

Self-restraint ASA (ASA)

FEATURES	APPLICATIONS
UV/rain/heat resistant, suitable for outdoor use Multiple colors	3D Printing Ornaments, toys, decorations, figurines

Properties	ASTM	Test Condition	S.I. Units	Typical Values
Mechanical				
Tensile Strength	ASTM D638	50mm/min	MPa	50
Young's Modulus	ASTM D638	1mm/min	MPa	2220
Elongation at break	ASTM D638	50mm/min	%	15
Flexural Strength	ASTM D790	2mm/min	MPa	73
Flexural Modulus	ASTM D790	2mm/min	MPa	2114
IZOD Impact Notched	ISO180	4mm, 23°C	KJ/m ²	18
Thermal				
Heat Deflection (HDT)	ASTM D648	0.45MPa	°C	96
Glass Transition(Tg)	ASTM D7426	10°C/min	°C	108
Melting Point	ASTM D7426	10°C/min	°C	120
@5%Decomposition Temp.	ASTM E2402	20°C/min	°C	≥392
Vicat Softening Temp.	ASTM D1525	5kg,50°C/h	°C	105
Mold Shrinkage	ASTM D955	23°C	%	0.4-0.9
Coefficient of Thermal Exp.	ASTM E831		μm(m°C)	69.4
Others				
Melt Flow Rate	ASTM D1238	220°C/10kg	g/10min	18
Density	ASTM D792	23°C	g/cm ³	1.06
Volume Resistivity	ASTM D257	-	ohm-cm	6.89*10 ¹⁴
Dielectric Constant	ASTM D150	1kHz		3.14
Flammability	UL94	1.5mm	Class	HB
Chemical Resistant				
Item	Class			
Weak Acid (pH3-6)	Excellent			
Strong Acid (pH<3)	Fair			
Weak Bases pH (8-10)	Excellent			
Strong Bases (pH >10)	Excellent			
Deionized Water	Excellent			
Alcohol	Good			
Ketone	Poor			
Petroleum Fuels	Good			
Ester	Fair			

Grade Classification: excellent, good, fair, poor

[1] The properties of the colouring compounds may differ from the above values.

[2] Typical values are laboratory average data and are provided for reference only. They are not to be considered as product standards.

Recommended Printing Parameters

Parameters		Range	
Nozzle Print Temp.	Zonal Temperature	255-265°C	
		255-265°C	50-100mm/s
		265-275°C	100-200mm/s
Print Platform Temp.		90-110°C	
Print Platform Material		Soft Magnetic Sheet	
Print Platform Treatment		GLUE	
Cool Fan		100%	
Raft Distance		0.4-0.6	
Retraction Distance		5mm	
Retraction Speed		50mm/s	
Room Temp.		Room Temperature	
Support Material		PVA	
Drying Temp.		50°C	

The above values are for printer reference only, and can be adjusted according to different models, different models and product requirements.

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.