

Nanovia ABS CF :

Carbon fiber reinforced

Reinforced with carbon fibres, Nanovia ABS CF is a versatile 3D printing FFF filament adapted for the creation of outdoor components. This rigid material is able to withstand temperatures of up to 100 °C, offers a superior mechanical resistance and good UV resistance thanks to its carbon fibre composition. The carbon fibres facilitate 3D printing by reducing ABS's warping phenomenon.

Advantages

- Increased mechanical & thermal resistance compared to native ABS
- Low warping
- Good bed adhesion
- Thermal resistance

Application recommendations

Storage

- Store in airtight container with desiccant, out of direct sunlight.
- Dehydrate for 4h at 60°C prior to printing after prolonged exposure to humidity.

Printing

- A reinforced nozzle, suitable for abrasive materials is recommended.

Post treatment

- For an outdoor usage, we recommend that you paint your print or submit them to an anti UV treatment, such as our Nanovia smoothing solution. ABS is sensitive to UV radiation.

Properties

3D Printing

Extrusion temperature	240 – 260 °C
Plate temperature	100 – 110 °C
Enclosure temperature	90 °C
Nozzle (minimum)	0.5 mm
Printing speed	20 – 60 mm/s
Diameter	1.75 & 2.85 mm +/- 50 µm
Colour	Black

Mechanical properties

Physical

Density	1.05 g/cm ³	ISO 1183
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Tensile

Test performed at 1mm/min on 3D printed test specimens at 0°, along with the tension stress.

Young's modulus	3200 MPa	ISO 527-2/1A
Ultimate strength	32 MPa	ISO 527-2/1A
Elongation ultimate strength	1.4 %	ISO 527-2/1A



Health and safety

Printing

- We recommend printing Nanovia ABS CF in a room equipped with air extraction or by using appropriate breathing equipment. Whilst printing ABS produces a VOC derivative of styrene.

Post treatment

- We recommend wearing standard safety equipment during the post treatment of your prints made with Nanovia ABS CF.

Certifications

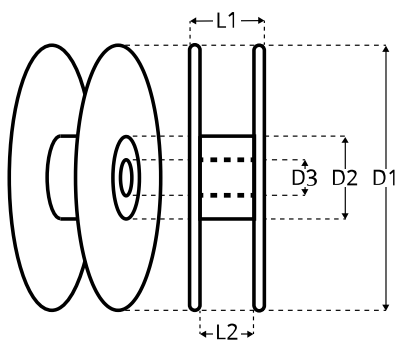
- RoHS certification Nanovia ABS CF :



Links

- Ultimaker Cura slicer material profile : [Download](#)

Packaging



Vacuum packed spools, with desicant, packed in individual boxes with engraved serial number.

Other formats available on demand.

Spool	L1	L2	D1	D2	D3	Weight
500g	53	46	200	90	52	182 g
2kg	92	89	300	175	52	668 g

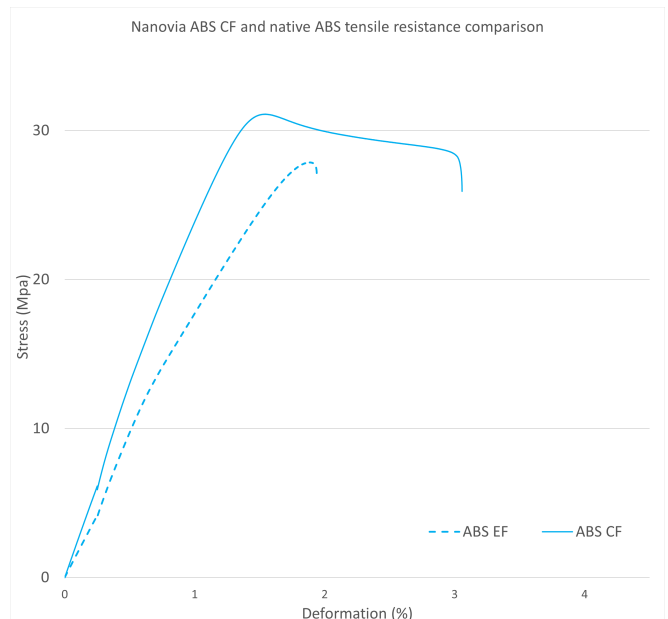
www.nanovia.tech/ref/abs-cf

Test performed at 1mm/min on 3D printed test specimens successively at 45° and -45° per layer.

Young's modulus	2700 MPa	ISO 527-2/1A
Ultimate strength	29 MPa	ISO 527-2/1A
Elongation ultimate strength	1.5 %	ISO 527-2/1A

Test performed at 1mm/min on 3D printed test specimens at 90°, oposite to the tension stress.

Young's modulus	2300 MPa	ISO 527-2/1A
Ultimate strength	23 MPa	ISO 527-2/1A
Elongation ultimate strength	1.7 %	ISO 527-2/1A



Impact

Charpy (notched)	16.05 kJ/m ²
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Thermal properties

Tg	110 °C
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last updated : 08/03/2023