

VESTODUR® X4877

Polybutylene Terephthalate

Evonik Industries AG

Message:

Easy-flow, glass fiber-reinforced polybutylene terephthalate compound with increased impact strength

VESTODUR X4877 is an easy-flow, glass fiber-reinforced (30%) polybutylene terephthalate compound (PBT) with increased impact strength for injection molding.

This compound is especially suitable for the manufacture of parts which are subjected to high mechanical and thermal loads. Compared with commonly used glass fiberreinforced PBT compounds with a similar stiffness VESTODUR X4877 has an increased impact strength and also a higher strain at break.

General Information			
Filler / Reinforcement	Glass Fiber,30% 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 to No Water Absorption		
Forms	Pellets		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Density	1.49	g/cm ³	ISO 1183
Melt Volume-Flow Rate (MVR) (250°C/2.16 kg)	20.0	cm ³ /10min	ISO 1133
Molding Shrinkage ¹			ISO 294-4
Across Flow : 60°C, 4.00 mm	1.0	%	
Flow : 60°C, 4.00 mm	0.30	%	
Water Absorption (Saturation, 23°C)	0.25	%	ISO 62
Hardness	Nominal Value	Unit	Test Method
Shore Hardness (Shore D)	79		ISO 868
Ball Indentation Hardness ²	105	MPa	ISO 2039-1
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	5200	MPa	ISO 527-2
Tensile Stress (Yield)	105	MPa	ISO 527-2
Tensile Strain			ISO 527-2

Yield	5.0	%	
Break	5.5	%	
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-30°C, Complete Break	13	kJ/m ²	
23°C, Complete Break	18	kJ/m ²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-30°C, Complete Break	70	kJ/m ²	
23°C, Complete Break	80	kJ/m ²	
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
0.45 MPa, Unannealed	195	°C	ISO 75-2/B
1.8 MPa, Unannealed	175	°C	ISO 75-2/A
Vicat Softening Temperature			
--	190	°C	ISO 306/A
--	165	°C	ISO 306/B
Melting Temperature (DSC)	200 to 205	°C	ISO 11357
CLTE - Flow (23 to 55°C)	5.0E-5	cm/cm/°C	ISO 11359-2
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity ³	1.0E+13	ohms	IEC 60093
Volume Resistivity	1.0E+14	ohms · cm	IEC 60093
Electric Strength ⁴	27	kV/mm	IEC 60243-1
Relative Permittivity			IEC 60250
23°C, 1 Hz	4.50		
23°C, 100 Hz	4.70		
Dissipation Factor			IEC 60250
23°C, 1 Hz	0.030		
23°C, 100 Hz	0.020		
Comparative Tracking Index			IEC 60112
Solution A ⁵	575	V	
Solution A	600	V	
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
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)	750	°C	IEC 60695-2-13
Additional Information	Nominal Value		Test Method
Electrolytical Corrosion - Step	A1		IEC 60426
NOTE			
1.	determined on 4 mm sheets with film gate at rim mold temperature 60°C		

2.	H30
3.	Roa
4.	K20/P50
5.	100 drops value

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