



COMPOSITE MATERIALS *for*
ADVANCED INDUSTRIALS

Nanovia PEI Ultem 1010 : High thermal resistance

The Nanovia PEI filament, based on Ultem 1010 plastics, allows for high heat resistance and thermal stability. Nanovia PEI is resistant to autoclave operation, sterilisation cycles, and adapted for tooling able to resist high temperatures.



Advantages

- Operational temperature up to 200 °C
- High thermal stability
- Suited for tooling
- Adapted for autoclave sterilization
- Gamma ray resistant
- Solvent resistant
- Shock resistant

Application recommendations

Storage

- Store in airtight container with desiccant, out of direct sunlight.
- Dehydrate for 6 h at 100 °C prior to printing after prolonged exposure to humidity.

Properties

3D Printing

Extrusion temperature	370 – 390 °C	
Plate temperature	120 – 160 °C	
Enclosure temperature	> 120 °C	
Nozzle (minimal)	All	
Printing Speed	20 – 60 mm/s	
Diameter	1.75 & 2.85 mm	+/- 50 µm
Colour	Native (Yellow)	

Mechanical properties

Physique

Density	1.27 g/cm ³	ISO 1183
Water absorption (24h)	1.25 %	ISO 62

Tensile

Young modulus	3200 MPa	ISO 527
Ultimate strength	105 MPa	ISO 527
Elongation at break	60 %	ISO 527

Flexural

Young modulus	3300 MPa	ISO 527
Ultimate strength	160 MPa	ISO 527

Health and safety

Printing

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

Post traitement

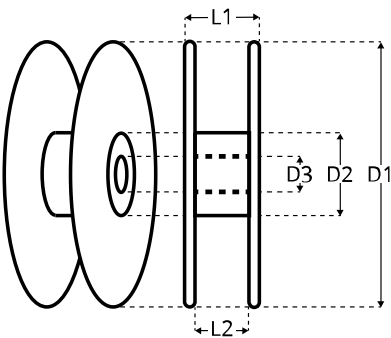
- Standard PPE recommended (dust mask, gloves)

Certifications

- Certification RoHS Nanovia PEI :



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

Izod (notched)	5 kJ/m ²	ISO 180/1A
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Thermal properties

HDT B (0,45 MPa)	200 °C	ISO 75/Be
Flammability	V0 1.5 mm	UL-94

Electrical properties

Volume resistivity	1.E+15 Ohm-cm	IEC 60093
Dielectric strength	33 kV/mm (oil, 0.8 mm)	IEC 60243-1
Relative permittivity	2.9 (1 MHz)	IEC 60250
	2.9 (50/60 Hz)	IEC 60250
Dissipation factor	0.0005 (50/60 Hz)	IEC 60250
	0.006 (1 MHz)	IEC 60250
	0.0025 (2450 MHz)	IEC 60250

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