



TECHNICAL DATA SHEET

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PLA Prime 3D Printer Filament

PLA (polylactide) biopolymer · Product code CX08 · 1.75 mm and 2.85 mm

Base resin: PLA (polylactide) biopolymer

Typical values for the base resin. Printed parts vary with print settings, orientation and moisture content. Maker footnotes: (1) typical properties for injection molded bars; not to be construed as specifications; (4) 3D printed part / 100% in-fill, annealed at 110 °C/15 min. Maker clarity: Opaque (when crystalline). Maker 3D printing temp 190-230 °C, annealing temp 80-130 °C, print bed temp none needed (or 50-70 °C if applicable).

Physical properties

Property	Standard	Unit	Typical value
Specific gravity / density	ASTM D792	g/cc	1.24
Melt flow rate (MFR), 210 °C/2.16 kg	ASTM D1238	g/10 min	7–9
Relative viscosity (1.0 g/dL in chloroform at 30 °C)	ASTM D5225		4.0
Peak melt temperature	ASTM D3418	°C (°F)	165–180 (329–356)

Mechanical properties (crystalline: 3D printed part, 100 % in-fill, annealed at 110 °C/15 min)

Property	Standard	Unit	Typical value
Tensile yield strength	ASTM D638	MPa (psi)	51 (7,440)
Tensile modulus	ASTM D638	MPa (psi)	2,315 (335,790)
Tensile elongation	ASTM D638	%	3.31
Tensile strength	ASTM D638	MPa (psi)	50 (7,290)
Notched Izod impact	ASTM D256	J/m (ft-lb/in)	118 (2.21)

Thermal properties

Property	Standard	Unit	Typical value
Glass transition temperature (Tg)	ASTM D3418	°C (°F)	55–60 (131–140)
Heat distortion temperature @ 66 psi (0.45 MPa), crystalline	ASTM E2092	°C (°F)	80–90 (176–194)

Filament specifications

Diameter	Nominal	Minimum	Maximum	Tolerance
1.75 mm	1.75 mm (0.0689 in)	1.72 mm (0.0677 in)	1.78 mm (0.0701 in)	±0.03 mm (±0.0012 in)
2.85 mm	2.85 mm (0.1122 in)	2.79 mm (0.1098 in)	2.91 mm (0.1146 in)	±0.06 mm (±0.0024 in)

Recommended print settings

Nozzle temperature	220–240 °C
Bed temperature	0–60 °C
Part cooling fan	Up to 100%
Drying	55 °C for 3–6 hours

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