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 OR VISIT OUR PRODUCT AT WWW.INDUSTRIAL.VESTAKEEP.COM

Key Features

Industrial Sector
Automotive and Mobility, Industry and Engineering

Processing
Injection molding, Extrusion

Delivery form
Pellets, Granules

Resistance to
Heat (thermal stability), Fire / burn

Additives
Glass fibers

Mechanical properties ISO	Value	Unit	Test Standard
Tensile modulus	**11000**	MPa	ISO 527
Tensile strength	**160**	MPa	ISO 527

Stress at break	**160**	MPa	ISO 527
Strain at break, B	**2**	%	ISO 527
Poisson's ratio, 23°C	**0.41**	-	ISO 527
Charpy impact strength, +23°C	**70**	kJ/m²	ISO 179/1eU
Type of failure	**C**	-	-
Charpy impact strength, -30°C	**75**	kJ/m²	ISO 179/1eU
Type of failure	**C**	-	-
Charpy notched impact strength, +23°C	**10**	kJ/m²	ISO 179/1eA
Type of failure	**C**	-	-
Charpy notched impact strength, -30°C	**9**	kJ/m²	ISO 179/1eA
Type of failure	**C**	-	-

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

Physical properties	Value	Unit	Test Standard
Density	**1500**	kg/m³	ISO 1183
Moisture content	**0.04**	Gew.-%	ISO 15512
Density	**1500**	kg/m³	ASTM D 792

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

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

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

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

Test specimen production	Value	Unit	Test Standard
Injection Molding, melt temperature	**400**	°C	ISO 294
Injection Molding, mold temperature	**180**	°C	ISO 294
Injection Molding, injection velocity	**200**	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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