

Product Information

# VESTAKEEP® 2000 G BK

## MEDIUM VISCOSITY, UNREINFORCED POLYETHER ETHER KETONE



**VESTAKEEP® 2000 G BK** is a medium viscosity, unreinforced polyether ether ketone for injection molding.

The semi-crystalline polymer features superior, thermal and chemical resistance. Parts made from VESTAKEEP® 2000 G BK are of low flammability.

VESTAKEEP® 2000 G BK can be processed by common machines for thermoplastics.

We recommend a melt temperature between 360°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® 2000 G BK 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.

For information about processing VESTAKEEP® 2000 G BK, please follow the general recommendations in our brochure "VESTAKEEP® PEEK Processing Guidelines".

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](mailto:EVONIK-HP@EVONIK.COM) OR VISIT OUR PRODUCT AT [WWW.INDUSTRIAL.VESTAKEEP.COM](http://WWW.INDUSTRIAL.VESTAKEEP.COM)

### Key Features

#### Industrial Sector

Automotive and Mobility, Industry and Engineering

#### Resistance to

Fire / burn

#### Processing

Injection molding, Extrusion

#### Conformity

Food contact

#### Delivery form

Pellets, Granules

#### Additives

Unfilled

### Mechanical properties ISO

Tensile modulus

dry

3700

Unit

MPa

Test Standard

ISO 527

Tensile strength	<b>100</b>	MPa	ISO 527
Yield stress	<b>100</b>	MPa	ISO 527
Yield strain	<b>5</b>	%	ISO 527
Stress at break	<b>70</b>	MPa	ISO 527
Nominal strain at break, tB	<b>20</b>	%	ISO 527
Poisson's ratio, 23°C	<b>0.40</b>	-	ISO 527
Charpy impact strength, +23°C	<b>N</b>	kJ/m <sup>2</sup>	ISO 179/1eU
Charpy impact strength, -30°C	<b>N</b>	kJ/m <sup>2</sup>	ISO 179/1eU
Charpy notched impact strength, +23°C	<b>5.5</b>	kJ/m <sup>2</sup>	ISO 179/1eA
Type of failure	<b>C</b>	-	-
Charpy notched impact strength, -30°C	<b>5.5</b>	kJ/m <sup>2</sup>	ISO 179/1eA
Type of failure	<b>C</b>	-	-
Flexural modulus, 23°C	<b>3600</b>	MPa	ISO 178
Flexural stress at conv. deflection, 23°C	<b>120</b>	MPa	ISO 178
Flexural strength, 23°C	<b>157</b>	MPa	ISO 178
Flexural strain at flexural strength, 23°C	<b>7</b>	%	ISO 178
Flexural stress at break, 23°C	<b>N</b>	MPa	ISO 178
Flexural strain at break, 23°C	<b>N</b>	%	ISO 178

<b>Thermal properties</b>	<b>dry</b>	<b>Unit</b>	<b>Test Standard</b>
Melting temperature	<b>340</b>	°C	ISO 11357-1/-3
Glass transition temperature, DSC	<b>149</b>	°C	ISO 11357-1/-2
Temp. of deflection under load A, 1.80 MPa	<b>156</b>	°C	ISO 75-1/-2
Temp. of deflection under load B, 0.45 MPa	<b>204</b>	°C	ISO 75-1/-2
Vicat softening temperature A, 10 N, 50 K/h	<b>335</b>	°C	ISO 306
Vicat softening temperature B, 50 N, 50 K/h	<b>310</b>	°C	ISO 306
Coeff. of linear therm. expansion, 23°C to 55 °C, parallel	<b>60</b>	E-6/K	ISO 11359-1/-2
Melting Temperature	<b>340</b>	°C	ASTM D 3418

**Physical properties**

	<b>dry</b>	<b>Unit</b>	<b>Test Standard</b>
Density	<b>1300</b>	kg/m <sup>3</sup>	ISO 1183
Water absorption	<b>0.4</b>	%	Sim. to ISO 62
Density	<b>1300</b>	kg/m <sup>3</sup>	ASTM D 792

**Burning Behav.**

	<b>dry</b>	<b>Unit</b>	<b>Test Standard</b>
Burnin behav. at thickness h	<b>V-0</b>	class	IEC 60695-11-10
Thickness tested	<b>3.2</b>	mm	-

**Electrical properties**

	<b>dry</b>	<b>Unit</b>	<b>Test Standard</b>
Volume resistivity, $\rho_v$	<b>&gt;1E13</b>	Ohm*m	IEC 62631-3-1
Surface resistance, RSD	<b>1E14</b>	Ohm	IEC 62631-3-2
Relative permittivity, 1MHz	<b>2.8</b>	-	IEC 62631-2-1
Dielectric strength, AC, S20/P50	<b>16</b>	kV/mm	Sim. to IEC 60243-1
CTI, test solution A, 50 drops value	<b>200</b>	-	IEC 60112
Assessment of the insulation group	<b>III a</b>	-	DIN EN 60664-1

**Rheological properties**

	<b>dry</b>	<b>Unit</b>	<b>Test Standard</b>
Melt volume-flow rate, MVR	<b>70</b>	cm <sup>3</sup> /10min	ISO 1133
Temperature	<b>380</b>	°C	-
Load	<b>5</b>	kg	-
Molding shrinkage, parallel	<b>1.1</b>	%	ISO 294-4, 2577
Molding shrinkage, normal	<b>1.1</b>	%	ISO 294-4, 2577

**Test specimen production**

	<b>dry</b>	<b>Unit</b>	<b>Test Standard</b>
Injection Molding, melt temperature	<b>380</b>	°C	ISO 294
Injection Molding, mold temperature	<b>180</b>	°C	ISO 294
Injection Molding, injection velocity	<b>200</b>	mm/s	ISO 294

## Characteristics

### Applications

Encapsulation

### Special Characteristics

High heat resistant

### Regulatory

Water contact KTW-BWGL, Water contact DIN EN 16421

### Color

Black

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