

PLA Datasheet



Overview

Designed for versatile prototyping and functional parts, PLA filament is a perfect material for hobbyists, educators, and engineers creating concept models, architectural mock-ups, and display pieces.

As-printed Part's Tolerance: $\pm 300\mu\text{m}$ or 0.3%

Maximum Printing Size: 256*256*256mm

Infill Options: 15%, 30%, 50%, 65%, 85%, 100%

Color Options: 40+

Properties

The sample parts were printed in a horizontal orientation with a 100% linear infill.

Rheological Properties	Metric	Test Standard
Melt Flow Rate (MFR)	6-12	ISO 1133
Thermal Properties	Metric	Test Standard
Heat Deflection Temperature (HDT)	57	ISO 75
Vicat Softening Temperature (VST)	57	ISO 306
Density Properties	Metric	Test Standard
Density	1.23-1.25 g/cm ³	ISO 1183
Mechanical Properties	Metric	Test Standard
Tensile Strength	36-42MPa	ISO 527
Elongation at Break	10-15%	ISO 527
Flexural Properties	Metric	Test Standard
Flexural Modulus	2700-3000MPa	ISO 178
Impact Properties	Metric	Test Standard
Impact Strength	25-30 KJ/m ²	ISO 179
Notch Impact Strength	4-8 KJ/m ²	ISO 179

Pros

With consistent extrusion and strong layer adhesion, FDM printed PLA delivers precise, stiff parts with crisp details that's easy to sand or paint. Its low warp tendency and biodegradable, odor-free composition also make it an excellent choice for desktop prototyping and educational environments.

Cons

PLA prints can soften or deform when exposed to temperatures above 60 °C, making them unsuitable for high-heat applications. Its hygroscopic nature also causes the filament to absorb moisture from the air.

Applications

Concept Prototypes

Architectural Scale Models

Educational Tools

Decorative Items

Cosplay props, masks, and costume accessories

Customized Consumer Goods

Holiday Decorations

DIY Household Fixtures