

VESTODUR® GF20

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,20% 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)	1.47	g/cm ³	ISO 1183
Melt Volume-Flow Rate (MVR) (250°C/2.16 kg)	16.0	cm ³ /10min	ISO 1133
Molding Shrinkage			ISO 294-4
Across Flow	1.5	%	
Flow	0.30	%	
Water Absorption (Saturation, 23°C)	0.45	%	ISO 62
Hardness	Nominal Value	Unit	Test Method
Shore Hardness (Shore D)	82		ISO 868
Ball Indentation Hardness ¹	190	MPa	ISO 2039-1
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	7200	MPa	ISO 527-2
Tensile Stress	140	MPa	ISO 527-2/50
Tensile Strain (Break)	3.5	%	ISO 527-2/50
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-30°C, Complete Break	8.5	kJ/m ²	
23°C, Complete Break	9.0	kJ/m ²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-30°C, Complete Break	65	kJ/m ²	
23°C, Complete Break	60	kJ/m ²	
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
0.45 MPa, Unannealed	220	°C	ISO 75-2/B
1.8 MPa, Unannealed	195	°C	ISO 75-2/A
Vicat Softening Temperature			
--	220	°C	ISO 306/A
--	210	°C	ISO 306/B
Melting Temperature	221 to 226	°C	ISO 11357-3
CLTE			ISO 11359-2
Flow : 23 to 55°C	6.0E-5	cm/cm/°C	
Transverse : 23 to 55°C	7.0E-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	3.80		
23°C, 1 MHz	4.20		
Dissipation Factor			IEC 60250
23°C, 100 Hz	3.0E-3		

23°C, 1 MHz	0.018		
Comparative Tracking Index			IEC 60112
-- ³	275	V	
Solution A	300	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		

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