Product Information

# VESTAKEEP® 3300 G High Purity

## MEDIUM VISCOSITY, UNREINFORCED POLYETHER ETHER KETONE



**VESTAKEEP® 3300 G High Purity** is a medium- viscosity, unreinforced polyether ether ketone for injection molding and extrusion. The product is refined by Evonik's special filtration technology.

The semi-crystalline polymer features superior thermal and chemical resistance. Parts made from VESTAKEEP® 3300 G High Purity are of low flammability.

VESTAKEEP® 3300 G High Purity can be processed by common machines for thermoplastics.

We recommend a melt temperature between 360°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® 3300 G High Purity is supplied as granules in 25 kg 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 VESTAKEEP® 3300 G High Purity, please follow the general recommendations in our brochure "VESTAKEEP® PEEK Processing Guidelines".

FOR FURTHER INFORMATION PLEASE CONTACT US AT EVONIK-HP@EVONIK.COM OR VISIT OUR PRODUCT AT WWW.INDUSTRIAL.VESTAKEEP.COM

| Mechanical properties ISO | dry | Unit | Test Standard |
|---|---|---|---|
| Tensile Modulus | **3600** | MPa | ISO 527 |
| Tensile Strength | **95** | MPa | ISO 527 |
| Yield stress | **95** | MPa | ISO 527 |
| Yield strain | **5** | % | ISO 527 |
| Stress at break | **75** | MPa | ISO 527 |
| Nominal strain at break, εtB | **25** | % | ISO 527 |
| Charpy impact strength, +23°C | **N** | kJ/m² | ISO 179/1eU |
| Charpy impact strength, -30°C | **N** | kJ/m² | ISO 179/1eU |



EVONIK Leading Beyond Chemistry

| | | | |
|---|---|---|---|
| Charpy notched impact strength, +23°C | **6** | kJ/m² | ISO 179/1eA |
| Type of failure | **C** | - | - |
| Charpy notched impact strength, -30°C | **6** | kJ/m² | ISO 179/1eA |
| Type of failure | **C** | - | - |
| Flexural modulus, 23°C | **3350** | MPa | ISO 178 |
| Flexural stress at conv. deflection, 23°C | **110** | MPa | ISO 178 |
| Flexural strain at flexural strength, 23°C | **6.5** | % | ISO 178 |

| **Thermal properties** | **dry** | **Unit** | **Test Standard** |
|---|---|---|---|
| Melting temperature | **340** | °C | ISO 11357-1/-3 |
| Glass transition temperature | **151** | °C | ISO 11357-1/-2 |
| Temp. of deflection under load A, 1.80 MPa | **155** | °C | ISO 75-1/-2 |
| Temp. of deflection under load B, 0.45 MPa | **205** | °C | ISO 75-1/-2 |
| Vicat softening temperature A, 10 N, 50 K/h | **335** | °C | ISO 306 |
| Vicat softening temperature B, 50 N, 50 K/h | **305** | °C | ISO 306 |
| Coeff. of linear therm. expansion, 23°C to 55 °C, parallel | **60** | E-6/K | ISO 11359-1/-2 |
| Melting Temperature | **171** | °C | ASTM D 3418 |

| **Physical properties** | **dry** | **Unit** | **Test Standard** |
|---|---|---|---|
| Density | **1290** | kg/m³ | ISO 1183 |

| **Burning Behav.** | **dry** | **Unit** | **Test Standard** |
|---|---|---|---|
| Burnin behav. at thickness h | **V-0** | class | IEC 60695-11-10 |
| Thickness tested | **3.2** | mm | - |
| Glow Wire Flammability Index (GWFI) | **960** | °C | IEC 60695-2-12 |
| GWFI - thickness tested (1) | **2** | mm | - |
| Glow Wire Ignition Temperature (GWIT) | **800** | °C | IEC 60695-2-13 |
| GWIT - thickness tested (1) | **2** | mm | - |
| Limiting Oxygen Index | **38** | % | ASTM D 2863 |

| Electrical properties | dry | Unit | Test Standard |
|---|---|---|---|
| Relative permittivity, 50Hz | **3.2** | - | IEC 62631-2-1 |
| Relative permittivity, 100Hz | **3.2** | - | IEC 62631-2-1 |
| Relative permittivity, 1MHz | **3.2** | - | IEC 62631-2-1 |
| Dissipation factor, 100Hz | **12** | E-4 | IEC 62631-2-1 |
| Dissipation factor, 1MHz | **91** | E-4 | IEC 62631-2-1 |
| Volume resistivity, ρV | **>1E13** | Ohm*m | IEC 62631-3-1 |
| Surface resistivity, σC, circular electrodes | **>1E15** | Ohm per square | IEC 62631-3-2 |
| Electric strength, AC, S20/S20 | **19** | kV/mm | IEC 60243-1 |
| Electric strength, AC, S20/P50 | **16** | kV/mm | Sim. to IEC 60243-1 |
| CTI, test solution A, 50 drops value | **200** | - | IEC 60112 |

| Rheological properties | dry | Unit | Test Standard |
|---|---|---|---|
| Melt volume-flow rate, MVR | **20** | $cm^3$/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 |

## Characteristics

**Key Feature, Industrial Sector**
Electrical and Electronical, Instustry and Building Construction

**Key Feature, Processing**
Injection Molding, Extrusion

**Key Feature, Resistance to**
Heat (Thermal Stability), Fire / Burn

**Applications**
Multifilament, Tube and hose

**Features**
General Chemical Resistance

**Color**
Natural Color

**Delivery form**
Pellets, Granules

**Chemical Resistance**
Hydrolytically Stable

**Processing**
Compression Molding

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