Product Name: PLA+

Product features

High-toughness PLA, available in multiple colors.

Main applications:

Decorative items, toys, accessories, figurines, and lighting fixtures.

Points for attention:

Properties	Test Method	Test Condition	S.I. Units	Typical Values
Mechanical				
(X-Y) Tensile Strength	ISO 527/2	50 mm/min	MPa	46±5
(X-Y) Young's Modulus	ISO 527/2	1 mm/min	MPa	/
(X-Y) Elongation at break	ISO 527/2	50 mm/min	%	10±2.5
(X-Y) Flexural Strength	ISO 178	2 mm/min	MPa	83±5
(X-Y) Flexural Modulus	ISO 178	2 mm/min	MPa	2750±200
(X-Y) Izod Impact Strength of Notched Specimen	ISO 180	23℃	KJ/m^2	10±3
(Z-X) Izod Impact Strength of Unnotched Specimen	ISO 180	23℃	KJ/m^2	8±3
Shore Hardness	ISO 868	23℃	HA/HD	81
Thermal				
(X-Y) Heat Distortion (HDT)	ISO 75	0.45 MPa	℃	56±3
Glass Transition (Tg)	ISO 11357-2	10 ℃/min	℃	61
Melting Temperature	ISO 11357-3	10 ℃/min	℃	164
@5%Decomposition Temp.	ISO 11358	20 ℃/min	℃	⩾375
Vicat Softening Temp.	ISO 306	5kg, 50℃/h	℃	54
Moulding Shrinkage	ISO 294	23℃	%	0.1-0.3
Coefficient of Thermal Exp.	ISO 11359-2		μm(m·℃)	101×10^{-6}
Others				
Melt Mass-flow Rate	ISO 1133	190℃/2.16 kg	g/10 min	8.3±2
Density	ISO 1183	23℃	g/cm^3	1.21
Volume Resistivity	IEC 60093	-	ohm-cm	2.90E+15
Permittivity	IEC 60250	1 kHz		1.51
Flammability	UL 94	1.5 mm	Class	HB

Chemical	
Item	**Class**
Weak Acid (pH 3-6)	Good
Strong Acid (pH<3)	Bad
Weak Bases (pH 8-10)	Good

Strong Bases (pH >10)	Bad
Deionized Water	Good
Alcohol	Normal
Ketone	Bad
Petroleum Fuels	Good
Ester	Good

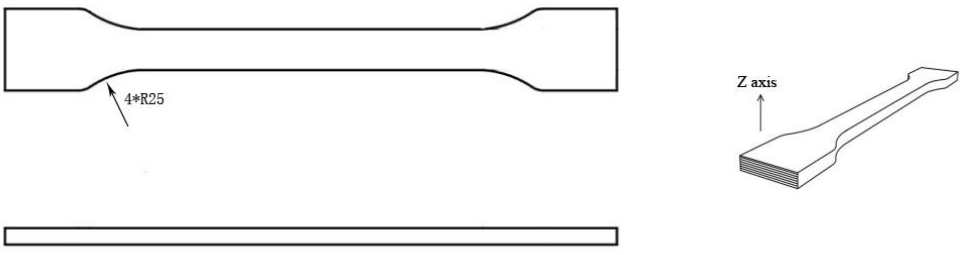
Grade：Excellent、Good、Normal、Bad

Recommended Printing Parameters

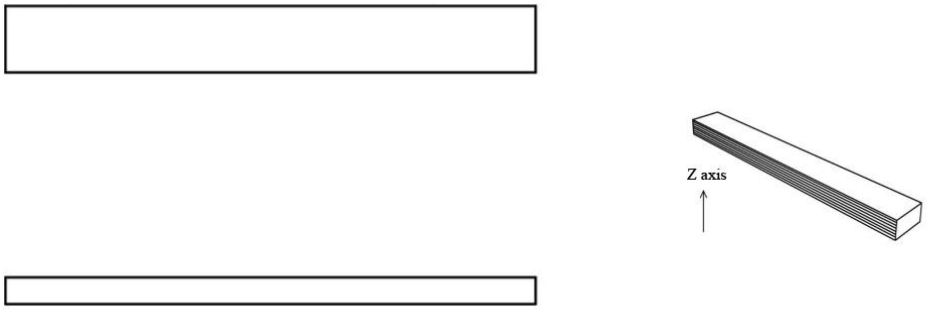
Parameters	Range	
Nozzle Temp.	Temperature ℃	Speed mm/s
	205-215	50-100
	215-245	100-200
Plate Temp.	50-60℃	
Plate Material	Textured PEI Build Plate	
Plate Treatment	No processing required	
Cooling Fan	Open☑/Close☐	
Raft Distance	0.2-0.4mm	
Retraction Distance	0.8-1.2mm	
Retraction Speed	30-40mm/s	
Room Temp.	Room Temperature	
Supported Material	PVA	
Drying Temp.	50℃	

The above values are provided for printer reference only. The parameters may be appropriately adjusted according to different printer models, printed objects, and specific application requirements.

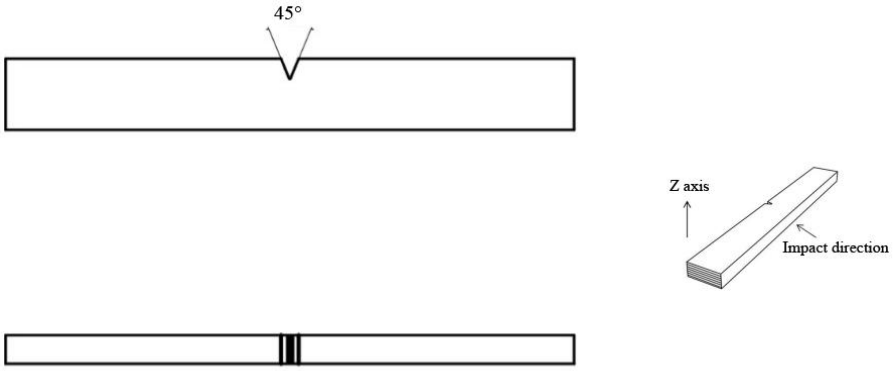
TENSILE TESTING SPECIMEN



FLEXURAL TESTING SPECIMEN



IMPACT TESTING SPECIMEN



Note:

[1] Test specimens were printed at a printing speed of 100-260 mm/s and a printing temperature of 220 °C. Infill: 100%, with a 90° raster orientation.

[2] The typical values represent average laboratory data and are provided for reference only. They do not constitute product specifications. Results may vary depending on different printers.

Safety and Handling Precautions

A Material Safety Data Sheet (SDS) for this product is available from your local Sunlu office.

The SDS provides customers with information on material handling, safety and disposal, as well as the requirements of applicable local health and safety regulations. The following are general precautions and apply only to the resins supplied. The various additives and processing aids used in plastics moulding and other materials used in secondary processes have their own safety requirements and must be understood separately.

This product has extremely low toxicity, and under normal conditions of use, there are no particular issues with inhalation, eye contact, or skin contact.However, care must be taken when handling, storing, using or disposing of these resins.Workplace should be kept clean to avoid dust accumulation. Contact with molten resins during processing operations should be minimized.Plastic resin products generate dust and gases during the manufacturing process. Dust generated during operations such as sawing, filing and sanding of printed parts may irritate the eyes and upper respiratory tract. In dusty manufacturing

environments, it is recommended that operators use respirators or masks approved by the appropriate authorities.

The print processing area should be well ventilated as required by proper operating procedures. When plastics are processed above the melting temperature, fumes containing decomposing substances are released and may be irritating. In most cases, good general ventilation equipment is sufficient. Local extract ventilation should be used when necessary. When there is a risk of eye injury from airborne particles during work, protective goggles should be worn. If necessary, wear insulated gloves for protection when handling the resin.

The product may yellow under the action of ultraviolet light, so it should be stored away from direct sunlight.

Users are advised to investigate the final use of their product beforehand to ensure the correct use of Sunlu products. To prevent misuse or incorrect use of Sunlu products, it is advisable to contact the Sunlu R&D department or the marketing department.

Note: Due to variations in usage conditions and applicable laws by location and time, customers are responsible for determining whether the products and product information in this document are suitable for their use. Customers should ensure that their workspaces and handling methods comply with applicable laws and other government regulations. Sunlu assumes no responsibility or liability for the information in this document and does not provide any warranties. All implied warranties of merchantability or fitness for a particular purpose under this document are hereby expressly excluded.