TECHNICAL DATA SHEET

Tough PLA

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Product specifications

Tough PLA is a 3D printer filament that is extremely impact resistant. Tough PLA combines the durability of ABS-like strength properties and is significantly more stiff than ABS filaments.
Impact energy: 875 mJ

Important key features

Superb layer adhesion
Stiff, strong and durable
Compatible with AquaSolve PVA and BVOH for complex multi-extrusion 3D printing

Suitable applications

Tooling and manufacturing aids
Functional prototypes
Snap-fit assemblies

Recommended pretreatment

Drying	Recommended
	30 - 40 °C
	6 h

Print with	
Enclosure	Yes
Dry box	No

Recommended print settings regular speed

Print speed	25 - 130 mm/s
Nozzle temperature	190 - 230 °C
Bed temperature	50 - 60 °C
Fan speed	80 - 100 %

Recommended print settings high speed

Tough PLA is high speed compatible. Our recommended settings will be added once available. Please take note that the nozzle temperature and fan speed need to be raised when printing at high speed.

Material properties	Typical value	Unit of Measure	Test method	Test condition
Density				
Specific gravity	1,2	g/cm3	ASTM D792	
Melt flow rate	9,43	g/10min	ASTM D1238	210°C/2,16kg
Mechanical properties				
Impact strenght	2.09	J/cm2	ISO 79	Charpy notched 23°C
Tensile strenght at yield	53,2	MPa	ASTM D638	
Tensile strenght at break	43,5	MPa	ASTM D638	
Tensile modulus				
Elongation at yield	14,5	%	ASTM D638	
Elongation at break	15	%	ASTM D638	
Flexural strenght				
Flexural modulus	432,8	MPa	ASTM D638	
Rockwell hardness				
Thermal properties				
Melting temperature				
Heat deflection temperature	55	°C	ASTM E2092	HDT A
Vicat softening temperature				
Glass transition temperature	60	°C	ASTM D3418	

Product export information

HS code	Description	Origin
39169090	Monofilament for 3D printing	European Union

Disclaimer

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