Tectonic 3D

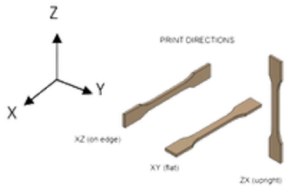
Technical data sheet

KRATIR PP CF

Material class: Polypropylene / Carbon Fiber

High Strength & Light Weight & ESD Safe

- High speed: 27 mm³/s (250mm/s)
- Low density: 1.07
- Very high strength



Property	Method	Units	Value XZ** (on edge)	Value ZX** (upright)
Mechanical properties				
Tensile Modulus	ISO 527 Type 1BA	MPa	13100	1470
Tensile Strength at yield	ISO 527 Type 1BA	MPa	no yield	no yield
Tensile Strength at break	ISO 527 Type 1BA	MPa	81.8	17.4
Elongation at yield	ISO 527 Type 1BA	%	no yield	no yield
Elongation at break	ISO 527 Type 1BA	%	2.9	3.2
Flexural Modulus	ISO 178	Mpa	10300	1040
Flexural Stress at break	ISO 178	Mpa	111	23.5
Flexural Strain at break	ISO 178	%	2.5	4.6
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

Property	Method	Units	Value
Thermal properties			
Glass transition temperature (Tg)	ISO 11357-1	°C	
Melting temperature	ISO 11357-3	°C	165
Vicat softening temperature	ISO 306/B50	°C	
Temp. of deflection under load (1.80 Mpa)*	ISO 75-1/-2	°C	150
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	1.07
Humidity absorption (70 °C, 62% r.H.)*	ISO1110	%	
Water absorption (23 °C saturated)*	ISO 62	%	

* Injection moulding data

Recommended processing conditions

Nozzle temperature	Recommended 260 °C (240 °C - 270 °C)
Bed temperature	Recommended 60 °C (60 °C - 80 °C)
Chamber temperature	Recommended 50 °C (ambient temperature possible)
Bed material	(Textured) PEI Sheet, Glass, Carbon Fiber Plate
Adhesion promoter	Magigoo PP or Magigoo PP GF
Nozzle diameter	≥ 0.6mm, hardened steel nozzle
Print speed	Recommended: 100 mm/s (100-250 mm/s)
Max. volumetric speed (high speed)	27 mm^3/s (250mm/s)
Drying instructions filament	60 °C for 6-8 hours