Product Information

VESTAKEEP® 5000 G

HIGH VISCOSITY, UNREINFORCED POLYETHER ETHER KETONE



VESTAKEEP® 5000 G 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® 5000 G are of low flammability.

VESTAKEEP® 5000 G 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.

VESTAKEEP® 5000 G is supplied as granules in 25 kg boxes with moisture-proof polyethylene liners.

Inside the original and undamaged packaging, the product has a shelf life of at least 2 years when stored in dry rooms at temperatures not exceeding 30°C.

Pigmentation may affect values.

The results shown have been generated from a low number of production lots. Therefore, they are preliminary and not yet the result of a statistical evaluation. Therefore they must not be used to establish specifications.

FOR FURTHER INFORMATION PLEASE CONTACT US AT EVONIK-HP@EVONIK.COM OR VISIT OUR PRODUCT AT WWW.INDUSTRIAL.VESTAKEEP.COM

Mechanical properties ISO	dry	Unit	Test Standard
Tensile Modulus	**3500**	MPa	ISO 527
Tensile Strength	**95**	MPa	ISO 527
Yield stress	**95**	MPa	ISO 527
Yield strain	**5**	%	ISO 527
Stress at break	**85**	MPa	ISO 527
Nominal strain at break, εtB	**35**	%	ISO 527
Charpy impact strength, +23°C	**N**	kJ/m^2	ISO 179/1eU
Charpy impact strength, -30°C	**N**	kJ/m^2	ISO 179/1eU
Charpy notched impact strength, +23°C	**9**	kJ/m^2	ISO 179/1eA

EVONIK Leading Beyond Chemistry

Type of failure	**C**	-	-
Charpy notched impact strength, -30°C	**8**	kJ/m²	ISO 179/1eA
Type of failure	**C**	-	-

Mechanical properties ASTM	**dry**	**Unit**	**Test Standard**
Tensile Modulus, var. test speed	**4100**	MPa	ASTM D 638
Yield stress, var. test speed	**100**	MPa	ASTM D 638
Yield strain, var. test speed	**6.5**	%	ASTM D 638
Nominal strain at break, var. test speed	**70**	%	ASTM D 638
tensile modulus, annealed	**4102.37**	MPa	ASTM D 638
Yield stress, 23°C, annealed	**100**	MPa	ASTM D 638
Yield strain, 23°C, annealed	**6.5**	%	ASTM D 638
Nominal strain at break, 23°C, annealed	**46**	%	ASTM D 638
Flexural Strength	**179**	MPa	ASTM D 790
Flexural Modulus, 23°C, annealed	**3700**	MPa	ASTM D 790
Flexural stress at 5% fiber strain, 23°C, annealed	**165**	MPa	ASTM D 790

Thermal properties	**dry**	**Unit**	**Test Standard**
Melting temperature	**340**	°C	ISO 11357-1/-3
Vicat softening temperature A, 10 N, 50 K/h	**335**	°C	ISO 306
Vicat softening temperature B, 50 N, 50 K/h	**305**	°C	ISO 306
Coeff. of linear therm. expansion, 23°C to 55 °C, parallel	**60**	E-6/K	ISO 11359-1/-2

Physical properties	**dry**	**Unit**	**Test Standard**
Water absorption	**0.5**	%	Sim. to ISO 62
Density	**1300**	kg/m³	ISO 1183

Burning Behav.	**dry**	**Unit**	**Test Standard**
Burnin behav. at thickness h	**V-0**	class	IEC 60695-11-10

Thickness tested	**3.2**	mm	-
Oxygen index	**36**	%	ISO 4589-1/-2
Glow Wire Flammability Index (GWFI)	**960**	°C	IEC 60695-2-12
Glow Wire Ignition Temperature (GWIT)	**850**	°C	IEC 60695-2-13
Limiting Oxygen Index	**36**	%	ASTM D 2863

Electrical properties	**dry**	**Unit**	**Test Standard**
Relative permittivity, 1MHz	**2.8**	-	IEC 62631-2-1
Volume resistivity, pV	**>1E13**	Ohm*m	IEC 62631-3-1
Surface resistance, RSD	**1E14**	Ohm	IEC 62631-3-2
Electric strength, AC, S20/S20	**19**	kV/mm	IEC 60243-1
Electric strength, AC, S20/P50	**16**	kV/mm	Sim. to IEC 60243-1
CTI, test solution A, 50 drops value	**200**	-	IEC 60112

Rheological properties	**dry**	**Unit**	**Test Standard**
Melt volume-flow rate, MVR	**7**	cm^3/10min	ISO 1133
Temperature	**380**	°C	-
Load	**5**	kg	-
Molding shrinkage, parallel	**0.9**	%	ISO 294-4, 2577
Molding shrinkage, normal	**1.1**	%	ISO 294-4, 2577

Characteristics

Key Feature, Industrial Sector
Automotive, Instustry and Building Construction, Oil and Gas

Key Feature, Processing
Injection Molding, Extrusion

Key Feature, Resistance to
Heat (Thermal Stability), Fire / Burn

Special Characteristics
Semi-crystalline, High viscosity

Features
General Chemical Resistance

Color
Natural Color

Applications
Encapsulation, Tube and hose

Delivery form
Pellets, Granules

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