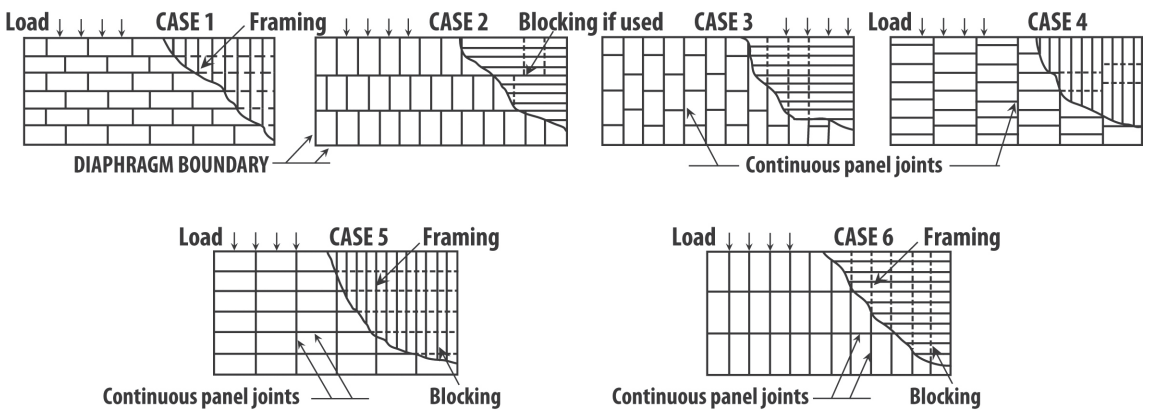
PLY138 TrakFast Plywood to Steel Pin Performance Tables

ALLOWABLE SHEAR FOR WIND OR SEISMIC FORCES IN POUNDS PER FOOT FOR HORIZONTAL PLYWOOD DIAPHRAGMS WITH STEEL FRAMING

PLYWOOD GRADE	MINIMUM STEEL GAGE [4, 6]	MINIMUM PANEL THICKNESS (Inches)	BLOCKED DIAPHRAGM PIN SPACING (Inches) [5, 6] Pin spacing at diaphragm boundaries (all cases), at continuous panel edges parallel to load (cases 3 &4) and at the panel edges (cases 5 & 6) ALLOWABLE LOAD				UNBLOCKED DIAPHRAGM PIN SPACING (Inches) [5, 6] Pins spaced 6 inches max. at supported edges	
			6	4	2-1/2	2	Case 1 (no unblocked edges or continuous joints parallel to load)	All other configurations (cases 2, 3, 4, 5 & 6)
			Pin spacing at other panel edges					
			6	6	4	3		
Structural 1	20 16	7/16 15/32	185 205	280 305	420 460	475 520	185 205	140 150
Grades other than Structural 1	20 16	7/16 15/32	165 185	250 275	380 415	430 470	165 185	125 140

Note 1: These values are for short-time loads due to wind or earthquake and shall be reduced by 25 percent for normal loading. **Note 2:** The pin shall be long enough to penetrate through the thickness of the steel a minimum of 1/4 inch. **Note 3:** Minimum width of framing is 1-1/2 inches. **Note 4:** These shear values also apply to framing made of thicker steel. **Note 5:** Spacing of fasteners along intermediate framing members is 12 inches on center. **Note 6:** The minimum panel edge distance is 3/8 inch. **Note 7:** Values shown reflect a 5:1 safety factor. **Note 8:** For SI: 1 lbf = 4.448 N, 1 inch = 25.4 mm, 1 ksi = 6.89MPa



Note: Framing is permitted to be oriented in either direction for diaphragms, provided sheathing is designed for vertical loading.

ALLOWABLE WITHDRAWAL LOADS IN POUNDS PER FASTENER DUE TO WIND OR SEISMIC FORCES FOR PLYWOOD AND LUMBER ATTACHED TO STEEL FRAMING [1, 2, 3, 4]

PIN DIAMETER (Inches)	MINIMUM STEEL THICKNESS (Gage or Inches)	MINIMUM THICKNESS OF PLYWOOD (Inches) ALLOWABLE LOAD			
		3/8	7/16	15/32	19/32
0.100	22	15	15	.....	.....
0.100	20	20	25	25	25
0.100	18	30	35	40	40
0.100	16	40	45	60	60

Note 1: Plywood shall be Structural 1 rated. For other grades, values shall be reduced by 10 percent. **Note 2:** These values are for loads due to wind or earthquake and shall be reduced by 25 percent for other applications. **Note 3:** Minimum panel edge distance is 3/8 inch. **Note 4:** The pin shall be long enough to penetrate through the metal a minimum of 1/4 inch. **Note 5:** Values shown reflect a 8:1 safety factor. **Note 6:** For SI: 1 lbf = 4.448 N, 1 inch = 25.4 mm, 1 ksi = 6.89MPa

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ALLOWABLE SHEAR FOR WIND FORCES IN POUNDS PER FOOT FOR PLYWOOD SHEAR WALLS WITH STEEL FRAMING

PLYWOOD GRADE	MINIMUM STEEL GAGE [5]	MINIMUM PANEL THICKNESS (Inches)	PIN SPACING, ALL PANEL EDGES (Inches) ALLOWABLE LOAD			
			6	4	3	2
Structural 1	22	3/8 [6]	120	180	240	305
	22	7/16 [6]	130	195	260	330
	22	15/32	145	215	290	365
	20	3/8 [6]	155	235	310	395
	20	7/16 [6]	170	255	340	435
	20	15/32	205	305	410	520
Grades other than Structural 1	22	3/8 [6]	110	165	215	275
	22	7/16 [6]	120	175	235	300
	22	15/32	130	195	260	330
	20	3/8 [6]	140	210	280	360
	20	7/16 [6]	155	230	310	390
	20	15/32	185	275	370	470

Note 1: Values are for loads imposed by wind and shall be reduced by 25 percent for normal loading. **Note 2:** The pin shall be long enough to penetrate through the metal framing a minimum of 1/4 inch. **Note 3:** The minimum panel edge distance for pin placement is 3/8 inch. **Note 4:** Spacing of fasteners along intermediate framing members is 6 inches on center for 3/8 inch and 7/16 inch panels when studs are 24 inches on center and 12 inches on center when studs are 16 inches on center. For other panel thickness, spacing along intermediate framing members is 12 inches from center. **Note 5:** Framing to be spaced 24 inches on center or closer except as provided in Footnote 6. **Note 6:** The values for 3/8-inch and 7/16-inch panels may be increased by 20 percent and 10 percent, respectively, for framing spaced 16 inches on center. **Note 7:** Values shown reflect a 5:1 safety factor. **Note 8:** For SI: 1 lbf = 4.448 N, 1 inch = 25.4 mm, 1 ksi = 6.89MPa

ALLOWABLE LATERAL LOADS IN POUNDS PER FASTENER DUE TO WIND OR SEISMIC FORCES FOR STRUCTURAL [1] PLYWOOD AND LUMBER ATTACHED TO STEEL FRAMING [1, 2, 3, 4, 6]

PIN DIAMETER (INCHES)	MINIMUM PANEL THICKNESS (Inches)	MINIMUM THICKNESS OF PLYWOOD (Inches) ALLOWABLE LOAD					
		3/8	7/16	15/32	19/32	23/32	1-1/8
0.100	22	80	80	80	80	80	80
0.100	20	105	105	115	115	115	115
0.100	16	105	105	115	170	170	170

Note 1: Plywood shall be Structural 1 rated. For other grades, values shall be reduced by 10 percent. **Note 2:** These values are for loads due to wind or earthquake and shall be reduced by 25 percent for other applications. **Note 3:** Minimum panel edge distance for placement is 1 inch from the fastener to the sheathing edge measured in the direction of the load and 3/8 inch measured perpendicular to the direction of the load. **Note 4:** The pin shall be long enough to penetrate through the metal a minimum of 1/4 inch. **Note 5:** Values for 16 gage also apply to 14 gage. **Note 6:** The above values apply to groups of at least five fasteners. For fewer fasteners in a group, use one-half of the tabulated value. **Note 7:** Values shown reflect a 5:1 safety factor. **Note 8:** For SI: 1 lbf = 4.448 N, 1 inch = 25.4 mm, 1 ksi = 6.89MPa