VESTAKEEP® 5000 G

PEEK

Evonik Operations GmbH

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.

The values presented are typical or average values, they do not constitute a specification.

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

Rheological properties	Value	Unit	Test Standard
ISO Data			
Melt volume-flow rate, MVR	7	cm³/10min	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

Mechanical Properties	Value	Unit	Test Standard
ISO Data			
Tensile Modulus	3500	MPa	ISO 527
Yield stress	95	MPa	ISO 527
Yield strain	5	%	ISO 527
Nominal strain at break	35	%	ISO 527
Impact Strength (Charpy), +23 °C	no break	kJ/m²	ISO 179/1eU
Impact Strength (Charpy), -30 °C	no break	kJ/m²	ISO 179/1eU
Notched Impact Strength (Charpy), +23 °C	9	kJ/m²	ISO 179/1eA
Type of failure	C	-	-
Notched Impact Strength (Charpy), -30 °C	8	kJ/m²	ISO 179/1eA
Type of failure	C	-	-

Thermal Properties	Value	Unit	Test Standard
ISO Data			
Melting Temperature (10 °C/min)	340	°C	ISO 11357-1/-3
Glass Transition Temperature (10 °C/min)	152	°C	ISO 11357-1/-2
Temp. of deflection under load (1.80 MPa)	150	°C	ISO 75-1/-2
Temp. of deflection under load (0.45 MPa)	205	°C	ISO 75-1/-2
Vicat softening temperature, 50 °C/h 50N	305	°C	ISO 306
Coeff. of Linear Therm. Expansion, parallel	60	E-6/K	ISO 11359-1/-2
Oxygen index	36	%	ISO 4589-1/-2

Electrical Properties	Value	Unit	Test Standard
ISO Data			
Relative permittivity, 1MHz	2.8	-	IEC 62631-2-1
Volume Resistivity	>1E13	Ohm*m	IEC 62631-3-1
Electric Strength	32.9	kV/mm	IEC 60243-1
Comparative tracking index	200	-	IEC 60112

Other Properties	Value	Unit	Test Standard
ISO Data			
Water Absorption	0.5	%	Sim. to ISO 62
Humidity absorption	0.12	%	Sim. to ISO 62
Density	1300	kg/m³	ISO 1183

Test specimen production	Value	Unit	Test Standard
ISO Data			
Injection Molding, melt temperature	380	°C	ISO 294
Injection Molding, mold temperature	180	°C	ISO 294
Injection Molding, injection velocity	200	mm/s	ISO 294

Characteristics

Processing
Injection Molding, Other Extrusion

Features
Thermal Stability

Delivery form
Pellets

Chemical Resistance
General Chemical Resistance

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