

COMPOSITE CARBON FIBER (CCF) AND COMPOSITE BASALT FIBER (CBF)

CCF 1.5K

Effective diameter, mm	VF, %	Elastic modulus, GPa	Tensile strength, MPa
0.35 ± 0.01	60	145	2206

CBF

Effective diameter, mm	VF, %	Elastic modulus, GPa	Tensile strength, MPa
0.28 ± 0.01	60	54	1557

In CFC technology composite fibers are molten with polymer matrix in the printing head and extruded through a single nozzle forming a shape. The resulting reinforced part has properties that are superior to pure plastic. Exact properties depend upon the geometry of the part and printing parameters. Below are reference values for CCF and CBF with PETG polymer matrix.

PLASTIC REINFORCED WITH ANISOPRINT COMPOSITE FIBER

PARAMETER	PETG + CCF 1.5K	PETG + CBF
Density, g/cm ³	1.4	1.7
Tensile modulus in fiber direction, GPa	64	22
Poisson ratio 21	0.36	0.34
Tensile ultimate stress in fiber direction, GPa	860	600
Tensile elongation in fiber direction, %	1.3	2.8
Compressive modulus in fiber direction, GPa	-	20
Compressive ultimate stress in fiber direction, MPa	290	195
Compressive elongation in fiber direction, %	-	1.2
Flexural Strength, MPa	520	-

NOTE:

The test data was obtained applying standard and nonstandard specific test methods. All the test results are preliminary but not final and should be considered as reference. The data cannot be used for design and analysis of certain parts. Anisoprint provides no warranties on the use of this data.