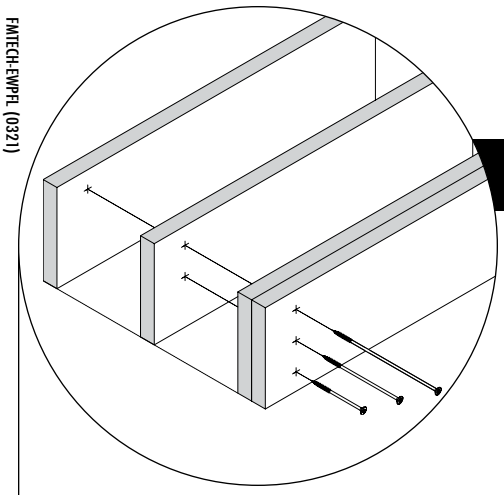
FMTECH-EWPFL (0321)
FMFL005-50 · FMFL005-50CAN · FMFL005B-250
FMFL005B250CAN · FMFL312-50 · FMFL312-50CAN
FMFL312B-250 · FMFL312B-250CAN · FMLFL634-50
FMLFL634-50CAN · FMFL634B-200 · FMLFL634B-200CAN



MULTIPLE MEMBER WOOD BEAMS

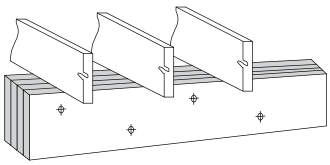
CONNECTION DETAILS

The FlatLOK Structural Wood Fastener has been designed specifically for joining multiple plies of dimensional lumber and engineered wood for headers, girders, and beams. When installed as instructed in this bulletin, these fasteners can be used to replace nailing and bolting patterns prescribed by code, specified by the engineer or recommended by the engineered lumber manufacturer.

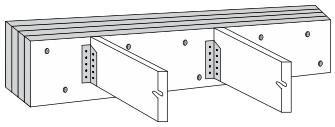
FastenMaster FlatLOK® Structural Wood Screw

LOAD TYPE

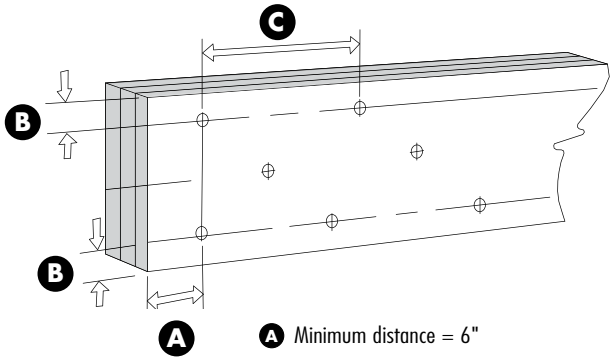
Top Loaded Beam:
Floor or ceiling joists rest on top of the beam.



Side Loaded Beam:
Floor joists are joined into the sides of the beam, typically using joist hangers.



SPACING REQUIREMENTS



- **A** Minimum distance = 6"
- **B** Minimum edge distance = 1¾"
- **C** On-center spacing = based on fastening pattern guide on reverse

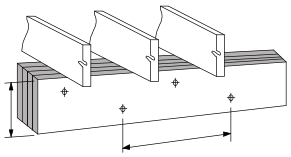
INSTALLATION INSTRUCTIONS

- Choose the fastener length that ensures maximum thread engagement in the final ply without point passing through.
- Using fastening pattern on reverse,determine the appropriate fastener layout based on:
  - **A.** Wood Type: Dimensional or Engineered Wood
  - **B.** Load Type: Top or Side Loaded
  - **C.** Assembly Configuration: Assemblies A through J
  - **D.** Design Load, in pounds per lineal feet (plf) if Side Loaded Beam
- Using an impact driver or ½" low speed/high torque drill, install a row of two fasteners 6" from both ends of the beam.
- Install the remaining screws at the proper spacing in staggered rows along the face of the beam. Maintain the proper top and bottom edge distance.
- Drive the fastener until the washer head is flush to the surface. Do not overdrive.

FASTENING PATTERNS FOR ENGINEERED LUMBER

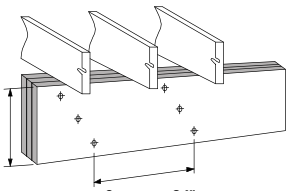
Top Loaded Beam

Less than 18"



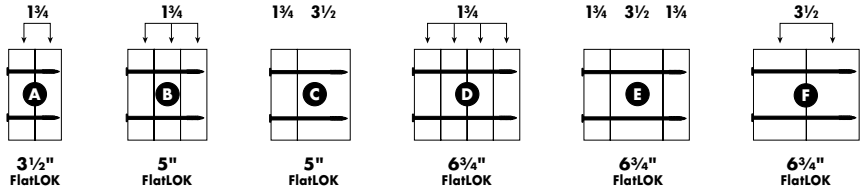
2 rows at 24"

18" or greater



3 rows at 24"

Side Loaded Beam

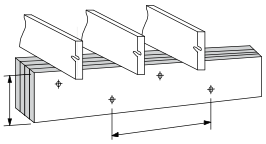


Allowable Uniform Load (plf) for Engineered Wood Beams (LVL) Attached Using FlatLOK					
Fasteners Per Row	Spacing Between Rows (inches)	Assembly A	Assembly B & C	Assembly D & E	Assembly F
2	24	660	490	440	660
	19.2	830	620	550	830
	16	990	740	660	990
3	24	990	740	660	990
	19.2	1240	920	830	1240
	16	1490	1110	990	1490

FASTENING PATTERNS FOR DIMENSIONAL LUMBER

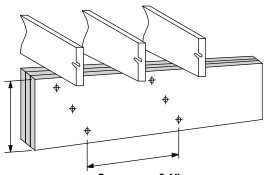
Top Loaded Beam

2 x 6 up to 2 x 10 beams



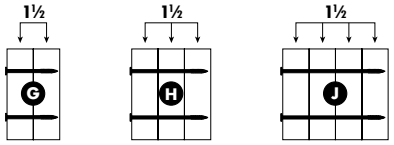
2 rows at 16"

2 x 12 beams



3 rows at 16"

Side Loaded Beam



Allowable Uniform Load (plf) for Dimensional Wood Beams Attached Using FlatLOK										
Fasteners Per Row	Spacing Between Rows (inches)	Assembly G			Assembly H			Assembly J		
		SPF (0.42)	D.Fir (0.50)	S.Pine (0.55)	SPF (0.42)	D.Fir (0.50)	S.Pine (0.55)	SPF (0.42)	D.Fir (0.50)	S.Pine (0.55)
2	24	300	360	420	220	270	310	200	240	280
	16	450	540	630	340	400	470	300	360	420
	12	600	720	840	450	540	630	400	480	560
3	24	450	540	630	340	400	470	300	360	420
	16	675	810	950	500	600	710	450	540	630
	12	900	1080	1260	670	810	940	600	720	840

- Allowable loads calculated using design values determined through individual and system testing to ICC-ES AC-233 and reported in IAPMO Evaluation Report ER-0198.
- Table loads relate only to the capacity of the fastener to transfer shear loads between plies The capacity of the beam may be less and should be checked against the LVL manufacturer's literature or NDS/IRC.
- Values listed reflect 100% stress level (CD=1.0). The designer may apply adjustment factors to increase or decrease these loads according to the most current National Design Specification for Wood Construction (NDS) based on conditions for each assembly.
- To minimize rotation, 7" wide LVL and 6" wide dimensional wood beams may 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.
- All patterns assume that the fasteners may be installed in the weakest condition, where greatest loads are applied to pointed side of the fastener.
- For LSL beams, the LVL load values should be reduced by a factor of 0.75.
- LVL loads at 24" may be doubled when fastening at 12" on center.