VESTODUR® GF50

Polybutylene Terephthalate

Evonik Industries AG

Message:

Evonik manufactures a range of polybutylene terephthalate compounds that are supplied under the registered trademark VESTODUR®. Material properties characterizing VESTODUR® compounds are:
high thermostability
high stiffness
low water absorption resulting in high dimensional stability
high hardness
good strength
good sliding friction behavior, low abrasion
good creep behavior
good electrical properties
good chemical resistance
good weathering resistance
good processability
no tendency to form stress cracks

General Information	
Filler / Reinforcement	Glass Fiber,50% Filler by Weight
Features	Good Abrasion Resistance
	Good Chemical Resistance
	Good Creep Resistance
	Good Dimensional Stability
	Good Electrical Properties
	Good Processability
	Good Strength
	Good Thermal Stability
	Good Weather Resistance
	High Hardness
	High Stiffness
	Low Moisture Absorption
	Low to No Water Absorption
Uses	Automotive Applications
	Fuel Lines
	Thin-walled Parts
	Wire & Cable Applications
Forms	Pellets
Processing Method	Extrusion
	Injection Molding

Physical	Nominal Value	Unit	Test Method
Density (23°C)	1.71	g/cm³	ISO 1183
Melt Volume-Flow Rate (MVR) (250°C/2.16 kg)	8.00	cm³/10min	ISO 1133
Molding Shrinkage			ISO 294-4
Across Flow	1.4	%	
Flow	0.15	%	
Water Absorption (Saturation, 23°C)	0.40	%	ISO 62
Hardness	**Nominal Value**	**Unit**	**Test Method**
Shore Hardness (Shore D)	85		ISO 868
Ball Indentation Hardness [1]	230	MPa	ISO 2039-1
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus	15000	MPa	ISO 527-2
Tensile Stress	180	MPa	ISO 527-2/50
Tensile Strain (Break)	1.8	%	ISO 527-2/50
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength			ISO 179/1eA
-30°C, Complete Break	12	kJ/m²	
23°C, Complete Break	13	kJ/m²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-30°C, Complete Break	65	kJ/m²	
23°C, Complete Break	60	kJ/m²	
Thermal	**Nominal Value**	**Unit**	**Test Method**
Heat Deflection Temperature			
0.45 MPa, Unannealed	223	°C	ISO 75-2/B
1.8 MPa, Unannealed	215	°C	ISO 75-2/A
Vicat Softening Temperature			
--	220	°C	ISO 306/A
--	215	°C	ISO 306/B
Melting Temperature	221 to 226	°C	ISO 11357-3
CLTE			ISO 11359-2
Flow : 23 to 55°C	4.0E-5	cm/cm/°C	
Transverse : 23 to 55°C	4.0E-5	cm/cm/°C	
Electrical	**Nominal Value**	**Unit**	**Test Method**
Surface Resistivity	1.0E+13	ohms	IEC 60093
Volume Resistivity (23°C)	1.0E+15	ohms·cm	IEC 60093
Electric Strength [2] (1.00 mm, in Oil)	27	kV/mm	IEC 60243-1
Relative Permittivity			IEC 60250
23°C, 100 Hz	4.50		
23°C, 1 MHz	4.90		
Dissipation Factor			IEC 60250
23°C, 100 Hz	4.0E-3		

23°C, 1 MHz	0.015		
Comparative Tracking Index			IEC 60112
-- [3]	500	V	
Solution A	525	V	
Flammability	**Nominal Value**	**Unit**	**Test Method**
Flammability Classification			IEC 60695-11-10, -20
0.800 mm	HB		
1.60 mm	HB		
Glow Wire Flammability Index (2.00 mm)	750	°C	IEC 60695-2-12
Glow Wire Ignition Temperature (2.00 mm)	800	°C	IEC 60695-2-13
Oxygen Index	20	%	ISO 4589-2
Additional Information	**Nominal Value**		**Test Method**
Electrolytical Corrosion	A1 step		IEC 60426
NOTE			
1.	H 30		
2.	K 20/P 50		
3.	100 Drops value		

Recommended distributors for this material

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