

PLA Filament

Polylactic acid · 1.75 mm · 1 kg net

MATERIAL	DIAMETER	NET WEIGHT	REVISION	DOCUMENT
PLA	1.75 mm ± 0.02	1 kg	1.0 · Jun 2026	SPL-TDS-PLA

COMPOSITION & PHYSICAL

Polymer	Polylactic acid (PLA)
CAS number	26100-51-6
Composition	PLA ≥ 98% · colourants & additives ≤ 2%
Density	~1.24 g/cm ³
Appearance	Solid filament, water - insoluble

MECHANICAL PROPERTIES

PROPERTY	TEST STANDARD	TYPICAL VALUE
Young's modulus (XY)	ISO 527 / GB/T 1040	~2300 ± 200 MPa
Young's modulus (Z)	ISO 527 / GB/T 1040	~1800 ± 180 MPa
Tensile strength (XY)	ISO 527 / GB/T 1040	~50 ± 5 MPa
Tensile strength (Z)	ISO 527 / GB/T 1040	~40 ± 3 MPa
Elongation at break	ISO 527 / GB/T 1040	~6% XY / ~3% Z
Flexural modulus	ISO 178 / GB/T 9341	~2000 ± 120 MPa
Flexural strength	ISO 178 / GB/T 9341	~60 ± 4 MPa

THERMAL PROPERTIES

PROPERTY	TEST STANDARD	TYPICAL VALUE
Melt flow rate (MFR)	210 °C, 2.16 kg	~3.0 ± 0.5 g/10 min
Melting temperature	DSC	~210 °C
Glass transition temperature	DSC	~60 °C
Vicat softening temperature	ISO 306	~65 °C

RECOMMENDED PRINT & DRYING SETTINGS

Nozzle temperature	200 – 230 °C
Heated bed temperature	45 – 65 °C
Printing speed	40 – 150 mm/s
Nozzle	Wear-resistant (hardened steel)
Drying	45 – 55 °C for 4 – 6 hours
Storage	Cool, dry, sealed — avoid direct sunlight and moisture

HANDLING & SAFETY

Non-hazardous under normal use. Molten material can cause thermal burns. High-temperature processing generates irritating fumes — ensure adequate ventilation during printing. Avoid excessive heat, open flames and prolonged high-temperature exposure. Incompatible with strong oxidising agents, strong acids and strong alkalis. Refer to the current spool Safety Data Sheet (SDS) for full handling guidance.

COMPLIANCE

ROHS

Compliant with RoHS Directive 2011/65/EU and amendment (EU) 2015/863. Independent testing found Pb, Cd, Hg, Cr(VI), PBBs, PBDEs, DEHP, DBP, BBP and DIBP all **Not Detected** (below method detection limits) — all items Pass. Test report ref. UNIB26031912HR-01, issued 31 Mar 2026.

Values are typical results for guidance only and do not constitute a specification or warranty of any kind. Mechanical and thermal figures are indicative and may vary with print parameters, geometry, environment and test method. Printing, drying, storage and safety guidance is subject to the current spool Safety Data Sheet (SDS). Print settings are starting points — dial in for your printer. Verify suitability for your application before use. © 2026 spool · spool3d.com.au