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".

Key Features

Industrial Sector
Industry and Engineering

Processing
Injection molding, Extrusion

Delivery form
Pellets, Granules

Resistance to
Heat (thermal stability), Fire / burn

Additives
Unfilled

Mechanical properties ISO	dry	Unit	Test Standard
Tensile modulus	**522000**	psi	ISO 527

Tensile strength	**13800**	psi	ISO 527
Yield stress	**13800**	psi	ISO 527
Yield strain	**5**	%	ISO 527
Stress at break	**10900**	psi	ISO 527
Nominal strain at break, tB	**25**	%	ISO 527
Charpy impact strength, +23°C	**N**	ftlb/in^2	ISO 179/1eU
Charpy impact strength, -30°C	**N**	ftlb/in^2	ISO 179/1eU
Charpy notched impact strength, +23°C	**2.85**	ftlb/in^2	ISO 179/1eA
Type of failure	**C**	-	-
Charpy notched impact strength, -30°C	**2.85**	ftlb/in^2	ISO 179/1eA
Type of failure	**C**	-	-
Flexural modulus, 23°C	**486000**	psi	ISO 178
Flexural stress at conv. deflection, 23°C	**16000**	psi	ISO 178
Flexural strength, 23°C	**21000**	psi	ISO 178
Flexural strain at flexural strength, 23°C	**6.5**	%	ISO 178

Thermal properties	**dry**	**Unit**	**Test Standard**
Melting temperature	**644**	°F	ISO 11357-1/-3
Glass transition temperature, DSC	**304**	°F	ISO 11357-1/-2
Temp. of deflection under load A, 1.80 MPa	**311**	°F	ISO 75-1/-2
Temp. of deflection under load B, 0.45 MPa	**401**	°F	ISO 75-1/-2
Vicat softening temperature A, 10 N, 50 K/h	**635**	°F	ISO 306
Vicat softening temperature B, 50 N, 50 K/h	**581**	°F	ISO 306
Coeff. of linear therm. expansion, 23°C to 55 °C, parallel	**3.33E-5**	in/in/°F	ISO 11359-1/-2
Melting Temperature	**644**	°F	ASTM D 3418

Physical properties	**dry**	**Unit**	**Test Standard**
Density	**1.29**	g/cm^3	ISO 1183

Density	**1.29**	g/cm³	ASTM D 792

Burning Behav.	**dry**	**Unit**	**Test Standard**
Burnin behav. at thickness h	**V-0**	class	IEC 60695-11-10
Thickness tested	**0.1260**	in	-
Limiting Oxygen Index	**38**	%	ASTM D 2863
Glow Wire Flammability Index (GWFI)	**1760**	°F	IEC 60695-2-12
GWFI - thickness tested	**0.0787**	in	-
Glow Wire Ignition Temperature (GWIT)	**1470**	°F	IEC 60695-2-13
GWIT - thickness tested	**0.0787**	in	-

Electrical properties	**dry**	**Unit**	**Test Standard**
Volume resistivity, V	**>1E13**	Ohm*m	IEC 62631-3-1
Surface resistivity, C, circular electrodes	**>1E15**	Ohm/sq	IEC 62631-3-2
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
Dielectric strength, AC, S20/P50	**406**	V/mil	Sim. to IEC 60243-1
CTI, test solution A, 50 drops value	**200**	-	IEC 60112
Assessment of the insulation group	**III a**	-	DIN EN 60664-1

Optical properties	**dry**	**Unit**	**Test Standard**
Color L	**61**	-	CIE
Color a	**2.3**	-	CIE
Color b	**7.9**	-	CIE

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

Test specimen production	dry	Unit	Test Standard
Injection Molding, melt temperature	**716**	°F	ISO 294
Injection Molding, mold temperature	**356**	°F	ISO 294
Injection Molding, injection velocity	**7.87**	in/s	ISO 294

Characteristics

Applications
Electrical and Electronical, Multifilament, Tube and hose

Color
Natural color

Processing
Compression molding

Chemical Resistance
Hydrolytically stable, General chemical resistance