



# Technical Document

## RS PRO - PLA PRO+

Stock numbers:

174-0001 / 174-0002 / 174-0003 / 174-0004 / 174-0005 / 174-0006 /  
174-0007 / 174-0008 / 174-0009 / 174-0010 / 174-0011 / 174-0012

EN

PLA PRO+ is our industrial high performance PLA which features extreme performance on speed<sup>1</sup>, mechanical properties<sup>2</sup> and high heat environments<sup>3</sup>. PLA PRO+ is perfect for printing speeds of > 120mm/s, allowing you to be more efficient in the same time. Users who use a lot of ABS now have a bio-based alternative material with all the advantages of ABS and none of the disadvantages like shrinking and delamination. Due to the composition of PLA PRO+ the material is already highly crystalline after printing, which increases the stiffness of the material at higher temperatures. When you combine this with annealing the PLA PRO+ the material reaches an HDT of 95 °C+. Compared to other high temp. resistant PLA types PLA PRO+ has the USP of negligible small shrinkage after annealing (the dimensional accuracy is superb). PLA PRO+ has been specifically engineered for industrial applications where you want an easy to print filament with high mechanical properties. Objects that are printed with PLA PRO+ will have a semi matte finish which not only looks great but helps concealing layer lines.

### Features:

- Prints like PLA, performs like ABS
- Engineered for fast printing (> 120mm/s)
- ABS matching mechanical properties
- Great heat resistance at higher temperatures
- HDT after annealing 95 °C+
- Semi matte finish after printing
- Negligible shrinkage after annealing



Colours: RS PRO - PLA PRO+ is available from stock in six colours

Packaging: RS PRO - PLA PRO+ is available in 1 kg packaging.

Filament specs.		
Size	Ø tolerance	Roundness
1,75mm	± 0,05mm	≥ 95%
2,85mm	± 0,10mm	≥ 95%
Material properties		
Description	Testmethod	Typical value
Specific gravity	ISO 1183	1,27g/cc
MFI 210 °C / 2,16kg	ISO 1133	6 g/10 min*
Tensile strength	ISO 527	40 MPa
Elongation at break	ISO 527	47%
Tensile modulus	ISO 527	4000 MPa
Impact strength - Charpy notched 23 °C	ISO 179	23 kJ/m <sup>2</sup>
Printing temp.	Print lab	230±10 °C based on speed
Melting temp.		205±15 °C
Heat Deflection temp. (B) (after annealing)	ISO 75	95 °C+**

### Additional information:

PLA PRO+ can be printed without a heated bed. If you have a heated bed the recommended temperature is ± 50-60 °C. PLA PRO+ adheres to any print service though we always recommend some adhesive or a print sticker. PLA PRO+ can be used on most common desktop FDM or FFF technology 3D printers. Storage: Cool and dry (15-25 °C) and away from UV light. This enhances the shelf life significantly.

\*Viscosity is lower (higher MFI) at a higher printing temperature (240 °C ±10 °C), which increases the printing speed capabilities.

\*\*These results are preliminary and are based on several tests in a Print Lab. Current values should be considered factual (± 10%).