T-TEC ENGINEERED WOOD

INSTALLATION GUIDE

CANADA

HEADERS, BEAMS, & COLUMNS

T-TEC LSL 1.35E & 1.55E
T-TEC LVL 1.6E, 1.8E, 2.1E & 2.2E

Issue Date: May Jun 11, 2026
Reference: IG-HBC-C1

Important: All Tolko engineered wood products are intended and warranted for use in dry-service conditions.

T-TEC LSL	
Widths	1 ¾", 3 ½",
Depths	5 ½", 7 ¼", 9 ½", 11 ⅞", 14", 16", 18", 20", 22", 24"
Lengths	Up to 24'
E-Rating	1.35E, 1.55E
Zinc Borate Treatment	Optional

T-TEC LVL	
Widths	1 ¾", 3 ½", 5 ¼", 7"
Depths	9 ½" to 24"
Lengths	Up to 48'
E-Rating	1.6E, 1.8E, 2.1E, 2.2E

For additional information please visit Standards / Specifications - Tolko Industries. In the event of any discrepancy or conflict between published information, or should any questions arise, Tolko should be contacted for clarification prior to reliance on such information.

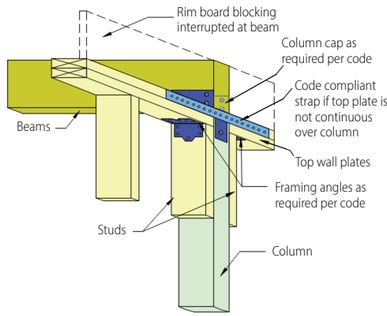
Tolko offers authorized customers access to engineered wood design software.

To become an authorized Tolko user, please contact your Tolko EWP sales representative at:
Phone: 250-549-5311
Email: designsoftware@tolko.com

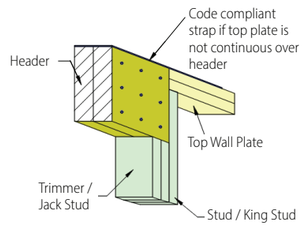
SIMPSON StrongTie MiTek

BEAM DETAILS

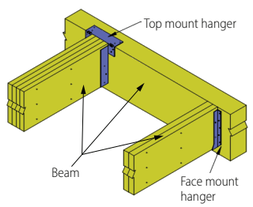
Detail 1: Bearing at Wall



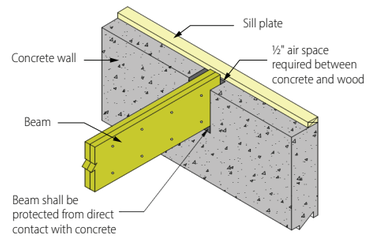
Detail 2: Bearing for Door or Window Header



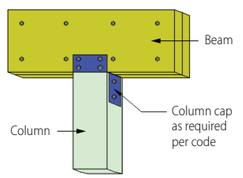
Detail 3: Beam to Beam Connection



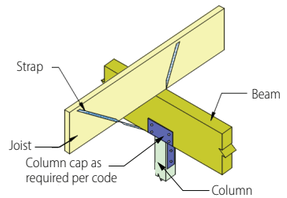
Detail 4: Bearing at Concrete Wall



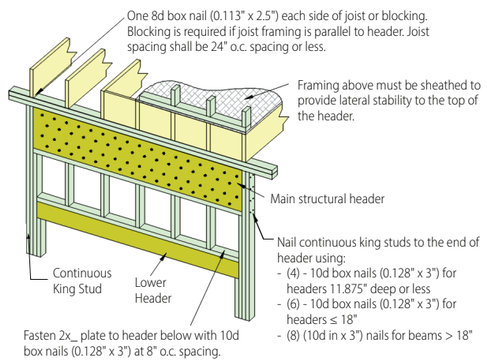
Detail 5: Bearing at Column



Detail 6: Beam to Column Lateral Brace

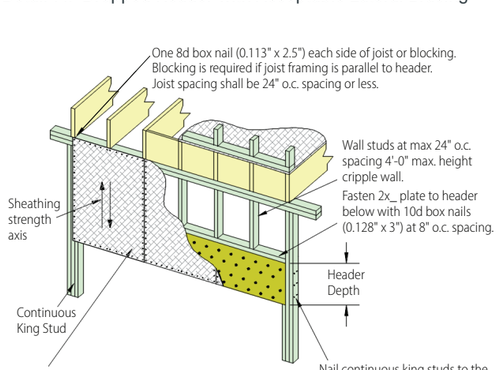


Detail 13: Dropped Header with Full Lateral Bracing



Reference: WIJMA – Dropped Header Design Guide

Detail 14: Dropped Header with Acceptable Lateral Bracing



Reference: WIJMA – Dropped Header Design Guide

The following dropped headers can be considered to be fully-braced under uniform load, simple-span conditions when framed as shown above:

Single-ply Headers	Multiply-ply Headers
1 ¾" thick headers with depths of up to 12"	Multiple-ply 1 ¾" thick headers with depths of up to 16"
3 ½" thick headers with depths of up to 16" and spans up to 18'-6"	Multiple-ply 1 ¾" x 14" headers and spans of up to 8'-6"

ALLOWABLE HOLES

Figure 1: Maximum 1.5" – 2" Diameter Round Holes (Single or Multiple Spans)

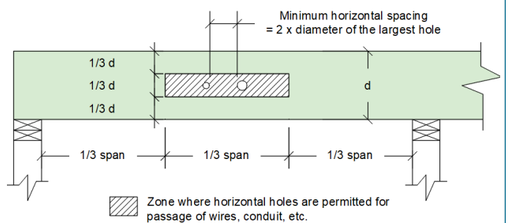
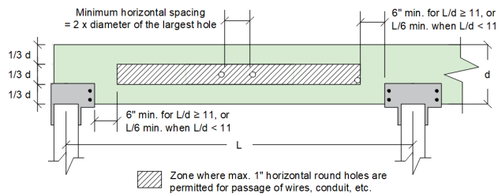


Figure 2: Maximum 1" Diameter Round Holes (Single or Multiple Spans)

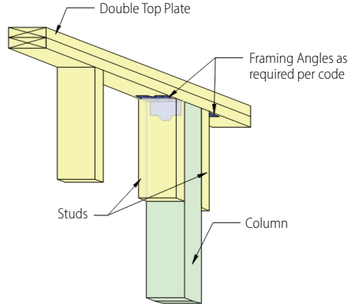


Notes:
1) Holes allowed for single or continuous spans for uniform loads only.
2) No more than 3 holes per span are permitted.
3) Holes shall not be cut in cantilevers.
4) Beam depth shall be at least 7.25 inches.
5) The horizontal spacing must be a minimum of two diameters clear distance between adjacent holes based on the diameter of the larger hole.
6) When holes are required to be drilled outside the allowable zones, an engineering analysis shall be conducted and approved be a professional engineer.
7) Round holes only.

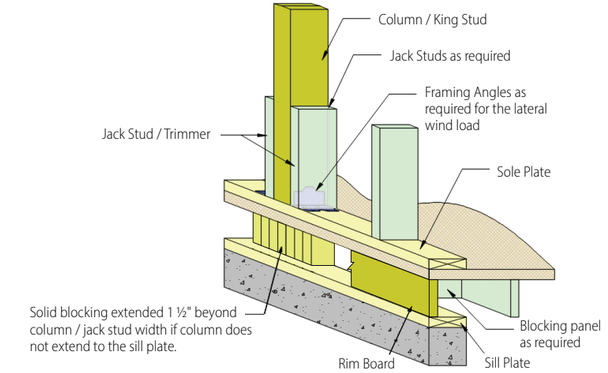
Reference: APA- The Engineered Wood Association: Form No. EWS G535A

COLUMN DETAILS

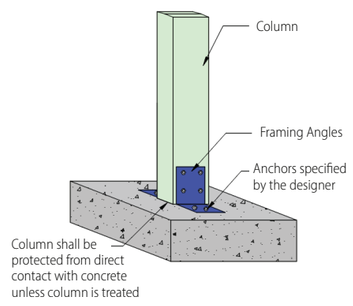
Detail 15: Column to Top Plate



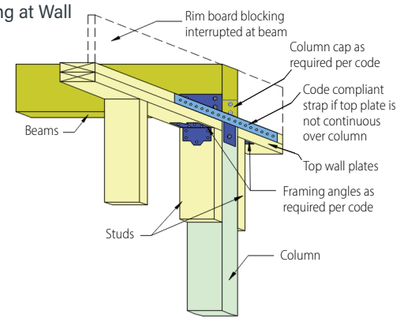
Detail 16: Column to Sill Plate



Detail 18: Column Base



Detail 1: Bearing at Wall



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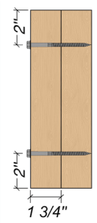
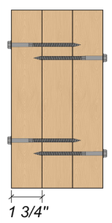
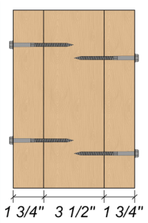
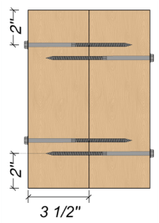
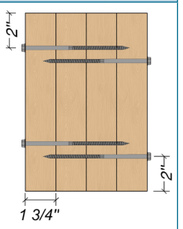
Issue Date: Jun 11, 2026
Reference: IG-HBC-C1
www.tolko.com

MULTIPLE MEMBER CONNECTIONS: UNIFORM SIDE LOADS

TABLE 20: MAXIMUM FACTORED LOAD FOR UNIFORM SIDE LOADS (PLF)

Fastener Type	Placement	Number of Rows	Fastener On-Center Spacing	Fastener Pattern					
				Assembly A	Assembly B	Assembly C	Assembly D	Assembly E	Assembly F
									
				3 ½" wide, 2-ply	5 ¼" wide, 3-ply	5 ¼" wide, 2-ply	7" wide, 3-ply	7" wide, 2-ply	7" wide, 4-ply
10d (0.128" x 3") or (0.131" x 3") Nail[1]	As shown	2[6]	12"	575	430	430	385		
		3	12"	865	650	650	575		
½" A307 Through Bolt[2][3]	-	2	24"	780	585	880	780	1560	520
			19.2"	975	730	1095	975	1950	650
			16"	1170	880	1315	1170	2340	780
Screw Length →				3 ½"	3 ½"	3 ½"	3 ½"	6"	6"
Simpson Strong-Tie® SDS[3]	As shown	2	24"	870	655	655	580	2325	680
			19.2"	1090	815	815	725	2905	850
			16"	1305	980	980	870	3485	1020
MiTek® WS[3]	As shown	2	24"	905	680	680	605		765[7]
			19.2"	1130	850	850	755		960[7]
			16"	1355	1015	1015	905		1150[7]
Screw Length →				3 ⅜"	5"	3 ⅜"	6 ¾"	6 ¾"	6 ¾"
Simpson Strong-Tie® SDW22[3][4]	One side	2	24"	680	625	585	555	1140	765[7]
			19.2"	850	780	730	690	1425	960[7]
			16"	1020	935	880	830	1710	1150[7]
Screw Length →				3 ⅜"	5"	5"	6 ¾"	6 ¾"	6 ¾"
MiTek® MIFLK[3][5]	One side	2	24"	770	600	780	530	1220	530
			19.2"	960	750	980	670	1530	670
			16"	1160	900	1170	800	1830	800

Notes:
1) Tabulated nailed connection capacities may be increased by a factor of 2 for 6" o.c. spacing and by a factor of 3 for 4" o.c. spacing.
2) Provide washers. Maximum bolt hole diameter: 9/16". Minimum beam depth: 9 ¼".
3) Connection values for 24" o.c. bolted or screwed connections may be doubled when reduced to 12" o.c. spacing.
4) For head-side loading of SDW22 screws, increase capacities for Assemblies B, D, and F by 30%.
5) For head-side loading of WSWH screws, increase capacities for Assemblies B, D, and F by 25%.
6) Applies to beams with a maximum depth of 14".
7) Assembly F is not recommended for use with T-TEC LSL.
8) Assemblies require fasteners on both sides. Stagger fasteners on the opposite side so they are positioned midway between those on the first face.

MULTIPLE MEMBER CONNECTIONS: TOP-LOADED BEAMS

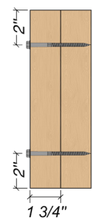
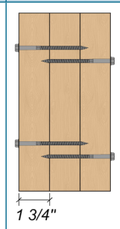
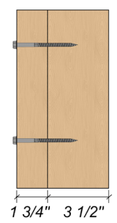
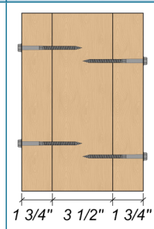
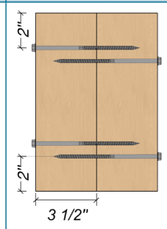
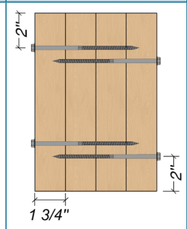
TABLE 25: FASTENER INSTALLATION REQUIREMENTS

Ply Width (in)	# of Plies	Fastener Type	Depth (in)	# Rows	On-Center Spacing (in)	Location	Min. Edge Distance (in)	Min. End Distance (in)	Min. Distance Between Rows of Fasteners (in)
1 ¾"	2	16d box nail (0.135" x 3.5")	9 ¼, 9 ½, 11 ¼, 11 ⅞	3	12	One side (front or back)	2	3	3
			14, 16, 18	4					
	3	16d box nail (0.135" x 3.5")	9 ¼, 9 ½, 11 ¼, 11 ⅞	3	12	Both side (front and back) - stagger nails on the opposite side by 6"	2	3	3
			14, 16, 18	4					
	4	SDW22634, WSWH634	9 ¼, 9 ½,	2	12	One side (front or back)	2	6	4
			11 ¼, 11 ⅞, 14	3					
			16, 18	4					
3 ½"	2	Screws	9 ¼, 9 ½,	2	12	One side (front or back)	2	6	4
			11 ¼, 11 ⅞, 14	3					
			16, 18	4					
		½" Bolts (8")	See note 4	2	24	Through	2	6	4

Notes:
1) Top-applied loads (uniform or concentrated) shall be distributed across the full width of the member.
2) Where load distribution does not meet this condition, use side-loaded connection values (uniform or concentrated).
3) Maximum beam width: 7".
4) Minimum beam depth: 9 ¼".
5) Provide washers at all bolted connections.

MULTIPLE MEMBER CONNECTIONS: CONCENTRATED SIDE LOADS

TABLE 21: MAXIMUM FACTORED LOAD FOR POINT LOADS (LBS)

Fastener Type	Placement	Number of Fasteners per Face	Fastener Pattern						
			Assembly A	Assembly B	Assembly C	Assembly D	Assembly E	Assembly F
								
			3 ½" wide, 2-ply	5 ¼" wide, 3-ply	5 ¼" wide, 2-ply	7" wide, 3-ply	7" wide, 2-ply	7" wide, 4-ply
10d (0.128" x 3") or (0.131" x 3") Nail[1]	As shown	6	1730	1295	1295	1150		
		12	3455	2590	2590	2305		
		18	5185	3890	3890	3455		
		24	6910	5185	5185	4610		
Screw Length →			3 ½"	3 ½"	3 ½"	3 ½"	6"	6"
Simpson Strong-Tie® SDS[3]	As shown	4	3480	2610	2610	2320	9295	2720
		6	5220	3915	3915	3480	13945	4080
		8	6960	5220	5220	4640	18590	5440
MiTek® WS[3]	As shown	4	3615	2710	2710	2410		3065[3]
		6	5425	4070	4070	3615		4600[3]
		8	7230	5425	5425	4820		6135[3]
Screw Length →			3 ⅜"	5"	3 ⅜"	6 ¾"	6 ¾"	6 ¾"
Simpson Strong-Tie® SDW22[3][4]	One side	4	2720	2490	2340	2215	4560	2215
		6	4080	3735	3510	3320	6840	3320
		8	5440	4980	4680	4425	9120	4425
Screw Length →			3 ⅜"	5"	5"	6 ¾"	6 ¾"	6 ¾"
MiTek® MIFLK[3][5]	One side	4	3080	2400	3120	2130	4880	2130
		6	4620	3600	4680	3200	7320	3200
		8	6160	4800	6240	4260	9760	4260

Notes:
1) For head-side loading of SDW22 screws, increase capacities for Assemblies B, D, and F by 30%.
2) For head-side loading of WSWH screws, increase capacities for Assemblies B, D, and F by 25%.
3) Assembly F is not recommended for use with T-TEC LSL.
4) Assemblies require fasteners on both sides. Stagger fasteners on the opposite side so they are positioned midway between those on the first face.

Figure 11: 24 NAILS

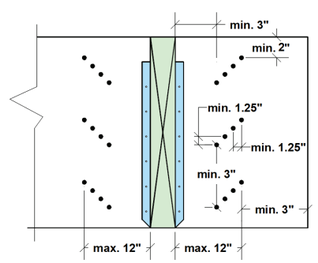


Figure 13: 8 SDS/SDW SCREWS

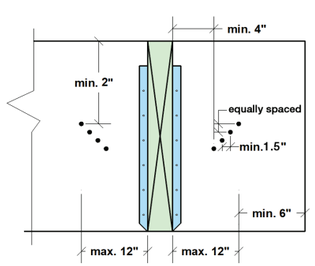
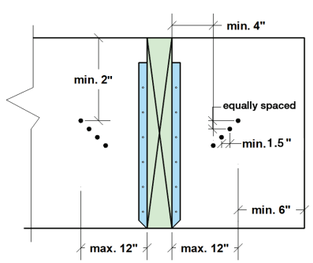


Figure 18: 8 WSWH/WS SCREWS



Additional Notes for Side Loaded Beams:
1) Verify side-loaded beams are designed using approved engineering software and reviewed by a design professional.
2) Connections shall be based on manufacturer evaluation reports or the CSA O86.
3) Provide a minimum end distance of 6" for all screws and bolts.
4) Use a specific gravity value of 0.50 for lateral connection design.
5) Refer to Tables 20 and 21 for nail, bolt, and screw spacing/placement requirements.

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Issue Date: Jun 11, 2026
Reference: IG-HBC-C1
www.tolko.com

SUGGESTED TOOLS FOR INSTALLATION

Tools and personal protective equipment (PPE) are the responsibility of the framing contractor. The tools suggested are:

- Compressor
- Pneumatic Air Nailer
- Hammer
- Circular saw
- Hearing protection and other PPE as mandated by AHJ

STORAGE AND HANDLING

INTRODUCTION

Proper storage and handling of engineered wood products (EWP) including T-TEC LSL, T-TEC LVL, T-TEC I-Joists, Tolko LSL Industrials and Tolko LVL Industrials is required to protect the products during distribution and at the job-site. APA – The Engineered Wood Association recommends the following storage and handling practices for EWP products. For full details on proper storage and handling, refer to *APA Technical Note: Proper Storage and Handling of I-Joists and LVL, Form E705* available at www.apawood.org.

SAFE HANDLING DURING DISTRIBUTION

1. Bundle wrap can be slippery. Avoid walking on wrapped bundles. Stacks of product may be unstable or slippery, especially when wet. Avoid walking on the material.
2. Follow good forklift safety procedures when handling EWP at the yard.
3. Store longest material lowest to the ground.
4. When handling with a crane, pick up the load using a spreader if necessary to minimize handling stresses.
5. Post and follow load limits on storage racks.

STORAGE DURING DISTRIBUTION

1. Keep wrapped to protect from weather.
2. Use stickers to separate bundles.
3. Use stickers every 8 feet and maintain vertical alignment of the stickers.
4. Do not store EWP in direct contact with the ground.
5. For optimal moisture protection, keep at least 12 inches up from the ground.
6. To protect from dirt and weather, delay unwrapping the bundles until the time of the installation or cut-up for delivery.
7. Take care to avoid forklift damage. If the ground is unlevel in the storage area, reduce forklift speed to avoid "bouncing" the load.
8. When handling with a crane, pick up the load using a spreader if necessary to minimize handling stresses.
9. Maintain stack height within safe limits.
10. Do not stack other material on top of EWP.

PROPER HANDLING AT THE JOB-SITE

1. Do not drop the product off the delivery truck. Best practice is to use a forklift or boom.
2. Store on level, well-drained area.
3. Keep on stickers spaced every 8′ and at least every 6″ off the ground at the job-site.
4. Keep material covered to protect from weather.
5. Do not stack other material on top of the product.
6. Never use or try to repair damaged products. If defective material is discovered prior to or during installation, cease installation and contact the supplier.

MOISTURE EFFECTS

T-TEC Engineered Wood products are manufactured under carefully controlled conditions that assure they are dry. Moisture content can be affected by humidity, exposure to wetting and drying conditions. While T-TEC Engineered Wood products are engineered to withstand normal exposure, excessive exposure to moisture may lead to dimensional change.

If moisture is present, mold, mildew and wood decay fungi may grow on any engineered wood products, thus it is important to properly store EWP to control exposure to moisture. Moisture increase is expected under normal construction situations and does not adversely affect the performance of the products if good building practices are followed to minimize exposure and to provide proper conditions for the products to re-equilibrate to dry conditions.

Reference: *APA Technical Note: Proper Storage and Handling of I-Joists and LVL, Form E705* available at www.apawood.org.