

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

Disclaimer

The product- and technical data provided in this datasheet is correct to the best of Spectrum Group Sp. z o.o. knowledge and are intended for reference and comparison purposes only. They should not be used for design specifications or quality control purposes. Actual values may vary according to printing conditions, model complexity, environmental conditions, etc. The user assumes all responsibility for the use of all information provided and shall verify quality and other properties or any consequence from the use of all such information. Typical values are indicative only and are not to be construed as being binding specifications. Spectrum Group Sp. z o.o. shall not be made liable for any damage, injury or loss induced from the use of Spectrum Group Sp. z o.o. materials in any particular application.

DESCRIPTION

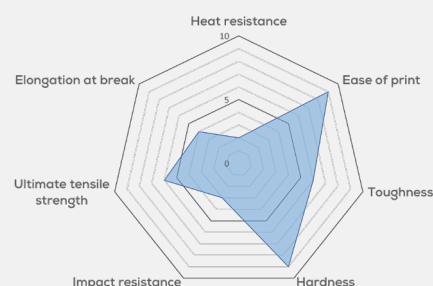
Spectrum PLA ESD is a modern, antistatic 3D printing filament based on a modified PLA biopolymer that provides permanent protection against electrostatic discharge (ESD) and sparking in explosive (EX / ATEX) environments. The filament has been developed for applications where electronic safety, print 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