VESTAKEEP® 4000G

Polyetheretherketone

Evonik Industries AG

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Technical Data

Product Description

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

Material Status	• Commercial: Active	
Literature [1]	• Brochure (English) • Processing (English) • Technical Datasheet (English)	
Search for UL Yellow Card	• Evonik Industries AG • VESTAKEEP®	
Availability	• Europe	• North America
Features	• Chemical Resistant • High Viscosity	• Self Extinguishing • Semi Crystalline
Forms	• Granules	
Processing Method	• Extrusion	• Injection Molding

Physical	Nominal Value	Unit	Test Method
Density (23°C)	1.30	g/cm³	ISO 1183
Melt Volume-Flow Rate (MVR) (380°C/5.0 kg)	11	cm³/10min	ISO 1133
Molding Shrinkage			ISO 294-4
Across Flow : 2.00 mm	1.1	%	
Flow : 2.00 mm	0.90	%	
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus	3500	MPa	ISO 527-1
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/m²	
23°C, Complete Break	7.0	kJ/m²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-30°C	No Break		
23°C	No Break		
Thermal	**Nominal Value**	**Unit**	**Test Method**
Vicat Softening Temperature			
--	305	°C	ISO 306/B
--	335	°C	ISO 306/A
Melting Temperature [3]	340	°C	ISO 11357-3
CLTE - Flow (23 to 55°C)	6.0E-4	cm/cm/°C	ISO 11359-2

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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 [4]	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	200	V	
Solution A [5]	175	V	

Flammability	Nominal Value	Unit	Test Method
Flame Rating (3.2 mm)	V-0		UL 94
Glow Wire Flammability Index (2.0 mm)	960	°C	IEC 60695-2-12
Glow Wire Ignition Temperature (2.0 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

Notes

[1] These links provide you with access to supplier literature. We work hard to keep them up to date; however you may find the most current literature from the supplier.

[2] Typical properties: these are not to be construed as specifications.

[3] 2nd heating

[4] K20/P50

[5] 100 drops value

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