

# Nanovia PP CF :

## Carbon fiber reinforced

Thanks to polypropylene's close to zero water absorption rate, high chemical resistance, low density, and a native UV, Nanovia PP CF is ideal for light components exposed to the elements which require a high dimensional stability such as nautical equipment and mechanical automotive parts.

### Advantages

- Very low water absorption rate
- Good chemical resistance
- UV resistant
- Rigid



### Properties

#### 3D Printing

Extrusion temperature	235 – 255 °C	
Plate temperature	80 – 100 °C	(adhesive recommended)
Enclosure temperature	20 °C	
Nozzle (minimal)	0.5 mm	
Diameter	1.75 & 2.85 mm	+/- 50 µm
Colour	Black	

#### Mechanical properties

##### Physical

Density	1.00 g/cm <sup>3</sup>	ISO 1183
Water absorption	< 1 %	after 24h of submersion
Hardness	61 Shore D	

##### Tensile

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

Young's modulus	5385 MPa	ISO 527-2/1A
Ultimate strength	29 MPa	ISO 527-2/1A
Elongation ultimate strength	3.3 %	ISO 527-2/1A



## 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.
- In the case of bed adhesion issues, it's recommended to either use a "raft" or a polypropylene bed. The latter can be achieved by applying polypropylene film/tape to the printer bed. In order for the film/tape to not unstick, a lower bed temperature is recommended.

## Health and safety

### Printing

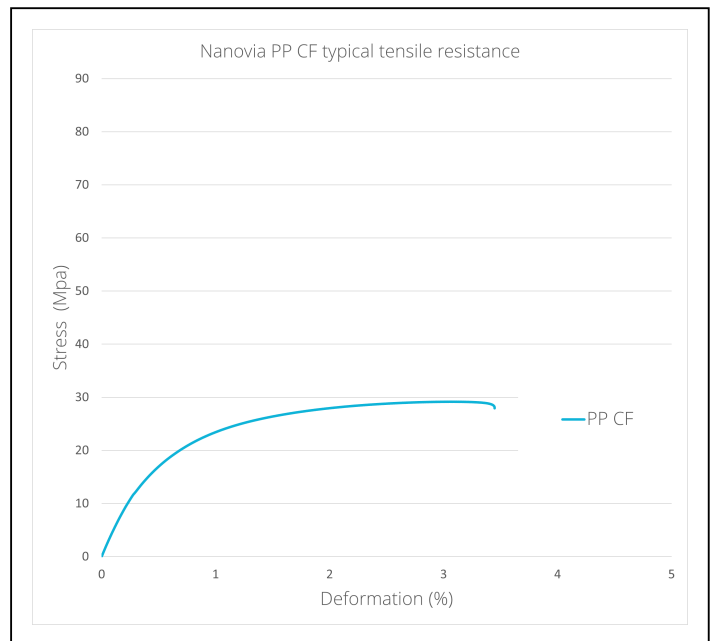
- We recommend printing Nanovia PP CF in a room equipped with air extraction or by using appropriate breathing equipment.

### Post treatment

- Standard PPE recommended (dust mask, gloves)

### Certifications

- Nanovia PP CF RoHS Certification :



### Impact

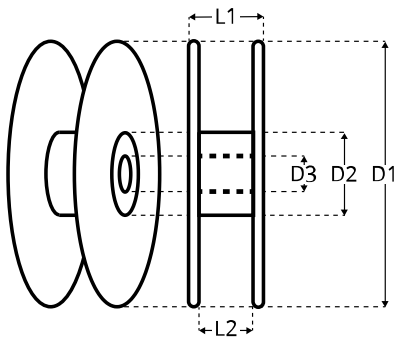
Charpy (notched)	3.5 kJ/m <sup>2</sup>	ISO 179-1eA at 23 °C
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### Thermal properties

HDT B (0.45 MPa)	88 °C	ISO 75-2
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## Packaging

Vacuum packed spools, with desiccant, 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/pp-cf](http://www.nanovia.tech/ref/pp-cf)

