

Evonik Corporation Vestodur® 2003 PBT

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

Material Notes:

Description: VESTODUR 1003 and VESTODUR 2003 are unreinforced, semicrystalline resins, based on polybutylene terephthalate for the injection molding process. The products contain processing aids and a heat stabilizer which initiate good melt stability, an easy mold release and good heat resistance. Information provided by degussa.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Evonik-Corporation-Vestodur-2003-PBT.php

Physical Properties	Metric	English	Comments
Density	1.31 g/cc	0.0473 lb/in ³	ISO 1183
Water Absorption at Saturation	0.50 %	0.50 %	ISO 62
Linear Mold Shrinkage	0.02 cm/cm @Thickness 2.00 mm	0.02 in/in @Thickness 0.0787 in	sheet with film gate at rim, mold temperature 80°C
Linear Mold Shrinkage, Transverse	0.016 cm/cm	0.016 in/in	
Melt Flow	18.34 g/10 min @Load 2.16 kg, Temperature 250 °C	18.34 g/10 min @Load 4.76 lb, Temperature 482 °F	ISO 1133

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	77	77	ISO 868
Tensile Strength, Yield	60.0 MPa	8700 psi	ISO 527-1/2
Elongation at Break	<= 50 %	<= 50 %	ISO 527-1/2
Elongation at Yield	8.0 %	8.0 %	ISO 527-1/2
Tensile Modulus	2.60 GPa	377 ksi	ISO 527-1/-2
Charpy Impact Unnotched	20.0 J/cm ² @Temperature -30.0 °C	95.2 ft-lb/in ² @Temperature -22.0 °F	ISO 179/1eU
	22.0 J/cm ² @Temperature 23.0 °C	105 ft-lb/in ² @Temperature 73.4 °F	ISO 179/1eU
Charpy Impact, Notched	0.550 J/cm ² @Temperature -30.0 °C	2.62 ft-lb/in ² @Temperature -22.0 °F	ISO 179/1eA
	0.550 J/cm ² @Temperature 23.0 °C	2.62 ft-lb/in ² @Temperature 73.4 °F	ISO 179/1eA

Mechanical Properties	Metric	English	Comments
Thermal Properties	Metric	English	Comments
CTE, linear	110 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$ @Temperature 23.0 - 55.0 $^\circ\text{C}$	61.1 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$ @Temperature 73.4 - 131 $^\circ\text{F}$	Longitudinal; ISO 11359, DIN 53752
CTE, linear, Transverse to Flow	110 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$ @Temperature 23.0 - 55.0 $^\circ\text{C}$	61.1 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$ @Temperature 73.4 - 131 $^\circ\text{F}$	ISO 11359, DIN 53752
Deflection Temperature at 0.46 MPa (66 psi)	160 $^\circ\text{C}$	320 $^\circ\text{F}$	ISO 75-1/-2
Deflection Temperature at 1.8 MPa (264 psi)	55.0 $^\circ\text{C}$	131 $^\circ\text{F}$	ISO 75-1/-2
Vicat Softening Point	190 $^\circ\text{C}$	374 $^\circ\text{F}$	Method B, 50 N; ISO 306
	220 $^\circ\text{C}$	428 $^\circ\text{F}$	Method A, 10 N; ISO 306
Flammability, UL94	HB @Thickness 0.800 mm	HB @Thickness 0.0315 in	IEC 60695
	HB @Thickness 1.60 mm	HB @Thickness 0.0630 in	IEC 60695

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+15 ohm-cm	1.00e+15 ohm-cm	IEC 60093
Surface Resistance	1.00e+14 ohm	1.00e+14 ohm	IEC 60093
Dielectric Constant	3.3 @Frequency 100 Hz	3.3 @Frequency 100 Hz	IEC 60250
	3.5 @Frequency 1e+6 Hz	3.5 @Frequency 1e+6 Hz	IEC 60250
Dielectric Strength	27.0 kV/mm	686 kV/in	K20/P50; IEC 60243-1
Dissipation Factor	0.0015 @Frequency 100 Hz	0.0015 @Frequency 100 Hz	IEC 60250
	0.021 @Frequency 1e+6 Hz	0.021 @Frequency 1e+6 Hz	IEC 60250
Comparative Tracking Index	575 V	575 V	100 drops value; IEC 60112
	600 V	600 V	Test Solution A CTI; IEC 60112

Descriptive Properties	Value	Comments
Electrolytic Corrosion	A1	IEC 60426

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