

VESTAKEEP® 4000 GF30

Polyetheretherketone

Evonik Industries AG

Message:

Glass fiber-reinforced (30%) polyether ether ketone

VESTAKEEP 4000 GF30 is a glass fiber reinforced (30%) polyether ether ketone for injection molding.

The semi-crystalline polymer features superior mechanical, thermal, and chemical resistance. Parts made from VESTAKEEP 4000 GF30 are self-extinguishing.

VESTAKEEP 4000 GF30 can be processed on common injection molding machines for thermoplastics.

We recommend a melt temperature of 380°C to 400°C during the injection molding process. The mold temperature should be within a range of 160°C to 200°C, preferably 180°C.

General Information			
Filler / Reinforcement	Glass Fabric,30% Filler by Weight		
Features	Good Chemical Resistance		
	Self Extinguishing		
	Semi Crystalline		
Forms	Pellets		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Density	1.50	g/cm ³	ISO 1183
Melt Volume-Flow Rate (MVR) (380°C/5.0 kg)	2.00	cm ³ /10min	ISO 1133
Molding Shrinkage ¹			ISO 294-4
Across Flow : 180°C, 2.00 mm	0.60	%	
Flow : 180°C, 2.00 mm	0.30	%	
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	11000	MPa	ISO 527-2
Tensile Stress (Break)	165	MPa	ISO 527-2/5
Tensile Strain (Break)	2.0	%	ISO 527-2/5
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-30°C, Complete Break	9.0	kJ/m ²	
23°C, Complete Break	10	kJ/m ²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-30°C, Complete Break	75	kJ/m ²	
23°C, Complete Break	70	kJ/m ²	
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
0.45 MPa, Unannealed	335	°C	ISO 75-2/B
1.8 MPa, Unannealed	312	°C	ISO 75-2/A

Vicat Softening Temperature			
--	340	°C	ISO 306/A
--	335	°C	ISO 306/B
Melting Temperature (DSC) ²	340	°C	ISO 3146
CLTE - Flow (23 to 55°C)	3.0E-5	cm/cm/°C	ISO 11359-2
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	1.0E+14	ohms	IEC 60093
Volume Resistivity	1.0E+15	ohms·cm	IEC 60093
Electric Strength ³	16	kV/mm	IEC 60243-1
Relative Permittivity			IEC 60250
50 Hz	3.40		
1 MHz	3.30		
Comparative Tracking Index			IEC 60112
Solution A ⁴	175	V	
Solution A	200	V	
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
1.60 mm	V-0		
3.20 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
Injection	Nominal Value	Unit	
Processing (Melt) Temp	380 to 400	°C	
Mold Temperature	71.1 to 93.3	°C	
NOTE			
1.	determined on 2 mm sheets with film gate at rim mold temperature 180°C		
2.	2nd heating		
3.	K20/P50		
4.	100 drops value		

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