

Product Information

VESTAKEEP® 2000 FC30

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

The semi-crystalline polymer features superior mechanical, thermal, and chemical resistance. Parts made from VESTAKEEP 2000 FC30 are self-extinguishing.

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. If temperatures exceed 380°C, toxic gases can be released. Adequate ventilation and protective equipment must be provided.

The mold temperature should be within a range of 160°C to 200°C, preferably 180°C.

VESTAKEEP 2000 FC30 is supplied as cylindrical pellets in 25 kg boxes with moisture-proof polyethylene liners.

For information about processing of VESTAKEEP 2000 FC30, please follow the general recommendations in our brochure "VESTAKEEP Polyether Ether Ketone."

For further information, please contact us at evonik-hp@evonik-com.

Property	Test method		Unit	VESTAKEEP 2000 FC30	
	international	national			
Density	23°C	ISO 1183	DIN EN ISO 1183	g/cm ³	1.45
Tensile test		ISO 527-1	DIN EN ISO 527-1		
Tensile strength		ISO 527-2	DIN EN ISO 527-2	MPa	145
Strain at break				%	2
Tensile modulus		ISO 527-1	DIN EN ISO 527-1	MPa	11500
		ISO 527-2	DIN EN ISO 527-2		
CHARPY impact strength		ISO 179/1eU	DIN EN ISO 179/1eU		
	23°C			kJ/m ²	40 C ¹⁾
	-30°C			kJ/m ²	40 C ¹⁾
CHARPY notched impact strength		ISO 179/1eA	DIN EN ISO 179/1eA		
	23°C			kJ/m ²	6 C ¹⁾
	-30°C			kJ/m ²	5 C ¹⁾
Temperature of deflection under load		ISO 75-1	DIN EN ISO 75-1		
		ISO 75-2	DIN EN ISO 75-2		
Method A	1.8 MPa			°C	320
Method B	0.45 MPa			°C	337
Vicat softening temperature		ISO 306	DIN EN ISO 306		
Method A	10 N			°C	340
Method B	50 N			°C	335
Linear thermal expansion		ISO 11359	DIN 53752		
longitudinal	23-55°C			10 ⁻⁴ K ⁻¹	0.2
Relative permittivity		IEC 60250	DIN VDE 0303-T4		
	50 Hz				6.1
	1 MHz				4.9
Volume resistivity		IEC 60093	DIN IEC 60093	Ohm · cm	10 ⁷
Surface resistance		IEC 60093	DIN IEC 60093	Ohm	10 ⁵
Melting range		ISO 11357			
DSC	2 nd heating			°C	approx. 340
Melt volume-flow rate (MVR)		ISO 1133	DIN EN ISO 1133		
	380°C/5kg			cm ³ /10 min	15
Flammability acc. UL94		IEC 60695	UL94		
	1.6 mm				V-0
Glow wire test		IEC 60695-2-	DIN EN 60695-2-		
GWIT	2 mm	12/13	12/13	°C	900
GWFI	2 mm			°C	960
Mold shrinkage		determined on 2 mm sheets			
in flow direction		with film gate at rim		%	0.1
in transverse direction		mold temperature 180°C, ISO 294-4		%	0.4

Pigmentation may affect values.

¹⁾ C = Complete break, incl. hinge break H

® = registered trademark

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