Product Information

VESTAKEEP® 2000 GF30

GLASS FIBER-REINFORCED (30%), MEDIUM VISCOSITY POLYETHER ETHER KETONE

VESTAKEEP®2000 GF30 is a medium-viscosity, 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® 2000 GF30 are of low flammability.

VESTAKEEP® 2000 GF30 can be processed by common injection-molding machines for thermoplastics.

We recommend a melt temperature between 380°C and 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® 2000 GF30 is supplied as cylindrical pellets in 25kg boxes with moisture-proof polyethylene liners.

Pigmentation may affect values.

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.

For information about processing of VESTAKEEP 2000 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, Aircraft and Aerospace, Industry and Engineering

Processing
Injection molding

Delivery form
Pellets, Granules

Resistance to
Fire / burn

Additives
Glass fibers

Mechanical properties ISO	dry	Unit	Test Standard
Tensile modulus	**11000**	MPa	ISO 527

Tensile strength	**180**	MPa	ISO 527
Stress at break	**180**	MPa	ISO 527
Strain at break, B	**3**	%	ISO 527
Charpy impact strength, +23°C	**55**	kJ/m²	ISO 179/1eU
Type of failure	**C**	-	-
Charpy impact strength, -30°C	**65**	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	**8**	kJ/m²	ISO 179/1eA
Type of failure	**C**	-	-
Flexural modulus, 23°C	**10200**	MPa	ISO 178
Flexural strength, 23°C	**260**	MPa	ISO 178
Flexural strain at flexural strength, 23°C	**3**	%	ISO 178
Flexural stress at break, 23°C	**260**	MPa	ISO 178
Flexural strain at break, 23°C	**3**	%	ISO 178

Thermal properties	**dry**	**Unit**	**Test Standard**
Melting temperature	**340**	°C	ISO 11357-1/-3
Temp. of deflection under load A, 1.80 MPa	**323**	°C	ISO 75-1/-2
Temp. of deflection under load B, 0.45 MPa	**338**	°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
Coefficient of Thermal Expansion, MD	**5.4E7**	E-6/K	ASTM D 696
Melting Temperature	**340**	°C	ASTM D 3418

Physical properties	dry	Unit	Test Standard
Density	**1500**	kg/m³	ISO 1183
Water absorption	**0.4**	%	Sim. to ISO 62
Density	**1500**	kg/m³	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	**1.6**	mm	-
Burnin behav. at thickness h	**V-0**	class	IEC 60695-11-10
Thickness tested	**3.2**	mm	-
Oxygen index	**45**	%	ISO 4589-1/-2
Limiting Oxygen Index	**45**	%	ASTM D 2863
Glow Wire Flammability Index (GWFI)	**960**	°C	IEC 60695-2-12
GWFI - thickness tested	**2**	mm	-
Glow Wire Ignition Temperature (GWIT)	**825**	°C	IEC 60695-2-13
GWIT - thickness tested	**2**	mm	-

Electrical properties	dry	Unit	Test Standard
Volume resistivity, V	**>1E13**	Ohm*m	IEC 62631-3-1
Surface resistivity, E	**1E15**	Ohm	IEC 62631-3-2
Surface resistivity, C, circular electrodes	**9.6E14**	Ohm per square	IEC 62631-3-2
Relative permittivity, 100Hz	**3.3**	-	IEC 62631-2-1
Relative permittivity, 1MHz	**3.3**	-	IEC 62631-2-1
Dissipation factor, 100Hz	**20**	E-4	IEC 62631-2-1
Dissipation factor, 1MHz	**40**	E-4	IEC 62631-2-1
Dielectric strength, AC, S20/S20, t. 1 mm	**37**	kV/mm	IEC 60243-1
Dielectric strength, AC, S20/P50	**16**	kV/mm	Sim. to IEC 60243-1
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	**24**	cm^3/10min	ISO 1133
Temperature	**400**	°C	-
Load	**5**	kg	-
Melt volume-flow rate, MVR	**17**	cm^3/10min	ISO 1133
Temperature	**380**	°C	-
Load	**5**	kg	-
Molding shrinkage, parallel	**0.2**	%	ISO 294-4, 2577
Molding shrinkage, normal	**0.7**	%	ISO 294-4, 2577
Mold temperature	**180**	°C	-
Melt temperature	**370**	°C	-

Test specimen production	dry	Unit	Test Standard
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
Injection Molding, pressure at hold	**120**	MPa	ISO 294

Characteristics

Applications
Electrical and Electronical, Encapsulation, IT and telecommunication

Regulatory
Water contact KTW-BWGL, Water contact DIN EN 16421

Color
Natural color

Chemical Resistance
Aging resistance, General chemical resistance

Chemical Media Resistance

Acids

✔ Acetic Acid (5% by mass) (23°C)

✔	Citric Acid solution (10% by mass) (23°C)
✔	Hydrochloric Acid (36% by mass) (23°C)
✖	Nitric Acid (40% by mass) (23°C)
✔	Sulfuric Acid (5% by mass) (23°C)
✔	Chromic Acid solution (40% by mass) (23°C)

Bases

✔	Sodium Hydroxide solution (35% by mass) (23°C)
✔	Sodium Hydroxide solution (1% by mass) (23°C)
✔	Ammonium Hydroxide solution (10% by mass) (23°C)

Alcohols

✔	Isopropyl alcohol (23°C)
✔	Methanol (23°C)
✔	Ethanol (23°C)

Hydrocarbons

✔	n-Hexane (23°C)
✔	Toluene (23°C)
✔	iso-Octane (23°C)

Ketones

✔	Acetone (23°C)

Ethers

✔	Diethyl ether (23°C)

Mineral oils

✔	SAE 10W40 multigrade motor oil (23°C)
✔	Insulating Oil (23°C)

Standard Fuels

✔	Standard fuel without alcohol (pref. ISO 1817 Liquid C) (23°C)
✔	Standard fuel with alcohol (pref. ISO 1817 Liquid 4) (23°C)
✔	Diesel fuel (pref. ISO 1817 Liquid F) (23°C)

Salt solutions

✔	Sodium Chloride solution (10% by mass) (23°C)
✔	Sodium Hypochlorite solution (10% by mass) (23°C)

- ✔ Sodium Carbonate solution (20% by mass) (23°C)
- ✔ Sodium Carbonate solution (2% by mass) (23°C)
- ✔ Zinc Chloride solution (50% by mass) (23°C)

Other

- ✔ Ethyl Acetate (23°C)
- ✔ Hydrogen peroxide (23°C)
- ✔ Ethylene Glycol (50% by mass) in water (108°C)
- ✔ Water (23°C)
- ✔ Deionized water (90°C)

Rheological calculation properties	dry	Unit	Test Standard
Min. mold temperature	**160**	°C	-
Max. mold temperature	**200**	°C	-
Min. melt temperature	**380**	°C	-
Max. melt temperature	**400**	°C	-

Evonik Operations GmbH
Smart Materials
High Performance Polymers
45772 Marl / Germany
Tel: +49 2365 49-9878
evonik-hp@evonik.com

www.plastics-database.com