

## Poly lactide Carbon Fiber 10% (PLA CF10)

### General

PLA CF10 is a blend of polylactide with 10% carbon fibers. This combination gives the filament special properties. The addition of carbon fiber greatly improves the mechanical strength and stiffness of the PLA filament, resulting in more robust and durable 3D printed parts. Carbon fiber-reinforced PLA filaments are more robust than pure PLA filaments, making them ideal for applications where mechanical strength is a concern, such as in model making or functional prototypes. The heat deflection temperature also increases significantly due to the fiber content.

The surface of 3D printed parts made of PLA with carbon fibers often has a matte, textured look that is visually appealing and unique.

PLA with carbon fibers is easy to process in a similar way to conventional PLA, but requires a hardened nozzle to counteract increased wear.

These filaments are ideal for projects that require high mechanical demands and at the same time a special look.

#### advantageous

- high strength and stiffness
- Aesthetic appearance
- Higher heat deflection stability
- structured, matt look
- Easy processing

#### disadvantageous

- increased wear of the print nozzle

### Processing Data

#### Printing temperature

190-230 °C

#### Heatbed temperature

50-70°C

#### Drying temperature

60°C

#### Drying time

2-4h

### Specifications

Shrinkage	-	%
MFR (ASTM D1238)	5.2	g/10min
Yield Stress (ASTM D638)	56	Mpa
Yield Elongation (ASTM D638)	9	%
Elongation at Break (ASTM D638)	9	%
Tensile modulus (ASTM D790)	2570	Mpa
Dimensional Temperature 0.45 MPa (ASTM D468)	130	°C
Vicat Softening Temperature B50	-	°C
Thermal conductivity 23°C	-	W/(K*m)
Flammability (UL 94)	HB	
Density (ASTM D792)	1.282	g/cm3