

# TESTING: RIDGELINE INSULATED METAL PANEL

TYPE	TEST PROTOCOL	DESCRIPTION	RESULTS
<b>ENVIRONMENTAL PERFORMANCE</b>	ASTM C518	Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus	K-Factor 0.139 BTU-in/hr-ft <sup>2</sup> -F° at 75° mean K-Factor 0.129 BTU-in/hr-ft <sup>2</sup> -F° at 35° mean
	ASTM E1680	Rate of Air Leakage Through Exterior Metal Roof Panel Systems	0.001-cfm/sf at 12-psf
	ASTM E1646	Water Penetration of Exterior Metal Roof Panel Systems by Uniform Static Air Pressure Difference	Zero penetration at 12-psf
<b>FOAM CORE CHARACTERISTICS</b>	ASTM C273	Shear Properties of Sandwich Core Materials	Shear Strength = 16-psi
	ASTM D1621	Compressive Properties of Rigid Cellular Plastics	Compressive Strength — 18-psi
	ASTM D1622	Apparent Density of Rigid Cellular Plastics	Apparent Density — 2.25-pcf
	ASTM D1623	Tensile and Tensile Adhesion Properties of Rigid Cellular Plastics	Tensile Strength — 21-psi
	ASTM D6226	Open Cell Content of Rigid Cellular Plastics	Open Cell Content ≥ 90% closed cells
<b>FIRE RESISTANCE</b>	ASTM E84	Surface Burning Characteristics of Building Materials	Flame Spread < 25, Smoke Developed < 450
	FM 4880	Factory Mutual Approval Standard for Class 1 Fire Rating of Insulated Wall or Wall and Roof/Ceiling Panels, Interior Finish Materials or Coatings and Exterior Wall Systems	Class 1 Fire Rated — see technical bulletin ATB-0005
<b>IMPACT RESISTANCE</b>	FM 4771	Factory Mutual Approval Standard for Class 1 Panel Roofs	
	TAS 201	Florida Building Code Impact Test Procedure	Miami Dade County NOA No. 17-0619.08
<b>ENGINEERING PROPERTIES</b>	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
	FM 4471	Factory Mutual Approval Standard for Class 1 Panel Roofs	Class 1 Approved — see technical bulletin ETB-0015
<b>APPROVALS</b>	Miami-Dade County	Miami-Dade County Product Control Section — Notice of Acceptance	Miami Dade County NOA No. 17-0619.08
	State of Florida	Florida Product Approval	FL21349
	Underwriters Laboratories	Roof Deck Construction — Class 90	TGKX.698
<b>BOND STRENGTH</b>	Fatigue Endurance	2,000,000 Alternating Cycles of L/180 Deflection	No evidence of facer or liner delamination, fracture of foam core or permanent set
	Freeze/Heat Cycle	Twenty-One (21) Eight-hour Temperature Cycles (-20° F to 180° F)	No evidence of delamination, blistering or permanent set
	Humidity Endurance	1,200 Hours of 93% Humidity at a Temperature of 158° F	No evidence of delamination, blistering or interface corrosion
	Autoclave	Exposure to 218° F and a pressure of 2-psig for 2½ hours	No evidence of facer or liner delamination

