

STRUCTURAL INSULATED PANELS



Structural Insulated Panels are an energy efficient alternative to conventional framing, insulation, sheathing and other building systems. They are load-capable insulated panels used as walls, roofs, and floors in residential, commercial and institutional buildings. SIPs provide the exterior sheathing, insulation, and structure in one unit, and are available 4' wide and 8' wide in a broad range of thicknesses and lengths.

Components & Features:

Interior and Exterior Skin:

7/16" thick, HUD-PS2-grade, Exposure 1, Oriented Strand Board

Core Materials:

EPS: Expanded Polystyrene, 1.0 lb/cuft, 1 in. is R-3.8

NEO: Neopor Polystyrene, 1.15 lb/cuft, 1 in. is R-4.7

PIR: Polyisocyanurate foam, 2.0 lb/cuft, 1 in. is R-5.7

Features:

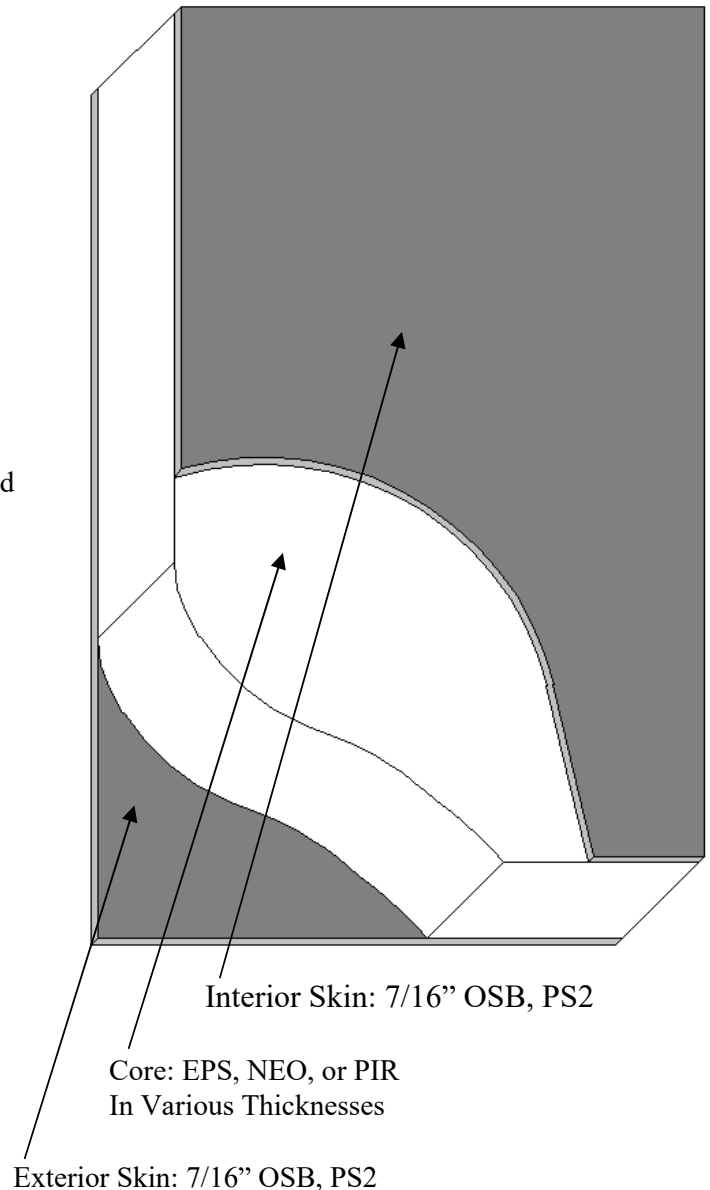
- Reduces Heating and Cooling Costs
- Fast Installation Reduces Labor Costs
- Uses Renewable Wood
- Recycled / Recyclable Foam Insulation

Availability:

- 3.0 through 25.0 inches thick
- 4ft by 6, 7, 8, 9, 10, 12, 14, 16, 18, 20, 22, & 24ft
- 8ft by 8, 10, 12, 14, 16, 18, 20 & 24ft
- Optional pre-cut services
- Optional embedded nailers
- Optional custom skins
- Optional wire chases
- Optional Code Listing NER-1038 (EPS and NEO Only)

Manufacturing & Quality Control:

Foard Panel manufacturing meets ICC-ES AC-10. Independent review and approval of procedures and plant operations by registered, third party, ISO Guide 65/17065:2012 accredited inspection agency.



20 Year Limited Warranty:

Foard Panel Inc. warrants to the buyer that Foard Panels will not delaminate in normal use as the result of a defect in materials or manufacturing for 20 years from the date of purchase. See full warranty for details.

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SIP Properties at Standard Thicknesses

Overall Thickness (in)		2.88	4.50	6.50	8.25	10.25	10.50	12.25	12.88	15.00	16.00
Core Thickness (in)		2.00	3.63	5.63	7.38	9.38	9.63	11.38	11.88	14.13	15.13
EPS	U-value @75°	0.115	0.067	0.043	0.034	0.027	0.026	0.022	0.021	0.018	0.017
	R-Value @75°	8.7	15	23	29	37	38	45	47	55	59
	R-Value @40°	9.4	16	25	32	40	41	49	51	60	65
	Permeance (perm)	.71	0.58	0.47	0.40	0.35	0.34	0.31	0.29	0.26	0.25
	Weight (lb/sqft)	3.0	3.1	3.3	3.4	3.6	3.6	3.7	3.8	4.0	4.1
	Size Availability 4ft Widths	4, 5, 6, 7, 8, 9, 10, 12, 14, 16, 18, 20, 22, and 24ft									
	Size Availability 8ft Widths	8, 10, 12, 14, 16, 18, 20, and 24ft									
NEO	U-value @75°	0.10	0.056	0.037	0.028	0.022	0.022	0.019	0.018	0.015	0.014
	R-Value @75°	10	18	27	36	45	46	54	57	67	72
	R-Value @40°	11	19	29	38	48	49	58	61	72	77
	Permeance (perm)	0.61	0.46	0.36	0.30	0.25	0.24	0.21	0.21	0.18	0.17
	Weight (lb/sqft)	3.1	3.3	3.6	3.9	4.2	4.2	4.5	4.6	4.9	5.1
	Size Availability 4ft Widths	4, 5, 6, 7, 8, 9, 10, 12, 14, 16, 18, 20, 22, and 24ft									
	Size Availability 8ft Widths	8, 10, 12, 14, 16, 18, 20, and 24ft									
PIR	U-value @75°	0.083	0.043	0.029	0.023	0.018	-	0.015	-	-	-
	R-Value	12	23	34	44	56	-	67	-	-	-
	Permeance (perm)	0.33	0.22	0.15	0.12	0.10	-	0.08	-	-	-
	Weight (lb/sqft)	3.1	3.4	3.7	4.0	4.4	-	4.7	-	-	-
	Size Availability 4ft Widths	4, 5, 6, 7, 8, 9, 10, 12, 14, 16, 18, 20, 22, and 24ft									
	Size Availability 8ft Widths	8, 10, 12, 14, 16, 18, 20, and 24ft									

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Foam Core Properties

		Test Method	EPS	NEO	PIR
General	Density (lb/cuft)	ASTM D1622 or C303	1.0	1.15 ¹	2.0
	Dimensional Stability (% Change)	ASTM D2126	2 ²	<1.5 ¹	2 ⁴
	Max. Custom SIP Thickness (in.)	-	25.00	25.00	12.25
Thermal	R-Value of 1 inch thickness (75 °F)	ASTM C518	3.8 ^{2,3}	4.7 ¹	5.7 ⁴
	R-Value of 1 inch thickness (40 °F)	ASTM C518 or C578	4.2 ^{2,3}	5.0 ¹	-
	U-Value of 1 inch thickness (75 °F)	ASTM C518	0.26 ^{2,3}	0.21	0.17
	U-Value of 1 inch thickness (40 °F)	ASTM C518 or C578	0.24 ^{2,3}	0.20	-
Strength	Compressive 10% Deformation (lbs/sqin)	ASTM D1621 or C165	10 ^{2,3}	14 ¹	20 ⁴
	Permeability (perm inches)	ASTM E96	5.0 ^{2,3}	3.1 ¹	<1.0 ⁴
	Absorption (% volume)	ASTM C272	4.0 ²	1.1 ¹	<1.0 ⁴
	Application Limiting Temperature (°F)	ASTM D3278	167 ^{2,3}	165 ¹	250 ⁴
Fire Characteristics	Rating	-	Class I	Class I	Class I
	Smoke Developed	E84	450 ²	25 ¹	220 ⁵
	Flame Spread	E84	25 ²	5 ¹	50 ⁵
	Toxicity of Combustion Products	Same as wood or Cardboard			

¹ Opcore G Thermal Insulation, NEO 5300plus from opcodirect.com/library accessed 7/22/2020

https://7b3594cf-cefc-42f2-baa2-29e9e14e3022.filesusr.com/ugd/1c896f_023e9eff61ce41078ace42059431c500.pdf

² Opcore Thermal Insulation, EPS from opcodirect.com accessed 7/22/2020

https://7b3594cf-cefc-42f2-baa2-29e9e14e3022.filesusr.com/ugd/1c896f_b44302207ddf4a52b4b47377df847924.pdf

³ Polar Industries, EPS Data Sheet from polarcentral.com/knowledge-base accessed 7/22/2020

<http://polarcentral.com/wp-content/uploads/2016/09/Polar-EPS-Properties.pdf>

⁴ Hunter Panel H-Shield Data Sheet (April 2020)

<https://www.hunterpanels.com/docman-categories/product-documents/hpanels/flat-products/39-h-shield-flat-polyiso>

⁵ Hunter Panel Technical Department, October 31, 2014