nanovia | COMPOSITE MATERIALS *for* ADVANCED INDUSTRIALS

Nanovia ABS ESD :

Anti static discharge

Nanovia ABS ESD, with its conductive carbon enriched matrix, discharges static electricity generated by friction or by electrical components. Its functional temperature of up to 100 °C makes it particularly suited for the protection of electronics that can heat up, such as mother boards.

Advantages

- ESD resistant from -30 up to +100 °C
- Anti-static

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.

Post treatment

- To preserve the fillament's ESD properties, pieces should not be covered using insulating paints.

Properties

3D Printing

Extrusion temperature	250 – 280	°C	
Plate temperature	100 – 110	°C	
Enclosure temperature	90	°C	
Nozzle (minimal)	0.5		
Printing Speed	20 – 60	mm/s	
Diameter	1.75 & 2.85	mm	+/- 50 µm
Colour	Black		

Mechanical properties

Physical

Density	1,10	g/cm^3	ISO 1183
Hardness	77	Shore D	

Tensile

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

Young's modulus	1660	MPa	ISO 527-2/1A
Ultimate strength	22	MPa	ISO 527-2/1A
Elongation ultimate strength	2.4	%	ISO 527-2/1A

Health and safety

Printing

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

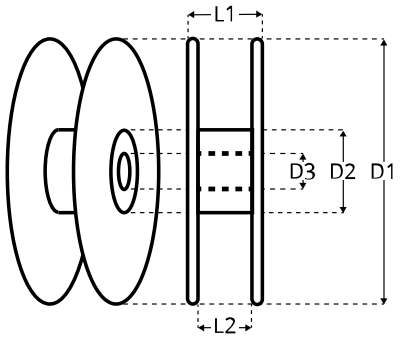
Post treatment

- Standard PPE recommended (dust mask, gloves)

Certifications

- RoHS certification Nanovia ABS ESD :

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

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

Young's modulus	1515	MPa	ISO 527-2/1A
Ultimate strength	17	MPa	ISO 527-2/1A
Elongation ultimate strength	1.6	%	ISO 527-2/1A

Thermal properties

Tg	100	°C	
DTUL	88	°C	at 1.8 MPa

Electrical properties

Electrical resistivity	< 10^5	Ω cm	PRE021
Surface resistance	< 10^6	Ω	IEC

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www.nanovia.tech/ref/abs-esd