

Data Sheet: PLA

(Polylactic Acid)

Details

This polymer is derived from renewable sources and is biodegradable. It can easily be melted and shaped without losing its mechanical properties. It has a melting point of 130°C. Its mechanical properties lie between those of polystyrene and PET. However, its low glass transition temperature makes it unsuitable for use in holding hot liquid. It is commonly used in plastic films, bottles and medical devices.

Key Features

Low glass transition temperature

Thermal Properties

Property	Value
Heat deflection [°C]	49
Glass transition temperature [°C]	50 – 60
Vicat softening temperature [°C]	146
Coefficient of thermal expansion [K-1 · 10-6]	41
Thermal conductivity [W/m · K]	0.13
Specific heat capacity [J/kg · K]	1800
Melting point [°C]	150

Mechanical Properties

Property	Value
Tensile strength [MPa]	28.1
Modulus of elasticity [GPa]	1.88
Flexural strength [MPa]	2.12

Flexural modulus [GPa]	48
Hardness	95
Impact strength [KJ/m ²]	12.15
Elongation at break [%]	1.36

Physical Properties

Property	Value
Density [g/cm ³]	1.17
Water Absorption [%]	0.55
Electrical Resistivity [ohm-cm]	

Reference

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