

## ASA-CF Chemical Technical Sheet

### ASA-CF10 Filament:

ASACF10 is a FFF 3D printing filament produced using an ASA modified material containing 10% carbon fiber. ASACF10 has excellent dimensional stability, bending strength and rigidity, as well as excellent weather resistance, temperature resistance and antistatic properties.

### Main Features:

Dimensional stability/high stiffness/weather resistance

### Main Parameters:

Physical Properties	Test Method	Unit	Typical Value
density	ISO 1183	g/cm <sup>3</sup>	1.09~1.10
melt index MFR(220°C/2.16Kg)	ISO 1133	g/10min	4~7
water absorption (23°C/24h)	ISO 62	%	<0.5
Mechanical Properties			
tensile Strength (X-Y)	ISO 527	Mpa	39~42
elongation at break (X-Y)	ISO 527	%	15.5~17.5
elastic modulus (X-Y)	ISO 527	Mpa	850~900
bending strength (X-Y)	ISO178	Mpa	80~82.5
notched impact strength (X-Y)	ISO180	KJ/m <sup>2</sup>	10.5~12
Thermodynamic Properties			
HDT@ 0.455 MPa(66 psi)	ISO75	°C	88



continuous use temperature	IEC 60216	°C	85
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### Test Sample Printing Conditions :

test machine	Guider IIS (Flashforge)
nozzle diameter	0.4mm
nozzle temperature	270 °C
printing speed	50mm/s
wall thickness	1.2mm
filling	100%
standard spline	the specific dimensions are as shown in Appendix 1

### Recommended Printing Parameters:

Parameter	
nozzle temperature	250~280°C(advice 270°C)
printing platform temperature	100~120°C( advice 110°C)
printing platform material	tempered glass, BuildTak, carbon fiber panels
nozzle diameter	φ0.4/0.6mm(advice φ0.4mm)
material of nozzle and feed gear	high strength steel
model cooling fan	0~20%
layer thickness	0.12~0.3mm
printing speed	40~60mm/s( advice 50mm/s)
idling speed	60~120mm/s
printing environment temperature	room temperature ~60°C
withdrawal length	1~2mm
withdrawal speed	30~50mm/s

**Precautions:**

To prevent moisture absorption and contamination, the packaging of consumables should be kept closed and intact before use. For the same reason, partially used supplies should be resealed before storage.

Because of the addition of carbon fiber, ASACF10 filaments easily absorb moisture and should be dried before use. It is recommended to dry the filaments in a hot air oven at 80°C for at least 5 hours to ensure the success rate and quality of the printed model.

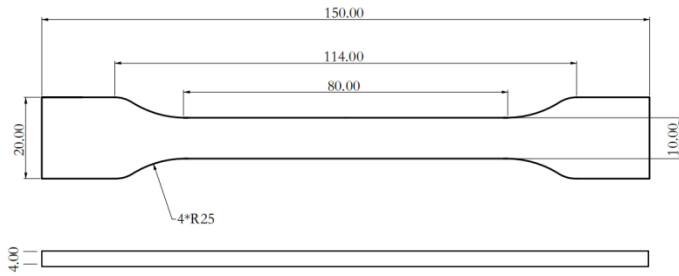
After the model is printed, it is recommended to dry it in an oven at a temperature of 80 °C for 1~3 hours to improve the strength of the model.

**Disclaimer:**

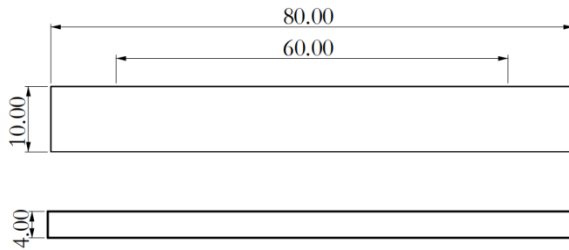
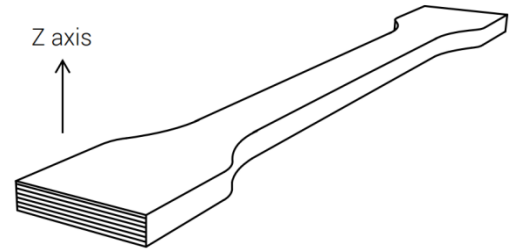
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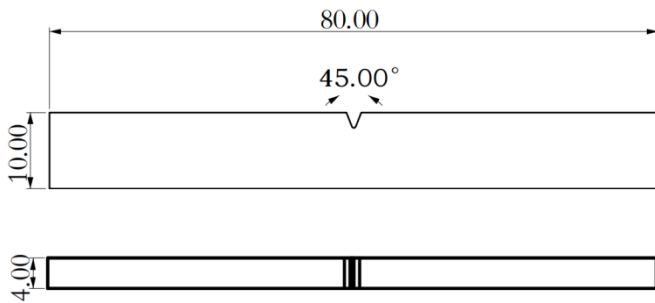
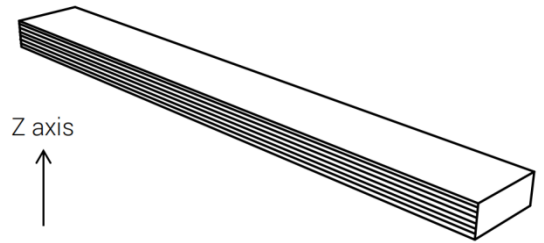
### Appendix 1: Test sample size and printing direction



Tensile testing specimen; ASTM D638 (ISO 527, GB/T 1040)



Flexural testing specimen; ASTM D790 (ISO 178, GB/T 9341)



Impact testing specimen; ASTM D256 (ISO 179, GB/T 1043)

