

VESTAKEEP® 4000G

Polyetheretherketone

Evonik Industries AG

Message:

High-viscosity, unreinforced polyether ether ketone
VESTAKEEP 4000G is a high-viscosity, unreinforced polyether ether ketone for injection molding and extrusion.
The semi-crystalline polymer features superior thermal and chemical resistance. Parts made from VESTAKEEP 4000G are self-extinguishing.
VESTAKEEP 4000G can be processed by common machines for thermoplastics.
We recommend a melt temperature between 370°C and 380°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			
Features	Good Chemical Resistance		
	High Viscosity		
	Self Extinguishing		
	Semi Crystalline		
Forms	Granules		
Processing Method	Extrusion		
	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Density	1.30	g/cm ³	ISO 1183
Melt Volume-Flow Rate (MVR) (380°C/5.0 kg)	11.0	cm ³ /10min	ISO 1133
Molding Shrinkage ¹			ISO 294-4
Across Flow : 180°C, 2.00 mm	1.1	%	
Flow : 180°C, 2.00 mm	0.90	%	
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	3500	MPa	ISO 527-2
Tensile Stress (Yield)	96.0	MPa	ISO 527-2
Tensile Strain			ISO 527-2
Yield	5.0	%	
Break	30	%	
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-30°C, Complete Break	6.0	kJ/m ²	
23°C, Complete Break	7.0	kJ/m ²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-30°C	No Break		
23°C	No Break		
Thermal	Nominal Value	Unit	Test Method

Vicat Softening Temperature			
--	335	°C	ISO 306/A
--	305	°C	ISO 306/B
Melting Temperature (DSC) ²	340	°C	ISO 3146
CLTE - Flow (23 to 55°C)	6.0E-4	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	2.80		
1 MHz	2.80		
Comparative Tracking Index			IEC 60112
Solution A ⁴	175	V	
Solution A	200	V	
Flammability	Nominal Value	Unit	Test Method
Flame Rating (3.20 mm)	V-0		UL 94
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	370 to 380	°C	
Mold Temperature	160 to 200	°C	
Extrusion	Nominal Value	Unit	
Hopper Temperature	100 to 120	°C	
Cylinder Zone 1 Temp.	350 to 380	°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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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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