Evonik Corporation Vestodur® GF20-FR3 20% Glass Reinforced, Self Extinguishing PBT

Category : Polymer , Thermoplastic , Polyester, TP , Polybutylene Terephthalate (PBT) , Polybutylene Terephthalate (PBT), 20% Glass Fiber Filled

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: Compounds made self-extinguishing with non-migrating flame retardants, reinforced and unreinforced, for use in electrical applications in particular. The compounds are listed by UL (Underwriters Laboratories), partially down to 0.4 mm wall thickness or with addition of up to 50 wt.-% regrind.Information provided by degussa.

Order this product through the following link:
http://www.lookpolymers.com/polymer_Evonik-Corporation-Vestodur-GF20-FR3-20-Glass-Reinforced-Self-Extinguishing-PBT.php

Physical Properties	Metric	English	Comments
Density	1.65 g/cc	0.0596 lb/in³	ISO 1183
Water Absorption at Saturation	0.40 %	0.40 %	ISO 62
Linear Mold Shrinkage	0.0030 cm/cm	0.0030 in/in	Pigmentation can change mold shrinkage.
Linear Mold Shrinkage, Transverse	0.017 cm/cm	0.017 in/in	Pigmentation can change mold shrinkage.
Melt Flow	33 g/10 min @Load 2.16 kg, Temperature 250 °C	33 g/10 min @Load 4.76 lb, Temperature 482 °F	ISO 1133

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	83	83	ISO 868
Tensile Strength at Break	120 MPa	17400 psi	5 mm/min; ISO 527-1/2
Elongation at Break	3.0 %	3.0 %	5 mm/min; ISO 527-1/2
Tensile Modulus	8.00 GPa	1160 ksi	ISO 527-1/2
Charpy Impact Unnotched	3.50 J/cm² @Temperature -30.0 °C	16.7 ft-lb/in² @Temperature -22.0 °F	ISO 179/1eU
	3.50 J/cm² @Temperature 23.0 °C	16.7 ft-lb/in² @Temperature 73.4 °F	ISO 179/1eU
	0.800 J/cm²	3.81 ft-lb/in²	

Mechanical Properties	Metric	English	Comments
Charpy Impact, Notched	@Temperature -30.0 °C	@Temperature -22.0 °F	ISO 179/1eA
	0.800 J/cm²	3.81 ft-lb/in²	ISO 179/1eA
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
CTE, linear	50.0 µm/m-°C	27.8 µin/in-°F	Longitudinal; 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)	223 °C	433 °F	ISO 75-1/2
Deflection Temperature at 1.8 MPa (264 psi)	215 °C	419 °F	ISO 75-1/2
Vicat Softening Point	212 °C	414 °F	50N; ISO 306
	218 °C	424 °F	10N; ISO 306
Flammability, UL94	V-0	V-0	
	@Thickness 0.400 mm	@Thickness 0.0157 in	
	V-0	V-0	
	@Thickness 1.60 mm	@Thickness 0.0630 in	
	V-0	V-0	
	@Thickness 0.800 mm	@Thickness 0.0315 in	
Oxygen Index	34 %	34 %	ISO 4589
Glow Wire Test	960 °C	1760 °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	3.9	3.9	IEC 60250
	@Frequency 100 Hz	@Frequency 100 Hz	
	4.2	4.2	IEC 60250
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
Dielectric Strength			K20/P50; IEC 60243-1

Electrical Properties	Metric	English	Comments
	27.0 kV/mm	686 kV/in	
Dissipation Factor	0.0030 @Frequency 100 Hz	0.0030 @Frequency 100 Hz	IEC 60250
	0.016 @Frequency 1e+6 Hz	0.016 @Frequency 1e+6 Hz	IEC 60250
Comparative Tracking Index	150 V	150 V	Test Solution A, 100 drops; IEC 60112
	175 V	175 V	Test Solution A, CTI; IEC 60112

Descriptive Properties	Value	Comments
Color	Natural, White	
Electrolytic Corrosion	A1 Step	IEC 60426

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