

Menzolit Menzolit® SMC 2500 Unsaturated Polyester UP

Category : Polymer , Thermoset , Polyester, TS , Thermoset Polyester Glass SMC

Material Notes:

SMC 2500 is a special SMC for high voltage isolating applications. The glass level has been selected to combine good mouldability with good strength and stiffness properties. Even without a specific fire retardant, the fire retardancy level HB according to UL 94 is achieved. The electrical properties have been improved to achieve high isolating properties. When moulding this material, a high moulding pressure is very important. Only highly densified material guarantees the high isolating properties. Typical applications are isolating components and functional components within high voltage power systems. The material can be used within a SF6 atmosphere. Information Provided by Menzolit

Order this product through the following link:

http://www.lookpolymers.com/polymer_Menzolit-Menzolit-SMC-2500-Unsaturated-Polyester-UP.php

Physical Properties	Metric	English	Comments
Density	1.80 g/cc	0.0650 lb/in ³	ISO 1183
Water Absorption	<= 0.30 %	<= 0.30 %	ISO 62
Linear Mold Shrinkage	0.00050 cm/cm	0.00050 in/in	ISO 2577

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	60.0 MPa @Temperature 22.0 °C	8700 psi @Temperature 71.6 °F	25mm flat samples, compression moulded; ISO 527-4
Tensile Strength, Yield	60.0 MPa @Temperature 22.0 °C	8700 psi @Temperature 71.6 °F	25mm flat samples, compression moulded; ISO 527-4
Elongation at Yield	0.00 %	0.00 %	tensile rupture strain; ISO 527-4
Modulus of Elasticity	11.0 GPa	1600 ksi	25mm flat samples, compression moulded; ISO 527-4
Flexural Strength	145 MPa @Temperature 22.0 °C	21000 psi @Temperature 71.6 °F	25 mm wide 100 mm long, flat samples; ISO 14125
Flexural Modulus	9.00 GPa @Temperature 22.0 °C	1310 ksi @Temperature 71.6 °F	25 mm wide 100 mm long, flat samples; ISO 14125
Poissons Ratio	0.30	0.30	
Shear Modulus	4.20 GPa	609 ksi	in plane
Charpy Impact, Notched	6.50 J/cm ²	30.9 ft-lb/in ²	ISO 179

Mechanical Properties	Metric	English	Comments
Thermal Properties	Metric	English	Comments
CTE, linear	12.0 $\mu\text{m/m-}^{\circ}\text{C}$	6.67 $\mu\text{in/in-}^{\circ}\text{F}$	ISO 11359-2
Specific Heat Capacity	1.10 J/g- $^{\circ}\text{C}$	0.263 BTU/lb- $^{\circ}\text{F}$	
Thermal Conductivity	0.700 W/m-K	4.86 BTU-in/hr-ft 2 - $^{\circ}\text{F}$	
Maximum Service Temperature, Air	165 $^{\circ}\text{C}$	329 $^{\circ}\text{F}$	
Deflection Temperature at 1.8 MPa (264 psi)	≥ 200 $^{\circ}\text{C}$	≥ 392 $^{\circ}\text{F}$	ISO 75-2
Minimum Service Temperature, Air	-40.0 $^{\circ}\text{C}$	-40.0 $^{\circ}\text{F}$	
Glass Transition Temp, Tg	170 $^{\circ}\text{C}$	338 $^{\circ}\text{F}$	ISO 11357-2
Flammability, UL94	HB @Thickness 3.00 mm	HB @Thickness 0.118 in	
Oxygen Index	22 %	22 %	ISO 4589-2
Glow Wire Test	750 $^{\circ}\text{C}$	1380 $^{\circ}\text{F}$	IEC 60695-2-12

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+16 ohm-cm	1.00e+16 ohm-cm	IEC 60093
Surface Resistance	1.00e+13 ohm	1.00e+13 ohm	IEC 60093
Dielectric Constant	4.0	4.0	IEC 60250
Dielectric Strength	36.0 kV/mm	914 kV/in	IEC 60243-1
Dissipation Factor	0.010	0.010	IEC 60250
Comparative Tracking Index	600 V	600 V	IEC 60112

Processing Properties	Metric	English	Comments
Processing Temperature	135 - 150 $^{\circ}\text{C}$	275 - 302 $^{\circ}\text{F}$	Compression moulding, matched metal die

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