purefil
of Switzerland

# Polylactide (**PLA**)

## General

Polyactide is a polymer that consists of lactic acid molecules, among other things.
A heated bed is advantageous for PLA filament, but not essential.
We recommend using an air cooler when processing PLA filament. Furthermore, PLA is characterized by many times more pleasant odor properties than other plastics during processing.
However, the temperature below which PLA starts to soften is relatively low. Even at high temperatures in summer, PLA parts can deform!
As a starting material, PLA is fundamentally biodegradable under special conditions. However, the final product contains pigments and additives. Because of this, the PLA parts still have to be disposed of in the garbage and not in the garden. This filament meets the compositional requirements of European Regulation No. 10/2011 on plastic materials intended for food contact.

### advantageous

- Ideal material for beginners, less distortion than ABS
- Less flammable than ABS
- Printing directly on glass plate
- Industrially biodegradable
- Doesn't fade

### disadvantageous

- Can become soft again from 60 degrees
- Due to the higher density, it requires approx. 20% more material than ABS for the same component
- Due to its hardness also more brittle and rather brittle

## Processing data

**Printing temperature**
190-230 °C
**Heated bed temperature**
Nicht benötigt, 50 °C empfohlen
**Drying temperature**
60°C
**Drying time**
4h

## Technical specifications

| | | |
|---|---|---|
| **Shrinkage** | - | **%** |
| **MFR (ASTM D1238)** | 6 | g/10min |
| **Yield stress (ASTM D882)** | 60 | MPa |
| **Elongation at yield (ASTM D882)** | 6 | % |
| **Elongation at break (ASTM D882)** | 6 | % |
| **Tensile modulus (ASTM D882)** | 3610 | MPa |
| **Heat deflection temperature 0.45 MPa (ASTM E2092)** | 55 | °C |
| **Vicat softening temperature A** | - | °C |
| **Thermal conductivity 23°C** | - | W/(K*m) |
| **Flammability** | HB | |
| **Density (ASTM D792)** | 1.24 | g/cm$^3$ |

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