

Raschig Group DECAL® 152CL Phenolic

Category : Polymer , Thermoset , Phenolic

Material Notes:

Glass-fiber and mineral reinforced phenolic molding compound. Excellent heat resistance, low mould shrinkage and post-shrinkage, good chemical resistance and mechanical properties. 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 Applications: Parts under mechanical and temperature loading Information provided by Raschig Group

Order this product through the following link:

http://www.lookpolymers.com/polymer_Raschig-Group-DECAL-152CL-Phenolic.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.65 - 1.80 g/cc	1.65 - 1.80 g/cc	ISO 1183
Apparent Bulk Density	0.600 - 0.800 g/cc	0.0217 - 0.0289 lb/in ³	ISO 60
Water Absorption	<= 0.200 % @Temperature 23.0 °C, Time 86400 sec	<= 0.200 % @Temperature 73.4 °F, Time 24.0 hour	ISO 62
Linear Mold Shrinkage, Flow	0.00300 - 0.00500 cm/cm	0.00300 - 0.00500 in/in	Injection and Compression; ISO 2577

Mechanical Properties	Metric	English	Comments
Tensile Strength	70.0 - 90.0 MPa	10200 - 13100 psi	Compression; ISO 527
	90.0 - 110 MPa	13100 - 16000 psi	Injection; ISO 527
Modulus of Elasticity	6.00 - 9.00 GPa	870 - 1310 ksi	Injection and Compression; ISO 527
Flexural Strength	110 - 140 MPa	16000 - 20300 psi	Compression; ISO 178
	150 - 180 MPa	21800 - 26100 psi	Injection; ISO 178
Flexural Modulus	11.0 - 13.0 GPa	1600 - 1890 ksi	Compression; ISO 178
	12.0 - 14.0 GPa	1740 - 2030 ksi	Injection; ISO 178
Compressive Strength	250 - 300 MPa	36300 - 43500 psi	ISO 604
Charpy Impact Unnotched	0.700 - 1.00 J/cm ²	3.33 - 4.76 ft-lb/in ²	Compression; ISO 179/1eU
	1.30 - 1.70 J/cm ²	6.19 - 8.09 ft-lb/in ²	Injection; ISO 179/1eU
Charpy Impact, Notched	0.200 - 0.400 J/cm ²	0.952 - 1.90 ft-lb/in ²	Compression; ISO 179/1eA
	0.300 - 0.500 J/cm ²	1.43 - 2.38 ft-lb/in ²	Injection; ISO 179/1eA

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	14.0 - 16.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	7.78 - 8.89 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	ISO 11359-2
	@Temperature 50.0 - 150 $^\circ\text{C}$	@Temperature 122 - 302 $^\circ\text{F}$	
Thermal Conductivity	0.400 - 0.600 W/m-K	2.78 - 4.16 BTU-in/hr-ft ² - $^\circ\text{F}$	ASTM E1461
Deflection Temperature at 1.8 MPa (264 psi)	≥ 200 $^\circ\text{C}$	≥ 392 $^\circ\text{F}$	ISO 75-A
Deflection Temperature at 8.0 MPa	≥ 170 $^\circ\text{C}$	≥ 338 $^\circ\text{F}$	ISO 75-C
Flammability, UL94	V-0	V-0	
	@Thickness 1.50 mm	@Thickness 0.0591 in	
Shrinkage	≤ 0.200 %	≤ 0.200 %	Post shrinkage; ISO 2577
	@Temperature 110 $^\circ\text{C}$, Time 605000 sec	@Temperature 230 $^\circ\text{F}$, Time 168 hour	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+12 - 1.00e+13 ohm-cm	1.00e+12 - 1.00e+13 ohm-cm	IEC 60093
Surface Resistance	1.00e+10 - 1.00e+11 ohm	1.00e+10 - 1.00e+11 ohm	IEC 60093
Dielectric Constant	4.00 - 6.00	4.00 - 6.00	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	6.00 - 8.00	6.00 - 8.00	IEC 60250
	@Frequency 100 Hz	@Frequency 100 Hz	
Dielectric Strength	20.0 - 30.0 kV/mm	508 - 762 kV/in	IEC 60243-1
Dissipation Factor	0.0100 - 0.0200	0.0100 - 0.0200	IEC 60250
	@Frequency 100 Hz	@Frequency 100 Hz	
	0.0200 - 0.0300	0.0200 - 0.0300	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Arc Resistance	180 - 240 sec	180 - 240 sec	ASTM D495
Comparative Tracking Index	≥ 225 V	≥ 225 V	IEC 60112

Processing Properties	Metric	English	Comments
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Processing Properties Shelf Life	6.00 Month Metric	6.00 Month English	Comments
	@Temperature 20.0 - 30.0 °C	@Temperature 68.0 - 86.0 °F	

Descriptive Properties	Value	Comments
Glow wire flammability test	960/1	IEC 60695 2-12
Glow wire ignitability test	960/1	IEC 60695 2-13
Water Absorption	<20 mg	24 hr, 23°C; ISO 62

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