

PLA 3100 Filament

PLA (Polylactic Acid) is a biodegradable, sustainable and food safe polymer made from organic sources. PLA is the most common used filament in FFF (fused filament fabrication) printers for its ease of use and range of applications, especially those not mechanically or thermally demanding. This filament is available in an array of colors and prints on any open platform including Ultimaker S5, Ultimaker 3, Raise3D, Makerbot Method and Taz platforms.

Best application for the Jabil PLA 3100 Filament includes basic jigs, fixtures and tooling with low thermal requirements.

ADVANTAGES

With a diameter tolerance of ± 0.03 mm, Jabil PLA 3100 Filament exceeds the industry standard, resulting in more consistent, better quality prints.

STORAGE AND USE

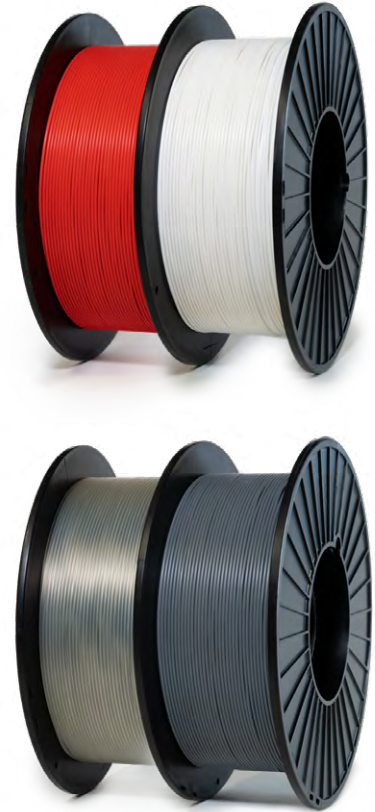
The Jabil PLA 3100 Filament is slightly hygroscopic and is able to absorb and retain small amounts of moisture from the atmosphere improving visual quality and mechanical properties. For the best results, print and store filament in a dry environment. If necessary, dry filament in an oven at up to 75°C (165°F) for 3 to 4 hours.

PROPERTIES

MECHANICAL PROPERTIES¹

| | Test Condition | Typical Value | Method |
|---------------------------------|---------------------|---------------|-------------------|
| Tensile Modulus (MPa) | XY coupons, Ambient | 3240 | ASTM D638, Type I |
| Tensile Elongation at Break (%) | XY coupons, Ambient | 6 | ASTM D638, Type I |
| Ultimate Tensile Strength (MPa) | XY coupons, Ambient | 47 | ASTM D638, Type I |
| Flexural Modulus (MPa) | XY coupons, Ambient | 2850 | ASTM D790 |
| Flexural Strength (MPa) | XY coupons, Ambient | 83 | ASTM D790 |
| Flexural Strain (MPa) | XY coupons, Ambient | >5 | ASTM D790 |
| Izod Impact, Notched (J/m) | XY coupons, Ambient | 31 | ASTM D256 |
| Izod Impact, Un-notched (J/m) | XY coupons, Ambient | 207 | ASTM D256 |

¹Testing conducted on bars printed on an Ultimaker S5 using the Cura marketplace profile. Typical values are for reference only.



THERMAL PROPERTIES

| | Test Condition | Typical Value | Method |
|-----------------------------------|----------------|---------------|--------|
| Heat Deflection Temperature (°C) | 0.455 Mpa | 55 | DMA |
| Glass Transition Temperature (°C) | 20°C/min ramp | 57 | DSC |
| Melt Temperature (°C) | 20°C/min ramp | 155 | DMA |

OTHER PHYSICAL PROPERTIES

| | Test Condition | Typical Value | Method |
|------------------------------|----------------|---------------|-----------|
| Density (g/cm ³) | Ambient | 1.24 | ASTM D792 |

DIMENSIONAL PROPERTIES

| | Test Condition | Typical Value | Method |
|----------------------------------|--------------------------|------------------------|-----------|
| Diameter: Mean, Indiv. Axis (mm) | In-line, 100% inspection | 1.75±0.03 2.85±0.03 | ASTM D792 |

Disclaimer: The information in this technical data sheet, including material properties, are obtained from testing representative samples under carefully controlled conditions and are provided for reference only. Material properties may be impacted by storage, handling, processing equipment/parameters, and product design, among other factors. The information is not a substitute for user testing to determine fitness for any specific use and the user is responsible for ensuring safe and lawful use of the product.

No express or implied warranties are provided and the implied warranties of merchantability or fitness for a particular purpose are expressly disclaimed. No representations are made, and no liability is assumed arising from or relating to the product.