}$, where t is the LVL thickness in inches. For thicknesses less than 1-3/4", use the tabulated value.

Load Charts*

** It is the responsibility of the building designer to determine appropriate head size for the beam support.*

LIGHT / MEDIUM DUTY MINI SERIES

Series	Maximum Height		Allowable Working Loads (Unfactored)		Limit States Design Values (Factored)		Column/ Base Plate	Head Dimensions (Adjustment Range 4.5")	Lateral Loading AWL/LSD	Label Colour Code
	Feet	Meters	Lbs	kN	Lbs	kN	Dimensions	Lag Bolts Included		
WMNA	8'-0" 8'-6" 9'-0"	2.44 2.59 2.74	10,500 10,000 9,600	46.6 44.5 42.7	15,200 14,500 13,920	67.6 64.5 61.8	2.5" x 2.5" Base 6" x 6"	Top 3.5" x 5.25" LVL	800/1200	Magenta
WMB	7'-6" 8'-0" 8'-6" 9'-0" 9'-6" 10'-0"	2.29 2.44 2.59 2.74 2.90 3.05	14,000 13,000 12,000 11,000 10,100 9,375	62.5 57.7 53.0 48.9 44.9 41.7	20,400 18,800 17,300 15,950 14,645 13,600	90.7 83.6 76.9 71.0 65.1 60.5	2.5" x 2.5" Base 6" x 6"			Yellow
WMC	7'-6" 8'-0" 8'-6" 9'-0" 9'-6" 10'-0"	2.29 2.44 2.59 2.74 2.90 3.05	16,000 15,500 14,000 13,000 12,000 11,500	71.1 68.9 62.3 57.8 53.4 51.2	23,200 22,475 20,300 18,850 17,400 16,675	103.2 100.0 90.3 83.9 77.4 74.2	2.5" x 2.5" Base 6" x 6"			Black
WMD	7'-6" 8'-0" 8'-6" 9'-0" 9'-6" 10'-0" 11'-0" 12'-0"	2.29 2.44 2.59 2.74 2.90 3.05 3.35 3.65	25,500 24,000 22,000 20,500 19,500 18,000 15,800 13,675	113.4 106.8 97.9 91.2 86.7 80.1 72.3 60.8	37,000 34,800 32,000 29,800 28,300 26,100 22,900 19,840	164.6 154.8 142.4 132.6 125.9 116.1 101.8 88.3	3" x 3" Base 6" x 6"	Top 6" x 7" LVL	1275/1900	Lime Green
WME	8'-0" 9'-0" 10'-0" 11'-0" 12'-0"	2.44 2.74 3.05 3.35 3.65	36,000 30,000 25,000 21,000 17,500	160.0 133.4 111.2 93.4 77.8	52,000 43,000 36,250 30,400 25,350	231.3 191.3 161.2 135.2 103.9	3" x 3" Base 6" x 6"	Top 6" x 8" LVL	1600/2320	Purple

MEDIUM DUTY SADDLE SERIES

Series	Maximum Height		Allowable Working Loads (Unfactored)		Limit States Design Values (Factored)		Column/ Base Plate	Saddle Head Dimensions (Adjustment Range 5.5")	Lateral Loading AWL/LSD	Label Colour Code
	Feet	Meters	Lbs	kN	Lbs	kN	Dimensions	In Matched Sets		
WS1	7'-5.5" 8'-5.5" 9'-5.5" 10'-5.5"	2.27 2.58 2.88 3.19	18,500 16,000 13,500 11,500	82.3 71.2 60.1 51.2	26,825 23,200 19,575 16,675	119.3 103.2 87.1 74.2	2.5" x 2.5" Base 6" x 6"	2 ply LVL 6" x 3.625" x 7.5" 3 ply LVL 6" x 5.375" x 6.1875" 4 ply DIM 6" x 6.25" x 6.125" Flat Top 4" x 6"	925/1385	Light Blue
WS2	8'-5.5" 9'-5.5" 10'-5.5" 12'-5.5"	2.58 2.88 3.19 3.79	24,000 20,500 18,000 13,750	106.8 91.2 80.1 61.2	34,800 29,725 26,100 19,950	154.8 132.2 116.1 88.8	3" x 3" Base 6" x 6"	2 ply LVL 8" x 3.625" x 7.5" 3 ply LVL 8" x 5.375" x 6.625" 4 ply DIM 8" x 6.25" x 6.125" 4 ply LVL 8" x 7.375" x 5.625" Flat Top 6" x 8"	1200/1800	Orange
WS2.5	8'-5.5" 9'-5.5" 10'-5.5" 12'-5.5" 14'-5.5"	2.58 2.88 3.19 3.79 4.40	34,000 29,000 25,000 19,000 14,750	151.3 129.0 111.2 84.5 65.6	49,300 42,000 36,250 27,550 21,390	219.3 186.8 161.3 122.6 95.0	3" x 3" Base 8" x 8" 4 x 0.625" Ø for anchor bolts 1" in from each edge of plate to center of hole	2 ply LVL 8" x 3.625" x 7.5" 3 ply LVL 8" x 5.375" x 6.625" 4 ply DIM 8" x 6.25" x 6.125" 4 ply LVL 8" x 7.375" x 5.625" Flat Top 6" x 8"	1700/2550	Blue Grey

HEAVY / SUPER DUTY SADDLE SERIES

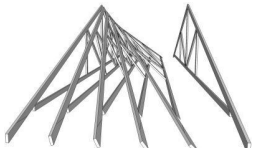
Series	Maximum Height		Allowable Working Loads (Unfactored)		Limit States Design Values (Factored)		Column/ Base Plate	Saddle Head Dimensions (Adjustment Range 5.5")	Lateral Loading AWL/LSD	Label Colour Code
	Feet	Meters	Lbs	kN	Lbs	kN	Dimensions	In Matched Sets		
WS3	8'-5.5" 9'-5.5" 10'-5.5" 12'-5.5" 14'-5.5" 16'-5.5"	2.58 2.88 3.19 3.79 4.4 5.02	41,000 35,500 30,500 23,000 18,000 14,000	182.4 157.9 135.7 102.3 80.1 62.3	59,450 51,475 44,225 33,350 26,100 20,300	264.5 229.0 196.7 148.4 116.1 90.3	3" x 3" Base 8" x 8" 4 x 0.625" Ø for anchor bolts 1" in from each edge of plate to center of hole	2 ply LVL 13" x 3.625" x 6" 3 ply LVL 13" x 5.375" x 6" 4 ply DIM 13" x 6.375" x 6" 4 ply LVL 13" x 7.375" x 6" Flat Top 6" x 8"	2050/3075	Dark Blue
WS4	8'-5.5" 9'-5.5" 10'-5.5" 12'-5.5" 14'-5.5" 16'-5.5" 20'-5.5" 24'-5.5"	2.58 2.88 3.19 3.79 4.4 5.02 6.24 7.45	61,000 55,500 50,000 40,500 33,000 27,000 18,500 13,500	271.4 246.9 222.4 180.2 146.8 120.1 82.3 60.1	88,450 80,500 72,500 58,750 47,850 39,150 26,825 19,575	393.5 358.1 322.5 261.3 212.9 174.2 119.3 87.1	4" x 4" Base 8" x 8" 4 x 0.625" Ø for anchor bolts 1" in from each edge of plate to center of hole	2 ply LVL 13" x 3.625" x 6" 3 ply LVL 13" x 5.375" x 6" 4 ply DIM 13" x 6.375" x 6" 4 ply LVL 13" x 7.375" x 6" Flat Top 8" x 10"	3050/4575	Red
WS5	8'-5.5" 12'-5.5" 16'-5.5" 20'-5.5" 24'-5.5"	2.58 3.79 5.02 6.24 7.45	90,000 67,500 48,500 35,000 26,000	400.4 300.3 215.7 155.7 115.7	130,500 97,875 70,325 50,750 37,700	580.5 435.4 312.8 225.8 167.7	5" x 5" Base 10" x 10" 4 x 0.625" Ø for anchor bolts 1" in from each edge of plate to center of hole	2 ply LVL 13" x 3.625" x 6" 3 ply LVL 13" x 5.375" x 6" 4 ply DIM 13" x 6.375" x 6" 4 ply LVL 13" x 7.375" x 6" 5 ply LVL 13" x 9" x 6" Flat Top as required	4500/6750	Brown
WS6	8'-5.5" 12'-5.5" 16'-5.5" 20'-5.5" 24'-5.5"	2.58 3.79 5.02 6.24 7.45	150,000 124,500 95,000 72,000 55,000	667.3 553.8 422.6 320.3 244.7	217,500 180,525 137,750 104,400 79,750	967.5 803.0 612.8 464.4 354.8	6" x 6" Base 10" x 10" 4 x 0.625" Ø for anchor bolts 1" in from each edge of plate to center of hole	2 ply LVL 20" x 3.625" x 10" 3 ply LVL 20" x 5.375" x 10" 4 ply DIM 20" x 6.375" x 10" 4 ply LVL 20" x 7.375" x 10" 5 ply LVL 20" x 9" x 10" Flat Top as required	7500/11250	Purple

Western Wood Truss Association Alberta

Disclaimer: While the recommendations for handling, erection, and bracing contained herein are technically sound, it is not intended that they be considered the only method for erecting and bracing a roof system. Neither should these recommendations be interpreted as superior to or a standard. This document is only valid within the province of Alberta and permission to use this document is only granted to members of the Western Wood Truss Association of Alberta and is otherwise invalid.

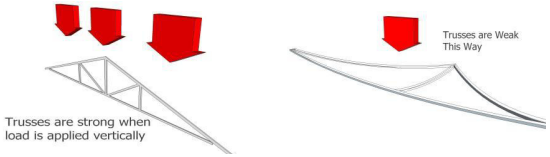
These recommendations originate from the collective experience of leading technical personnel in the wood truss industry, but must, due to the nature of responsibilities involved, be presented only as a guide for the use of a qualified building designer, builder, or erection contractor. These guidelines should not be considered to be the only method for erecting and bracing of a roof system. Thus the Western Wood Truss Association of Alberta and its members expressly disclaims any responsibility for damages arising from the use, application, or reliance on the recommendations and information contained herein by building designers or by erection contractors. The examples of bracing in this document assume that the truss on-center spacing does not exceed 24", for wider truss spacing refer to the individual truss design diagrams provided with the truss package.

Warning: The consequences of improper handling, erecting, installation, restraining, and bracing can result in a collapse of the structure and serious personal injury or death. It is the responsibility of the contactor to ensure that proper PPE is used when handling and erecting trusses and to follow safe work practices.



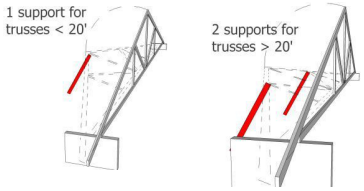
1-Delivery: Upon delivery of the trusses the builder should check the trusses to ensure that the package is complete and that there is no damage to the trusses. Count the trusses.

Storage: The contractor is responsible to ensure that the trusses are not in direct contact with the ground and be placed on blocking not to exceed 8' o.c. Bundles of trusses are to be covered to protect them from the environment.

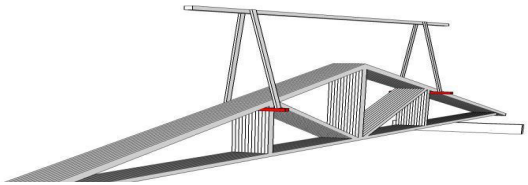


2-Handling: The truss erector or builder shall take the necessary precautions to ensure that erection procedures do not damage the trusses and thus reduce their load carrying capacity by avoiding lateral bending

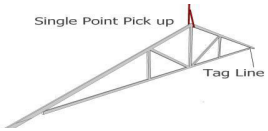
3-Single trusses can be installed by hand.
Trusses less than 20' can be supported near the peak and spans up to 30' at the quarter points.
If there are interior partitions, trusses may be laid flat.



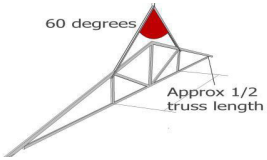
4-Ideally when mechanical means are used, the trusses should be lifted in banded sets and lowered onto supports. When this method is used, extreme caution must be exercised when breaking the metal straps. Trusses may domino, lose lateral stability, or totally collapse. If temporary braces and supports are not in place before releasing the banding lifting trusses singly should be avoided, but if necessary an appropriate spreader bar should be used with slings of sufficient strength and placed in a "toed-in" position. The "toed-in" position will prevent the truss from folding.



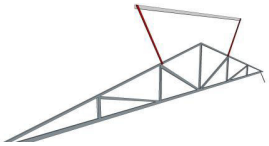
5-For spans of **20 feet or less**, a single pick up point may be used to lift the truss. A tag line should be used whenever a truss is lifted to avoid having it swing and do damage.



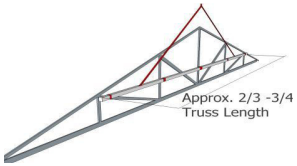
6-Trusses up to **30 feet in length** should be lifted using two pick up points located so that the distance between them is approximately one-half the length of the truss. The angle between the two cables should be 60 degrees or less to reduce the tendency for the truss to buckle laterally during the lift. A tag line should be fastened to one end to prevent the truss from swinging and causing damage to other parts of the work or to the truss itself.



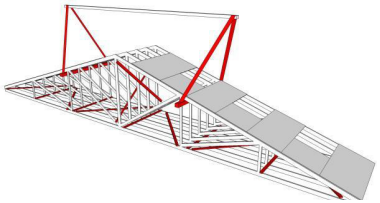
7-A spreader bar and short cable slings should be used to lift trusses in the **30 to 60 foot range**. The cable slings may be vertical but it is recommended that they be "toed-in" to prevent the truss from folding during the lift. Two tag lines should be used to control the raining of trusses of this size.



8-Trusses above **60 feet in length** should be lifted with a strongback 2/3 to 3/4 the length of the truss. The truss should be securely tied to it at 10 foot intervals or less. For flat trusses, the strongback should be tied to the top chord. Pitched trusses should be positioned high enough on the strongback to prevent overturning of the truss. Two tag lines should be used to control the truss during lifting.



9-It is a good practice to lift long trusses in **modules.**
Install the bracing before lifting.
Use spreader bars to distribute the load instead of single pick-up points.

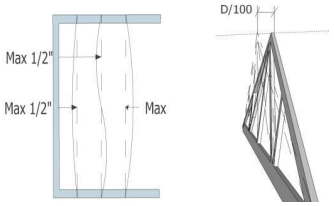


Warnings

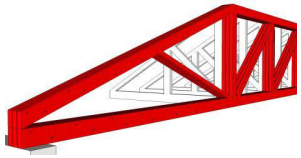
All trusses are laterally unstable until properly braced. Adequate restraint is necessary at all stages of construction.
Complete stability is not achieved until the bracing and decking is completely installed and properly fastened.
Fall protection anchors attached to the trusses must not be used until the trusses are completely installed, including bracing.

10-Tolerance- Each truss should not vary more than ½" from a straight line and be no more than the depth/100 out of plumb. Maximum 1".

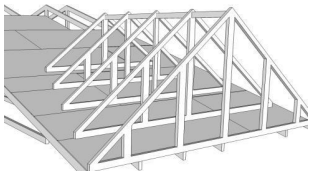
Depth	D/100
12"	1 /8"
24"	1 /4"
36"	3 /8"
48"	1 /2"
60"	5 /8"
84"	7 /8"
96"	1" MAX



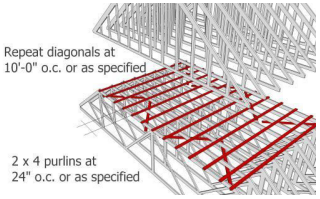
11-Girders-Multiple Ply Girder Trusses should be attached prior to erection when possible, and fully braced to a solid structure before other trusses are attached to them. Multi-Ply Girders must be attached together before any load can be applied. The fastening schedule is provided on the Truss Design Diagrams. Ensure that there is sufficient bearing length for girders.



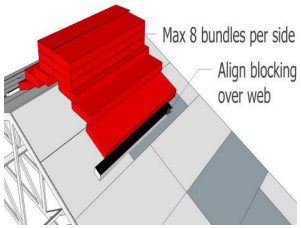
12-Valley Sets-Top chords of trusses must always be restrained from lateral movement. When valley sets or conventional framing is installed on top of the main trusses, the top chords of these trusses must be restrained from lateral movement by sheathing or purlins as specified on the structural drawings or truss design drawings.



13-Piggy-Back Trusses-It is important that the flat top chord of a Piggy-Back Truss be restrained and braced similar to any truss top chord. Use rows of 2X4 bracing ≤ the spacing indicated on the Truss Design Diagram or structural sheathing. Install diagonal bracing to the underside of the top chord at 45° over a minimum of 3 trusses and repeat at 10'-0" intervals or as specified.



14-Construction Loads-DO NOT place any construction loads on trusses until they are entirely braced. DO NOT exceed the maximum height of materials:
Gypsum Board- 10"
Wood Sheathing- 12"
Asphalt Shingles- 4 bundles
Concrete/Clay Tiles- 4 tiles
Place materials over as many trusses as possible, and never stack materials where the weight is located at the mid-point of the top chord panel, cantilevers, or overhangs. Try to position materials over load bearing walls where possible.



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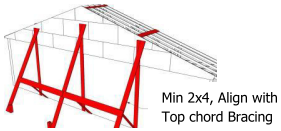
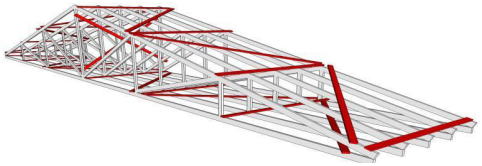
Permanent bracing is designed and specified for the structural safety of the building. It is the responsibility of the building designer or an authority other than the truss designer to indicate size, location, and attachments for all permanent bracing. Typical applications of permanent bracing to be specified by the building designer as indicated.

15-Bracing-It is critical to install both temporary bracing to prevent collapse and permanent bracing to ensure that the trusses can support the required loads. Trusses may collapse during construction, even when there are no permanent loads applied, due to the weight of the trusses themselves.

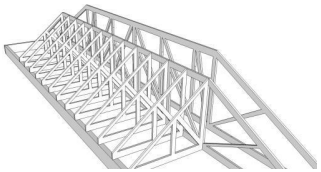
16-Bracing the First Truss or Gable-The first trusses installed must be braced securely and directly to the ground or a permanent structure. The braces must align with the temporary Top Chord Bracing.



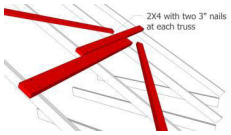
17-Set the first trusses by creating a rigid module of trusses by installing diagonal members on the Top Chords, Bottom Chords, and Webs.



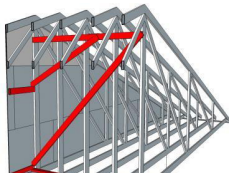
18-If installing a **Hip System**, install the perpendicular trusses to act as Gable Bracing.



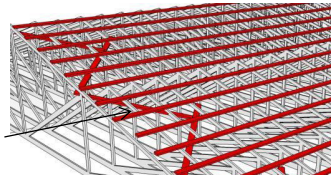
19-Bracing-Minimum lumber used for lateral restraint and diagonal bracing is 2X4 graded lumber or as specified by the building designer. Attach to each truss with at least 2-3" common nails or 2-3"pneumatic (0.131"x3") nails.



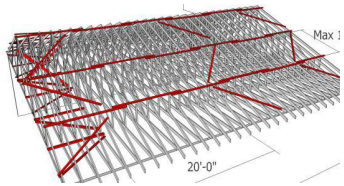
20-Web Member Plane
Permanent Building Stability Bracing Diagonal web bracing is specified by the building designer to distribute and resist loading to adjacent trusses and to transfer forces into the building structure.



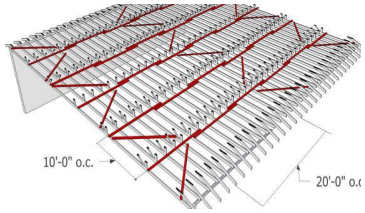
21-Top Chord Bracing-Permanent Top Chord Bracing is achieved via rigid sheathing or purlin strapping as designed by the building designer. The Top Chord may require permanent diagonal bracing as specified by the building designer.



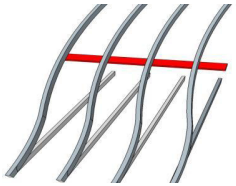
22-Until the **Permanent Top Chord Bracing** is installed Temporary Top Chord Bracing should be installed at the peak and heel of the truss and at a maximum of 10"-0" o.c. Long span trusses may require bracing at closer intervals.
Diagonal bracing should be installed at 8'-0" of truss run (4 trusses at 24"o.c.) with no more than 20'-0" between the diagonals and at both ends of the building.



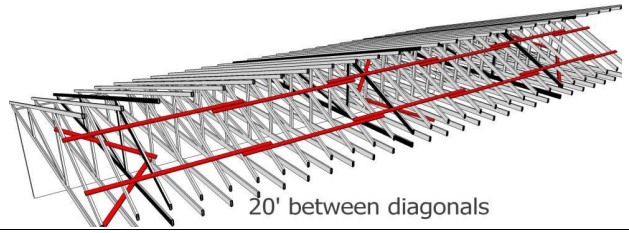
23-Bottom Chord Bracing-Unless specified otherwise bottom chord bracing shall be installed at 10'-0" intervals with diagonal bracing installed over 8'0" (4 trusses at 2'-0" o.c.) with no more than 20'-0" between diagonals and at both ends of the building.



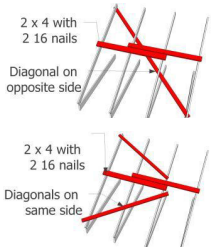
24-Permanent Web Lateral Bracing-Web Bracing is required to prevent buckling of the webs and is critical to be installed as per the truss design diagram.
A Lateral Brace itself must be restrained so that it does not move relative to the trusses. An unrestrained Lateral Brace could allow a "domino" failure where all the webs nailed to the brace move in the same direction.



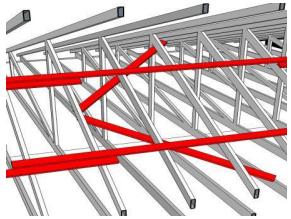
25-Continuous Lateral Bracing (CLB) is to be attached as specified per the truss design drawings including the dimension and location. It is the Building Designers responsibility to specify how the CLB is anchored.



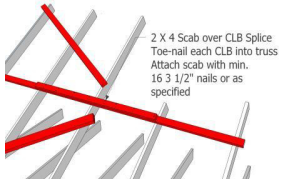
26-(CLB) requires diagonal bracing at an angle of less-than-or equal to 45° to the CLB and positioned so that it crosses the web in close proximity to the CLB. Attach the diagonal brace as close to the top and bottom chords as possible and to each web it crosses. Each diagonal brace should cross over at least 3 trusses. Repeat diagonals at the ends of the truss run or as specified on the truss design diagram. Alternate the direction of the diagonals. Diagonals may be installed on the backside of the web centered at the CLB or 2 pieces on the same side of the web as shown.

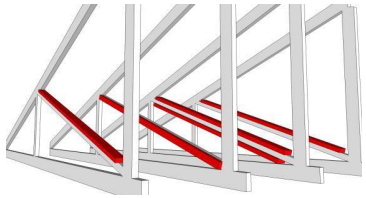


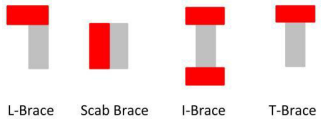
27-For trusses requiring more than 1 row of CLB install diagonal for every row of CLB.



28-As an alternative to lapping the CLB, it may be spliced if approved. Toe nail each CLB into the web and attach a splice with a min. 8 nails/side







29- If it is not possible to install CLB as specified on the truss design drawings on 3 or more trusses which have identical web configurations, contact the Truss Designer for an alternate bracing detail.

In some instances a "L" brace, "T" brace, "I" brace, or "Scab" brace may be specified. These braces shall be fastened to the web as specified by the Truss Designer. Scab braces can only be applied to a single truss and may be required to be attached with 3" structural screws.

The length of these braces must be at least 90% of the web length.

Warnings:
All trusses are laterally unstable until properly braced. Adequate restraint is necessary at all stages of construction. Complete stability is not achieved until the bracing and decking is completely installed and properly fastened. Fall protection anchors attached to the trusses must not be used until the trusses are completely installed, including bracing.
DO NOT Permit cutting, drilling, or damage to any of the truss chords or webs; remove webs; make field repairs without approval of the manufacturer or a Structural Engineer; overload trusses with construction materials; or erect damaged trusses. Notify the manufacturer or the Site Engineer.

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DAVIDSON ENMAN LUMBER LTD.

TRUSS DIVISION

9515 44 STREET S.E. CALGARY - AB

403-279-5525

ROOF LADDER SYSTEM FRAMING CHART

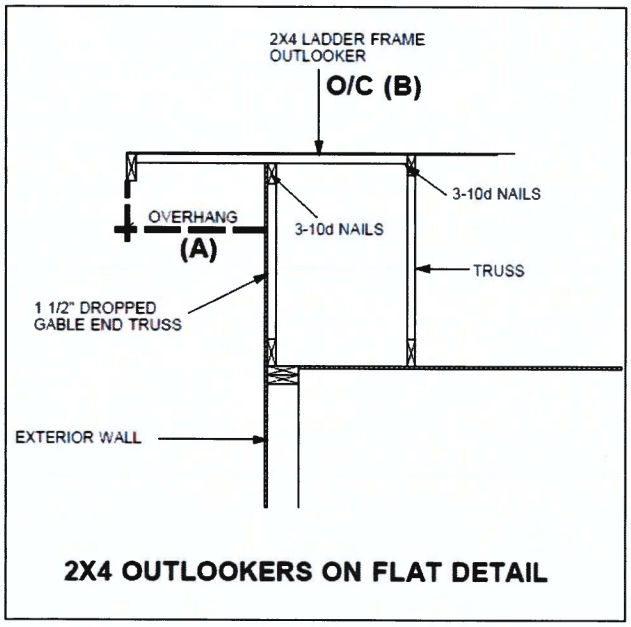
2x4 SPF #2 OUTLOOKERS SPACING CHART		
OVERHANGS UP TO **(A)**	TCLL = 21.0 PSF TCDL = 5.2 PSF 2x4 OUTLOOKERS on FLAT o/c spacing **(B)**	TCLL = 40.0 PSF TCDL = 5.2 PSF 2x4 OUTLOOKERS on EDGE o/c spacing **(B)**
1'-0"	4'-4"	2'-6"
1'-6"	2'-11"	1'-8"
2'-0"	2'-2"	1'-3"
2'-6"	1'-9"	1'-0"
3'-0"	1'-5"	10"

NOTES:

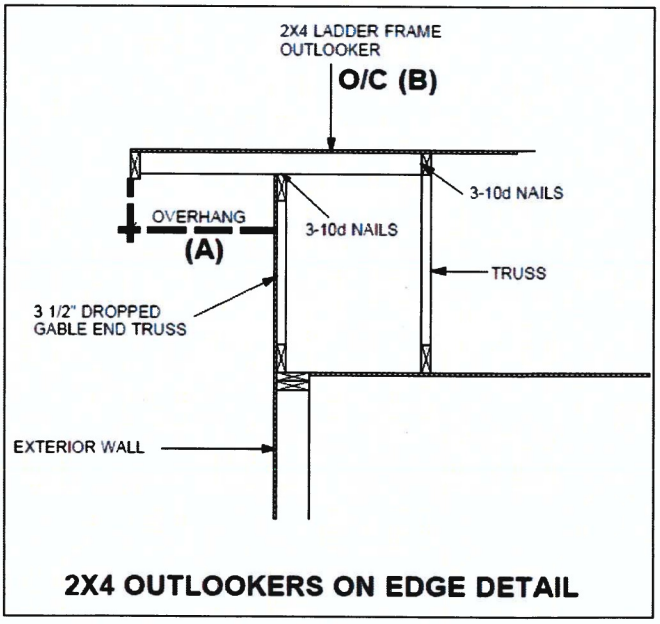
1./ Shear stress for 2x4 SPF #2 Assumed @ Fv = 135 psi parallel to grain.

2./ Bending stress for 2x4 SPF #2 Assumed @ Fb = 1050 psi.

3./ Assumed 3 - 10d framing/collated gun nails to be used per connection.



2X4 OUTLOOKERS ON FLAT DETAIL



2X4 OUTLOOKERS ON EDGE DETAIL

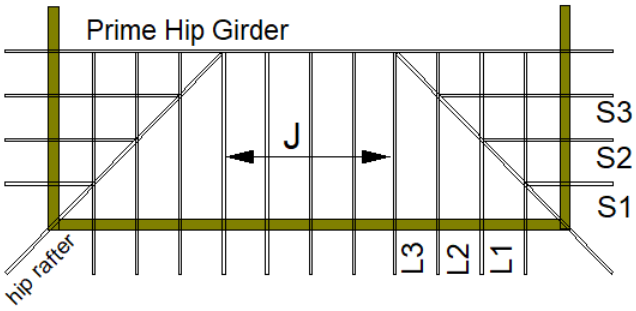
MiTek®

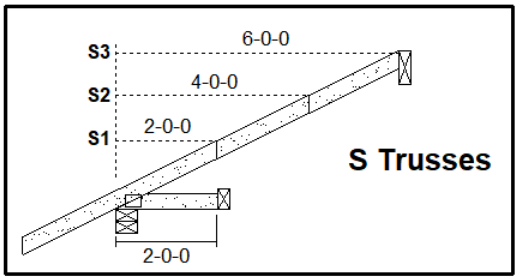
STANDARD DETAIL MSD2020-J

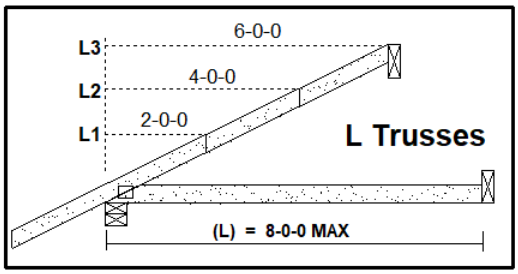
Issued: **March 25, 2026**
Expiry: **APRIL 30, 2027**

STANDARD HIP END FRAMING

PLAN VIEW



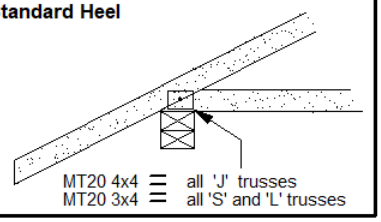




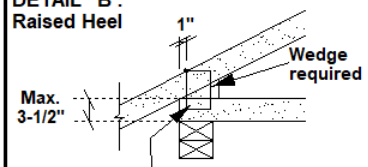
Specified Load Rating:

Top chord Live:	51.0 PSF or less
Top chord Dead:	6.0 PSF or less
Bottom chord Live:	0.0 PSF
Bottom chord Dead:	7.3 PSF or less

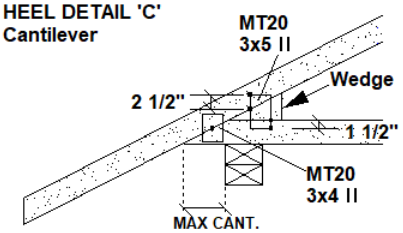
HEEL DETAIL 'A'
Standard Heel



DETAIL "B":
Raised Heel



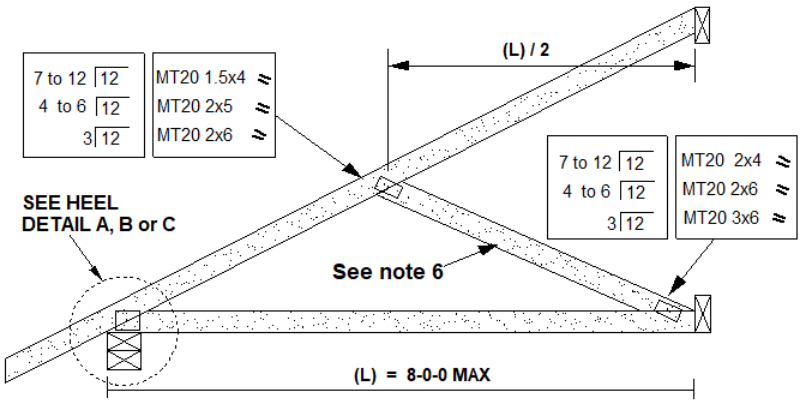
HEEL DETAIL 'C'
Cantilever



CANTILEVER DETAIL "C"

SLOPE	MAX CANT.	WEDGE PLATE	WEDGE SIZE
3/12	17"	3 X 5	2 X 3
4/12	14"	3 X 5	2 X 3
5/12	12"	3 X 5	2 X 4
6/12	10"	3 X 5	2 X 4
7/12	9"	3 X 5	2 X 6
8/12	8.5"	3 X 5	2 X 6
9/12	8"	3 X 5	2 X 6
10/12	7.5"	3 X 5	2 X 6

J Trusses

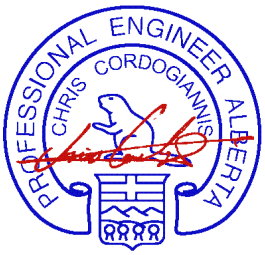


PERMIT TO PRACTICE
MITEK CANADA INC.
Signature
Date 2026-05-19
PERMIT NUMBER: P 3837
The Association of Professional Engineers and Geoscientists of Alberta
RM APEGA ID: 86553

NOTES:

1. This detail is valid only for projects complying with **PART 9 NBCC 2020** that do not require a wind analysis to be incorporated into the design of the trusses.
2. Overhang length shall not exceed 24 inches.
3. All lumber shall be 2x4 SPF (or D-Fir) DRY and of No. 2 grade or better.
4. All plates specified are MITEK MT20, pressed into both faces of each truss. Heel plates of all trusses shall conform to heel details 'A', 'B' or 'C'.
5. Diagonal hip rafter design shall conform to NBCC 2020 9.23.14.6 (minimum 2x6 SPF No.2)
6. For 6.0 ft. or less J-truss span, diagonal web on truss 'J" is optional. Girder design must reflect choice of partial jack ('J' with diagonal web) or open jack ('J' without diagonal web)
7. Connections may be specified as per MITEK standard detail *'MSD2020-H: Toe-Nail Capacity Details'* (contact the truss supplier for truss end reactions at each connection point). Hangers may be required in high-snow regions. Nailing S and L jack types into hip rafter assumes a bevel cut to provide surface contact with the rafter. Square-cut jacks may require a custom connection.
8. **MSD2020-J** is a complementary detail for MiTek product lines and has not been prepared for a specific project. Decision on applicability of this detail to a specific project is the responsibility of the building designer of record.

Member ID: 86553
Permit: P3837



2026-05-19

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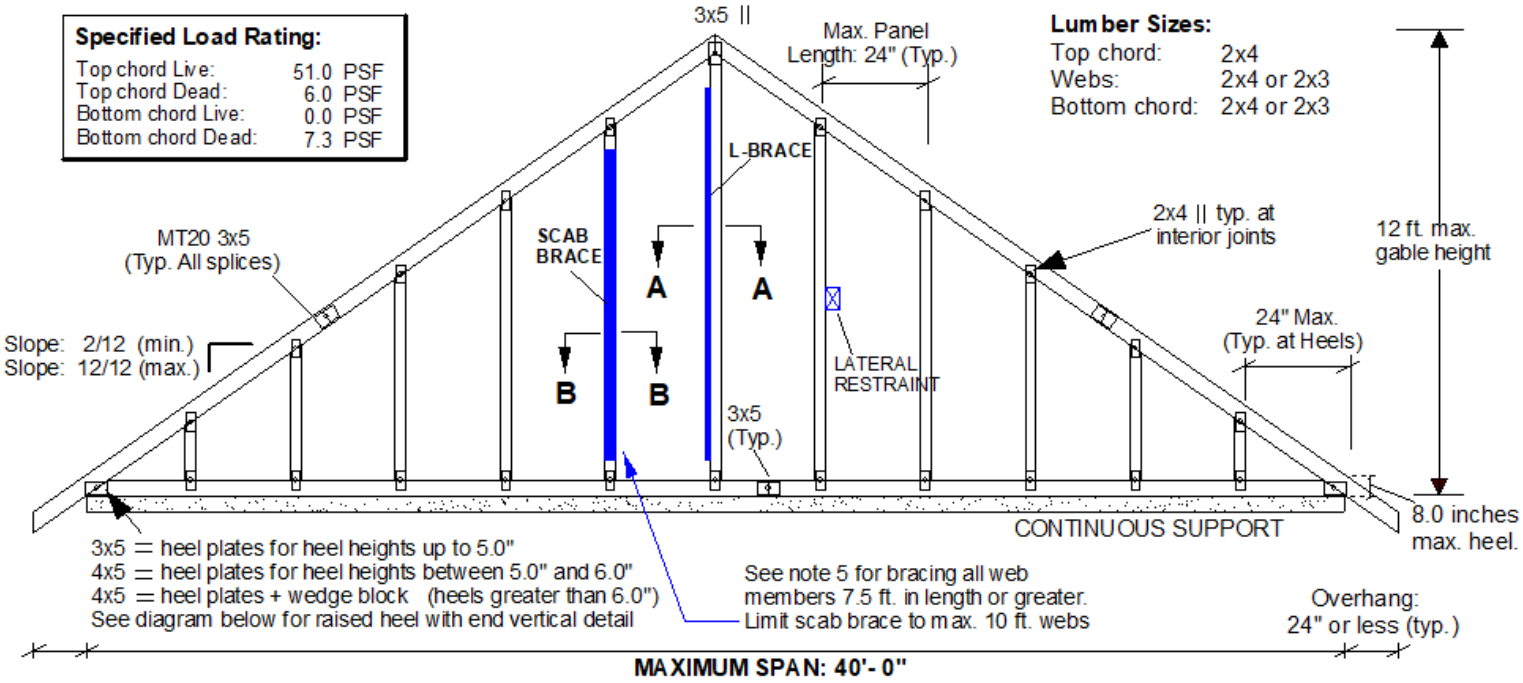
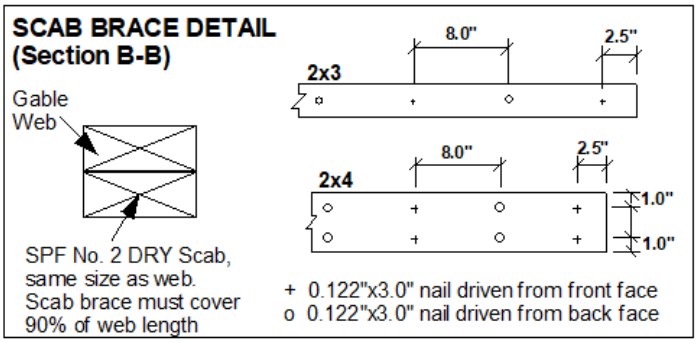
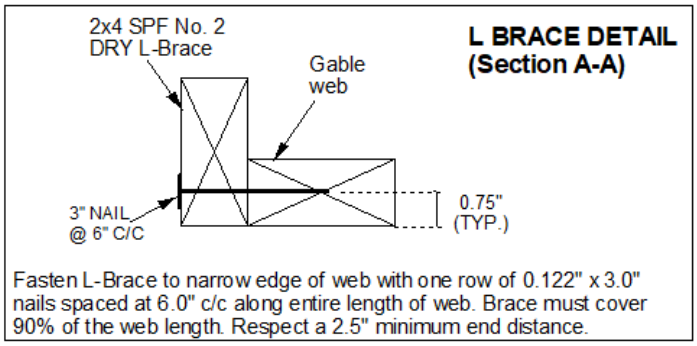
STANDARD DETAIL MSD2020-K

Issued: **MAR 1, 2026**
Expiry: **APR 30, 2027**

STANDARD RESIDENTIAL GABLE END TRUSS

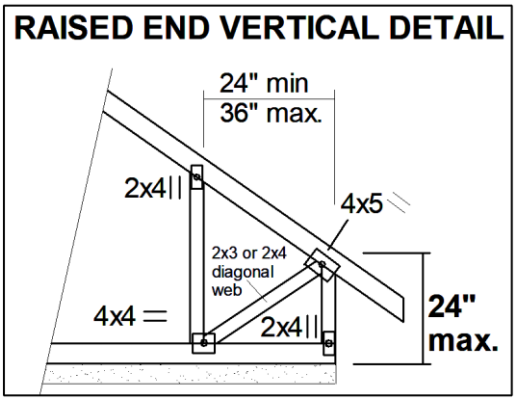






Notes:

1. This drawing is only valid for residential projects compliant with **PART-9 NBCC2020** that do not require a wind analysis to be incorporated into the design of the truss.
2. This drawing is for vertical (gravity) load rating of the truss only. Truss must be continuously supported over the entire length of bottom chord.
3. Maximum height of gable = 12 ft. Gable stud spacing not to exceed 24 inches cc.
4. Splices shall not be located in the first panel adjacent to the heel or peak joint.
5. Lateral bracing required at half-length of all webs over **7.5 ft**. long. Alternatively a scab brace or L-brace may be used. Scab bracing shall be limited to **10 ft**. long webs or less
6. All plates are MITEK MT20 pressed into both faces of truss.
7. All lumber to be SPF (or D-Fir) DRY and of No.2 grade or better.



8. Bracing shown is for web axial forces only. Additional building bracing is typically installed to brace the face of the end wall assembly. See BCSI Canada '*Building Designer Responsibilities for Gable End Frame Bracing*' for additional information on bracing gable-end assemblies.

9. **MSD2020-K** is a complementary detail for MiTek product lines and was not prepared for a specific project. Decision on applicability of this detail to a specific project remains with the building designer of record.

APEGA
Permit No. P3837
PROFESSIONAL ENGINEER ALBERTA
CHRIS CORDOGIANNIS
2026-04-19

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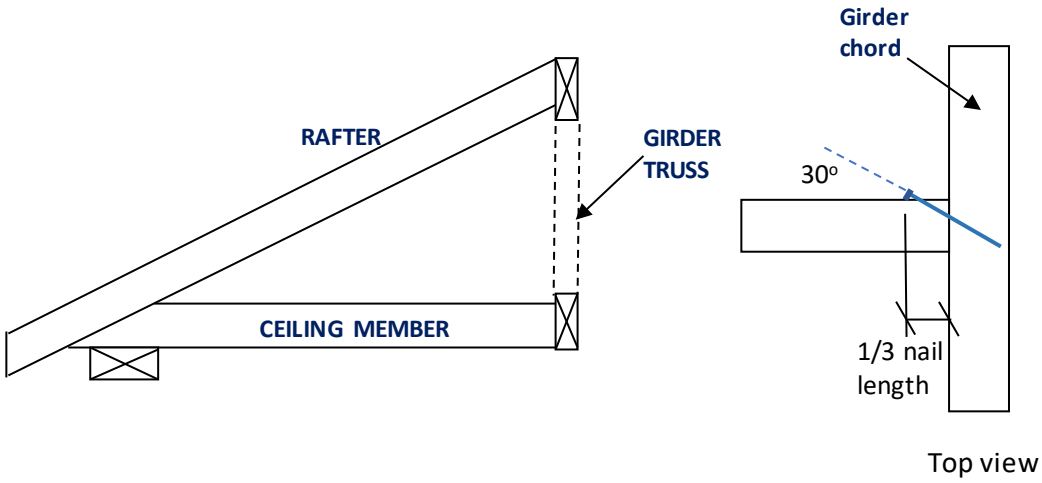
TOE-NAIL CAPACITY DETAILS

LATERAL AND WITHDRAWAL RESISTANCE OF BEARING ANCHORAGE BY TOE-NAILS

NAIL TYPE	Length (in)	Diameter (in)	LATERAL Resistance per nail (Lbs.)		WITHDRAWAL Resistance per nail (Lbs.)	
			SPF	D. FIR	SPF	D. FIR
COMMON WIRE	3.00	0.144	122	139	30	42
	3.25	0.144	127	144	32	45
	3.50	0.160	152	173	38	52
COMMON SPIRAL	3.00	0.122	96	108	26	36
	3.25	0.122	97	108	28	40
	3.50	0.152	142	161	36	50
3.25" Gun nail	3.25	0.120	94	105	28	39

Note: If using truss with D. Fir lumber and SPF bearing plate (or vice versa), use tabulated SPF values in table.

Nail type:	**Common wire**	**Common spiral**	**Common wire**	**Common spiral**	**Gun Nail**
Diameter (in.)	0.160	0.152	0.144	0.122	0.120
Length (in.)	3.50	3.50	3.00	3.00	3.25
LUMBER	**MAXIMUM NUMBER OF TOE-NAILS**				
2x4 SPF	2	2	3	3	3
2x6 SPF	4	4	4	4	4
2x4 D. FIR	2	2	2	2	2
2x6 D. FIR	3	3	3	4	4



APEGA
Permit No. P3837
PROFESSIONAL ENGINEER ALBERTA
CHRIS CORDOGIANNIS
2026-04-17

Figure 1: Toe-Nailing Rafter / Ceiling Member to Girder Truss

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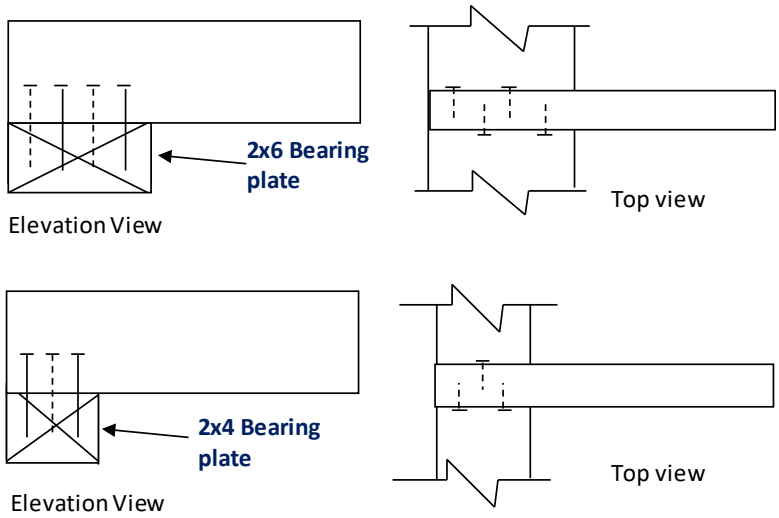
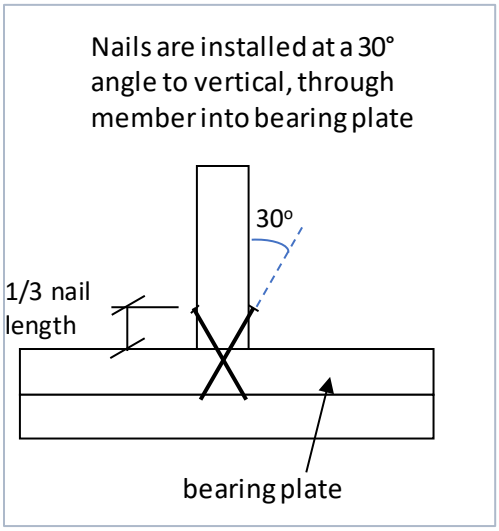
TOE-NAIL CAPACITY DETAILS

Figure 2: Toe-Nail Anchorage to Bearing Plate for Uplift





NOTES:

1. Rafter and ceiling members may be connected to top and bottom chords of girder truss by toe-nailing the members into the girder chords (see fig. 1), provided the factored vertical reactions of the supported members do not exceed the lateral resistance of the toe-nails. Appropriate mechanical connectors (angles or hangers) are required if factored vertical reactions exceed the toe-nail lateral resistance, or if the connection must resist horizontal withdrawal loads perpendicular to the plane of the girder truss.

2. Trusses, rafters or ceiling members may be anchored to the bearing plate with toe-nails (see fig. 2), provided that the factored uplift reactions due to **wind or earthquake loads** do not exceed the **withdrawal resistance of the toe-nails.** Mechanical anchors are required for reactions that exceed the toe-nail withdrawal capacity. Toe-nail anchorage to bearing plates is **NOT** permitted if uplift reactions are generated from gravity loads (snow, floor live, dead).

3. Tabulated toe-nail resistances on page 1 are for **one** toenail. Multiply unit values by the number of nails used in the connection. Maximum number of nails in a connection shall not exceed the tabulated limits shown on page 1 for a given lumber size / species.

4. Nail values are based on specific gravity of G = 0.42 (SPF) and G = 0.49 (D. Fir)

5. Toe-nails shall be driven at approximately 1/3 the nail length from the edge of the joist/truss chord and driven at an angle of 30° to the grain of the member.

6. Tabulated values are for standard duration (K_D = 1.0). For wind / earthquake loads the tabulated lateral resistances may be multiplied by 1.15 (K_D =1.15). No increases are permitted for tabulated withdrawal resistances.

7. Lumber must be dry (< 19% moisture content) at the time of nail installation.

8. Nail values in this table comply with CSA O86-19, Clause 12.9.

9. This detail is a complementary detail for MiTek product lines and has not been prepared for a specific project. Decision on applicability of this detail to a specific project remains with the building designer of record.

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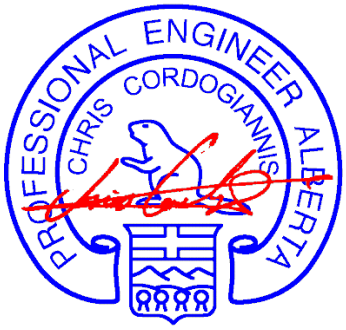

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TRUSS HANGER LIST 2026

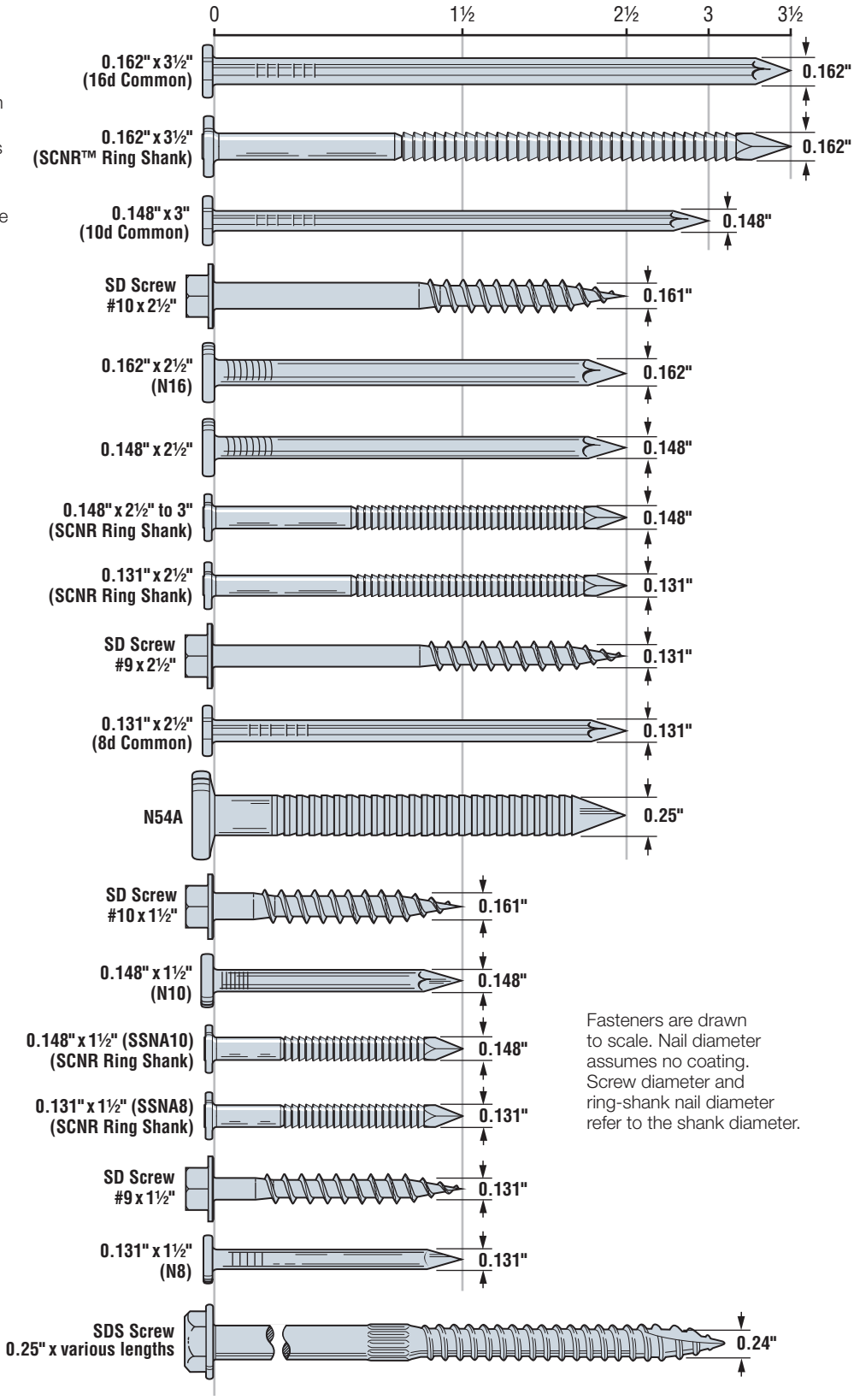
HANGER TYPE		FLANGE	SEAT	HEIGHT	BEARING	2-PLY F	1-PLY F	LVL F	Uplift	HEADER	JOIST
LU24L	**JL24**	**4"**	**1 9/16"**	**3 1/8"**	**1 1/2"**	**725**	**558**	**1020**	**320**	**(4) 10d**	**(2) 10d x 1 1/2"**
LU26L	JL26	4"	1 9/16"	4 3/4"	1 1/2"	1140	730	1605	645	(6) 10d	4) 10d x 1 1/2"
LUS28	**JL28**	**4"**	**1 9/16"**	**6 5/8"**	**1 1/2"**	**1790**	**1145**	**2520**	**1290**	**(8) 10d**	**6) 10d x 1 1/2"**
HUS26	HUS26	6 7/8"	1 5/8"	5 3/8"	3"	3875	2480	4940	2065	(14) 16d	(6) 16d
HGUS26	**THDH26**	**6 7/8"**	**1 5/8"**	**7 1/16"**	**5"**	**5700**	**3648**	**6625**	**2365**	**(20) 16d**	**(8) 16d**
HGUS28	THDH28	6 7/8"	1 5/8"	7 1/16"	5"	6900	4415	7675	3310	(36) 16d	(36) 16d
HGUS28-2	**THDH28-2**	**8 11/16"**	**3 5/16"**	**7 1/16"**	**4"**	**9125**		**12980**	**4310**	**(36) 16d**	**(12) 16d**
HGUS210-2	THDH210-2	8 11/16"	3 5/16"	9 3/16"	3"	10270		14015	4855	(46) 16d	(16) 16d
HGUS26-3	**THDH26-3**	**11"**	**4 15/16"**	**5 1/2"**	**4"**	**6355**		**8950**	**3110**	**(20) 16d**	**(8) 16d**
HGUS210-3	THDH210-3	11"	4 15/16"	9 1/8"	4 1/2"	10400		14645	4855	(46) 16d	(16) 16d
SKEWED											
SUR/L210	**SKH210L/R**	**4 3/4"**	**1 1/2"**	**8 1/8"**	**2"**	**2710**	**1675**	**3820**	**1480**	**(10) 16d**	**(10) 10d x 1 1/2"**
SUR/L1819	SKH1720L/R	6 3/4"	1 13/16"	9"	3"	2220	1375	3140	195	(12) 16d	(2) 10d x 1 1/2"
SUR/L410	**SKH410L/R**	**8 3/4"**	**3 9/16"**	**8 1/2"**	**2 5/8"**	**2875**	**1780**	**4065**	**1540**	**(14) 16d**	**(6) 16d**
LSSR210Z	LSSH210	2 1/2"	1 9/16"	9 1/16"	1 5/8"	1590	970	2035	865	(10) 10d	(7) 10d x 1 1/2"
LSSR410Z	**LSSH35**	**5 1/8"**	**3 5/8"**	**9"**	**2 5/8"**	**1835**	**1119**	**2585**	**705**	**(22) 16d**	**(18) 16d x 1 1/2"**
LS50	MP5			5"		670	428	720		(8) 10d x 1 1/2"	(8) 10d
LS70	**MP7**			**6 3/8"**		**890**	**569**	**960**		**(10) 10d x 1 1/2**	**(10) 10d**
LS90	MP9			7 7/8"		1115	713	1200		(12) 10d x 1 1/2"	(12) 10d
TJC57				**5 1/8"**		**835**	**835**	**1110**		**(12) 8d x 1 1/2**	**(12) 8d x 1 1/2**
LVL HANGER											
HU181/5	**HUS175**	**4"**	**1 13/16"**	**5 3/8"**	**2 1/2"**	**1975**	**1264**	**2785**	**905**	**(12) 16d**	**(4) 10d x 1 1/2**
U46	SUH46	6"	3 9/16"	4 7/8"	2"	2475	1584	2675	890	(12) 1/4" x 2 3/4	(6) 10d
HUC410	**HD410IF**	**6"**	**3 9/16"**	**8 5/8"**	**2 1/2"**	**4225**	**2704**	**5780**	**2450**	**(18) 1/4" x 2 3/4**	**(10) 10d**
HGUS410 (2)	THDH410	9"	3 5/8"	8 7/16"	4"	10270		14015	4855	(46) 16d	(16) 16d
HGUS412 (2)	**THDH412**	**9"**	**3 5/8"**	**10 7/16"**	**4"**	**10645**		**14995**	**5425**	**(56) 16d**	**(20) 16d**
HGUS414 (2)	THDH414	9"	3 5/8"	12 7/16"	4"	11595		16400	7195	(66) 16d	(22) 16d
HGUS5.50/10	**THDH610**	**11 5/8"**	**5 1/2"**	**8 15/16"**	**4"**	**10400**		**14645**	**4855**	**(46) 16d**	**(16) 16d**
HGUS5.5/12	THDH612	11 5/8"	5 1/2"	10 1/2"	4"	10645		14995	5425	(56) 16d	(20) 16d
HGUS5.5/14	**THDH614**	**11 5/8"**	**5 1/2"**	**12 1/2"**	**4"**	**11645**		**16400**	**7195**	**(66) 16d**	**(22) 16d**
HUCQ610	HDQ610IF	5 3/4"	5 1/2"	9"	3"	6825		6825	2900	(12) 1/4"x2 1/2" SDS	(6) 1/4"x2 1/2" SDS
HGUS7.25/10	**THDH7210**	**13"**	**7 1/4"**	**8 5/8"**	**4"**	**11190**		**15760**	**4855**	**(46) 16d**	**(16) 16d**
HGUS7.25/12	THDH7212	13"	7 1/4"	10 5/8"	4"	11435		16110	5425	(56) 16d	(20) 16d
HGUS7.25/14	**THDH7214**	**13"**	**7 1/4"**	**12 5/8"**	**4"**	**12920**		**18200**	**7195**	**(66) 16d**	**(22) 16d**
CLIPS/ANCHORS											
H2.5T		1 9/16"		6"		740	740	835	740	(5) 8d	(5) 8d

Fastener Types and Sizes Specified for Simpson Strong-Tie Connectors

Many Simpson Strong-Tie connectors have been designed and tested for use with specific types and sizes of fasteners. The specified quantity, type and size of fastener must be installed in the correct holes on the connector to achieve published values. Other factors such as fastener material and finish are also important. Incorrect fastener selection or installation can compromise connector performance and could lead to failure. For more information about fasteners, see our *Fastening Systems* catalogue at **strongtie.com** or access our Fastener Finder software web application at **go.strongtie.com/ff**.

The Simpson Strong-Tie Strong-Drive® SD Connector screw is the only screw approved for use with our connectors. See pp. 396–400 for more information.

The factored resistances of stainless-steel connectors match those of carbon-steel connectors when installed with Simpson Strong-Tie stainless-steel, SCNR ring-shank nails. For more information, refer to engineering letter L-F-SSNAILS at **strongtie.com**.



Fasteners are drawn to scale. Nail diameter assumes no coating. Screw diameter and ring-shank nail diameter refer to the shank diameter.

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