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.

General Information			
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	**Nominal Value**	**Unit**	**Test Method**
Density	1.45	g/cm³	ISO 1183
Melt Volume-Flow Rate (MVR) (380°C/5.0 kg)	15.0	cm³/10min	ISO 1133
Molding Shrinkage [1]			ISO 294-4
Across Flow : 180°C, 2.00 mm	0.40	%	
Flow : 180°C, 2.00 mm	0.10	%	
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus	11500	MPa	ISO 527-2
Tensile Stress (Break)	145	MPa	ISO 527-2
Tensile Strain (Break)	2.0	%	ISO 527-2
Impact	**Nominal Value**	**Unit**	**Test Method**

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 [2]	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		

Recommended distributors for this material

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