







**ALLOWABLE IN-PLANE RACKING SHEAR STRENGTH FOR SIP SHEAR WALLS  
4 1/2" THROUGH 12 1/4" SIP THICKNESS WIND AND SEISMIC LOADS. <sup>1</sup>**

SPLINE TYPE <sup>2</sup>	Mark	FRAMING MINIMUM SG <sup>3</sup>	MINIMUM FACING CONNECTIONS <sup>3</sup>			SHEAR STRENGTH <sup>4</sup> (plf)	SEISMIC DESIGN CATEGORIES
			Chord	Plate	Spline		
Block or Lumber Spline		0.50	0.113" x 2-1/2" nails, 6" O.C.	0.113" x 2-1/2" nails, 6" O.C.	(7/16" OSB - 3" Box/Block Spline) 0.113" x 2-1/2" nails, 6" O.C.	410	A,B,C <sup>5,6</sup>
		0.50	0.113" x 2-3/8" nails, 6" O.C. stagger (2 rows)	0.113" x 2-3/8" nails, 6" O.C.	(7/16" OSB - 3" Box/Block Spline) 0.113" x 2-3/8" nails, 6" O.C.	460	A,B,C <sup>5,6</sup>
		0.42	0.113" x 2-3/8" nails, 6" O.C. stagger (2 rows)	0.113" x 2-3/8" nails, 4" O.C. stagger (2 rows)	(7/16" OSB - 3" Box/Block Spline) 0.113" x 2-3/8" nails, 4" O.C.	700	A,B,C <sup>5,6</sup>
		0.42	0.148" x 2-3/8" nails, 6" O.C. stagger (2 rows)	0.148" x 2-3/8" nails, 3" O.C.	(23/32" OSB - 3" Box/Block Spline) 0.148" x 2-3/8" nails, 3" O.C. stagger (2 rows)	1000	A,B,C <sup>5,6</sup>
		0.50	0.113" x 2-1/4" nails, 6" O.C.	0.113" x 2-1/4" nails, 3" O.C.	(7/16" OSB - 3" Box/Block Spline) 0.113" x 2-1/2" nails, 6" O.C.	360	A,B,C,D, E,F <sup>7,8,9</sup>
		0.50	0.113" x 2-1/4" nails, 6" O.C.	0.113" x 2-1/4" nails, 6" O.C.	(23/32" OSB - 3" Box/Block Spline) 0.113" x 2-1/4" nails, 6" O.C.	360	A,B,C,D, E,F <sup>7,8,9</sup>
		0.50	0.113" x 2-3/8" nails, 3" O.C. stagger (2 rows)	0.113" x 2-3/8" round head nails, 3" o.c. stagger (2 rows)	(23/32" OSB - 3" Box/Block Spline) 0.113" x 2-3/8" nails, 3" O.C. stagger (2 rows)	720	A,B,C,D, E,F <sup>7,8,10</sup>
		0.50	0.113" x 2-3/8" nails, 2" O.C. stagger (2 rows)	0.113" x 2-3/8" round head nails, 2" o.c. stagger (2 rows)	(23/32" OSB - 3" Box/Block Spline) 0.113" x 2-3/8" nails, 2" O.C. stagger (2 rows)	920	A,B,C,D, E,F <sup>7,8,10</sup>

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

- Chords, holdowns and connections to other structural elements must be designed by a registered design professional in accordance with accepted engineering practice.
- Spline type at SIP-to-SIP joints, solid chord members are required at each end of each shear wall segment. When lumber splines are used they must be interconnected using 10d common nails [0.148-inch-diameter x 3 inches (3.8 mm x 76 mm)] spaced 5-inches (127 mm) on center. Lumber spline fastening to be verified by a registered design professional.
- Required connections must be made on each side of the SIP. Dimensional or engineered lumber shall have an equivalent specific gravity not less than specified.
- For design to resist seismic forces, shear wall height-width ratios greater than 2:1, but not exceeding 3.5:1, are permitted for assemblies using lumber splines provided the allowable shear strength values in this table are multiplied by 2w/h.
- Shear strength values, as published, are limited to assemblies resisting wind or seismic forces when the aspect ratio (height:width) does not exceed 2:1.
- Reference ICC-ES ESR-4524 Evaluation Report for additional information.

**SPECIFIC TO SEISMIC DESIGN CATEGORIES A,B,C,D,E AND F:**

- Shear strength values are limited to assemblies resisting wind or seismic forces where the aspect ratio (height:width) does not exceed 1:1 for Type 'S' SIP connections or 2:1 for Type 'L' SIP connections.
- The shear wall configurations are permitted in Seismic Design Categories D,E, and F. Such walls shall be designed using the seismic design coefficients and limitations provided in ASCE 7 for light-framed walls sheathed with wood structural panels rated for shear resistance. These SIPs shall use the following factors for design: Response Modification Coefficient, R = 6.5; System Overstrength Factor,  $\Omega_0$  = 3.0; Deflection Amplification Factor,  $C_d$  = 4.0.
- Reference ICC-ES ESL-1208 Listing Report for additional information.
- Reference ICC-ES ESL-1207 Listing Report for additional information.

N.T.S.

Rev: 7/19/2022

**EPT -100S**

**ICC-ES EVAL. REPORT ESR-4524  
ICC-ES SIP SHEAR WALL ASSEMBLIES**

