

Menzolit Menzolit[®] HPC 1300 Unsaturated Polyester UP

Category : Polymer , Thermoset , Polyester, TS , Thermoset Polyester Glass Filled BMC

Material Notes:

HPC 1300 is a special SMC for high strength applications. The glass level has been selected to combine mouldability with high strength and stiffness properties in orientation direction. The reinforcement is composed of chopped, randomly distributed glass fibers and additional unchopped, continuous and lengthwise oriented glass fibers. This leads to very high stiffness and strength properties along with the unidirectional fibers. The flowability in orientation direction is reduced. This orientation influences flow during moulding and the anisotropic material properties have to be kept in mind during part design and part moulding. Typical applications are load bearing components, for instance bumpers and power train substructures. Information Provided by Menzolit

Order this product through the following link:

http://www.lookpolymers.com/polymer_Menzolit-Menzolit-HPC-1300-Unsaturated-Polyester-UP.php

Physical Properties	Metric	English	Comments
Density	1.70 g/cc	0.0614 lb/in ³	ISO 1183
Water Absorption	<= 0.50 %	<= 0.50 %	ISO 62
Linear Mold Shrinkage	-0.000300 cm/cm	-0.000300 in/in	ISO 2577
Linear Mold Shrinkage, Transverse	0.0025 cm/cm	0.0025 in/in	ISO 2577

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	415 MPa @Temperature 22.0 °C	60200 psi @Temperature 71.6 °F	25mm flat samples, compression moulded; ISO 527-4
Tensile Strength, Yield	415 MPa @Temperature 22.0 °C	60200 psi @Temperature 71.6 °F	25mm flat samples, compression moulded; ISO 527-4
Elongation at Yield	1.6 %	1.6 %	tensile rupture strain; ISO 527-4
Modulus of Elasticity	25.0 GPa	3630 ksi	25mm flat samples, compression moulded; ISO 527-4
Flexural Strength	743 MPa @Temperature 22.0 °C	108000 psi @Temperature 71.6 °F	25 mm wide 100 mm long, flat samples; ISO 14125
Flexural Modulus	28.0 GPa @Temperature 22.0 °C	4060 ksi @Temperature 71.6 °F	25 mm wide 100 mm long, flat samples; ISO 14125
Compressive Yield Strength	370 MPa	53700 psi	ISO 14126
Poissons Ratio	0.30	0.30	

Mechanical Properties	Metric	English	Comments
Charpy Impact, Notched	37.2 J/cm ²	177 ft-lb/in ²	ISO 179

Thermal Properties	Metric	English	Comments
CTE, linear	7.00 Åµm/m-Å°C	3.89 Åµin/in-Å°F	ISO 11359-2
Specific Heat Capacity	1.10 J/g-Å°C	0.263 BTU/lb-Å°F	
Thermal Conductivity	0.700 W/m-K	4.86 BTU-in/hr-ft ² -Å°F	
Maximum Service Temperature, Air	170 Å°C	338 Å°F	
Deflection Temperature at 1.8 MPa (264 psi)	>= 200 Å°C	>= 392 Å°F	ISO 75-2
Minimum Service Temperature, Air	-40.0 Å°C	-40.0 Å°F	
Glass Transition Temp, Tg	162 Å°C	324 Å°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 Å°C	1380 Å°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
Dielectric Constant	4.0	4.0	IEC 60250
Dielectric Strength	24.0 kV/mm	610 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	140 - 160 Å°C	284 - 320 Å°F	Compression moulding, matched metal die

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