PermaTherm
INSULATED METAL PANELS

# PermaCore PHF43 - No Profile
Data Sheet

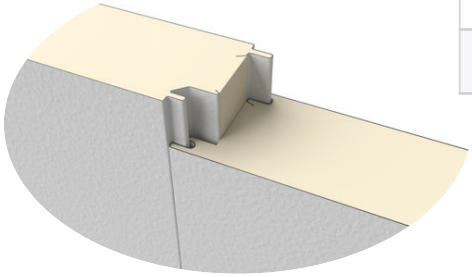
## Insulated Metal Panel

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** | Flat |
| **LENGTH** | 8'-0" - 16'-0"* (32'-0)** |
| **TEXTURE** | Embossed, Heavy Embossed, or Smooth |
| **GAUGE** | 22ga (24ga interior) |
| **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 |

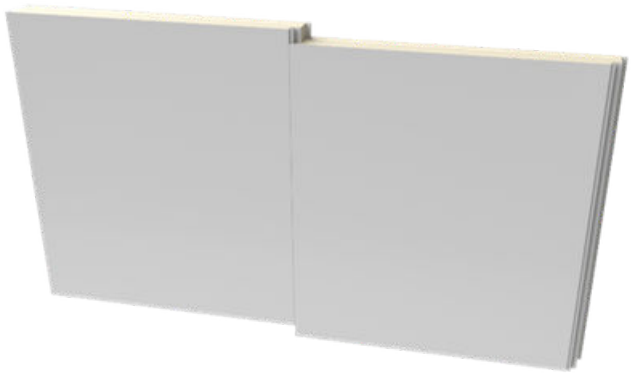
## Joint

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



## Panel

The flat exterior profile, increased steel gauge, and corrugated interior provide the rigidity for the architectural panel to reach the desired length.



| 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

**32' allowed if embossed

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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<br>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<br>(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<br>(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 |