Evonik Corporation Rohacell® 31 Polymethacrylimide (PMI) Rigid Foam Sheet (discontinued **)

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

Material Notes:

ROHACELL 31 is the lowest 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-31-Polymethacrylimide-PMI-Rigid-Foam-Sheet-nbspdiscontinued-.php

Physical Properties	Metric	English	Comments
Density	0.0320 g/cc	0.00116 lb/in³	ASTM D1622-63
Moisture Absorption at Equilibrium	1.5 %	1.5 %	15% RH
	2.9 %	2.9 %	30% RH
	4.7 %	4.7 %	50% RH
	6.0 %	6.0 %	65% RH
	19.5 %	19.5 %	Equilibrium at 98% RH
Water Absorption at Saturation	13 %	13 %	50 days immersion at 20°C.
Moisture Expansion	<= 1.0 %	<= 1.0 %	50 days immersion at 20°C.

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	0.979 MPa	142 psi	ASTM D638-68
Elongation at Break	3.5 %	3.5 %	ASTM D638-68
Modulus of Elasticity	0.0353 GPa	5.12 ksi	ASTM D638-68
Flexural Yield Strength	0.786 MPa	114 psi	ASTM D790-66
Compressive Yield Strength	0.393 MPa	57.0 psi	ASTM D1621-64
Shear Modulus	0.0128 GPa	1.85 ksi	ASTM C273-61
Shear Strength	0.393 MPa	57.0 psi	ASTM C273-61

Thermal Properties	Metric	English	Comments
CTE, linear	25.0 µm/m-°C @Temperature -100 °C	13.9 µin/in-°F @Temperature -148 °F	
	37.0 µm/m-°C @Temperature 20.0 °C	20.6 µin/in-°F @Temperature 68.0 °F	ASTM D696-70
Thermal Conductivity	0.0310 W/m-K	0.215 BTU-in/hr-ft²-°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	2.00e+13 ohm	2.00e+13 ohm	
Dielectric Constant	1.05 @Frequency 5.00e+9 Hz	1.05 @Frequency 5.00e+9 Hz	
	1.05 @Frequency 1e+10 Hz	1.05 @Frequency 1e+10 Hz	
	1.06 @Frequency 2.60e+10 Hz	1.06 @Frequency 2.60e+10 Hz	
	1.08 @Frequency 2.00e+9 Hz	1.08 @Frequency 2.00e+9 Hz	
Dissipation Factor	0.00010 @Frequency 2.00e+9 Hz	0.00010 @Frequency 2.00e+9 Hz	
	0.00040 @Frequency 5.00e+9 Hz	0.00040 @Frequency 5.00e+9 Hz	
	0.00080 @Frequency 1e+10 Hz	0.00080 @Frequency 1e+10 Hz	
	0.0034 @Frequency 2.60e+10 Hz	0.0034 @Frequency 2.60e+10 Hz	

Descriptive Properties	Value	Comments
Color	White	

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