IEMAI®
3D printing solutions for high performance materials

CF-PLA Technical Data Sheet (TDS)

CF-PLA is an improved Carbon fiber reinforced filament. Compare to the normal PLA, it is an ideal choice for user that wants a part with high modulus, excellent surface quality, dimension stability and lightweight.

IEMAI 3D high performance CF-PLA filament is based on FFF/FDM technology, with a commonly used diameter of 1.75 mm, 190-220ºC printing temperature, 0-60 ºC bed temperature, having excellent interlayer adhesion which greatly improve the strength and shock resistance of the prototype.

Physical Properties	Standard	Unit	Typical Value
Density	ISO 1183	g/cc	1.29

Mechanical Properties	Standard	Unit	Typical Value
Tensile Strength, Break	ISO 527	MPa	48
Tensile Modulus	ISO 527	MPa	4950
Tensile Elongation, Break	ISO 527	%	2
Flexural Strength	ISO 178	MPa	89
Flexural Modulus	ISO 178	MPa	6320

Thermal Properties	Standard	Unit	Typical Value
Glass Transition Temperature (Tg)	DSC	℃	60
Deflection Temperature at 0.45 MPa (66psi)	ISO 75	℃	91

Electrical Property	Standard	Unit	Typical Value
Surface Resistance	ASTM D257	Ω/sq	$>10^9$

Print Recommendation	
Nozzle Temperature	190 -220 ºC
Bed Temperature	0-60 ºC
Print Speed	30-70 mm/s
Chamber Temperature	0-40 ℃
Cooling Fan	50-100%