STRUCTURAL INSULATED PANELS

Foard PANEL
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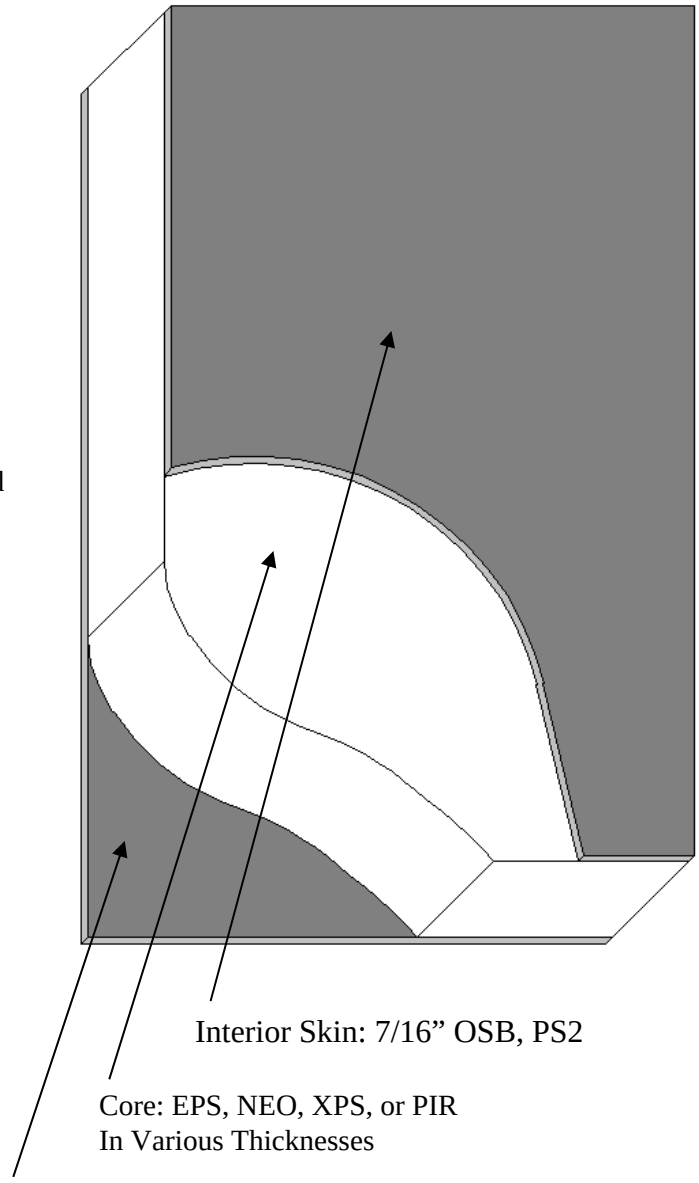
Structural Insulated Panels are an energy efficient alternative to conventional framing, insulation, sheathing and other building systems. They are load-capable insulated panels used as walls, roofs, and floors in residential, commercial and institutional buildings. SIPs provide the exterior sheathing, 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
XPS: Extruded Polystyrene, 1.6 lb/cuft, 1 in. is R-5.0
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 NTA FRD-031609-25 (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	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									
XPS	R-Value	11	19	29	37	47	-	57	-	-	-
	Permeance (perm)	0.50	0.36	0.26	0.21	0.18	-	0.15	-	-	-
	Weight (lb/sqft)	3.1	3.3	3.6	3.8	4.1	-	4.3	-	-	-
	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	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	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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SIP Core Properties						
		Test Method	EPS	NEO	XPS	PIR
General	Density (lb/cuft)	ASTM D1622 or C303	1.0[5]	1.15[2]	1.6	2.0
	Dimensional Stability (% Change)	ASTM D2126	2[3]	<1.5[2]	2	2
	Max. Custom SIP Thickness (in.)	-	25.00	25.00	12.25	12.25
Thermal	R-Value of 1 inch thickness (75 ºF)	ASTM C518	3.8[3]	4.7[4]	5.0	5.7
	R-Value of 1 inch thickness (40 ºF)	ASTM C518 or C578	4.2[3]	5.0[4]	5.4	-
	U-Value of 1 inch thickness (75 ºF)	ASTM C518	0.26[3]	0.21	0.20	0.17
	U-Value of 1 inch thickness (40 ºF)	ASTM C518 or C578	0.24[3]	0.20	0.19	-
Strength	Compressive 10% Deformation (lbs/sqin)	ASTM D1621 or C165	10	14	20	20
	Permeability (perm inches)	ASTM E96	5.0[3]	3.1[4]	1.5	<1.0
	Absorption (% volume)	ASTM C272	4.0[3]	1.1[4]	0.3	<1.0
	Max. Service Temperature (ºF)	ASTM D3278	160	165[5]	190[6]	250
Fire Characteristics	Rating	-	Class I	Class I	Class I	Class I
	Smoke Developed	E84	125	25[2]	165	220[7]
	Flame Spread	E84	15	5[2]	5	50[7]
	Toxicity of Combustion Products	Same as wood or Cardboard				

[1] Hunter Panel. Accessed, 5/26/2013. http://www.hpanels.com/images/stories/pdfs/tech_bulls/Hunter_Recycled_Content.pdf
[2] Opcore G Thermal Insulation, NEO 5300plus from opcodirect.com/library accessed 8/24/2017
http://docs.wixstatic.com/ugd/1c896f_a6b9e13325a649fab9b25535d12d3da4.pdf
[3] ASTM International Standards (2006). ICC. pp659-662. West Conshohocken, PA
[4] BASF Technical Properties, January 18 2016.
[5] BASF Safety Data Sheet: Styropor BF-222. Revised June 2007, Version 2.1.
[6] Dow Material Safety Data Sheet: Styrofoam 4x48 Inch Panel Core 20 WN Extruded Polystyrene Foam Insulation. Issued January 2012.
[7] Hunter Panel Technical Department, October 31, 2014.

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