

Product Information

**VESTAKEEP® 1000 G**

**LOW- VISCOSITY, UNREINFORCED POLYETHER ETHER KETONE**



**VESTAKEEP® 1000 G** is a low-viscosity, unreinforced polyether ether ketone for injection molding.

The semi-crystalline polymer features superior, thermal and chemical resistance. Parts made from VESTAKEEP® 1000 G are of low flammability.

VESTAKEEP® 1000 G can be processed by common injection 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® 1000 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.

For information about processing VESTAKEEP® 1000 G, please follow the general recommendations in our brochure "VESTAKEEP® PEEK Processing Guidelines".

**Key Features**

**Industrial Sector**

Automotive and Mobility, Industry and Engineering

**Resistance to**

Fire / burn

**Processing**

Injection molding

**Conformity**

Food contact

**Delivery form**

Pellets, Granules

**Additives**

Unfilled

**Mechanical properties ISO**

Tensile modulus

dry

**3900**

Unit

MPa

Test Standard

ISO 527

Tensile strength	<b>100</b>	MPa	ISO 527
Yield stress	<b>100</b>	MPa	ISO 527
Yield strain	<b>5.5</b>	%	ISO 527
Stress at break	<b>70</b>	MPa	ISO 527
Nominal strain at break, tB	<b>10</b>	%	ISO 527
Charpy impact strength, +23°C	<b>60</b>	kJ/m <sup>2</sup>	ISO 179/1eU
Type of failure	<b>C</b>	-	-
Charpy impact strength, -30°C	<b>60</b>	kJ/m <sup>2</sup>	ISO 179/1eU
Type of failure	<b>C</b>	-	-
Charpy notched impact strength, +23°C	<b>5</b>	kJ/m <sup>2</sup>	ISO 179/1eA
Type of failure	<b>C</b>	-	-
Charpy notched impact strength, -30°C	<b>5</b>	kJ/m <sup>2</sup>	ISO 179/1eA
Type of failure	<b>C</b>	-	-

<b>Thermal properties</b>	<b>dry</b>	<b>Unit</b>	<b>Test Standard</b>
Melting temperature	<b>340</b>	°C	ISO 11357-1/-3
Glass transition temperature, DSC	<b>150</b>	°C	ISO 11357-1/-2
Temp. of deflection under load A, 1.80 MPa	<b>155</b>	°C	ISO 75-1/-2
Temp. of deflection under load B, 0.45 MPa	<b>205</b>	°C	ISO 75-1/-2
Vicat softening temperature A, 10 N, 50 K/h	<b>335</b>	°C	ISO 306
Vicat softening temperature B, 50 N, 50 K/h	<b>310</b>	°C	ISO 306
Coeff. of linear therm. expansion, 23°C to 55 °C, parallel	<b>60</b>	E-6/K	ISO 11359-1/-2
Melting Temperature	<b>340</b>	°C	ASTM D 3418

<b>Physical properties</b>	<b>dry</b>	<b>Unit</b>	<b>Test Standard</b>
Density	<b>1300</b>	kg/m <sup>3</sup>	ISO 1183
Water absorption	<b>0.5</b>	%	Sim. to ISO 62
Density	<b>1300</b>	kg/m <sup>3</sup>	ASTM D 792

<b>Burning Behav.</b>	<b>dry</b>	<b>Unit</b>	<b>Test Standard</b>
Burning behav. at 1.5 mm nom. thickn.	<b>V-0</b>	class	IEC 60695-11-10
Thickness tested	<b>1.6</b>	mm	-
Oxygen index	<b>38</b>	%	ISO 4589-1/-2
Limiting Oxygen Index	<b>38</b>	%	ASTM D 2863
Glow Wire Flammability Index (GWFI)	<b>960</b>	°C	IEC 60695-2-12
Glow Wire Ignition Temperature (GWIT)	<b>800</b>	°C	IEC 60695-2-13

<b>Electrical properties</b>	<b>dry</b>	<b>Unit</b>	<b>Test Standard</b>
Volume resistivity, V	<b>&gt;1E13</b>	Ohm*m	IEC 62631-3-1
Surface resistance, RSD	<b>1E14</b>	Ohm	IEC 62631-3-2
Relative permittivity, 1MHz	<b>2.8</b>	-	IEC 62631-2-1
Dielectric strength, AC, S20/P50	<b>16</b>	kV/mm	Sim. to IEC 60243-1
CTI, test solution A, 50 drops value	<b>200</b>	-	IEC 60112
Assessment of the insulation group	<b>III a</b>	-	DIN EN 60664-1

<b>Rheological properties</b>	<b>dry</b>	<b>Unit</b>	<b>Test Standard</b>
Melt volume-flow rate, MVR	<b>150</b>	cm <sup>3</sup> /10min	ISO 1133
Temperature	<b>380</b>	°C	-
Load	<b>5</b>	kg	-
Molding shrinkage, parallel	<b>0.9</b>	%	ISO 294-4, 2577
Molding shrinkage, normal	<b>1.0</b>	%	ISO 294-4, 2577

<b>Test specimen production</b>	<b>dry</b>	<b>Unit</b>	<b>Test Standard</b>
Injection Molding, melt temperature	<b>380</b>	°C	ISO 294
Injection Molding, mold temperature	<b>180</b>	°C	ISO 294
Injection Molding, injection velocity	<b>200</b>	mm/s	ISO 294

**Characteristics**

**Applications**

Electrical and Electronical, Encapsulation

**Color**

Natural color

**Special Characteristics**

Semi-crystalline, Low viscosity