

Raschig Group MELOPLAS® 181.5 MF

Category : Polymer , Thermoset , Melamine , Melamine-Phenolic Copolymer , Phenolic

Material Notes:

Cellulose-reinforced, phenol-modified MF molding compound (MPF) in white and colored shades. Very good electrical properties, high surface hardness, good mechanical strength, high UV and heat resistance. Self-extinguishing (V-0/1,6 according to UL 94), UL-listed in all colors. Free of halogens and toxic heavy metals. Supervised according ISO 14529-3, DIN 7708: MP 181.5, ISO 800: MPF A10, ISO 14529-3: MP (LD30+MD15), X, E -(LD40+MD05), X, E. Forms: Low dust granulate packed in moisture resistant bags. Standard bag size: 25 kg palletized in 1.000 kg loads or big-bags. Procession: Injection or compression. Applications: Molded parts in electrical engineering, Fittings for household appliances. Information provided by the Raschig Group

Order this product through the following link:

http://www.lookpolymers.com/polymer_Raschig-Group-MELOPLAS-1815-MF.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.60 - 1.70 g/cc	1.60 - 1.70 g/cc	ISO 1183
Apparent Bulk Density	0.550 - 0.750 g/cc	0.0199 - 0.0271 lb/in³	ISO 60
Water Absorption	<= 2.0 %	<= 2.0 %	ISO 62
	@Temperature 23.0 °C, Time 86400 sec	@Temperature 73.4 °F, Time 24.0 hour	
	<= 2.0 %	<= 2.0 %	ISO 62
	@Temperature 23.0 °C, Time 86400 sec	@Temperature 73.4 °F, Time 24.0 hour	
Linear Mold Shrinkage	0.0050 - 0.0090 cm/cm	0.0050 - 0.0090 in/in	(longitudinal) Compression; ISO 2577
	0.0080 - 0.012 cm/cm	0.0080 - 0.012 in/in	(longitudinal) Injection; ISO 2257

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	45.0 - 65.0 MPa	6530 - 9430 psi	Compression; ISO 527
	60.0 - 90.0 MPa	8700 - 13100 psi	Injection; ISO 527
Modulus of Elasticity	5.00 - 8.00 GPa	725 - 1160 ksi	Injection and Compression; ISO 527
Flexural Strength	80.0 - 110 MPa	11600 - 16000 psi	Compression; ISO 178
	100 - 130 MPa	14500 - 18900 psi	Injection; ISO 178
Flexural Modulus	8.00 - 9.00 GPa	1160 - 1310 ksi	Injection and Compression; ISO 178
Compressive Strength	200 - 250 MPa	29000 - 36300 psi	ISO 604
Charpy Impact Unnotched	0.600 - 0.900 J/cm²	2.86 - 4.28 ft-lb/in²	Compression; ISO 179/ 1eU

Mechanical Properties	@Temperature 23.0 °C Metric	@Temperature 73.4 °F English	Comments
	0.700 - 1.20 J/cm ²	3.33 - 5.71 ft-lb/in ²	Injection; ISO 179/ 1eU
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact, Notched	0.120 - 0.180 J/cm ²	0.571 - 0.857 ft-lb/in ²	Compression; ISO 179/ 1eA
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	0.140 - 0.200 J/cm ²	0.666 - 0.952 ft-lb/in ²	Injection; ISO 179/ 1eA
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
CTE, linear	15.0 - 35.0 µm/m-°C	8.33 - 19.4 µin/in-°F	ISO 11359-2
	@Temperature 50.0 - 100 °C	@Temperature 122 - 212 °F	
Thermal Conductivity	0.400 - 0.500 W/m-K	2.78 - 3.47 BTU-in/hr-ft ² -°F	ASTM E1461
Maximum Service Temperature, Air	135 °C	275 °F	20,000 h; IEC 60216/T1
	160 °C	320 °F	< 50 h; IEC 60216/T1
Deflection Temperature at 1.8 MPa (264 psi)	155 - 180 °C	311 - 356 °F	Injection and Compression; ISO 75-A
Deflection Temperature at 8.0 MPa	110 - 130 °C	230 - 266 °F	Injection and Compression; ISO 75-C
Flammability, UL94	V-0	V-0	
	@Thickness 1.50 mm	@Thickness 0.0591 in	
Shrinkage	1.0 - 1.5 %	1.0 - 1.5 %	Post-shrinkage; ISO 2577
	@Temperature 110 °C, Time 605000 sec	@Temperature 230 °F, Time 168 hour	
	1.0 - 1.5 %	1.0 - 1.5 %	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+12 - 1.00e+13 ohm-cm	1.00e+12 - 1.00e+13 ohm-cm	IEC 60093
Surface Resistance	1.00e+11 - 1.00e+12 ohm	1.00e+11 - 1.00e+12 ohm	IEC 60093
Dielectric Constant	7.0 - 9.0	7.0 - 9.0	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	

Electrical Properties	Metric	English	Comments
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	IEC 60250
	11 - 16	11 - 16	IEC 60250
	@Frequency 100 Hz	@Frequency 100 Hz	
Dielectric Strength	15.0 - 20.0 kV/mm	381 - 508 kV/in	IEC 60243-1
	15.0 - 20.0 kV/mm	381 - 508 kV/in	IEC 60243-1
Dissipation Factor	0.030 - 0.050	0.030 - 0.050	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	0.030 - 0.050	0.030 - 0.050	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	0.30 - 0.50	0.30 - 0.50	IEC 60250
	@Frequency 100 Hz	@Frequency 100 Hz	
Comparative Tracking Index	600 V	600 V	CTI; IEC 60112

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

Descriptive Properties	Value	Comments
Arc Resistance	5 Stufe	ASTM D495
Glow wire ignitability test	900/1	IEC 60695 2-13
Glow-wire flammability test	960/1	IEC 60695 2-12
Water Absorption	<115 mg	ISO 62; 24h / 23°C

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