

# Technical data sheet – 3D Filament

## PEKK CF (Carbon Fibre Filled)

Polyether Ketone Ketone (PEKK- CF) is an Ultra High performance thermoplastic Carbon Fiber reinforced Polyether Ketone Ketone suitable for aerospace, oil & gas and automotive, Industrial applications. Its medium flow grade with lower melting temperature but processing relatively at high Tg – 160C. The Lower melting point allows ease of processing at lower temperatures (320C to 350C)

This is semicrystalline polymer s with a glass transition temperature (Tg) of 160 °C and performs in continuous use up to 250 °C. This inherently flame retardant plastic has UL94 VO. The out gassing properties are excellent. Our PEKK CF Filament has unique properties because it does not come into contact with water during the production process and is directly packaged in a vacuum packaging. These properties make the Filament particularly suitable for usage in FDM and FFF 3D printers. The material has an excellent adhesion between layers which results in great improvement of the impact resistance, strength, durability and the printing process.

### FILAMENT PROPERTIES

PROPERTIES	TEST METHODS	UNITS	Typical Values PEKK A CF
Diameter	INS-6712	mm	1.75 ± 0.05
Specific gravity	ASTMD 792	g/cm3	1.35
Water absorption	ASTMD 570	%	0.1
MFI(@360°C – 5 kg)	ASTMD 1238	g/10min	12 to 20
Glass transition Tg	ISO 11357	°C	160
Melting temperature Tm		°C	310
Appearance	Visually		Black
	<b>TEST METHOD</b>	<b>UNITS</b>	<b>PEKK CF</b>
Tensile Strength	ASTMD 638	Mpa	150 -175
Tensile Elongation	ASTMD 638	%	2.5 -3
Tensile Modulus	ASTMD 638	GPa	2.5-3.0
Flexural Strength	ASTMD 790	MPa	230 -250
Flexural Modulus	ASTMD 790	GPa	10 -13
Heat Distortion Temp. 0.45 Mpa	ASTMD 648	°C	200
Continuous Service Temp.	UL 746B	°C	250
Flammability Behaviour	UL	Rating	(V-0) @1.5mm

PRINT RECOMMANDATION	PEKK CF INNO
Nozzle Temp	370 °C
Bed Temp	130 °C
Print Speed	25 to 30 mm/sec
Nozzle	0.4 mm/
Infill	100 % +/- 45
Bed Adhesion	PEI

Disclaimer: The testing has been done in house so we extend no warranties what so ever, expressed or implied, including but not limited to, any implied fitness for any particular purpose. From the moment the product is shipped it is beyond our control. The information in this document is believed to be correct at the time of writing. However, handling, processing, settings, the type of 3D printer, slicing and other variables are completely up to the user. The method through which the product is used can be varied. It is up for the customer to determine how it is 3D printed and whether it is fit for purpose or suited to a particular application.



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