3D printing solutions for high performance materials

CF-ABS Technical Data Sheet (TDS)

CF-ABS is an improved Carbon fiber reinforced filament. Compare to the normal ABS, 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-ABS filament is based on FFF/FDM technology, with a commonly used diameter of 1.75 mm, 220-240ºC printing temperature, 100-110 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	1.10

Mechanical Properties	Standard	Unit	Typical Value
Tensile Strength, Break	ISO 527	MPa	48
Tensile Modulus	ISO 527	MPa	5200
Tensile Elongation, Break	ISO 527	%	3
Flexural Strength	ISO 178	MPa	78
Flexural Modulus	ISO 178	MPa	5280

Thermal Properties	Standard	Unit	Typical Value
Glass Transition Temperature (Tg)	DSC	℃	105
Deflection Temperature at 0.45 MPa (66psi)	ISO 75	℃	78

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

Print Recommendation	
Nozzle Temperature	220 -240 ºC
Bed Temperature	100-110 ºC
Print Speed	30-60 mm/s
Chamber Temperature	50-70 ℃
Cooling Fan	100%