

PLA ESD

MATERIAL PROPERTIES

Physical

Specific Gravity	1.16 g/cm ³	D 792
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Mechanical Properties

Tensile Strength at Break	53 MPa	D 882
Tensile Yield Strength	60 MPa	D 882
Tensile Modulus	3.5 GPa	D 882
Tensile Elongation	6,00%	D 882
Notched Izod Impact	16 J/m	D 256
Heat Distortion Temperature	55°C	E 2092
Glass Transition Temperature	55-60°C	D3418
Flexural Strength	83 MPa	D790
Flexural Modulus	3.8 MPa	D790

Electrical properties

Surface resistivity	10 ⁷ -10 ⁹ Ω/sq	
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GUIDELINE FOR PRINT SETTINGS*

Nozzle temperature	185-230°C
Bed temperature	0-50°C
Recommended printing speed	40-350 mm/s
Cooling	up to 100%
Density	1.16 g/cm ³
Closed chamber for printing	not necessary
Dry box recommended	No
Ruby or hardened nozzle recommended	No
Surface finish	semi-matte
Adhesive	not necessary*

* depending on the geometrical complexity

DESCRIPTION

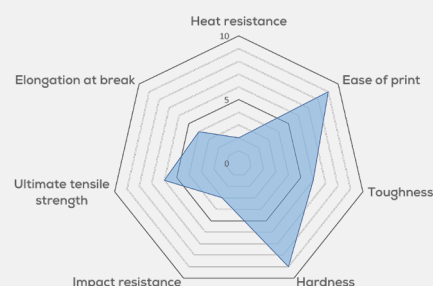
Spectrum PLA ESD is a modern, antistatic 3D printing filament based on a modified PLA biopolymer that provides permanent protection against electrostatic discharge (ESD) and sparking in explosive (EX / ATEX) environments. The filament has been developed for applications where electronic safety, print precision, and ease of use are crucial. Spectrum PLA ESD combines the eco-friendly nature of PLA with protective properties, offering high stiffness, excellent surface quality, and fully predictable printing performance.

FEAUTURES

- Surface resistivity: 10⁷-10⁹ Ω/sq (ESD & EX safety range)
- Permanent, non-migrating antistatic protection
- ESD performance independent of ambient humidity
- Halogen-free, environmentally friendly formulation
- High stiffness and precise surface quality
- Easy printing typical of standard PLA
- Excellent interlayer adhesion and low shrinkage

STORAGE AND SHELF LIFE

Filament should be stored in a dry room at room temperature. Recommended storage temperature is ca. 18-25°C (64.4 -77.0°F). Keep out of moisture, sunlight and direct heat. When stored properly, product has a shelf life of 24 months.



SUPPORT

If you have any questions or experience any issues, please do not hesitate to contact us at support@spectrumfilaments.com