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.

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.

For information about processing of VESTAKEEP® 5000 FP, please follow the general recommendations in our brochure "VESTAKEEP® High Performance in Powder Form Polyether Ether Ketone Powders".

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

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	Value	Unit	Test Standard
Tensile modulus	**3400**	MPa	ISO 527
Tensile strength	**95**	MPa	ISO 527
Yield stress	**95**	MPa	ISO 527

Yield strain	**5**	%	ISO 527
Stress at break	**85**	MPa	ISO 527
Nominal strain at break, tB	**40**	%	ISO 527
Charpy impact strength, +23°C	**N**	kJ/m²	ISO 179/1eU
Charpy impact strength, -30°C	**N**	kJ/m²	ISO 179/1eU
Charpy notched impact strength, +23°C	**9**	kJ/m²	ISO 179/1eA
Type of failure	**C**	-	-
Charpy notched impact strength, -30°C	**8**	kJ/m²	ISO 179/1eA
Type of failure	**C**	-	-

Thermal properties	**Value**	**Unit**	**Test Standard**
Melting temperature	**340**	°C	ISO 11357-1/-3
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	**340**	°C	ASTM D 3418

Physical properties	**Value**	**Unit**	**Test Standard**
Density	**1300**	kg/m³	ISO 1183
Moisture content	**0.29**	Gew.-%	ISO 15512
Density	**1300**	kg/m³	ASTM D 792

Burning Behav.	**Value**	**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	**2**	mm	-
Glow Wire Ignition Temperature (GWIT)	**850**	°C	IEC 60695-2-13
GWIT - thickness tested	**2**	mm	-

Electrical properties	Value	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	**16**	kV/mm	Sim. to IEC 60243-1
CTI, test solution A, 50 drops value	**200**	-	IEC 60112
CTI, test solution A, 100 drops value	**175**	-	IEC 60112
Assessment of the insulation group	**III a**	-	DIN EN 60664-1

Rheological properties	Value	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	Value	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

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