

CFC PETG

Technical Data Sheet (Ver. 2.1,
last updated: February, 2022)

CFC PETG is a material developed by REC for use in CFC (continuous fiber coextrusion) process with Anisoprint Composer A4/A3. High strength characteristics of the composite is achieved by better binding of fiber layers and load distribution between them due to PETG high interlayer strength.

CFC PETG+CCF – 3D printed composite based on PETG plastic reinforced with continuous carbon fibers.

CFC PETG +CBF – 3D printed composite based on PETG plastic reinforced with continuous basalt fibers.

Composite Mechanical Properties*	Test method	PETG + CCF	PETG + CBF
Tensile Strength along printing paths (MPa)	ASTM D3039	774.4 ± 27. 1	604.1 ± 16.9
Tensile Modulus along printing paths (GPa)	ASTM D3039	56.6 ± 0.4	22.6 ± 0.3
Tensile Strain at Break along printing paths (%)	ASTM D3039	1.3 ± 0.02	2.8 ± 0.09
Poisson ratio 21	ASTM D3039	0.4 ± 0.02	0.34 ± 0.01
Compressive Strength along printing paths (MPa)	ASTM D6641	237.4 ± 4.2	195.1 ± 23.0
Compressive Modulus along printing paths (GPa)	ASTM D6641	49.0±2.4	20.0 ± 1.9
Compressive Strain at Break along printing paths (%)	ASTM D6641	0.52 ± 0.02	1.18 ± 0.11

* Printing conditions and orientation of specimens are shown in NOTE

CFC PETG

Technical Data Sheet (Ver. 2.1,
last updated: February, 2022)

NOTE!

The properties in this datasheet are based on the tests of unidirectional composite specimens with the direction of the fibers along the length (0° Plies). Test specimen schematic shape with fiber layup and orientation on build plate is shown in Figure 3.

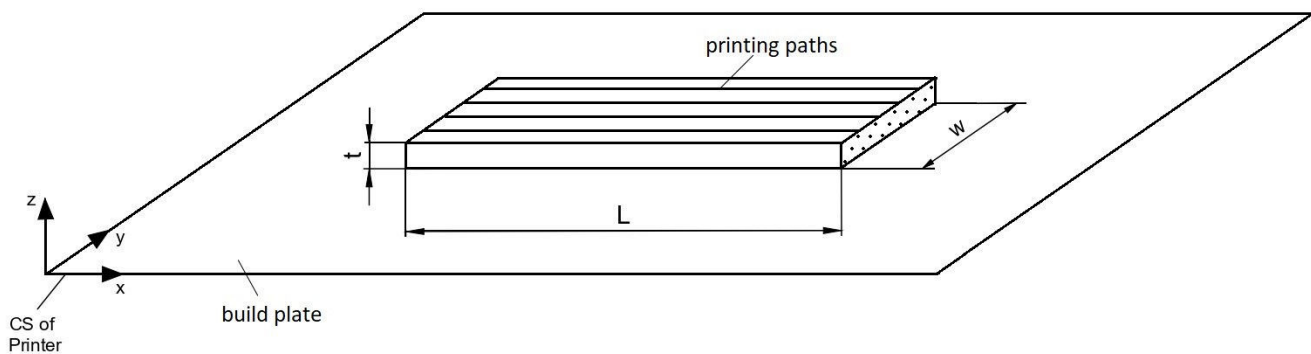


Figure 3. Specimen schematic shape with fiber layup and orientation the build plate

Printing conditions

- Tensile specimen:
- Printing Temperature – 240 °C
- Printing speed – 3 mm/s
- Dimensions – 250 (Length) x 15 (Width) x 2 (thickness) mm

Compressive specimen:

- Printing Temperature – 240 °C
- Printing speed – 3 mm/s
- Dimensions – 140 (Length) x 12 (Width) x 4(thickness) mm

Disclaimer

Tests specimens are designed to maximize test performance. 3D printed specimens have 100% infill with unidirectional fiber. To learn more about specific testing conditions contact an Anisoprint representative. All customer parts should be tested according to customer specifications.

The values presented in this datasheet are intended for reference and comparison purposes only. They should not be used for design specifications or quality control purposes. Actual values may vary significantly with printing conditions.

End-use performance of printed parts depends not only on materials, but also on part design, environmental conditions, printing conditions, etc. Product specifications are subject to change without notice.