

Technical Data Sheet

PLA



PLA is a tough, easy to use high grade PLA type of filament, ideal for 3D printing. Slightly modified, the filament retains the typical features of PLA, but makes it tougher and less brittle. Due to a low shrinkage factor PLA will not deform after cooling. Poly Lactic Acid is a biodegradable plastic made from renewable natural resources and one of the most popular materials for 3D printing.

Material features

- Tougher and less brittle compared to regular PLA
- Easy to print at low temperature
- Low warping
- Biodegradable
- Limited smell

Additional information

Due to its low tendency to warp PLA can also be printed without a heated bed.

If you have a heated bed the recommended temperature is $\pm 35-60^{\circ}\text{C}$.

PLA can be used on all common desktop FDM or FFF technology 3D printers.

Storage: Cool and dry ($15-25^{\circ}\text{C}$) and away from UV light. This enhances the shelf life significantly.

Filament specs

| Size | Ø Tolerance | Roundness |
|---------|---------------|-------------|
| 1,75 mm | $\pm 0,05$ mm | $\geq 95\%$ |
| 2,85 mm | $\pm 0,10$ mm | $\geq 95\%$ |

Material properties

| Description | Testmethod | Typical value |
|--|------------|-----------------------------|
| Specific gravity | ISO 1183 | 1,24 g/cc |
| MFR $210^{\circ}\text{C}/2,16$ kg | ISO 1133 | 9,56 gr/10 min |
| Tensile Strength at Yield (MPa) | ISO 527 | 70 MPa |
| Strain at yield | ISO 527 | 5% |
| Strain at break | ISO 527 | 20% |
| E-Modulus | ISO 527 | 3120 MPa |
| Impact strength – Charpy method 23°C | ISO 179 | 3,4 kJ/m ² |
| Moisture absorption | ISO 62 | 1968 ppm |
| Printing temperature | DF | $205\pm 10^{\circ}\text{C}$ |
| Melting temperature | ISO 11357 | $115\pm 35^{\circ}\text{C}$ |
| Vicat softening temperature | ISO 306 | 60°C |
| Glass transition temperature | ISO 11357 | 57°C |