Technical Data Sheet

Essentium PA-CF

Description:

Essentium PA-CF is a carbon fiber-infused polyamide filament specially formulated for additive manufacturing. Essentium PA-CF provides exceptional strength, durability, thermal stability, and stiffness that is customary of carbon fiber materials. Essentium PA-CF is readily printable with a wide processing window, providing a highly accessible engineering-grade solution or open platform and even open-air printers. It is important to note, the mechanical properties of PA may change with water uptake as this material is moisture sensitive. The best prints with Essentium PA typically occur utilizing a glass bed and a bed adhesion solution, such as a PA-solvent liquid compound.

Metric	Method	Molded Properties	3D Printing Properties XY	YX	ZX
Tensile Strength, MPa	ASTM D638	111	119	63	58
Tensile Modulus, MPa	ASTM D638	6560	3448	2016	1879
Strain at Break, %	ASTM D638	7.4	6.9	5.8	4.7
Heat Deflection Temperature, °C	ASTM D648	178			
Melting Point Temperature, °C	ASTM D3418	192			

Recommended Print Settings:	
Extrusion Temperature, °C	265 - 300
Bed Temperature, °C	85 - 100
Enclosure Temperature, °C	Room Temperature
Bed Adhesion Method	Glass Bed with PVA
Print Speed, mm/s	30 - 60