FLASHFORGE 3D PRINTER

Technical Data Sheet

ASACF10 Filament

ASACF10 is an FFF 3D printing filament, which is 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 property.

Features:

Dimensional stability/High rigidity/Weather resistance

Properties:

Physical Properties	Test Method	Units	Typical Value
Density	ISO 1183	g/cm3	1.09~1.10
Melt Index MFR (220℃/5Kg)	ISO 1133	g/10min	4~7
Water Absorption (23℃/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
Modulus of Elasticity（X-Y）	ISO 527	Mpa	850~900
Bending Strength（X-Y）	ISO 178	Mpa	80~82.5
Izod Impact Strength（X-Y）	ISO 180	KJ/m²	10.5~12
Thermal Properties			
HDT@ 0.455 MPa (66 psi)	ISO 75	℃	88
Continuous Service Temperature	IEC 60216	℃	85

Testing Specimen Printing Conditions:

Test Equipment	Guider IIs (Flashforge)
Nozzle Diameter	0.4mm
Nozzle Temperature	270 °C
Printing Speed	50mm/s
Wall Thickness	1.2mm
Infill	100%
Standard Testing Specimen	Specific dimensions are shown in Attachment 1

Recommended Printing Conditions:

Parameter	
Nozzle Temperature	250~280℃ (270℃ recommended)
Build Platform Temperature	100~120℃ (110℃ recommended)
Build Surface Material	Tempered glass, BuildTak, Carbon fiber board
Nozzle Diameter	ϕ0.4/0.6mm (ϕ0.4mm recommended)
Nozzle&Gear Material	High-strength steel
Cooling Fan	0~20%
Layer Thickness	0.12~0.3mm
Printing Speed	40~60mm/s (50mm/s recommended)
Travel Speed	60~120mm/s
Ambient Temperature for Printing	Room temperature~60℃
Retraction Length	1~2mm
Retraction Speed	30~50mm/s

Cautions:

In order to prevent moisture absorption and contamination, supplied packaging should be kept closed and undamaged. For the same reason, partially used filaments should be re-sealed before storage.
As the ASACF10 filament absorbs moisture easily due to the added carbon fiber, it should be dried before being used. Using a hot dry air oven at 80℃ for at least 5 hours is recommended in order to ensure the success rate and quality of the printed model.
After the printing process, it is recommended to dry the model in the oven at 80℃ for 1-3 hours to increase the strength of the model.

Disclaimer:

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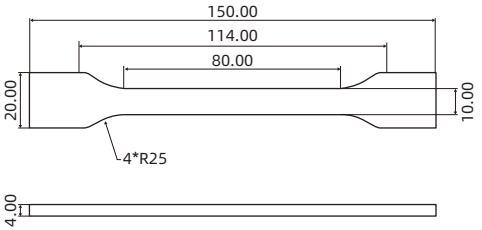
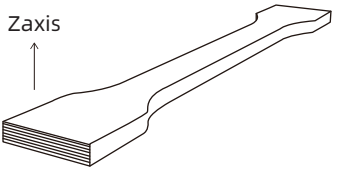
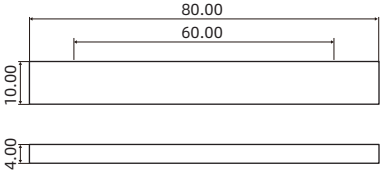
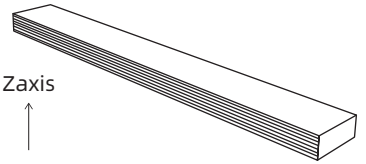
Attachment 1:
Testing Specimen Size and Printing Direction



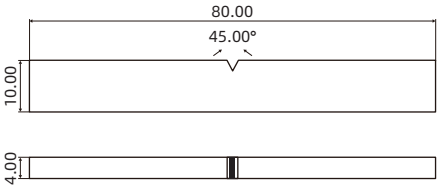


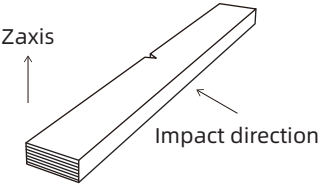
Tensile testing specimen; ASTM D638 (ISO 527, GB/T 1040)





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





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