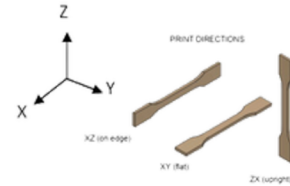# KRATIR PET CF

Material class: Polyethylene Terephthalate / Carbon Fiber

High Strength & Excellent Dimension Stability

- High speed: 16 mm³/s (150mm/s)
- Can be used in high temperature applications
- Low creep

Property	Method	Units	Value XZ** (on edge)	Value ZX** (upright)
Mechanical properties				
Tensile Modulus	ISO 527 Type 1BA	MPa	9600	3200
Tensile Strength at yield	ISO 527 Type 1BA	MPa	no yield	no yield
Tensile Strength at break	ISO 527 Type 1BA	MPa	146	36
Elongation at yield	ISO 527 Type 1BA	%	no yield	no yield
Elongation at break	ISO 527 Type 1BA	%	2.8	1.3
Flexural Modulus	ISO 178	Mpa	7700	1700
Flexural Stress at break	ISO 178	Mpa	138	27
Flexural Strain at break	ISO 178	%	2.8	1.7
Impact Strength	ISO 180	J/m		
Impact Strength	ISO 180	kJ/m2		

** XZ/ZX Bars cut out of 3D printed plates on edge and in Z direction printed according to guidelines

Tectonic³ᴰ

Property	Method	Units	Value
Thermal properties			
Glass transition temperature (Tg)	ISO 11357-1	°C	
Melting temperature	ISO 11357-3	°C	250
Vicat softening temperature	ISO 306/B50	°C	
Temp. of deflection under load (1.80 Mpa)*	ISO 75-1/-2	°C	205
Temp of deflection under load (0.45 Mpa)*	ISO 75-1/-2	°C	
Physical properties			
Filament diameter (+/- 0.05 mm)		mm	1.75/2.85
Density	ISO 1183-1	g/cm3	1.40
Humidity absorption (70 °C, 62% r.H.)*	ISO1110	%	0.3
Water absorption (23 °C saturated)*	ISO 62	%	0.8

* Injection moulding data

Recommended processing conditions

Nozzle temperature	Recommended 275 °C (260 °C - 280 °C)
Bed temperature	Recommended 100 °C (90 °C - 110 °C)
Chamber temperature	Recommended 80 °C (50 °C - 90 °C)
Bed material	(Textured) PEI Sheet, Glass, Carbon Fiber Plate
Adhesion promoter	Magigoo HT
Nozzle diameter	≥ 0.6mm, hardened steel nozzle
Print speed	Recommended: 80 mm/s (50-150 mm/s)
Max. volumetric speed (high speed)	16 mm³/s (150mm/s)
Drying instructions filament	80 °C for 8-12 hours