

Product technical instructions

Product brand: Piocreat_PEEK-CF 9676 BK

Material No.: D3305120003

Polyetheretherketone

Physical properties		Test standards	Sample type	PEEK-CF
Densities		ISO 1183-3		1.34g/cm ³
water absorption	23°C/24h	ISO 62	MPTS ISO 3167 A	<0.1%
Melt mass flow rate (MFR)	380°C/10kg	ISO 1133	pellet	16g/10 min
Melt volume flow rate (MVR)	380°C/10kg	ISO 1133	pellet	14cm ³ /10 min
linear shrinkage			MPTS ISO 3167 A	0.1-0.5%
Mechanical properties tested at 23°C/50% rh	dry, @50 mm/min	DIN 16742		
Tensile Strength	dry, @50 mm/min	ISO 527	MPTS ISO 3167 A	145MPa
Tensile elongation (at maximum force value)	dry, @1 mm/min	ISO 527	MPTS ISO 3167 A	3.4%
Tensile modulus	dry	ISO 527	MPTS ISO 3167 A	10GPa
Simply supported beam impact strength	dry	ISO 179 1eU	80x10x4mm	90kJ/m ²
Simply supported beam impact strength	dry		80x10x4mm	90kJ/m ²
Notched impact strength of simply supported beams	dry	ISO 179 1eA	80x10x4mm	12kJ/m ²
Thermal properties				
Heat distortion temperature	HDT A	ISO75	molded sample	280°C
Continuous use temperature	20.000 h	IEC 60216	MPTS ISO 3167 A	250°C
Operating temperature	during lifetime max. 200h		MPTS ISO 3167 A	280°C
Electrical properties				
Strip electrode insulation resistance	R25	DIN IEC 60167	MPTS ISO 3167 A	<109Ω
surface resistance	ROB	DIN IEC 60093	Ronde 60x4mm	<109Ω

Main features

Components subject to dynamic stress. Parts resistant to chemical corrosion and hydrolysis, non-flammable. Inherently flame retardant.

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Suggested machining parameters

Overview		
<p>3D printing parameters may vary on different machines. The following settings can be used for reference: nozzle temperature: 450-520°C/nozzle material: wear-resistant material/printing hot bed temperature: >50°C/layer thickness: >0.2mm/printing speed 40-60mm/s. Processing recommendations are for reference only. Given the huge differences in conditions such as machines, part shapes and volumes, printing for specific applications may require different parameter settings. Please contact us for more information.</p>		
Pre-drying		
<p>It is recommended to pre-dry the pellets before processing using suitable drying equipment. Pellets may absorb moisture from the environment.</p>		
Dryer type	temperature (°C)	Drying time (hours)
Dehumidification dryer	150	3-6
Vacuum dryer	120	6-8
Processing parameters		
Rear section of barrel	°C	360 - 370
Middle section of barrel	°C	380 - 390
Front section of barrel	°C	390 - 400
Cum mouth	°C	360 - 380
Melt temperature	°C	390
<p>Processing can usually be carried out on conventional extruders, subject to general technical guidelines. All fiber and filler additives have the potential to cause equipment wear. Therefore, for the processing of reinforced modified thermoplastic materials, the barrel, screw, and die usually require wear protection. Please avoid molten material remaining in the barrel for a long time. Please lower the temperature when production is interrupted!</p>		
Supply form and storage		
<p>Unless otherwise noted, this material will be delivered in sealed bags of 3mm pellets. It is recommended to store it indoors at room temperature and dry.</p>		
Additional Information		
<p>Wire produced from this material can be rolled into standard size coils.</p>		

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