Product Information

VESTAKEEP® 4000 P

UNREINFORCED, HIGH-VISCOSITY POLYETHER ETHER KETONE POWDER



VESTAKEEP® 4000 P is an unreinforced, high-viscosity polyether ether ketone powder. The product is suitable for the manufacture of compounds or it can be used as scatter-powder for the manufacture of composites.

The semi-crystalline polymer features superior thermal and chemical resistance. VESTAKEEP® 4000 P is of low flammability.

VESTAKEEP® 4000 P is supplied as powder in 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 the values.

For information about processing of VESTAKEEP® 4000 P, please follow the general recommendations in our brochure "VESTAKEEP® High Performance in Powder Form Polyether Ether Ketone Powders".

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

Mechanical properties ISO	Value	Unit	Test Standard
Tensile modulus	**3600**	MPa	ISO 527
Tensile strength	**93**	MPa	ISO 527
Yield stress	**93**	MPa	ISO 527
Yield strain	**5**	%	ISO 527
Stress at break	**78**	MPa	ISO 527
Nominal strain at break, εtB	**30**	%	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	**7**	kJ/m²	ISO 179/1eA
Type of failure	**C**	-	-
Charpy notched impact strength, -30°C	**6**	kJ/m²	ISO 179/1eA

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Type of failure	**C**	-	-
Flexural modulus, 23°C	**4100**	MPa	ISO 178
Flexural stress at conv. deflection, 23°C	**130**	MPa	ISO 178
Flexural stress at break, 23°C	**125**	MPa	ISO 178
Flexural strain at break, 23°C	**9**	%	ISO 178

Thermal properties	Value	Unit	Test Standard
Melting temperature	**337**	°C	ISO 11357-1/-3
Glass transition temperature	**152**	°C	ISO 11357-1/-2
Temp. of deflection under load A, 1.80 MPa	**150**	°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

Physical properties	Value	Unit	Test Standard
Density	**1300**	kg/m^3	ISO 1183

Burning Behav.	Value	Unit	Test Standard
Burnin behav. at thickness h	**V-0**	class	IEC 60695-11-10
Thickness tested	**3.2**	mm	-

Optical properties	Value	Unit	Test Standard
Color L	**62**	-	CIE
Color a	**2.53**	-	CIE
Color b	**7.2**	-	CIE

Rheological properties	Value	Unit	Test Standard
Melt volume-flow rate, MVR	**11**	$cm^3/10min$	ISO 1133
Temperature	**380**	°C	-

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Load	**5**	kg	-

Powder properties	Value	Unit	Test Standard
Bulk density, powder	**220**	g/l	EN ISO 60
Particle size, D(50)	**550**	µm	ISO 13320, DIN ISO 8130-13

Test specimen production	Value	Unit	Test Standard
Injection Molding, melt temperature	**380**	°C	ISO 294
Injection Molding, mold temperature	**180**	°C	ISO 294
Injection Molding, injection velocity	**200**	mm/s	ISO 294

Characteristics

Key Features, Industrial Sector
Automotive and Mobility, Aircraft and Aerospace, Industry and Engineering

Key Features, Processing
Press and sintering, Coating

Key Features, Delivery form
Powder

Key Features, Resistance to
Heat (thermal stability), Fire / burn

Applications
Electrical and Electronical

Processing
Scatter coating

Special Characteristics
Semi-crystalline, High viscosity

Color
Natural color

Chemical Resistance
General chemical resistance

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