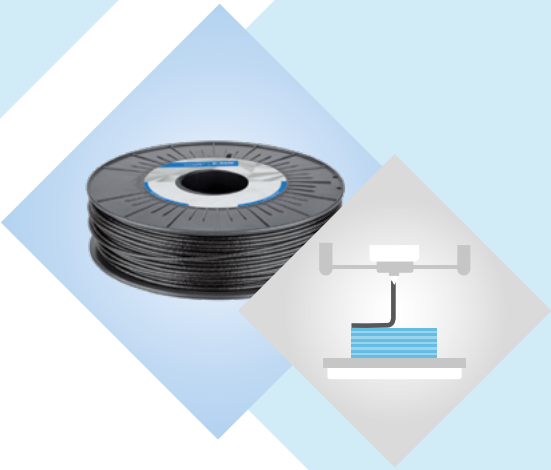
FORWARD AM
Innovating Additive Manufacturing

BASF
We create chemistry



Ultrafuse® PLA PRO1

Speed – Strength – Versatility and Consistency

Ultrafuse® PLA PRO1 is developed as a high-speed engineering thermoplastic that prints as easy as PLA, at speeds previously considered unusable. Yet it retains far better mechanical properties, that even exceed printed ABS objects. Something that the most demanding users have always had to make a compromise on prior to Ultrafuse® PLA PRO1.

By varying the print settings, users can optimize for speed, strength, surface quality or a mix of those qualities beyond performance levels of traditional filaments. When you find yourself in an environment that requires reliable performance print after print, look no further than to increase your productivity with Ultrafuse® PLA PRO1. By cranking up the speed you can save at least 30%* in printing time. To achieve this high speed, we recommend setting your printer in the temperature range of 220°C to 230°C*. Superfast printing may affect surface quality. Ultrafuse® PLA PRO1 has strong layer adhesion which makes prints much stronger, thus increasing functionality.

* Results may differ due to the mechanical properties of the 3D-printer

Benefits at a Glance

- Speed: Reduce your printing time by 30% – 80%, (subject to printer/ object limitations)
- Strength: Excels overall beyond printed ABS in mechanical properties
- Versatility: One filament that can be tuned towards blazing speed and excellent surface finish
- Consistency: Truly consistent filament, also between colors and batches, it will perform as expected, every time

Applications

- Jigs & fixtures
- Prototyping

Material Properties

Tensile strength (MPa)	**21.8 (z-x), 48 (x-y) MPa**
Flexural modulus (MPa)	**2340 (x-z), 2823 (x-y) MPa**
Elongation (break)	**0.9 % (z-x), 21.9 %(x-y)**

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Print Settings

Fast Print Settings (10 Hours)	
Nozzle temperature	220 °C ± 10 °C
Print speed	120 – 150 mm/s
Bed temperature	60 °C or non-heated bed with tape/glue
Fill density	density ≥ 20% (higher = stronger)
Bed modification	No, clean glass
Fan speed	100%
Top/Bottom thickness	1.2 mm (thicker = stronger)
Layer Height	0.1 mm

Strong Settings (26 Hours)	
Nozzle temperature	220 °C ± 10 °C
Print speed	40 – 70 mm/s
Bed temperature	60 °C or non-heated bed with tape/glue
Fill density	density ≥ 20% (higher = stronger)
Bed modification	No, clean glass
Fan speed	0%
Top/Bottom thickness	1.2 mm (thicker = stronger)
Layer Height	≤ 0.06 mm (smaller = stronger)

Aesthetics Settings (26 Hours)	
Nozzle temperature	210 °C ± 10 °C
Print speed	≤ 70 mm/s
Bed temperature	60 °C or non-heated bed with tape/glue
Fill density	density ≥ 20% (higher = stronger)
Bed modification	No, clean glass
Fan speed	100%
Top/Bottom thickness	1.2 mm (thicker = stronger)
Layer Height	0.1 mm (smaller = better)

Speed vs Temperature