



Hunter Xci Tech Topic #112

What is the fastening pattern for Hunter Xci Composites?

The fastening pattern for a Hunter Xci Composite product, either Xci Ply, Xci Ply (Class A) or Xci NB, depends on a number of different factors described below. Hunter's Xci Composites combine continuous insulation (ci) with sheathing. The panels are made of a polyiso core with glass fiber mat facer, bonded to either plywood or OSB. Hunter designed the product to be applied to the base wall and support the weight of attached cladding without needing to return the cladding fasteners to the base wall. This minimizes the number of fasteners penetrating the ci layer, which reduces thermal breaks for better insulation performance.

To determine the fastening pattern required, refer to [Engineering Evaluation Report: TRU110910-21](#) on Hunter's website.

Answering the following four questions will help you navigate the report more easily:

1. What material is the base wall made of?
2. If it is a stud wall, what is the distance between studs?
3. Is the Xci Ply or Xci Ply (Class A) supported or free hanging?
4. What is the weight of the cladding, per square foot?

The first two questions will help you determine which chart and which portion of the chart to use, while the second two questions point you to which column on the chart contains the distance between fasteners in your wall.

Example: Assume your job calls for 3.6" Xci Ply or Xci Ply (Class A) over steel studs spaced 16" on-center, with a barrier applied to the exterior and fiber cement cladding.

1. Refer to the steel stud wall chart (Table 3a on page 6 of Engineering Evaluation Report TRU110910-21):

Table 3a: Recommended Fastener Spacing for SIP LD Fasteners
When Used to Support the Shear Load of Various Insulation Thicknesses and Assembly Weights into Cold-Formed Steel Framing (0.0346" minimum thickness 20 ga.)^{1,2}

Horizontal Fastener Spacing, <i>s</i> (in. oc)	Insulation Assembly Thickness, ³ <i>t</i> (in.)	Shear Strength ⁴ <i>V</i> (lbf/fastener)	Vertical Fastener Spacing, <i>g</i> (in. oc)						
			Maximum Insulation Assembly Weight to be Supported ^{7,8,9} (psf)						
			5	7.5	10	15	20	25	30
16"	1	45.0	16"	16"	16"	16"	16"	16"	16"
	1.5	30.0	16"	16"	16"	16"	12"	8"	8"
	2	22.0	16"	16"	16"	12"	8"	8"	6"
	3	15.0	16"	16"	12"	8"	6"	4"	4"
	4	11.3	16"	12"	8"	6"	4"	4"	2"
	5	9.0	16"	8"	8"	4"	4"	2"	2"
24"	1	45.0	16"	16"	16"	16"	12"	8"	8"
	1.5	30.0	16"	16"	16"	12"	8"	6"	6"
	2	22.5	16"	16"	12"	8"	6"	4"	4"
	3	15.0	16"	12"	8"	6"	4"	2"	2"
	4	11.3	12"	8"	6"	4"	2"	2"	2"
	5	9.0	8"	6"	4"	2"	2"	2"	
6	7.5	8"	6"	4"	2"	2"			

See Table 3 notes on next page.

(continued)



HUNTER
CONTINUOUS INSULATION

Hunter Xci Tech Topic #112 (continued)

2. For studs at 16" oc, refer to the upper half of the chart:

Table 3a: Recommended Fastener Spacing for SIP LD Fasteners
When Used to Support the Shear Load of Various Insulation Thicknesses and Assembly Weights into Cold-Formed Steel Framing (0.0346" minimum thickness 20 ga.)^{1,2}

Horizontal Fastener Spacing, <i>s</i> (in. oc)	Insulation Assembly Thickness, <i>t</i> (in.)	Shear Strength ⁴ <i>V</i> (lbf/fastener)	Vertical Fastener Spacing, <i>g</i> (in. oc)							
			Maximum Insulation Assembly Weight to be Supported ^{7,8,9} (psf)							
			5	7.5	10	15	20	25	30	
16"	1	45.0	16"	16"	16"	16"	16"	16"	16"	12"
	1.5	30.0	16"	16"	16"	16"	12"	8"	8"	8"
	2	22.0	16"	16"	16"	12"	8"	8"	6"	6"
	3	15.0	16"	16"	12"	8"	6"	4"	4"	4"
	4	11.3	16"	12"	8"	6"	4"	4"	2"	2"
	5	9.0	16"	8"	8"	4"	4"	2"	2"	2"
6	7.5	12"	8"	6"	4"	2"	2"	2"	2"	

3. Assume the plans for your job rely on on the 3.6" Xci Ply's or Xci Ply (Class A)'s ability to support the lightweight cladding, and that the Xci Ply or Xci Ply (Class A) will attach directly to the studs and not be supported on a foundation, footer or angle iron. As a result, you will need to add the weight of the Xci Ply or Xci Ply (Class A) (available from Hunter Technical Support) into the assembly weight.

4. The combined weight of the fiber cement siding and the Xci Ply or Xci Ply (Class A) is 6.52 lbs per ft² and the Insulation Assembly Thickness, (*t*) in the Report, represents the thickness of the Xci Ply panel. Since the panel is 3.6" you will round up to 4.

Cross-referencing the weight and thickness in the chart shows that fasteners should be spaced 12" vertically.

Table 3a: Recommended Fastener Spacing for SIP LD Fasteners
When Used to Support the Shear Load of Various Insulation Thicknesses and Assembly Weights into Cold-Formed Steel Framing (0.0346" minimum thickness 20 ga.)^{1,2}

Horizontal Fastener Spacing, <i>s</i> (in. oc)	Insulation Assembly Thickness, <i>t</i> (in.)	Shear Strength ⁴ <i>V</i> (lbf/fastener)	Vertical Fastener Spacing, <i>g</i> (in. oc)							
			Maximum Insulation Assembly Weight to be Supported ^{7,8,9} (psf)							
			5	7.5	10	15	20	25	30	
16"	1	45.0	16"	16"	16"	16"	16"	16"	16"	12"
	1.5	30.0	16"	16"	16"	16"	12"	8"	8"	8"
	2	22.0	16"	16"	16"	12"	8"	8"	6"	6"
	3	15.0	16"	16"	12"	8"	6"	4"	4"	4"
	4	11.3	16"	12"	8"	6"	4"	4"	2"	2"
	5	9.0	16"	8"	8"	4"	4"	2"	2"	2"
6	7.5	12"	8"	6"	4"	2"	2"	2"	2"	

Horizontal fastener spacing corresponds to the stud oc spacing, which in this example is 16", so the fastening pattern here is a 16" x 12" grid.

For assistance determining your job's specific fastening pattern and total number of fasteners needed given horizontal or vertical panel spacing and openings for windows and doors, etc., call Hunter at (888) 746-1114.