

Product Information

# VESTAKEEP® 4000 GF30 BK

## GLASS FIBER-REINFORCED (30%) POLYETHER ETHER KETONE



VESTAKEEP® 4000 GF30 BK is a glass fiber-reinforced (30%) polyether ether ketone for injection molding.

The semi-crystalline polymer features superior mechanical, thermal, and chemical resistance. Parts made from VESTAKEEP® 4000 GF30 BK are of low flammability.

VESTAKEEP® 4000 GF30 BK can be processed on common injection molding machines for thermoplastics.

We recommend a melt temperature of 380°C to 400°C during the injection molding process. The mold temperature should be within a range of 160°C to 200°C, preferably 180°C.

VESTAKEEP® 4000 GF30 BK is supplied as cylindrical pellets 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 the values.

For guidance processing of VESTAKEEP® 4000 GF30 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**

Heat (thermal stability), Fire / burn

**Processing**

Injection molding, Extrusion

**Additives**

Glass fibers

**Delivery form**

Pellets, Granules

**Mechanical properties ISO**

Tensile modulus

**Value**

**11000**

**Unit**

MPa

**Test Standard**

ISO 527

Tensile strength

**160**

MPa

ISO 527

Stress at break	<b>160</b>	MPa	ISO 527
Strain at break, B	<b>2</b>	%	ISO 527
Poisson's ratio, 23°C	<b>0.41</b>	-	ISO 527
Charpy impact strength, +23°C	<b>70</b>	kJ/m <sup>2</sup>	ISO 179/1eU
Type of failure	<b>C</b>	-	-
Charpy impact strength, -30°C	<b>75</b>	kJ/m <sup>2</sup>	ISO 179/1eU
Type of failure	<b>C</b>	-	-
Charpy notched impact strength, +23°C	<b>10</b>	kJ/m <sup>2</sup>	ISO 179/1eA
Type of failure	<b>C</b>	-	-
Charpy notched impact strength, -30°C	<b>9</b>	kJ/m <sup>2</sup>	ISO 179/1eA
Type of failure	<b>C</b>	-	-

<b>Thermal properties</b>	<b>Value</b>	<b>Unit</b>	<b>Test Standard</b>
Melting temperature	<b>340</b>	°C	ISO 11357-1/-3
Temp. of deflection under load A, 1.80 MPa	<b>312</b>	°C	ISO 75-1/-2
Temp. of deflection under load B, 0.45 MPa	<b>335</b>	°C	ISO 75-1/-2
Vicat softening temperature A, 10 N, 50 K/h	<b>340</b>	°C	ISO 306
Vicat softening temperature B, 50 N, 50 K/h	<b>335</b>	°C	ISO 306
Coeff. of linear therm. expansion, 23°C to 55 °C, parallel	<b>30</b>	E-6/K	ISO 11359-1/-2
Melting Temperature	<b>340</b>	°C	ASTM D 3418

<b>Physical properties</b>	<b>Value</b>	<b>Unit</b>	<b>Test Standard</b>
Density	<b>1500</b>	kg/m <sup>3</sup>	ISO 1183
Moisture content	<b>0.04</b>	Gew.-%	ISO 15512
Density	<b>1500</b>	kg/m <sup>3</sup>	ASTM D 792

<b>Burning Behav.</b>	<b>Value</b>	<b>Unit</b>	<b>Test Standard</b>
Burning behav. at 1.5 mm nom. thickn.	<b>V-0</b>	class	IEC 60695-11-10
Thickness tested	<b>1.6</b>	mm	-

Burnin behav. at thickness h	<b>V-0</b>	class	IEC 60695-11-10
Thickness tested	<b>3.2</b>	mm	-
Glow Wire Flammability Index (GWFI)	<b>960</b>	°C	IEC 60695-2-12
Glow Wire Ignition Temperature (GWIT)	<b>825</b>	°C	IEC 60695-2-13

<b>Electrical properties</b>	<b>Value</b>	<b>Unit</b>	<b>Test Standard</b>
Volume resistivity, V	<b>1E13</b>	Ohm*m	IEC 62631-3-1
Surface resistance, RSD	<b>1E14</b>	Ohm	IEC 62631-3-2
Relative permittivity, 1MHz	<b>3.3</b>	-	IEC 62631-2-1
CTI, test solution A, 50 drops value	<b>200</b>	-	IEC 60112
CTI, test solution A, 100 drops value	<b>175</b>	-	IEC 60112
Assessment of the insulation group	<b>III a</b>	-	DIN EN 60664-1

<b>Rheological properties</b>	<b>Value</b>	<b>Unit</b>	<b>Test Standard</b>
Melt volume-flow rate, MVR	<b>32</b>	cm <sup>3</sup> /10min	ISO 1133
Temperature	<b>400</b>	°C	-
Load	<b>21.6</b>	kg	-
Molding shrinkage, parallel	<b>0.3</b>	%	ISO 294-4, 2577
Molding shrinkage, normal	<b>0.6</b>	%	ISO 294-4, 2577
Mold temperature	<b>180</b>	°C	-

<b>Test specimen production</b>	<b>Value</b>	<b>Unit</b>	<b>Test Standard</b>
Injection Molding, melt temperature	<b>400</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

Semi-crystalline, Low warpage / Low shrinkage

## Color

Black

## Additives

External lubrication

## Chemical Resistance

General chemical resistance

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