

Menzolit Menzolit[®] SMC 0520 Unsaturated Polyester UP

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

Material Notes:

SMC 0520 is a special SMC with significantly reduced density. The glass level has been selected to combine good moulding with sufficient strength and stiffness properties. Even without a specific fire retardant the fire retardancy level HB according the UL 94 is achieved. The product is suitable especially for applications calling for low weight and durability. Another typical application are isolating panels or mouldings that require higher strength and stiffness than standard isolating materials could provide. Information Provided by Menzolit

Order this product through the following link:

http://www.lookpolymers.com/polymer_Menzolit-Menzolit-SMC-0520-Unsaturated-Polyester-UP.php

Physical Properties	Metric	English	Comments
Density	0.810 g/cc	0.0293 lb/in ³	ISO 1183
Water Absorption	<= 0.50 %	<= 0.50 %	ISO 62
Linear Mold Shrinkage	0.00030 cm/cm	0.00030 in/in	ISO 2577

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	13.0 MPa @Temperature 22.0 °C	1890 psi @Temperature 71.6 °F	25mm flat samples, compression moulded; ISO 527-4
Tensile Strength, Yield	13.0 MPa @Temperature 22.0 °C	1890 psi @Temperature 71.6 °F	25mm flat samples, compression moulded; ISO 527-4
Elongation at Yield	0.70 %	0.70 %	tensile rupture strain; ISO 527-4
Modulus of Elasticity	3.40 GPa	493 ksi	25mm flat samples, compression moulded; ISO 527-4
Flexural Strength	50.0 MPa @Temperature 22.0 °C	7250 psi @Temperature 71.6 °F	25 mm wide 100 mm long, flat samples; ISO 14125
Flexural Modulus	3.00 GPa @Temperature 22.0 °C	435 ksi @Temperature 71.6 °F	25 mm wide 100 mm long, flat samples; ISO 14125
Poissons Ratio	0.30	0.30	
Shear Modulus	1.30 GPa	189 ksi	in plane
Charpy Impact, Notched	1.90 J/cm ²	9.04 ft-lb/in ²	ISO 179

Thermal Properties	Metric	English	Comments
CTE, linear	14.0 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	7.78 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	ISO 11359-2
Specific Heat Capacity	1.10 J/g- $\text{Å}^\circ\text{C}$	0.263 BTU/lb- $\text{Å}^\circ\text{F}$	
Thermal Conductivity	0.700 W/m-K	4.86 BTU-in/hr-ft $\text{Å}^2\cdot\text{Å}^\circ\text{F}$	
Maximum Service Temperature, Air	165 $\text{Å}^\circ\text{C}$	329 $\text{Å}^\circ\text{F}$	
Deflection Temperature at 1.8 MPa (264 psi)	$\geq 200 \text{ Å}^\circ\text{C}$	$\geq 392 \text{ Å}^\circ\text{F}$	ISO 75-2
Minimum Service Temperature, Air	-40.0 $\text{Å}^\circ\text{C}$	-40.0 $\text{Å}^\circ\text{F}$	
Glass Transition Temp, Tg	170 $\text{Å}^\circ\text{C}$	338 $\text{Å}^\circ\text{F}$	ISO 11357-2
Flammability, UL94	HB @Thickness 3.00 mm	HB @Thickness 0.118 in	
Oxygen Index	20 %	20 %	ISO 4589-2
Glow Wire Test	750 $\text{Å}^\circ\text{C}$	1380 $\text{Å}^\circ\text{F}$	IEC 60695-2-12

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+15 ohm-cm	1.00e+15 ohm-cm	IEC 60093
Surface Resistance	1.00e+12 ohm	1.00e+12 ohm	IEC 60093
Comparative Tracking Index	600 V	600 V	IEC 60112

Processing Properties	Metric	English	Comments
Processing Temperature	135 - 155 $\text{Å}^\circ\text{C}$	275 - 311 $\text{Å}^\circ\text{F}$	Compression moulding, matched metal die

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