Evonik Corporation Vestodur® 1000 Low Viscosity PBT

Category : Polymer , Thermoplastic , Polyester, TP , Polybutylene Terephthalate (PBT) , Polybutylene Terephthalate (PBT), Unreinforced, Molded

Material Notes:

Description: Degussa AG's High Performance Polymers Business Unit manufactures a range of polybutylene terephthalate compounds that are supplied under the registered trademark VESTODUR® . Material properties characterizing VESTODUR compounds are:high thermostabilityhigh stiffnesslow water absorption resulting in high dimensional stabilityhigh hardnessgood strengthgood sliding friction behavior, low abrasiongood creep behaviorgood electrical propertiesgood chemical resistancegood weathering resistancegood processabilityno tendency to form stress cracksSpecific Notes for this Material: Low- to- high-viscosity base types for injection molding applications (e.g., headlight housings, parts in medical technology) and extrusion applications (fiber optic jacketing)Information provided by degussa.

Order this product through the following link:
http://www.lookpolymers.com/polymer_Evonik-Corporation-Vestodur-1000-Low-Viscosity-PBT.php

Physical Properties	Metric	English	Comments
Density	1.31 g/cc	0.0473 lb/in³	ISO 1183
Water Absorption at Saturation	0.45 %	0.45 %	ISO 62
Linear Mold Shrinkage	0.015 cm/cm	0.015 in/in	Pigmentation can change mold shrinkage.
Linear Mold Shrinkage, Transverse	0.015 cm/cm	0.015 in/in	Pigmentation can change mold shrinkage.
Melt Flow	58.95 g/10 min @Load 2.16 kg, Temperature 250 °C	58.95 g/10 min @Load 4.76 lb, Temperature 482 °F	ISO 1133

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	79	79	ISO 868
Ball Indentation Hardness	160 MPa	23200 psi	H30; ISO 2039-1
Tensile Strength, Yield	55.0 MPa	7980 psi	50 mm/min; ISO 527-1/2
Elongation at Break	>= 50 %	>= 50 %	50 mm/min; ISO 527-1/2
Elongation at Yield	4.0 %	4.0 %	50 mm/min; ISO 527-1/2
Tensile Modulus	2.60 GPa	377 ksi	ISO 527-1/2
Charpy Impact Unnotched	18.5 J/cm² @Temperature -30.0 °C	88.0 ft-lb/in² @Temperature -22.0 °F	ISO 179/1eU
	20.0 J/cm² @Temperature 23.0 °C	95.2 ft-lb/in² @Temperature 73.4 °F	ISO 179/1eU

Mechanical Properties	Metric	English	Comments
Charpy Impact, Notched	3.430 J/cm²	2.74 ft-lb/in²	ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	0.500 J/cm²	2.38 ft-lb/in²	ISO 179/1eA
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
CTE, linear	110 µm/m-°C	61.1 µin/in-°F	Longitudinal; ISO 11359
	@Temperature 23.0 - 55.0 °C	@Temperature 73.4 - 131 °F	
CTE, linear, Transverse to Flow	110 µm/m-°C	61.1 µin/in-°F	ISO 11359
	@Temperature 23.0 - 55.0 °C	@Temperature 73.4 - 131 °F	
Melting Point	221 - 226 °C	430 - 439 °F	DSC
Deflection Temperature at 0.46 MPa (66 psi)	150 °C	302 °F	ISO 75-1/2
Deflection Temperature at 1.8 MPa (264 psi)	55.0 °C	131 °F	ISO 75-1/2
Vicat Softening Point	180 °C	356 °F	50N; ISO 306
	220 °C	428 °F	10N; ISO 306
Flammability, UL94	HB	HB	
	@Thickness 0.800 mm	@Thickness 0.0315 in	
	HB	HB	
	@Thickness 1.60 mm	@Thickness 0.0630 in	
Oxygen Index	23 %	23 %	ISO 4589
Glow Wire Test	850 °C	1560 °F	IEC 60695-2-1/0-3
	@Thickness 2.00 mm	@Thickness 0.0787 in	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+15 ohm-cm	1.00e+15 ohm-cm	IEC 60093
Surface Resistance	1.00e+13 ohm	1.00e+13 ohm	IEC 60093
Dielectric Constant	3.3	3.3	IEC 60250
	@Frequency 100 Hz	@Frequency 100 Hz	
	3.5	3.5	

Electrical Properties	Metric	English	Comments
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	IEC 60250
Dielectric Strength	27.0 kV/mm	686 kV/in	K20/P50; IEC 60243-1
Dissipation Factor	0.0020 @Frequency 100 Hz	0.0020 @Frequency 100 Hz	IEC 60250
	0.023 @Frequency 1e+6 Hz	0.023 @Frequency 1e+6 Hz	IEC 60250
Comparative Tracking Index	575 V	575 V	Test Solution A, 100 drops; IEC 60112
	600 V	600 V	Test Solution A, CTI; IEC 60112

Descriptive Properties	Value	Comments
Electrolytic Corrosion	A1 Step	IEC 60426

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