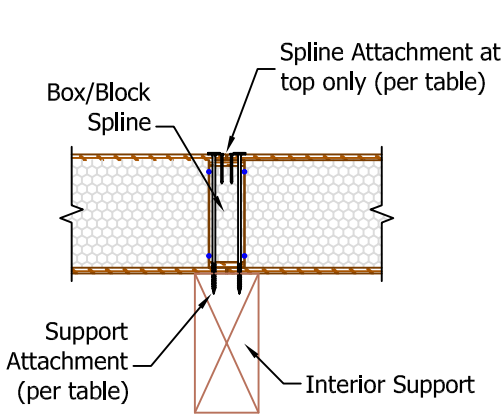


**MAXIMUM ALLOWABLE IN-PLANE SHEAR  
FOR DIAPHRAGMS SUBJECTED TO WIND OR SEISMIC LOADING <sup>1</sup>**

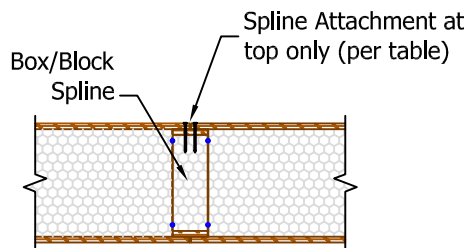
MINIMUM CONNECTIONS <sup>2</sup>					ALLOWABLE SHEAR LOAD (plf)	G' APPARENT SHEAR STIFFNESS (lbf/in)	MAXIMUM ASPECT RATIO
Mark	Interior Supports <sup>2</sup> (Figure A)	Box/Block Spline <sup>3</sup> (Figure B)	Boundary <sup>4</sup> (Figure C)				
			Support	Spline			
	No. 14 SIP Screw with 1" penetration 12" on center	0.113" x 2.5" nails, 3" on center 7/16" OSB - 3" Box/Block Spline	No. 14 SIP Screw with 1" penetration 12" on center	0.113" x 2.5" nails, 6" on center	430	24000	4:1
	No. 14 SIP Screw with 1" penetration 12" on center	0.113" x 2.5" nails, 3" on center, 2 rows, staggered 7/16" OSB - 3" Box/Block Spline	No. 14 SIP Screw with 1" penetration 3" on center	0.113" x 2.5" nails, 4" on center	460	30300	4:1
	No. 14 SIP Screw with 1" penetration 2" on center	0.113" x 2.5" nails, 3" on center, 2 rows, staggered 7/16" OSB - 3" Box/Block Spline	No. 14 SIP Screw with 1" penetration 2" on center	0.113" x 2.5" nails, 1.5" on center	655	41300	4:1
	No. 14 SIP Screw with 1" penetration 4" on center	0.113" x 2.5" nails, 3" on center, 2 rows, staggered 7/16" OSB - 3" Box/Block Spline	No. 14 SIP Screw with 1" penetration 4" on center	0.113" x 2.5" nails, 3" on center	795	93700	3:1
	No. 14 SIP Screw with 1" penetration 4" on center	0.113" x 2.5" nails, 6" on center, 2 rows, staggered 23/32" OSB - 4" Box/Block Spline	No. 14 SIP Screw with 1" penetration 4" on center	0.113" x 2.5" nails, 6" on center	1130	110600	3:1

For **SI**: 1 inch = 25.4 mm; 1 lb = 4.45 N; 1 plf = 14.6 N/m.

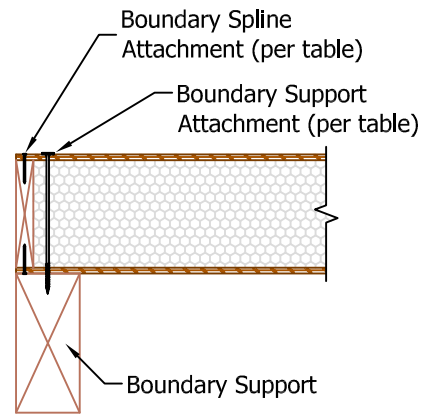
- The maximum diaphragm length-to-width ratio shall not exceed 4:1. Load may be applied parallel to continuous panel joints.
- Interior supports shall be spaced not to exceed 12 feet (3.66 m) on center and have a minimum width of 3 1/2 inches (88.9 mm) and a specific gravity of 0.42 or greater. Specified fasteners are required on both sides of panel joint where panels are joined over a support. See Figure A.
- Box/Block Spline fastened at top only, at interior panel-to-panel joints. Specified fasteners are required on both sides of panel joint. See Figure B.
- Boundary spline shall be solid 1 1/2 inches (38.1 mm) wide, minimum, and have a specific gravity of 0.42 or greater. Boundary supports shall have a minimum width of 3 1/2 inches (88.9 mm) and a specific gravity of 0.42 or greater. Specified spline fasteners are required through both facings. See Figure C.
- Diaphragms shall be specified in accordance with accepted engineering practices.



**FIGURE A -  
INTERIOR SUPPORT**



**FIGURE B -  
BOX/BLOCK SPLINE**



**FIGURE C -  
BOUNDARY**

N.T.S.

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**EPT-100D**

**ICC-ES EVAL. REPORT ESR-4524  
IN-PLANE SHEAR FOR DIAPHRAGMS**

