

**VESTAKEEP® 2000 GF30**  
**PEEK-GF30**

Evonik Operations GmbH

**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.

| Rheological properties      | Value | Unit      | Test Standard   |
|-----------------------------|-------|-----------|-----------------|
| <b>ISO Data</b>             |       |           |                 |
| Melt volume-flow rate, MVR  | 24    | cm³/10min | ISO 1133        |
| Temperature                 | 400   | °C        | -               |
| Load                        | 5     | kg        | -               |
| Molding shrinkage, parallel | 0.2   | %         | ISO 294-4, 2577 |
| Molding shrinkage, normal   | 0.7   | %         | ISO 294-4, 2577 |

| Mechanical Properties                   | Value | Unit  | Test Standard |
|-----------------------------------------|-------|-------|---------------|
| <b>ISO Data</b>                         |       |       |               |
| Tensile Modulus                         | 11000 | MPa   | ISO 527       |
| Stress at Break                         | 180   | MPa   | ISO 527       |
| Strain at Break                         | 3     | %     | ISO 527       |
| Impact Strength (Charpy), +23°C         | 55    | kJ/m² | ISO 179/1eU   |
| Type of failure                         | C     | -     | -             |
| Impact Strength (Charpy), -30°C         | 65    | kJ/m² | ISO 179/1eU   |
| Type of failure                         | C     | -     | -             |
| Notched Impact Strength (Charpy), +23°C | 10    | kJ/m² | ISO 179/1eA   |
| Type of failure                         | C     | -     | -             |
| Notched Impact Strength (Charpy), -30°C | 8     | kJ/m² | ISO 179/1eA   |
| Type of failure                         | C     | -     | -             |

| Thermal Properties                          | Value | Unit  | Test Standard  |
|---------------------------------------------|-------|-------|----------------|
| <b>ISO Data</b>                             |       |       |                |
| Melting Temperature (10°C/min)              | 340   | °C    | ISO 11357-1/-3 |
| Temp. of deflection under load (1.80 MPa)   | 323   | °C    | ISO 75-1/-2    |
| Temp. of deflection under load (0.45 MPa)   | 338   | °C    | ISO 75-1/-2    |
| Vicat softening temperature, 50°C/h 50N     | 335   | °C    | ISO 306        |
| Coeff. of Linear Therm. Expansion, parallel | 30    | E-6/K | ISO 11359-1/-2 |
| Burning Behav. at 1.5 mm Nom. Thickn.       | V-0   | class | UL 94          |
| Thickness tested                            | 1.6   | mm    | -              |
| Oxygen index                                | 45    | %     | ISO 4589-1/-2  |

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| Electrical Properties        | Value | Unit  | Test Standard |
|------------------------------|-------|-------|---------------|
| <b>ISO Data</b>              |       |       |               |
| 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 |
| Volume Resistivity           | >1E13 | Ohm*m | IEC 62631-3-1 |
| Surface Resistivity          | 1E15  | Ohm   | IEC 62631-3-2 |
| Electric Strength            | 37    | kV/mm | IEC 60243-1   |
| Comparative tracking index   | 200   | -     | IEC 60112     |

| Other Properties | Value | Unit  | Test Standard  |
|------------------|-------|-------|----------------|
| <b>ISO Data</b>  |       |       |                |
| Water Absorption | 0.4   | %     | Sim. to ISO 62 |
| Density          | 1500  | kg/m³ | ISO 1183       |

| Test specimen production              | Value | Unit | Test Standard |
|---------------------------------------|-------|------|---------------|
| <b>ISO Data</b>                       |       |      |               |
| 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

#### Processing

Injection Molding

#### Delivery form

Pellets

### 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)

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#### 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)
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