

Product Information

VESTAKEEP® Easy Slide 2

CARBON FIBER-REINFORCED, WEAR AND FRICTION MODIFIED POLYETHER ETHER KETONE



VESTAKEEP® Easy Slide 2 is a carbon fiber-reinforced, wear and friction modified polyether ether ketone for injection molding.

The semi-crystalline material features superior mechanical, thermal and chemical resistance. Parts made from VESTAKEEP® Easy Slide 2 are flame resistant.

Due to the self-lubricating effect, the VESTAKEEP® Easy Slide 2 can be used as sliding bearings, thrust washers, sealings or other transmission parts.

The properties of the VESTAKEEP® Easy Slide 2 are not based on the addition of per- and polyfluoroalkyl substances (PFAS), a declaration of conformity is available upon request.

The material can be processed on common injection molding machines for thermoplastics.

During the injection molding process a melt temperature between 380 °C and 400 °C is recommended. The mold temperature should be within a range of 160 °C to 200 °C, preferably 180 °C.

VESTAKEEP® Easy Slide 2 is supplied as granules in 25 kg boxes with moisture barrier 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.

Key Features

Industrial Sector

Automotive and Mobility, Industry and Engineering, Energy, Oil and Gas

Resistance to

Wear / abrasion

Processing
Injection molding

Electrical
Conductive, ESD – Electro-Static-Discharge

Delivery form
Pellets, Granules

Additives
Carbon fibers, Mineral fillers

Mechanical properties ISO	dry / cond	Unit	Test Standard
Tensile modulus	13800 / -	MPa	ISO 527
Stress at break	151 / -	MPa	ISO 527
Strain at break, B	1.7 / -	%	ISO 527
Nominal strain at break, tB	2.1 / -	%	ISO 527
Charpy impact strength, +23°C	27.6 / -	kJ/m ²	ISO 179/1eU
Type of failure	C / -	-	-
Charpy impact strength, -30°C	24.5 / -	kJ/m ²	ISO 179/1eU
Type of failure	C / -	-	-
Charpy notched impact strength, +23°C	3.7 / -	kJ/m ²	ISO 179/1eA
Type of failure	C / -	-	-
Charpy notched impact strength, -30°C	3.4 / -	kJ/m ²	ISO 179/1eA
Type of failure	C / -	-	-
Flexural modulus, 23°C	11900 / -	MPa	ISO 178
Flexural strain at flexural strength, 23°C	3.5 / -	%	ISO 178
Flexural stress at break, 23°C	213 / -	MPa	ISO 178
Flexural strain at break, 23°C	2.1 / -	%	ISO 178

Thermal properties	dry / cond	Unit	Test Standard
Melting temperature	342 / *	°C	ISO 11357-1/-3
Glass transition temperature, DSC	161 / *	°C	ISO 11357-1/-2
Glass transition temperature, 2 nd heating, midpoint	148 / *	°C	ISO 11357
Temp. of deflection under load A, 1.80 MPa	297 / *	°C	ISO 75-1/-2
Temp. of deflection under load B, 0.45 MPa	337 / *	°C	ISO 75-1/-2

Vicat softening temperature A, 10 N, 50 K/h	342 / *	°C	ISO 306
Vicat softening temperature B, 50 N, 50 K/h	331 / *	°C	ISO 306
Coeff. of linear therm. expansion, 23°C to 55 °C, parallel	14.5 / *	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, 23°C to 55 °C, normal	40.5 / *	E-6/K	ISO 11359-1/-2

Physical properties	dry / cond	Unit	Test Standard
Density	1550 / -	kg/m ³	ISO 1183
Water absorption	0.21 / *	%	Sim. to ISO 62
Shore D hardness	89 / -	-	ISO 7619-1

Burning Behav.	dry / cond	Unit	Test Standard
Oxygen index	50 / *	%	ISO 4589-1/-2

Electrical properties	dry / cond	Unit	Test Standard
Volume resistivity, V	280000 / -	Ohm*m	IEC 62631-3-1
Surface resistivity, D	1.65E5 / -	Ohm per square	IEC 62631-3-2

Rheological properties	dry / cond	Unit	Test Standard
Melt volume-flow rate, MVR	58.2 / *	cm ³ /10min	ISO 1133
Temperature	400 / *	°C	-
Load	21.6 / *	kg	-
Molding shrinkage, parallel	0.3 / *	%	ISO 294-4, 2577
Molding shrinkage, normal	0.6 / *	%	ISO 294-4, 2577
Mold temperature	180 / *	°C	-
Melt temperature	380 / *	°C	-
Melt viscosity, at 100 1/s	1330 / *	Pa s	-
Temperature	400 / *	°C	-
Flow length, flow spiral	245	mm	Evonik standard
Flow front velocity, flow spiral	950	mm/s	Evonik standard

Flow cross section	6 x 3	mm ²	Evonik standard
Mold temperature, flow spiral	180	°C	Evonik standard
Melt temperature, flow spiral	400	°C	Evonik standard
Injection pressure, flow spiral	1000	bar	Evonik standard

Characteristics

Special Characteristics

PTFE-free

Features

Low coefficient of friction, Increased abrasion resistance

Color

Black

Additives

Inorganic fillers

Delivery form

Cylindrical pellets

Chemical Resistance

Oil resistance

Processing Recommendation Injection Molding	dry	Unit	Test Standard
Melt temperature	380	°C	-
Mold temperature	180	°C	-
Feed temperature	50	°C	-
Zone 1	370	°C	-
Zone 2	380	°C	-
Zone 3	380	°C	-
Zone 4	380	°C	-
Zone 5	375	°C	-
Nozzle temperature	375	°C	-
Circumferential speed	200	mm/s	-
Back pressure	5	MPa	-
Holding pressure	120	MPa	-