nanovia | COMPOSITE MATERIALS *for* ADVANCED INDUSTRIALS

Nanovia PC-PTFE :

Low friction

Nanovia PC-PTFE is a technical 3D printing material that combines the tribological features of PTFE with the toughness of polycarbonate. This FFF filament has been specifically designed for mechanical parts under high and repetitive friction in demanding environments. Components made using Nanovia PC-PTFE can be used at up to 130 °C.

Advantages

- Very low friction index
- Ideal for mechanical pieces
- Better water resistance compared to native PC

Conseils d'utilisation

Storage

- Store in airtight container with desiccant, out of direct sunlight.
- Dehydrate for 4h at 80°C prior to printing after prolonged exposure to humidity.

Printing

- An ABS raft can allow for a better bed adhesion

Properties

3D Printing

Extrusion temperature	270 – 290	°C	
Plate temperature	110 – 130	°C	(Required adhesive)
Enclosure temperature	> 90	°C	
Nozzle (minimal)	All		
Printing Speed	20 – 70	mm/s	
Diameter	1.75 & 2.85	mm	+/- 50 µm
Colour	White		

Mechanical properties

Density	1.26	g/cm^3	ISO 1183

Tensile

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

Young's modulus	1775	MPa	ISO 527-2/1A
Ultimate strength	38	MPa	ISO 527-2/1A
Elongation ultimate strength	4.4	%	ISO 527-2/1A

Health and safety

Printing

- Do not extrude at temperatures above 330°C, risk of VOC creation.
- We recommend printing Nanovia PC-PTFE in a room equipped with air extraction or by using appropriate breathing equipment.

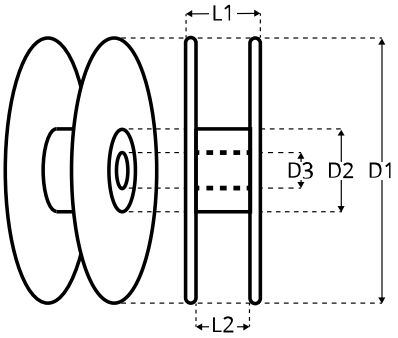
Post treatment

- Standard PPE recommended (dust mask, gloves)

Certifications

- Certification RoHS Nanovia PC-PTFE :

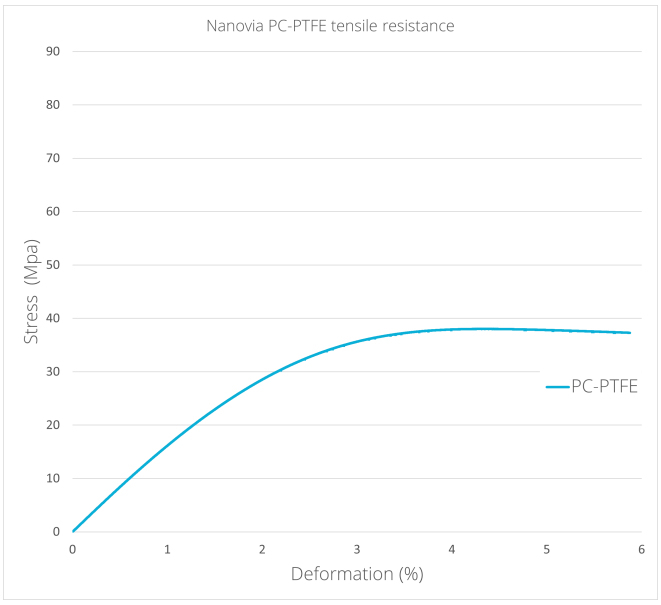
Packaging



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



Impact

Charpy	50	kJ/m^2	ISO 179-1eU
Charpy (notched)	12	kJ/m^2	ISO 179-1eA

Tribological properties

Usage factor	4.10-7	mm^3/Nm	ASTM D3702
Static friction coef.	0.18		ASTM D1894
Dynamic friction coef.	0.14		ASTM D1894

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www.nanovia.tech/ref/pc-ptfe