Product Information

VESTAKEEP® 5000 FP

UNREINFORCED, HIGH VISCOSITY POLYETHER ETHER KETONE FINE POWDER

VESTAKEEP® 5000 FP is an unreinforced, high viscosity polyether ether ketone fine powder. It can be used as a basic resin or in blends with different additives for manufacturing compression molding parts.

The semi-crystalline polymer features superior, thermal and chemical resistance. VESTAKEEP® 5000 FP is of low flammability.

VESTAKEEP® 5000 FP is supplied as powder in 10 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.

Key Features

Industrial Sector
Automotive and Mobility, Aircraft and Aerospace

Processing
Press and sintering

Delivery form
Powder

Resistance to
Heat (thermal stability), Fire / burn

Additives
Unfilled

Mechanical properties ISO	dry	Unit	Test Standard
Tensile modulus	**493000**	psi	ISO 527
Tensile strength	**13800**	psi	ISO 527

Yield stress	**13800**	psi	ISO 527
Yield strain	**5**	%	ISO 527
Stress at break	**12300**	psi	ISO 527
Nominal strain at break, tB	**40**	%	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	**4.28**	ftlb/in^2	ISO 179/1eA
Type of failure	**C**	-	-
Charpy notched impact strength, -30°C	**3.81**	ftlb/in^2	ISO 179/1eA
Type of failure	**C**	-	-

Thermal properties	**dry**	**Unit**	**Test Standard**
Melting temperature	**644**	°F	ISO 11357-1/-3
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	**1.3**	g/cm^3	ISO 1183
Moisture content	**0.29**	wt.-%	ISO 15512
Density	**1.3**	g/cm^3	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	-
Glow Wire Flammability Index (GWFI)	**1760**	°F	IEC 60695-2-12
GWFI - thickness tested	**0.0787**	in	-
Glow Wire Ignition Temperature (GWIT)	**1560**	°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
Relative permittivity, 1MHz	**2.8**	-	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

Rheological properties	dry	Unit	Test Standard
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

Powder properties	dry	Unit	Test Standard
Bulk density, powder	**250**	g/l	EN ISO 60
Particle size, D(50)	**60**	µm	ISO 13320, DIN ISO 8130-13

Characteristics

Applications
Electrical and Electronical

Color
Natural color

Processing
Electrostatic coating

Delivery form
Fine powder (FP)

Special Characteristics
High viscosity

Chemical Resistance
General chemical resistance