

Datasheet

PLA Filament

Polylactic Acid (PLA) is a biodegradable plastic derived from renewable organic resources (corn starch or sugarcane).

Key properties

- Colourless
- Melting temperature between 170 and 230°C
- Particularly suitable for use in FDM and FFF 3D printers
- According EC no. 1935/2004, EC no. 2023/2006 and EC no. 10/2011

Measurements & Tolerances

Diameter	Tolerance	Roundness
1,75 mm Filament	+/- 0,05 mm	99%
2,85 mm Filament	+/- 0,07 mm	99%

Moisture content	< 0,05%
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Technical information

PLA is recyclable but can also be biological decomposed in composting plants. Polylactic acid is a polyester that is built from several lactic acid units. It is colourless and transparent. PLA has a density of about 1.25 g/cm³. The glass temperature is typically around 50°C and it has a melting temperature between 170 and 230°C. The decomposing temperature is roughly 250°C. Polymers made of lactic acid are flammable.

Our PLA Filament has unique properties because it does not come into contact with water during the production process and is directly packaged in a vacuum packaging. These properties make the PLA Filament particularly suitable for use in FDM and FFF 3D printers. The material has an excellent adhesion between layers which results in great improvement of the impact resistance, strength, durability and the printing process.

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Physical properties

Description	Value	Test method
Density	1,24 g/cm ³	D 1505

Mechanical properties

Description	Value	Test method
Tensile Strength	110 Mpa	D 882
Tensile Modulus	3300 Mpa	D 882
Impact strength Notched Izod	19 KJ/m ²	D 882
Spencer Impact	2,5 joules	Spencer

Printer settings

Description	Value
Printer neus temperatuur	170 – 220°C
Verwarmend bed temperatuur	35 – 60°C

Our PLA Filament meets the European regulations EC No. 1935/2004, EC No. 2023/2006 and EC No. 10/2011 concerning plastic materials and articles coming into contact with food. The colorants used by 3D4MAKERS to colour the Filament also meet these European regulations

To get the best results while printing we advise you to keep the 3D printer in a room where there is hardly any draft and/or temperature fluctuations. Keep the 3D printer out of the sun. This cannot be a room where people sleep.

When the 3D printer is not being used it is important to keep the PLA Filament in a bag and stored in a cool, dry and dark place until it is used again.

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Safety information

REGULATION (EC) No. 1272/2008. According to EC regulations this product is not classified as hazardous. Classification according to EU-directive 67/548/EEC or 1999/45/EC. According to EC criteria this product is not classified as hazardous.

Composition and information on the components

This product is a mixture.

CAS No./EG No./Index	REACH Number	Quantity	Components	Classification Regulation (EC) No. 1272/2008
CAS-Nr. 9051-89-2 EG-Nr. Polymeer	-----	98 – 100 %	Lactic acid Lactide	Not classified

Legally Obligated Information

1 Specific safety, health and environmental regulations and legislation for the substance or mixture.
European inventory of existing commercial chemical substances (EINECS)

The components of this mixture are either included in the EINECS list or exempt.

2 Chemical safety assessment: Does not apply

RoHS (Restriction of Hazardous Substances) and REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals). The PLA Filament meets the European RoHS and REACH guidelines.

Environmental information

Plastic waste can damage the environment. 3D misprints must be separated with plastic waste together with the Filament reel. We are developing a return system for 3D misprints and the Filament reel.

Together we can protect the environment!