

Data Sheet

KIMYA PEKK CARBON 3D FILAMENT

Rigid, heat-resistant and CF reinforced filament for FFF 3D Printers

DESCRIPTION

Kimya PEKK Carbon is a high-performance 3D printing filament made from polyetherketoneketone (PEKK), a member of the polyaryletherketone family, and reinforced with carbon fibre. This advanced thermoplastic offers exceptional rigidity, thermal resistance, and chemical durability, making it suitable for the most demanding environments. Its resistance to acids, hydrocarbons, fuels, and lubricants makes it ideal for producing components in engine compartments or chemical processing systems. Kimya PEKK Carbon is designed for critical industrial applications where strength, stability, and resistance are essential.

BENEFITS

- Temperature Resistance.
- Chemical Resistance.
- Exceptionally High Mechanical Strength.

TECHNICAL DATA

Properties	Values	Test Methods
Diameter	1.75 ± 0.1 mm	INS-6712
Density	1.21 g/cm ³ (0.044 lb/in ³)	ISO 1183-1
Moisture Rate	< 0.5 %	INS-6711
Melt flow index (MFI)	21 g/10 min	ISO 1133-1(@380°C-5kg)
Glass transition temperature (Tg)	164°C (327°F)	ISO 11357-1 DSC (10°C/min-20-420°C)
Melting Temperature (Tm)	338°C (640°F)	ISO 11357-1 DSC (10°C/min-20-420°C)
Properties	Values	Test Methods
Tensile Modulus	6,815 MPa (988 ksi)	ISO 527-2/1A/50
Tensile Strength	102 MPa (14.8 ksi)	ISO 527-2/1A/50
Tensile Strain at Strength	3.5 %	ISO 527-2/1A/50
Tensile Stress at Break	102 MPa (14.8 ksi)	ISO 527-2/1A/50
Tensile Strain at Break (type A)	3.5 %	ISO 527-2/1A/50
Flexural Modulus	5,396 MPa (782.6 ksi)	ISO 178
Deformation at Flexural Strain	3.4 %	ISO 178
Flexural Strength*	156 MPa (22.6 ksi)	ISO 178
Flexural Stress at Break	156 MPa (22.6 ksi)	ISO 178
Deformation at Flexural Strength	4.4 %	ISO 178
Flexural Stress at Conventional Deflection (3.5% Strain)*	152 MPa (22 ksi)	ISO 178
Charpy Impact Resistance	5.9 kJ/m ² (2.805 ft-lbs/in ²)	ISO 179-1/1eA
Shore Hardness	82 D	ISO 868

PROCESSING

Printing Direction	XY
Printing Speed	45-55 mm/s
Nozzle Temperature	370°C - 380°C (698°F - 716°F)
Bed Temperature	155°C - 165°C (311°F - 329°F)
Chamber Temperature	150°C - 160°C (302°F - 320°F)

NOTES

- *According to ISO 178, end of the test at 5% deformation even if there is no specimen break.
- The data should be considered as indicative values - Properties can be influenced by production conditions.

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Catalogue position : [KIMYA Filaments for Additive Manufacture](#)

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