

Product technical instructions

Product brand: Piocreat_PAHT-CF 9742 BK

Material No.: D3305120001

High temperature polyamide

Physical properties	Test standards	Sample type	PAHT-CF
Densities	ISO 1183-3		1.25g/cm ³
Water absorption rate	23°C/24h	ISO 62	MPTS ISO 3167 A <0.3%
Linear shrinkage		DIN 16742	MPTS ISO 3167 A 0.00-0.1%
Mechanical behavior			
Tensile Strength	dry, @50 mm/min	ISO 527	MPTS ISO 3167 A 170MPa
Tensile elongation (at maximum force value)	dry, @50 mm/min	ISO 527	MPTS ISO 3167 A 1%
Tensile modulus	dry, @1 mm/min	ISO 527	MPTS ISO 3167 A 15GPa
Simply supported beam impact strength	dry	ISO 179 1eU	80x10x4mm 47kJ/m ²
Thermal properties			
Heat distortion temperature	HDT A	ISO 75	molded sample 200°C
Continuous use temperature	20.000 h	IEC 60216	MPTS ISO 3167 A 150°C
Operating temperature	during lifetime max. 200h		MPTS ISO 3167 A 180°C
Thermal expansion coefficient		ISO 11359	10x8x4 mm 0.4 10 ⁻⁵ /K
Thermal conductivity (in-plane)	hot disk	ISO 22007	60x60x3 mm 1W/mK
Electrical properties			
Stripelectrode insulation resistance	R25	DIN IEC 60167	MPTS ISO 3167 A <10 ² Ω
surface resistance	ROB	DIN IEC 60093	Ronde 60x4mm <10 ² Ω

Main features

Easy to print. No warping. High z-axis strength.

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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: 265-290°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	130	6-8
Vacuum dryer	120	4-6
Processing parameters		
Rear section of barrel	°C	260-300
Middle section of barrel	°C	260-300
Front section of barrel	°C	260-300
Cum mouth	°C	250-290
Melt temperature	°C	280
<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.</p>		
<p>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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