

# VESTAKEEP® 2000 GF30

Polyetheretherketone

Evonik Industries AG

## Message:

Glass fiber-reinforced (30%) 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 self-extinguishing.

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.

| General Information                        |                                  |                        |             |
|--------------------------------------------|----------------------------------|------------------------|-------------|
| Filler / Reinforcement                     | Glass Fiber,30% Filler by Weight |                        |             |
| Features                                   | Good Chemical Resistance         |                        |             |
|                                            | Medium Viscosity                 |                        |             |
|                                            | Self Extinguishing               |                        |             |
|                                            | Semi Crystalline                 |                        |             |
| Forms                                      | Granules                         |                        |             |
| Processing Method                          | Injection Molding                |                        |             |
| Physical                                   | Nominal Value                    | Unit                   | Test Method |
| Density                                    | 1.50                             | g/cm <sup>3</sup>      | ISO 1183    |
| Melt Volume-Flow Rate (MVR) (380°C/5.0 kg) | 17.0                             | cm <sup>3</sup> /10min | ISO 1133    |
| Molding Shrinkage <sup>1</sup>             |                                  |                        | ISO 294-4   |
| Across Flow : 180°C, 2.00 mm               | 0.70                             | %                      |             |
| Flow : 180°C, 2.00 mm                      | 0.20                             | %                      |             |
| Mechanical                                 | Nominal Value                    | Unit                   | Test Method |
| Tensile Modulus                            | 11000                            | MPa                    | ISO 527-2   |
| Tensile Stress (Break)                     | 165                              | MPa                    | ISO 527-2   |
| Tensile Strain (Break)                     | 2.0                              | %                      | ISO 527-2   |
| Impact                                     | Nominal Value                    | Unit                   | Test Method |
| Charpy Notched Impact Strength             |                                  |                        | ISO 179/1eA |
| -30°C, Complete Break                      | 8.0                              | kJ/m <sup>2</sup>      |             |
| 23°C, Complete Break                       | 9.0                              | kJ/m <sup>2</sup>      |             |
| Charpy Unnotched Impact Strength           |                                  |                        | ISO 179/1eU |
| -30°C, Complete Break                      | 65                               | kJ/m <sup>2</sup>      |             |
| 23°C, Complete Break                       | 55                               | kJ/m <sup>2</sup>      |             |
| Thermal                                    | Nominal Value                    | Unit                   | Test Method |
| Heat Deflection Temperature                |                                  |                        |             |
| 0.45 MPa, Unannealed                       | 338                              | °C                     | ISO 75-2/B  |

| 1.8 MPa, Unannealed                      | 323           | °C       | ISO 75-2/A     |
|------------------------------------------|---------------|----------|----------------|
| Vicat Softening Temperature              |               |          |                |
| --                                       | 340           | °C       | ISO 306/A      |
| --                                       | 335           | °C       | ISO 306/B      |
| Melting Temperature <sup>2</sup>         | 340           | °C       | ISO 11357-3    |
| CLTE - Flow (23 to 55°C)                 | 3.0E-5        | cm/cm/°C | ISO 11359-2    |
| Electrical                               | Nominal Value | Unit     | Test Method    |
| Surface Resistivity                      | 1.0E+14       | ohms     | IEC 60093      |
| Volume Resistivity                       | 1.0E+15       | ohms·cm  | IEC 60093      |
| Electric Strength <sup>3</sup>           | 16            | kV/mm    | IEC 60243-1    |
| Relative Permittivity                    |               |          | IEC 60250      |
| 50 Hz                                    | 3.40          |          |                |
| 1 MHz                                    | 3.30          |          |                |
| Comparative Tracking Index               |               |          | IEC 60112      |
| Solution A <sup>4</sup>                  | 175           | V        |                |
| Solution A                               | 200           | V        |                |
| Flammability                             | Nominal Value | Unit     | Test Method    |
| Flame Rating                             |               |          | UL 94          |
| 1.60 mm                                  | V-0           |          |                |
| 3.20 mm                                  | V-0           |          |                |
| Glow Wire Flammability Index (2.00 mm)   | 960           | °C       | IEC 60695-2-12 |
| Glow Wire Ignition Temperature (2.00 mm) | 825           | °C       | IEC 60695-2-13 |
| Injection                                | Nominal Value | Unit     |                |
| Processing (Melt) Temp                   | 380 to 400    | °C       |                |
| Mold Temperature                         | 160 to 200    | °C       |                |
| NOTE                                     |               |          |                |

- |    |                                                                        |
|----|------------------------------------------------------------------------|
| 1. | determined on 2 mm sheets with film gate at rim mold temperature 180°C |
| 2. | 2nd heating                                                            |
| 3. | K20/P50                                                                |
| 4. | 100 drops value                                                        |

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