

Engineered to deliver improved heat-resistance and high impact strength to 3D printed parts, this formulated grade achieves thermal and mechanical properties similar to ABS while offering an alternative to styrenic-based materials. PLA Plus provides excellent 3D printing characteristics such as precise detail, good adhesion to build plates, less warping or curling, and low odor.

PHYSICAL PROPERTIES <sup>(1)</sup>	PLA PLUS	ASTM METHOD
Specific Gravity, g/cc	1.22	D792
MFR, g/10 min <sup>(2)</sup>	9-15	D1238
Peak Melt Temperature, °C	165-180	D3418
Glass Transition Temperature, °C	55-60	D3418

(1) Typical properties; not to be construed as specifications.

(2) 210° C/2.16 kg

MECHANICAL PROPERTIES <sup>(3)</sup>	XY AXIS	YX AXIS	ZX AXIS	ASTM METHOD
Tensile Strength, psi (MPa)	5,802 (40)	4,641 (32)	3,481 (24)	D638
Tensile Modulus, kpsi (MPa)	416 (2,865)	355 (2,447)	359 (2,477)	D638
Flexural strength, psi (MPa)	10,588 (73)	7,106 (49)	6,672 (46)	D790
Flexural modulus, kpsi (MPa)	350 (2,414)	287 (1,979)	341 (2,352)	D790
Notched Izod Impact [amorphous], ft-lb/in (J/m)	2.99 (160)	2.26 (21)	2.04 (109)	D256
Notched Izod Impact [crystalline], ft-lb/in (J/m)	4.37 (233)	3.74 (200)	1.19 (64)	D256
Heat Distortion Temperature (°C) 66 psi (0.45 MPa)		75-85		E2092

(3) All 3D printed parts printed at 100% infill and annealed at 110°C/20 min unless otherwise noted.

PROCESSING TEMPERATURE PROFILE <sup>(4)</sup>	ENGLISH	METRIC
Melt Temperature	410°F	210°C
Feed Throat	113°F	45°C
Feed Temp.	355°F	190°C
Compression Section	375°F	200°C
Metering Section	390°F	210°C
Adapter	390°F	210°C
Die	390°F	210°C
Screw Speed	20-150 rpm	
Filament Diameter Inspection (on-line)	Essential for quality monofilament (+/- 3% max. deviation)	
3D Printing Temperature	190-230°C	
Annealing Temperature	110-120°C	
Print Bed Temperature	None needed (or 50-70°C if applicable).	

(4) Starting points only, and may need to be optimized depending on your system.