

VESTODUR® 1003-FR3

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			
Features	Flame Retardant		
	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 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)	1.50	g/cm ³	ISO 1183
Melt Volume-Flow Rate (MVR) (250°C/2.16 kg)	35.0	cm ³ /10min	ISO 1133
Molding Shrinkage			ISO 294-4
Across Flow	1.9	%	
Flow	1.9	%	
Water Absorption (Saturation, 23°C)	0.40	%	ISO 62
Hardness	Nominal Value	Unit	Test Method
Shore Hardness (Shore D)	81		ISO 868
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	3100	MPa	ISO 527-2
Tensile Stress	55.0	MPa	ISO 527-2/50
Tensile Strain (Break)	3.0	%	ISO 527-2/50
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-30°C, Complete Break	3.0	kJ/m ²	
23°C, Complete Break	3.0	kJ/m ²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-30°C, Complete Break	25	kJ/m ²	
23°C, Complete Break	25	kJ/m ²	
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
0.45 MPa, Unannealed	185	°C	ISO 75-2/B
1.8 MPa, Unannealed	80.0	°C	ISO 75-2/A
Vicat Softening Temperature			
--	216	°C	ISO 306/A
--	192	°C	ISO 306/B
Melting Temperature	221 to 226	°C	ISO 11357-3
CLTE			ISO 11359-2
Flow : 23 to 55°C	1.0E-4	cm/cm/°C	
Transverse : 23 to 55°C	1.0E-4	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 ¹ (1.00 mm, in Oil)	27	kV/mm	IEC 60243-1
Relative Permittivity			IEC 60250
23°C, 100 Hz	3.40		
23°C, 1 MHz	3.40		
Dissipation Factor			IEC 60250
23°C, 100 Hz	2.0E-3		
23°C, 1 MHz	0.020		
Comparative Tracking Index			IEC 60112

-- ²	225	V	
Solution A	250	V	
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
0.400 mm	V-0		
0.800 mm	V-0		
1.60 mm	V-0		
Glow Wire Flammability Index (2.00 mm)	960	°C	IEC 60695-2-12
Glow Wire Ignition Temperature (2.00 mm)	825	°C	IEC 60695-2-13
Oxygen Index	32	%	ISO 4589-2
Additional Information	Nominal Value		Test Method
Electrolytical Corrosion	A1 step		IEC 60426
NOTE			
1.	K 20/P 50		
2.	100 Drops value		

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Recommended distributors for this material

Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China



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