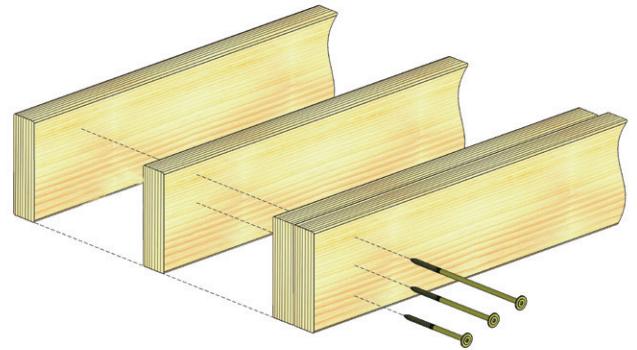


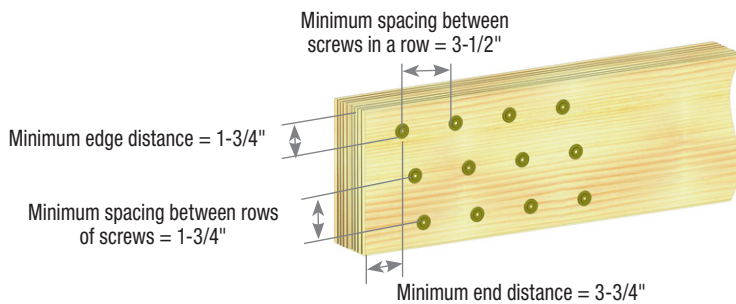


Joining Multi-Ply Engineered Wood (EWP) Beams

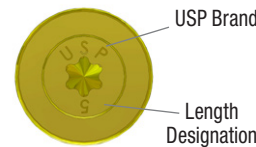
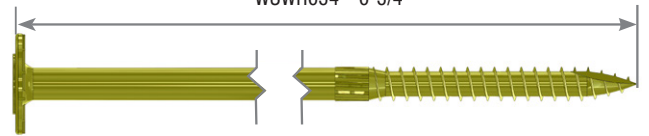
The MiTek Pro Series WSWH Washer Head Structural Wood Screws have been designed specifically for use in joining wood members of multiple-ply engineered wood beams (LVL, LSL & PSL). Using a standard 1/2" low speed/high torque drill, install screws into the side of the outermost ply. As the threads fully engage the final ply, allow the underside of the washer head to pull the plies firmly together. Washer head will install flush with the surface of the wood, but do not overdrive as this may damage the beam. Refer to the information in this bulletin for proper WSWH screw size selection and fastening pattern.



Minimum Spacing Requirements:



WSWH338 – 3-3/8"
 WSWH5 – 5"
 WSWH634 – 6-3/4"

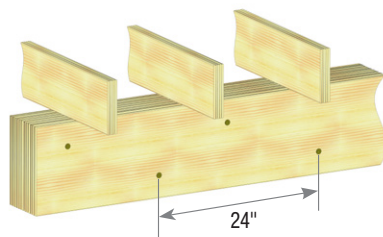


Fastener Identification

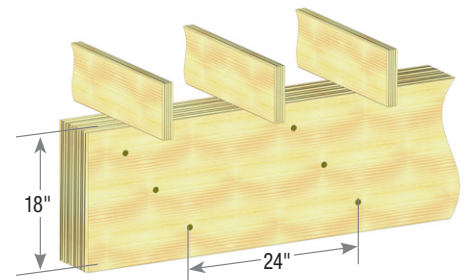
For easier selection and post installation inspection, all MiTek Pro Series Wood Screws carry an identifying head marking.

Top Loaded Beams

Where floor joists rest on all plies of the beam, WSWH screws should be installed in two staggered rows at 24" O.C. spacing. Maintain the minimum end and edge distance as indicated above.



For beam depths of 18" or more, this pattern should be increased to three staggered rows of WSWH screws at 24" on center.



General Guidelines:

- Beams wider than 7" require special consideration by the design professional. The values on the next page do not apply.
- Excessively warped or curved LVL should never be forced into alignment by use of clamps, screws or bolts as splitting may occur, potentially decreasing the carrying capacity of the beam.
- The WSWH338, WSWH5, and WSWH634 are not designed for use with dimensional lumber. Refer to MiTek's *Joining Multiple Member (Multi-ply) Dimensional Lumber Wood Beams* Technical Bulletin as a guide for selecting the proper length wood screw for that application.
- A qualified designer or engineer should always be consulted for critical assemblies and fastening requirements.

Customer Service & Technical Assistance

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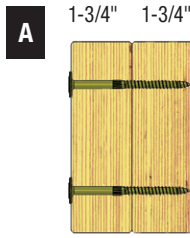
MiTek-US.com

continued on back

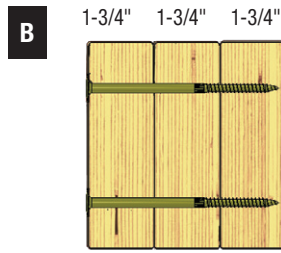


Joining Multi-Ply Engineered Wood (EWP) Beams

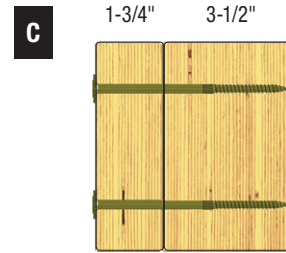
Fastener Size Selection by Assembly Type (2 rows shown)



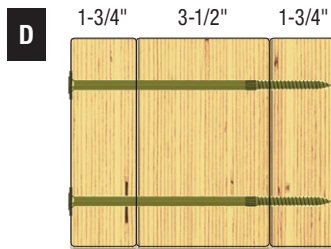
WSWH338
3-3/8"



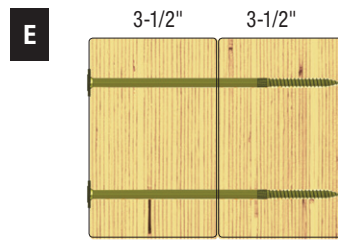
WSWH5
5"



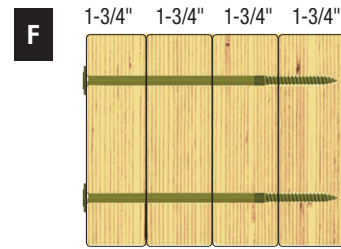
WSWH5
5"



WSWH634
6-3/4"



WSWH634
6-3/4"



WSWH634
6-3/4"

Side Loaded Beams

Where floor joists are joined to the side of the beam (typically using a joist hanger), this load chart must be used to establish the proper pattern based on the design load as determined by the engineer and noted on the plans.

Length (in)	MiTek Stock No.	No. of Screws Vertical Column	Spacing Between Screws in a Row (in)	Allowable Side Loads by Assembly Type (Lbs/Lineal Ft) (See Graphics) ^{1,2,3,4,5}														
				EWP Wood Specific Gravity G ≥ 0.50						EWP Wood Specific Gravity G ≥ 0.42								
				A	B	C	D	E	F	A	B	C	D	E	F			
3-3/8	WSWH338	2	24	640							455							
			19.2	800							570							
			16	955	--	--	--	--	--		680	--	--	--	--	--		
			12	1275							910							
		3	24	955							680							
			19.2	1195	--	--	--	--	--		850	--	--	--	--	--		
5	WSWH5	2	24		535	535						545	545					
			19.2		670	670						685	685					
			16	--	805	805	--	--	--			820	820	--	--	--		
			12		1075	1075						1090	1090					
		3	24		805	805						820	820					
			19.2		1005	1005						1025	1025					
			16	--	1210	1210	--	--	--			1230	1230	--	--	--		
			12		1610	1610						1640	1640					
		6-3/4	WSWH634	2	24				475	715	475					485	730	485
					19.2	--	--	--	595	895	595					605	910	605
					16				715	1075	715					730	1090	730
					12				955	1430	955					970	1455	970
3	24						715	1075	715					730	1090	730		
	19.2			--	--	--	895	1345	895					910	1365	910		
3	16			--	--	--	1075	1610	1075					1090	1640	1090		
	12						1430	2150	1430					1455	2185	1455		

- 1) Allowable loads are derived from tested fastener values as reported in ICC-ES ESR-2761.
- 2) The uniform loads in this table relate only to the capacity of the fastener to transfer shear loads between plies. The specific gravity (SG) and the capacity of the EWP should be verified with manufacturer's literature.
- 3) Values listed reflect 100% load duration. (C_p = 1.0) The designer may apply adjustment factors to increase or decrease these loads per the NDS based on conditions for each assembly.
- 4) Load values depicted assume all uniform load is applied to the outermost ply or point of entry for the screw.
- 5) To minimize rotation, 7" wide beams shall be side loaded only when loads are applied to both sides of the beam with the lesser loaded side bearing at least 25% of the overall design load.
- 6) Tip side loading to beam is allowed for 50% of listed allowable head side load. Head side and tip side of beam can be loaded concurrently so long as they do not exceed 150% listed head side capacity. (Example: A 3-ply assembly with a head side load of 1,200 plf and tip side load of 600 plf may be fastened together with 3 rows of WSWH5 screws at 16" O.C. spacing between fasteners in a row).

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