

Evonik Corporation Rohacell® 51 Polymethacrylimide (PMI) Rigid Foam Sheet (discontinued **)

Category : Other Engineering Material , Composite Core Material , Polymer , Thermoset , Polymethacrylimide

Material Notes:

ROHACELL 51 is a low density grade and a very high strength:weight ratio.General ROHACELL Information: ROHACELL is a closed-cell rigid expanded plastic material for lightweight sandwich construction. It has excellent mechanical properties, high dimensional stability under heat, solvent resistance and, particularly at low temperature, a low thermal conductivity. The strength and moduli values are the highest are the highest for any foamed plastic in its density range. ROHACELL is manufactured by hot forming of methacrylic acid/methacrylonitrile copolymer sheets. During foaming this copolymer is converted to polymethacrylimide.Information supplied by Emkay Plastics, Ltd.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Evonik-Corporation-Rohacell-51-Polymethacrylimide-PMI-Rigid-Foam-Sheet-nbspdiscontinued.php

Physical Properties	Metric	English	Comments
Density	0.0513 g/cc	0.00185 lb/in ³	ASTM D1622-63
Moisture Absorption at Equilibrium	1.3 %	1.3 %	15% RH
	2.6 %	2.6 %	30% RH
	4.2 %	4.2 %	50% RH
	5.0 %	5.0 %	65% RH
	17.4 %	17.4 %	Equilibrium at 98% RH
Water Absorption at Saturation	15 %	15 %	50 days immersion at 20°C.
Moisture Expansion	<= 2.0 %	<= 2.0 %	50 days immersion at 20°C.

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	1.86 MPa	270 psi	ASTM D638-68
Elongation at Break	4.0 %	4.0 %	ASTM D638-68
Modulus of Elasticity	0.0686 GPa	9.95 ksi	ASTM D638-68
Flexural Yield Strength	1.57 MPa	228 psi	ASTM D790-66
Compressive Yield Strength	0.883 MPa	128 psi	ASTM D1621-64
Shear Modulus	0.0186 GPa	2.70 ksi	ASTM C273-61
Shear Strength	0.786 MPa	114 psi	ASTM C273-61

Thermal Properties	Metric	English	Comments
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Thermal Properties	Metric	English	Comments
CTE, linear	24.0 μm/m-°C	25.7 in/in-°F	
	@Temperature -100 °C	@Temperature -148 °F	
	33.0 μm/m-°C	18.3 μin/in-°F	ASTM D696-70
	@Temperature 20.0 °C	@Temperature 68.0 °F	
Thermal Conductivity	0.0290 W/m-K	0.201 BTU-in/hr-ft ² -°F	ASTM C177-63
Maximum Service Temperature, Air	180 °C	356 °F	Dimensional stability per DIN 53424
Oxygen Index	19 - 20 %	19 - 20 %	

Electrical Properties	Metric	English	Comments
Surface Resistance	9.00e+12 ohm	9.00e+12 ohm	
Dielectric Constant	1.06	1.06	
	@Frequency 1e+10 Hz	@Frequency 1e+10 Hz	
	1.07	1.07	
	@Frequency 2.00e+9 Hz	@Frequency 2.00e+9 Hz	
	1.09	1.09	
	@Frequency 5.00e+9 Hz	@Frequency 5.00e+9 Hz	
	1.11	1.11	
	@Frequency 2.60e+10 Hz	@Frequency 2.60e+10 Hz	
Dissipation Factor	0.00020	0.00020	
	@Frequency 2.00e+9 Hz	@Frequency 2.00e+9 Hz	
	0.00040	0.00040	
	@Frequency 5.00e+9 Hz	@Frequency 5.00e+9 Hz	
	0.0011	0.0011	
	@Frequency 1e+10 Hz	@Frequency 1e+10 Hz	
	0.0050	0.0050	
	@Frequency 2.60e+10 Hz	@Frequency 2.60e+10 Hz	

Descriptive Properties	Value	Comments
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Color

White

Descriptive Properties	Value	Comments
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