

Raschig Group SURAPLAST 54 UPA

Category : Polymer , Thermoset , Filled/Reinforced Thermoset , Polyester, TS

Material Notes:

Glass fiber reinforced polyester molding compound. Minimal mold shrinkage and post-shrinkage, very good arc resistance, very good mechanical strength. 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 molding Primary application: Contact terminals, relays, circuit breakers Information provided by the Raschig Group

Order this product through the following link:

http://www.lookpolymers.com/polymer_Raschig-Group-SURAPLAST-54-UPA.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.90 - 2.10 g/cc	1.90 - 2.10 g/cc	ISO 1183
Apparent Bulk Density	0.700 - 0.800 g/cc	0.0253 - 0.0289 lb/in ³	ISO 60
Water Absorption	<= 0.50 % @Temperature 23.0 °C, Time 86400 sec	<= 0.50 % @Temperature 73.4 °F, Time 24.0 hour	ISO 62
Linear Mold Shrinkage	0.0020 - 0.0050 cm/cm	0.0020 - 0.0050 in/in	Compression; ISO 2577
	0.0030 - 0.0060 cm/cm	0.0030 - 0.0060 in/in	Injection; ISO 2257

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	35.0 - 60.0 MPa	5080 - 8700 psi	Compression; ISO 527
	40.0 - 70.0 MPa	5800 - 10200 psi	Injection; ISO 527
Modulus of Elasticity	9.00 - 11.0 GPa	1310 - 1600 ksi	Injection and Compression; ISO 527
Flexural Strength	80.0 - 100 MPa	11600 - 14500 psi	Compression; ISO 178
	100 - 120 MPa	14500 - 17400 psi	Injection; ISO 178
Flexural Modulus	10.0 - 13.0 GPa	1450 - 1890 ksi	Compression; ISO 178
	13.0 - 16.0 GPa	1890 - 2320 ksi	Injection; ISO 178
Compressive Strength	150 - 200 MPa	21800 - 29000 psi	ISO 604
Charpy Impact Unnotched	0.500 - 1.00 J/cm ² @Temperature 23.0 °C	2.38 - 4.76 ft-lb/in ² @Temperature 73.4 °F	Compression; ISO 179 1eU
	0.800 - 1.10 J/cm ² @Temperature 23.0 °C	3.81 - 5.24 ft-lb/in ² @Temperature 73.4 °F	Injection; ISO 179/ 1eU

Mechanical Properties	Metric	English	Comments
	0.250 - 0.350 J/cm ²	1.19 - 1.67 ft-lb/in ²	Compression; ISO 179 1eA
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	0.350 - 0.500 J/cm ²	1.67 - 2.38 ft-lb/in ²	Injection; ISO 179/ 1eA
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	10.0 - 20.0 µm/m-°C	5.56 - 11.1 µin/in-°F	ISO 11359-2
	@Temperature 50.0 - 100 °C	@Temperature 122 - 212 °F	
Thermal Conductivity	0.900 - 1.10 W/m-K	6.25 - 7.63 BTU-in/hr-ft ² -°F	ASTM E1461
Maximum Service Temperature, Air	170 °C	338 °F	20,000 h; IEC 60216/T1
	210 °C	410 °F	< 50 h; IEC 60216/T1
Deflection Temperature at 8.0 MPa	>= 200 °C	>= 392 °F	Injection and Compression; ISO 75-C
Flammability, UL94	V-0	V-0	
	@Thickness 1.50 mm	@Thickness 0.0591 in	
Shrinkage	<= 0.10 %	<= 0.10 %	Post shrinkage; ISO 2577
	@Temperature 110 °C, Time 605000 sec	@Temperature 230 °F, Time 168 hour	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+14 - 1.00e+15 ohm-cm	1.00e+14 - 1.00e+15 ohm-cm	IEC 60093
Surface Resistance	1.00e+13 - 1.00e+14 ohm	1.00e+13 - 1.00e+14 ohm	IEC 60093
Dielectric Constant	4.0 - 5.0	4.0 - 5.0	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	5.0 - 6.0	5.0 - 6.0	IEC 60250
	@Frequency 100 Hz	@Frequency 100 Hz	
Dielectric Strength	0.984 - 1.38 kV/mm	25.0 - 35.0 kV/in	IEC 60243-1
Dissipation Factor	0.010 - 0.030	0.010 - 0.030	IEC 60250
	@Frequency 100 Hz	@Frequency 100 Hz	
	0.010 - 0.030	0.010 - 0.030	IEC 60250

Electrical Properties	@Frequency 1.00e+6 Metric	@Frequency 1.00e+6 English	Comments
Arc Resistance	>= 180 sec	>= 180 sec	ASTM D495
Comparative Tracking Index	600 V	600 V	CTI; IEC 60112

Processing Properties	Metric	English	Comments
Mold Temperature	165 - 180 °C	329 - 356 °F	
Shelf Life	6.00 Month @Temperature 15.0 - 25.0 °C	6.00 Month @Temperature 59.0 - 77.0 °F	

Descriptive Properties	Value	Comments
Arc Resistance	4 Stufe	ASTM D495
Glow wire ignitability test	850/1	IEC 60695 2-13
Glow-wire flammability test	960/1	IEC 60695 2-12
Water Absorption	<35 mg	ISO 62; 24h / 23°C

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