

PLA Tough

MATERIAL PROPERTIES

Specific Gravity	1.20 g/cm ³	D 792
MFR (210°C, 2.16kg)	9,42 g/10min	D 1238

Mechanical Properties

Tensile Strength	53,2 MPa	D638
Force at Break	43,5 MPa	D638
Elongation at max. force	14,50%	D638
Elongation at Break	15,00%	D638
E-modulus	432,8 MPa	D638
Impact strength	2,09 J/cm ²	ISO 79
Impact energy	875 mJ	ISO 79
Flexural modulus	2493 MPa	ISO 178
Maximum bending stress	71,13 MPa	ISO 178
Deflection	10 mm	ISO 178

Thermal Properties

Heat Distortion Temperature	55°C	E 2092
Glass Transition Temperature	55-60°C	D3418

*3D printed horizontal (XY axis), at 100% infill

GUIDELINE FOR PRINT SETTINGS*

Nozzle temperature	190-230°C
Bed temperature	0-45°C
Active cooling fan	YES (up to 100%)
Layer height**	0.05 - 0.30 mm
Shell thickness**	0.40 - 2.4 mm
Print speed**	40-130 mm/s
Closed chamber	not necessary
Dry box	not necessary
Ruby or hardened nozzle	not necessary

* settings are based on a 0,4 mm nozzle.

** 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

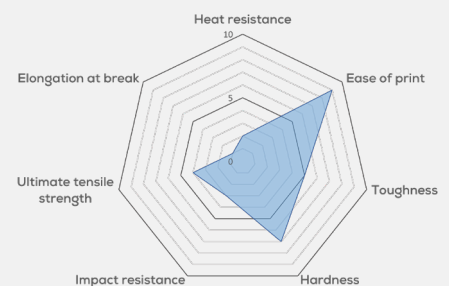
Spectrum PLA Tough is a specially modified PLA-based consumable material for 3D printing. Aimed at improving the properties of the material at the monomer level, the treatment has brought about an enormous range of applications. It is a perfect solution for printing functional components with mechanical properties close to those of ABS, while retaining the simple printing and low shrinkage of PLA.

FEAUTURES

- excellent alternative for styrene-based materials
- more reliable than ABS for large prints
- higher impact resistance of printed items as compared to their equivalents manufactured of ABS
- improved layer adhesion
- more matte surfaces as compared to the unmodified PLA
- more elastic than standard PLA

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