

Raschig Group DECAL® 5431 Phenolic

Category : Polymer , Thermoset , Phenolic

Material Notes:

Organically and inorganically filled phenolic molding compound. This product meets the allowed upper limits for heavy metals and PCAs and also conforms to the requirements of the EU directives 2002/95 (RoHS), 2002/96 (WEEE) and 2006/122 (PFOS) Processing: Injection and Compression molding Information provided by Raschig Group

Order this product through the following link:

http://www.lookpolymers.com/polymer_Raschig-Group-DECAL-5431-Phenolic.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.35 - 1.45 g/cc	1.35 - 1.45 g/cc	ISO 1183
Apparent Bulk Density	0.550 - 0.700 g/cc	0.0199 - 0.0253 lb/in³	ISO 60
Water Absorption	<= 1.50 % @Temperature 23.0 °C, Time 86400 sec	<= 1.50 % @Temperature 73.4 °F, Time 24.0 hour	ISO 62
Linear Mold Shrinkage, Flow	0.00600 - 0.00800 cm/cm	0.00600 - 0.00800 in/in	Injection and Compression; ISO 2577

Mechanical Properties	Metric	English	Comments
Tensile Strength	50.0 - 70.0 MPa	7250 - 10200 psi	Injection and Compression; ISO 527
Modulus of Elasticity	3.00 - 5.00 GPa	435 - 725 ksi	Compression; ISO 527
	4.00 - 6.00 GPa	580 - 870 ksi	Injection; ISO 527
Flexural Strength	70.0 - 90.0 MPa	10200 - 13100 psi	Compression; ISO 178
	90.0 - 110 MPa	13100 - 16000 psi	Injection; ISO 178
Flexural Modulus	6.00 - 8.00 GPa	870 - 1160 ksi	Injection and Compression; ISO 178
Compressive Strength	200 - 250 MPa	29000 - 36300 psi	ISO 604
Charpy Impact Unnotched	0.400 - 0.600 J/cm²	1.90 - 2.86 ft-lb/in²	Compression; ISO 179/1eU
	0.600 - 0.900 J/cm²	2.86 - 4.28 ft-lb/in²	Injection; ISO 179/1eU
Charpy Impact, Notched	0.150 - 0.350 J/cm²	0.714 - 1.67 ft-lb/in²	Compression; ISO 179/1eA
	0.200 - 0.400 J/cm²	0.952 - 1.90 ft-lb/in²	Injection; ISO 179/1eA

Thermal Properties	Metric	English	Comments
	25.0 - 35.0 µm/m-°C	13.9 - 19.4 µin/in-°F	

CTE, linear, Parallel to Flow Thermal Properties	Metric @ Temperature 50.0 - 150 °C	English @ Temperature 122 - 302 °F	ISO 11359-2 Comments
Thermal Conductivity	0.200 - 0.400 W/m-K	1.39 - 2.78 BTU-in/hr- ft ² -°F	ASTM E1461
Deflection Temperature at 1.8 MPa (264 psi)	160 - 180 °C	320 - 356 °F	ISO 75-A
Deflection Temperature at 8.0 MPa	100 - 120 °C	212 - 248 °F	ISO 75-C
Flammability, UL94	V-0 @Thickness 3.60 mm	V-0 @Thickness 0.142 in	
Shrinkage	0.400 - 0.600 % @Temperature 110 °C, Time 605000 sec	0.400 - 0.600 % @Temperature 230 °F, Time 168 hour	Post shrinkage; ISO 2577

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+16 - 1.00e+17 ohm-cm	1.00e+16 - 1.00e+17 ohm-cm	IEC 60093
Surface Resistance	1.00e+13 - 1.00e+14 ohm	1.00e+13 - 1.00e+14 ohm	IEC 60093
Dielectric Constant	4.00 - 6.00 @Frequency 1.00e+6 Hz	4.00 - 6.00 @Frequency 1.00e+6 Hz	IEC 60250
	12.0 - 16.0 @Frequency 100 Hz	12.0 - 16.0 @Frequency 100 Hz	IEC 60250
Dielectric Strength	20.0 - 30.0 kV/mm	508 - 762 kV/in	IEC 60243-1
Dissipation Factor	0.0600 - 0.0800 @Frequency 1.00e+6 Hz	0.0600 - 0.0800 @Frequency 1.00e+6 Hz	IEC 60250
	0.600 - 0.800 @Frequency 100 Hz	0.600 - 0.800 @Frequency 100 Hz	IEC 60250
Arc Resistance	60.0 - 120 sec	60.0 - 120 sec	ASTM D495
Comparative Tracking Index	>= 175 V	>= 175 V	IEC 60112

Processing Properties	Metric	English	Comments
Shelf Life	6.00 Month @Temperature 15.0 - 25.0 °C	6.00 Month @Temperature 59.0 - 77.0 °F	

Processing Properties Descriptive Properties	Metric	English Value	Comments Comments
Glow wire flammability test		900/1	IEC 60695 2-12
Glow wire ignitability test		900/1	IEC 60695 2-13
Water Absorption		<80 mg	24 hr, 23°C; ISO 62

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