

PA12-CF

广东三绿

Product features: Contains 20% carbon fiber; High strength; High toughness; Heat deformation temperature of 176°C.	Main applications: 2024. 04. 02 Structural parts, functional parts
	Points for attention: 受控文件 Keep the printing process dry

Properties	Test Method	Test Condition	S.I. Units	Typical Values
Mechanical				
Tensile Strength (X-Y)	ISO527/2	50mm/min	MPa	100
Young' s Modulus (X-Y)	ISO527/2	1mm/min	MPa	/
Elongation at break (X-Y)	ISO527/2	50mm/min	%	12
Flexural Strength (X-Y)	ISO178	2mm/min	MPa	163
Flexural Modulus (X-Y)	ISO178	2mm/min	MPa	5996
IZOD Impact Notched (X-Y)	ISO180	23°C	KJ/m ²	13
IZOD Impact Notched (Z-X)	ISO180	23°C	KJ/m ²	10
Shore hardness	ISO868	23°C	HD	79
Thermal				
Heat Deflection (HDT)	ISO75	0.45MPa	°C	176
Glass Transition(Tg)	ISO11357-3	10°C/min	°C	99
Melting Point	ISO11357-3	10°C/min	°C	190
@5%Decomposition Temp.	ISO11358	20°C/min	°C	≥330
Vicat Softening Temp.	ISO306	5kg,50°C/h	°C	/
Mold Shrinkage	ISO294	23°C	%	/
Coefficient of Thermal Exp.	ISO11359-2		μm (m·°C)	/
Others				
Melt Flow Rate	ISO1133	190°C/2.16kg	g/10min	15
Density	ISO1183	23°C	g/cm ³	1.2
Volume Resistivity	IEC60093	-	ohm-cm	1.05*10 ¹²
Dielectric Constant	IEC60250	1kHz		3.4
Flammability	UL94	1.5mm	Class	HB
Chemical resistance				
Item	Class			
Weak Acid (pH 3-6)	Good			
Strong Acid (pH<3)	Poor			
Weak Bases (pH 8-10)	Excellent			
Strong Bases (pH >10)	Good			
Deionized Water	Excellent			
Alcohol	Fair			
Ketone	Fair			
Petroleum Fuels	Excellent			

Ester	Excellent
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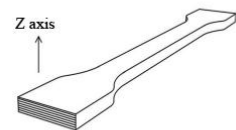
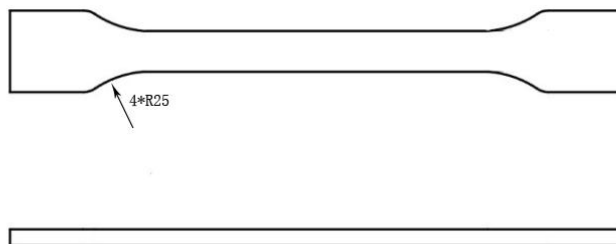
Class: Excellent, Good, Fair, Poor

Recommended Printing Parameters

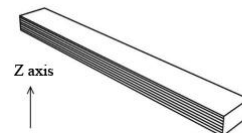
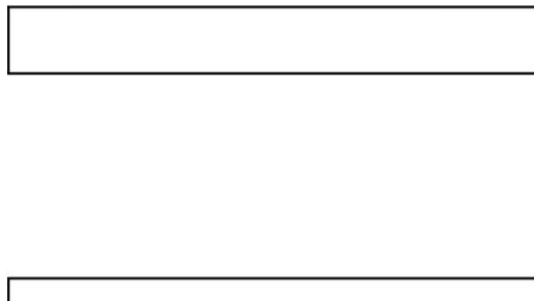
Parameters	Range	
Nozzle Print Temp.	Temperature °C	Speed mm/s
	260-280	50-100
Print Platform Temp.	60-70°C	
Print Platform Material	Normal	
Print Platform Treatment	GLUE	
Cool Fan	On☑/Off☐	
Raft Distance	0.3-0.5mm	
Retraction Distance	0.8-1mm	
Retraction Speed	30mm/s	
Room Temp.	常温	
Support Material	PVA	
Drying Temp.	80-110°C	

The above values are for the reference of the printer only, and the above process can be adjusted appropriately according to different models, different models and product requirements

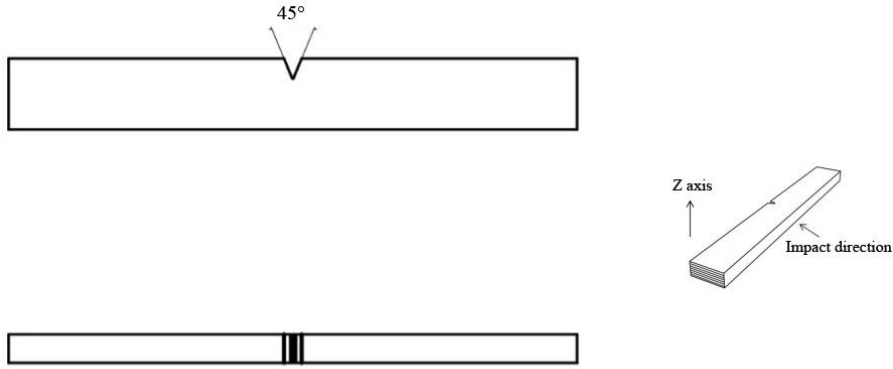
TENSILE TESTING SPECIMEN



FLEXURAL TESTING SPECIMEN



IMPACT TESTING SPECIMEN



Note:

[1] Test the spline printing speed 45 mm/s, print temperature 270 °C, Fill 100%, the cabling mode is 90 degrees

[2] Typical value refers to the laboratory average data, only for use as a reference, not as the standard of the product, different printers have different printing.

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.



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