

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.

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

dry

1.6E6

Unit

psi

Test Standard

ISO 527

Tensile strength	23200	psi	ISO 527
Stress at break	23200	psi	ISO 527
Strain at break, B	2	%	ISO 527
Poisson's ratio, 23°C	0.41	-	ISO 527
Charpy impact strength, +23°C	33.3	ftlb/in ²	ISO 179/1eU
Type of failure	C	-	-
Charpy impact strength, -30°C	35.7	ftlb/in ²	ISO 179/1eU
Type of failure	C	-	-
Charpy notched impact strength, +23°C	4.76	ftlb/in ²	ISO 179/1eA
Type of failure	C	-	-
Charpy notched impact strength, -30°C	4.28	ftlb/in ²	ISO 179/1eA
Type of failure	C	-	-

Thermal properties	dry	Unit	Test Standard
Melting temperature	644	°F	ISO 11357-1/-3
Temp. of deflection under load A, 1.80 MPa	594	°F	ISO 75-1/-2
Temp. of deflection under load B, 0.45 MPa	635	°F	ISO 75-1/-2
Vicat softening temperature A, 10 N, 50 K/h	644	°F	ISO 306
Vicat softening temperature B, 50 N, 50 K/h	635	°F	ISO 306
Coeff. of linear therm. expansion, 23°C to 55 °C, parallel	1.67E-5	in/in/°F	ISO 11359-1/-2
Melting Temperature	644	°F	ASTM D 3418

Physical properties	dry	Unit	Test Standard
Density	1.5	g/cm ³	ISO 1183
Moisture content	0.04	wt.-%	ISO 15512
Density	1.5	g/cm ³	ASTM D 792

Burning Behav.	dry	Unit	Test Standard
Burning behav. at 1.5 mm nom. thickn.	V-0	class	IEC 60695-11-10
Thickness tested	0.0630	in	-
Burnin behav. at thickness h	V-0	class	IEC 60695-11-10
Thickness tested	0.1260	in	-
Glow Wire Flammability Index (GWFI)	1760	°F	IEC 60695-2-12
Glow Wire Ignition Temperature (GWIT)	1520	°F	IEC 60695-2-13

Electrical properties	dry	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
Assessment of the insulation group	III a	-	DIN EN 60664-1

Rheological properties	dry	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	356	°F	-

Polymer analytics	dry	Unit	Test Standard
Ash content	29.8	%	ISO 3451

Test specimen production	dry	Unit	Test Standard
Injection Molding, melt temperature	752	°F	ISO 294
Injection Molding, mold temperature	356	°F	ISO 294

VESTAKEEP®

Injection Molding, injection velocity

7.87

in/s

ISO 294

Characteristics

Applications

Encapsulation

Color

Black

Special Characteristics

Semi-crystalline, Low warpage / Low shrinkage

Chemical Resistance

General chemical resistance