ENGINEERING DATA SHEET

DSM 3.3.2

Polylactic Acid (PLA)
3D Printer Filament

General:

Polylactic Acid (PLA) is the most common material used in 3D printing. It can be printed easily with almost all Fused Deposition Modelling (FDM) machines. PLA does not require a heated bed or chamber, cools rapidly and has little thermal expansion. This makes it ideal for accurate rapid prototyping.
PLA is usually produced from plant-based sugars making it sustainable and biodegradable. However, it has poorer durability and flexibility than many other FDM polymers.

Benefits:

- Plant based and Biodegradable
- Low cost
- Readily available
- Easy to print intricate parts at high print speed

Limitations:

- Poor resistance to heat, sunlight and water.
- Less flexible or impact resistant than PETG or ABS

ASMPT Applications:

- 3D printed tooling and jigs

Colours:

- Colours can be specified in part drawings. For example, **DSM 3.3.2_Black**

These values are representative and vary considerably between suppliers and print settings. For critical applications, refer to datasheet.

Mechanical Properties (FDM Test Specimen)					
	HARDNESS SHORE D	TENSILE STRENGTH	YOUNGS MODULUS:	IMPACT RESISTANCE	DENSITY
PLA	85-95	40-50 MPA (XY) 30 MPa (Z)	2.35 GPa	4 kJ/m^2	1240 kg/m^3

Alternatives:

Alternative polymers are allowed only with the express written permission of ASMPT. Please email details of your request to engineering_enquiries@asmpt.com