

## Evonik Corporation Vestodur® 1003 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-1003-PBT.php](http://www.lookpolymers.com/polymer_Evonik-Corporation-Vestodur-1003-PBT.php)

Physical Properties	Metric	English	Comments
Density	1.31 g/cc	0.0473 lb/in <sup>3</sup>	ISO 1183
Water Absorption at Saturation	0.50 %	0.50 %	ISO 62
Linear Mold Shrinkage	0.015 cm/cm @Thickness 2.00 mm	0.015 in/in @Thickness 0.0787 in	sheet with film gate at rim, mold temperature 80°C
Linear Mold Shrinkage, Transverse	0.015 cm/cm	0.015 in/in	
Melt Flow	62.88 g/10 min @Load 2.16 kg, Temperature 250 °C	62.88 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	15 %	15 %	ISO 527-1/2
Elongation at Yield	8.0 %	8.0 %	ISO 527-1/2
Tensile Modulus	2.70 GPa	392 ksi	ISO 527-1/-2
Charpy Impact Unnotched	11.5 J/cm <sup>2</sup> @Temperature -30.0 °C	54.7 ft-lb/in <sup>2</sup> @Temperature -22.0 °F	ISO 179/1eU
	14.0 J/cm <sup>2</sup> @Temperature 23.0 °C	66.6 ft-lb/in <sup>2</sup> @Temperature 73.4 °F	ISO 179/1eU
Charpy Impact, Notched	0.400 J/cm <sup>2</sup> @Temperature -30.0 °C	1.90 ft-lb/in <sup>2</sup> @Temperature -22.0 °F	ISO 179/1eA
	0.400 J/cm <sup>2</sup> @Temperature 23.0 °C	1.90 ft-lb/in <sup>2</sup> @Temperature 73.4 °F	ISO 179/1eA

Mechanical Properties	Metric	English	Comments
CTE, linear	100 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	55.6 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	Longitudinal; ISO 11359, DIN 53752
	@Temperature 23.0 - 55.0 $^\circ\text{C}$	@Temperature 73.4 - 131 $^\circ\text{F}$	
CTE, linear, Transverse to Flow	100 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	55.6 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	ISO 11359, DIN 53752
	@Temperature 23.0 - 55.0 $^\circ\text{C}$	@Temperature 73.4 - 131 $^\circ\text{F}$	
Deflection Temperature at 0.46 MPa (66 psi)	170 $^\circ\text{C}$	338 $^\circ\text{F}$	ISO 75-1/-2
Deflection Temperature at 1.8 MPa (264 psi)	60.0 $^\circ\text{C}$	140 $^\circ\text{F}$	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	HB	IEC 60695
	@Thickness 0.800 mm	@Thickness 0.0315 in	
	HB	HB	IEC 60695
	@Thickness 1.60 mm	@Thickness 0.0630 in	

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	3.3	IEC 60250
	@Frequency 100 Hz	@Frequency 100 Hz	
	3.5	3.5	IEC 60250
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
Dielectric Strength	27.0 kV/mm	686 kV/in	K20/P50; IEC 60243-1
Dissipation Factor	0.0015	0.0015	IEC 60250
	@Frequency 100 Hz	@Frequency 100 Hz	
	0.021	0.021	IEC 60250
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
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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