

VESTAKEEP® 5000 G
PEEK

Evonik Operations GmbH

High viscosity, unreinforced polyether ether ketone

VESTAKEEP® 5000 G is a high viscosity, unreinforced polyether ether ketone for injection molding and extrusion.

The semi-crystalline polymer features superior, thermal and chemical resistance. Parts made from VESTAKEEP® 5000 G are of low flammability.

VESTAKEEP® 5000 G can be processed by common machines for thermoplastics. We recommend a melt temperature between 370 °C and 380 °C during the injection molding process. The mold temperature should be within a range of 160 °C to 200 °C, preferably 180 °C.

VESTAKEEP® 5000 G is supplied as granules 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 values.

The results shown have been generated from a low number of production lots. Therefore, they are preliminary and not yet the result of a statistical evaluation. Therefore they must not be used to establish specifications.

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

| Rheological properties | Value | Unit | Test Standard |
|-----------------------------|-------|------------------------|-----------------|
| ISO Data | | | |
| Melt volume-flow rate, MVR | 7 | cm ³ /10min | ISO 1133 |
| Temperature | 380 | °C | - |
| Load | 5 | kg | - |
| Molding shrinkage, parallel | 0.9 | % | ISO 294-4, 2577 |
| Molding shrinkage, normal | 1.1 | % | ISO 294-4, 2577 |

| Mechanical Properties | Value | Unit | Test Standard |
|--|----------|-------------------|---------------|
| ISO Data | | | |
| Tensile Modulus | 3500 | MPa | ISO 527 |
| Yield stress | 95 | MPa | ISO 527 |
| Yield strain | 5 | % | ISO 527 |
| Nominal strain at break | 35 | % | ISO 527 |
| Impact Strength (Charpy), +23 °C | no break | kJ/m ² | ISO 179/1eU |
| Impact Strength (Charpy), -30 °C | no break | kJ/m ² | ISO 179/1eU |
| Notched Impact Strength (Charpy), +23 °C | 9 | kJ/m ² | ISO 179/1eA |
| Type of failure | C | - | - |
| Notched Impact Strength (Charpy), -30 °C | 8 | kJ/m ² | ISO 179/1eA |
| Type of failure | C | - | - |

| Thermal Properties | Value | Unit | Test Standard |
|---|-------|-------|----------------|
| ISO Data | | | |
| Melting Temperature (10 °C/min) | 340 | °C | ISO 11357-1/-3 |
| Glass Transition Temperature (10 °C/min) | 152 | °C | ISO 11357-1/-2 |
| Temp. of deflection under load (1.80 MPa) | 150 | °C | ISO 75-1/-2 |
| Temp. of deflection under load (0.45 MPa) | 205 | °C | ISO 75-1/-2 |
| Vicat softening temperature, 50 °C/h 50N | 305 | °C | ISO 306 |
| Coeff. of Linear Therm. Expansion, parallel | 60 | E-6/K | ISO 11359-1/-2 |
| Oxygen index | 36 | % | ISO 4589-1/-2 |

| Electrical Properties | Value | Unit | Test Standard |
|-----------------------------|-------|-------|---------------|
| ISO Data | | | |
| Relative permittivity, 1MHz | 2.8 | - | IEC 62631-2-1 |
| Volume Resistivity | >1E13 | Ohm*m | IEC 62631-3-1 |
| Electric Strength | 32.9 | kV/mm | IEC 60243-1 |
| Comparative tracking index | 200 | - | IEC 60112 |

| Other Properties | Value | Unit | Test Standard |
|---------------------|-------|-------|----------------|
| ISO Data | | | |
| Water Absorption | 0.5 | % | Sim. to ISO 62 |
| Humidity absorption | 0.12 | % | Sim. to ISO 62 |
| Density | 1300 | kg/m³ | ISO 1183 |

| Test specimen production | Value | Unit | Test Standard |
|---------------------------------------|-------|------|---------------|
| ISO Data | | | |
| 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 |

Characteristics

Processing

Injection Molding, Other Extrusion

Features

Thermal Stability

Delivery form

Pellets

Chemical Resistance

General Chemical Resistance

Disclaimer

Liability Exclusion

These guide values are measured and provided by the product manufacturer and have been determined on standardised test specimens and can be affected by pigmentation, mould design and processing conditions. M-Base has taken the guide values from the producer's original Technical Data Sheet. **ALBIS AND M-BASE ARE THEREFORE NOT RESPONSIBLE FOR THE ACCURACY OF THE GUIDE VALUES AND CANNOT GIVE ANY WARRANTY WITH REGARD TO THEIR CORRECTNESS.**

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- risk class III applications according to EU directive 93/42/EEC
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- any critical component in any medical device that supports or sustains human life.

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