PermaTherm
INSULATED METAL PANELS

PermaCore PHF43 - Shadow Line
Data Sheet

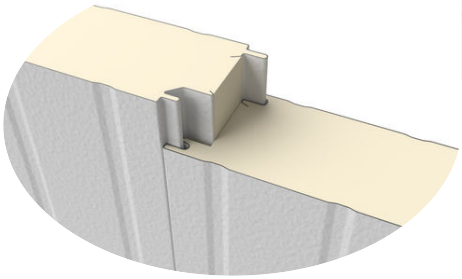
Insulated Metal Panel

Construction demands the highest level of precision, where installation needs to be faster, easier, and more accurate than the traditional multi-layered building envelope of the past. The integration of two pieces of steel and modified polyiso provides a water, air, vapor, and thermal-bridging barrier that provides any building market lower energy costs, and maintaining the appropriate conditioned workspace within.

PRODUCT SPECIFICATION	
WIDTH	43"
THICKNESS	2", 2.5", 3", 4", 5", 6", 8"
PROFILE	1/8" Recess
LENGTH	8'-0" - 50'-0" *
TEXTURE	Embossed, Heavy Embossed, or Smooth
GAUGE	26ga, 24ga, 22ga
METAL TYPE	Galvanized, Galvalume, Stainless Steel
PAINT TYPE	Fluropon PVDF 70%, Siliconized Polyester
CORE	Polyisocyanurate (PIR) (Foam-in-Place)
R-VALUE	R-8.2 per inch

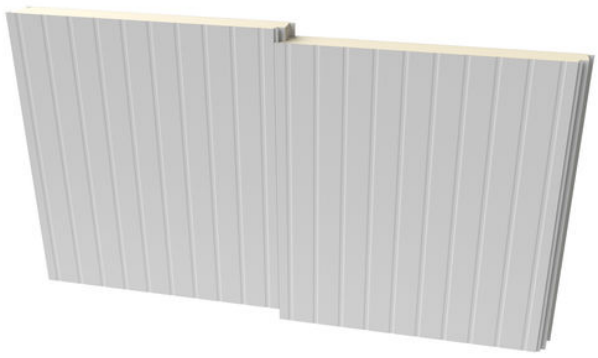
Joint

Double tongue-and-groove with extended metal shelf for hidden fasteners.



Panel

A corrugated profile for interior and exterior provides rigidity, increasing panel length and span.



R-VALUE (FT^2-F^O-H/BTU)			U-FACTOR (BTU/H-FT^2-^{O}F)
THICKNESS	**35 DEGREES**	**75 DEGREES**	
2"	16.26	15.08	.06098
2.5"	20.33	18.85	.04878
3"	24.4	22.62	.04065
4"	32.52	30.16	.03049
5"	40.65	37.7	.02439
6"	48.78	45.24	.02033
8"	65.04	60.32	.01524

R-Values ascertained via ASTM C518 testing

*Length limitation can vary based on profile, PIR, thickness, and metal gauge

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PHF43 Accreditations & Approvals

TYPE	PROTOCOL	DESCRIPTION	RESULTS
ENVIRONMENTAL PERFORMANCE	ASTM C518	Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus	K-Factor 0.138 BTU-in/hr-ft2-F0 at 75° mean K-Factor 0.130 BTU-in/hr-ft2-F0 at 35° mean
	ASTM E283	Rate of Air Leakage Through Exterior Windows, Curtain Walls and Doors Under Specified Pressure Differences Across the Specimen	0.0011-cfm/sf at 20-psf
	ASTM E331	Water Penetration of Exterior Windows, Skylights, Doors and Curtain Walls by Uniform Static Air Pressure Difference	Zero penetration at 20-psf
FOAM CORE CHARACTERISTICS	ASTM C273	Shear Properties of Sandwich Core Materials	Shear Strength = 16-psf
	ASTM D1621	Compressive Properties of Rigid Cellular Plastics	Compressive Strength - 18-psf
	ASTM D1622	Apparent Density of Rigid Cellular Plastics	Apparent Density - 2.50-pcf Nominal
	ASTM DI623	Tensile and Tensile Adhesion Properties of Rigid Cellular Plastics	Tensile Strength - 21-psf
FIRE RESISTANCE	ASTM E84	Surface Burning Characteristics of Building Materials	Flame Spread < 10, Smoke Developed < 85
	NFPA 285	Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components	Passed - see Intertek listing Intertek.com
	FM 4880	Factory Mutual Approval Standard for Class I Fire Rating of Insulated Wall or Wall and Roof/Ceiling Panels, Interior Finish Materials or Coatings and Exterior Wall Systems	Passed (Factory Mutual website)
	NFPA 286	Standard Fire test for internal walls and ceiling	Passed
IMPACT RESISTANCE	TAS 201	Florida Building Code Impact Test Procedure	Passed
ENGINEERING PROPERTIES	FM 4881	Factory Mutual Approval Standard for Class I Exterior Wall Systems	Passed See Load Charts (Factor Mutual website)
	ASTM E1592	Structural Performance of Sheet Metal Roof and Siding Systems by Uniform Static Air Pressure Difference	See Load Tables
	ASTM E72	Strength Tests of Panels for Building Construction	See Load Tables
APPROVALS	FM 4882	Factory Mutual approval for Clean Rooms	Approved
	State of Florida	Florida Product Approval	Approved # FL47552
	IAS	International Association of Steel Buildings	Accredited AC-473