

Product Texts

Carbon fiber-reinforced, graphite and PTFE-filled polyether ether ketone

VESTAKEEP® 2000 FC30 is a medium-viscosity, carbon fiber-reinforced, graphite and PTFE filled polyether ether ketone for injection molding.

The semi-crystalline polymer features superior mechanical, thermal, and chemical resistance. Parts made from VESTAKEEP® 2000 FC30 are of low flammability.

Parts made of this resin can be used for bearing bushing or gearbox parts, due to the self-lubricating effect.

VESTAKEEP® 2000 FC30 can be processed by common injection-molding machines for thermoplastics.

We recommend a melt temperature between 370°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. If temperatures exceed 380°C, toxic gases can be released. Adequate ventilation and protective equipment must be provided.

VESTAKEEP® 2000 FC30 is supplied as cylindrical pellets in 25 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.

For information about processing of VESTAKEEP® 2000 FC30, please follow the general recommendations in our brochure "VESTAKEEP® PEEK Processing Guidelines".

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

Processing/Physical Characteristics	Value	Unit	Test Standard
ISO Data			
^[C] Melt volume-flow rate, MVR	20	cm ³ /10min	ISO 1133
Temperature	380	°C	-
Load	5	kg	-
^[C] Molding shrinkage, parallel	0.1	%	ISO 294-4, 2577
^[C] Molding shrinkage, normal	0.4	%	ISO 294-4, 2577

[C]: CAMPUS

Mechanical properties	Value	Unit	Test Standard
ISO Data			
^[C] Tensile Modulus	12600	MPa	ISO 527
^[C] Stress at break	150	MPa	ISO 527
^[C] Strain at break	2	%	ISO 527
^[C] Charpy impact strength, +23°C	40	kJ/m ²	ISO 179/1eU
^[C] Type of failure	C	-	-
^[C] Charpy impact strength, -30°C	40	kJ/m ²	ISO 179/1eU
^[C] Type of failure	C	-	-
^[C] Charpy notched impact strength, +23°C	6	kJ/m ²	ISO 179/1eA
^[C] Type of failure	C	-	-
^[C] Charpy notched impact strength, -30°C	5	kJ/m ²	ISO 179/1eA
^[C] Type of failure	C	-	-

[C]: CAMPUS

Thermal properties	Value	Unit	Test Standard
ISO Data			
^[C] Melting temperature, 10°C/min	340	°C	ISO 11357-1/-3

VESTAKEEP® 2000 FC30

(PEEK+PTFE)-(CF+CD)20

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^[C] Temp. of deflection under load, 1.80 MPa	320	°C	ISO 75-1/-2
^[C] Temp. of deflection under load, 0.45 MPa	337	°C	ISO 75-1/-2
^[C] Vicat softening temperature, B	335	°C	ISO 306
^[C] Coeff. of linear therm. expansion, parallel	20	E-6/K	ISO 11359-1/-2
^[C] Burning Behav. at 1.5 mm nom. thickn. Thickness tested	V-0 1.6	class mm	IEC 60695-11-10 -
^[C] Oxygen index	44	%	ISO 4589-1/-2

[C]: CAMPUS

Electrical properties	Value	Unit	Test Standard
ISO Data			
^[C] Relative permittivity, 100Hz	5.9	-	IEC 62631-2-1
^[C] Relative permittivity, 1MHz	4.9	-	IEC 62631-2-1
^[C] Dissipation factor, 100Hz	700	E-4	IEC 62631-2-1
^[C] Dissipation factor, 1MHz	200	E-4	IEC 62631-2-1
^[C] Volume resistivity	100000	Ohm*m	IEC 62631-3-1
^[C] Surface resistivity	1000000	Ohm	IEC 62631-3-2

[C]: CAMPUS

Other properties	Value	Unit	Test Standard
^[C] Water absorption	0.4	%	Sim. to ISO 62
^[C] Density	1450	kg/m ³	ISO 1183

[C]: CAMPUS

Test specimen production	Value	Unit	Test Standard
ISO Data			
^[C] 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
Injection Molding, pressure at hold	120	MPa	ISO 294

[C]: CAMPUS

Characteristics**Processing**

Injection Molding

Chemical Resistance

General Chemical Resistance

Delivery form

Pellets