# VESTAKEEP® 2000 FC30

#### Polyetheretherketone

#### **Evonik Industries AG**

#### Message:

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

VESTAKEEP 2000 FC30 is a medium-viscosity, carbon fiber-reinforced, graphite and PTFEfilled

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.

Filler / Reinforcement  Carbon Fiber  Graphite Fiber  Additive  PTFE Lubricant  Features  Good Chemical Resistance Medium Viscosity Self Extinguishing Self Lubricating Semi Crystalline  Uses  Bearings Bushings Gears  Forms  Pellets  Processing Method  Injection Molding  Physical  Additive  PTFE Lubricant  Graphite Fiber  Medium Viscosity Semi Crystalline  Medium Viscosity Self Extinguishing Semi Crystalline  Uses  Uses  Uses  Unit  Test Medium Viscosity  Test Medium Viscosity Semi Crystalline  Unit  Test Medium Viscosity  Unit  Test Medium Viscosity  Test Medium Visco	
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Physical Nominal Value Unit Test N	
	lethod
Density 1.45 g/cm³ ISO 11	83
Melt Volume-Flow Rate (MVR) (380°C/5.0	
kg) 15.0 cm³/10min ISO 11	
Molding Shrinkage <sup>1</sup> ISO 29	44-4
Across Flow: 180°C, 2.00 mm 0.40 %	
Flow: 180°C, 2.00 mm 0.10 %	
Mechanical Nominal Value Unit Test N	1ethod
Tensile Modulus 11500 MPa ISO 52	.7-2
Tensile Stress (Break) 145 MPa ISO 52	
Tensile Strain (Break) 2.0 % ISO 52	27-2
Impact Nominal Value Unit Test N	

Charpy Notched Impact Strength			ISO 179/1eA
-30°C, Complete Break	5.0	kJ/m²	
23°C, Complete Break	6.0	kJ/m²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-30°C, Complete Break	40	kJ/m²	
23°C, Complete Break	40	kJ/m²	
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
0.45 MPa, Unannealed	337	°C	ISO 75-2/B
1.8 MPa, Unannealed	320	°C	ISO 75-2/A
Vicat Softening Temperature			
	340	°C	ISO 306/A
	335	°C	ISO 306/B
Melting Temperature <sup>2</sup>	340	°C	ISO 11357-3
CLTE - Flow (23 to 55°C)	2.0E-5	cm/cm/°C	ISO 11359-2
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	1.0E+5	ohms	IEC 60093
Volume Resistivity	1.0E+7	ohms·cm	IEC 60093
Relative Permittivity			IEC 60250
50 Hz	6.10		
1 MHz	4.90		
Flammability	Nominal Value	Unit	Test Method
Flame Rating (1.60 mm)	V-0		UL 94
Glow Wire Flammability Index (2.00 mm)	960	°C	IEC 60695-2-12
Glow Wire Ignition Temperature (2.00 mm)	900	°C	IEC 60695-2-13
Injection	Nominal Value	Unit	
Processing (Melt) Temp	370 to 380	°C	
Mold Temperature	160 to 200	°C	
NOTE			
1.	determined on 2 mm sheets with film gate at rim mold temperature 180°C		
2.	2nd heating		
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### Recommended distributors for this material

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