Technical Data Sheet

ASAGF10 Filament

ASAGF10 is an FFF 3D printing filament, which is produced using a modified ASA material reinforced with 10% glass fiber. It offers excellent dimensional stability, flexural strength, and rigidity, along with outstanding weather and temperature resistance.

Features:

Dimensional stability/High rigidity/Weather resistance.

Properties:

Physical Properties	Test Method	Units	Typical Value
Density	ISO 1183	g/cm³	1.17~1.18
Melt Index (MFR) (220℃/5Kg)	ISO 1133	g/10min	9~15
Water Absorption (23℃/24h)	ISO 62	%	＜0.5
Mechanical Properties			
Tensile Strength (X-Y)	ISO 527	Mpa	40.8~41.3
Elongation at Break (X-Y)	ISO 527	%	5.3~5.8
Bending Modulus (X-Y)	ISO 178	Mpa	72.5~74.1
Bending Modulus (X-Z)			27.2~31.7
Bending Strength (X-Y)	ISO 178	Mpa	3359~3368
Bending Strength (X-Z)			1359~1590
Izod Impact Strength (X-Y)	ISO 180	KJ/m²	6.3~6.9
Izod Impact Strength (X-Z)			2.5~3.2
Thermal Properties			
HDT@ 0.455 MPa (66 psi)	ISO 75	℃	88
Continuous Service Temperature	IEC 60216	℃	85

Testing Specimen Printing Conditions:

Test Equipment	Flashforge Guider 3 Ultra
Nozzle Diameter	0.4mm
Nozzle Temperature	250 °C
Printing Speed	200mm/s
Infill Density	100%
Infill Pattern	Concentric
Standard Testing Specimen	Specific dimensions are shown in Attachment 1.

Recommended Printing Conditions:

Parameter	
Nozzle Temperature	240~260℃ (250℃ recommended)
Build Platform Temperature	100~120℃ (110℃ recommended)
Build Surface Material	Tempered glass, BuildTak, Carbon fiber plate
Nozzle Diameter	ϕ0.4/0.6mm (ϕ0.4mm recommended)
Nozzle & Gear Material	Hardened steel
Cooling Fan	0~20%
Layer Thickness	0.12~0.3mm
Printing Speed	40~250mm/s (Higher speeds require higher temperatures.)
Travel Speed	60~350mm/s
Ambient Temperature for Printing	Room temperature~60℃
Retraction Length	0.5~2mm
Retraction Speed	30~50mm/s
Recommended Support Material	Self-supporting

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 ASAGF10 filament absorbs moisture easily due to the added glass 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 print success rate and quality.

After the printing process, it is recommended to dry the model in the oven at 80°C for 1-3 hours to increase the strength of the model.

Disclaimer:

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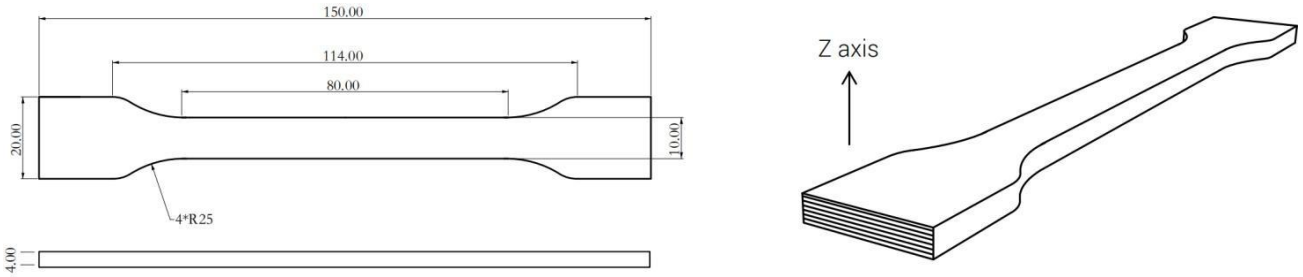
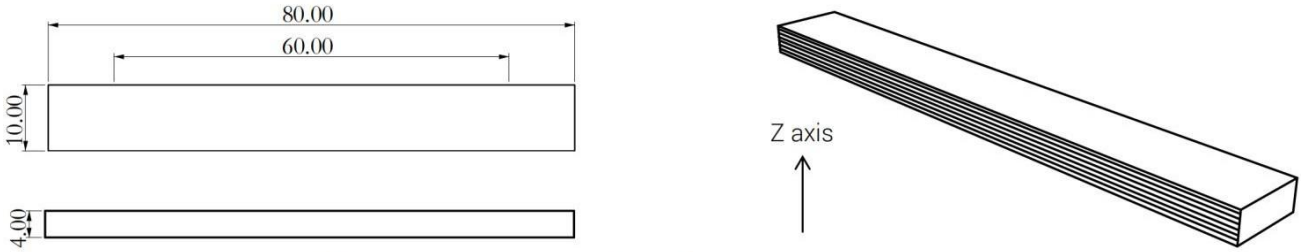
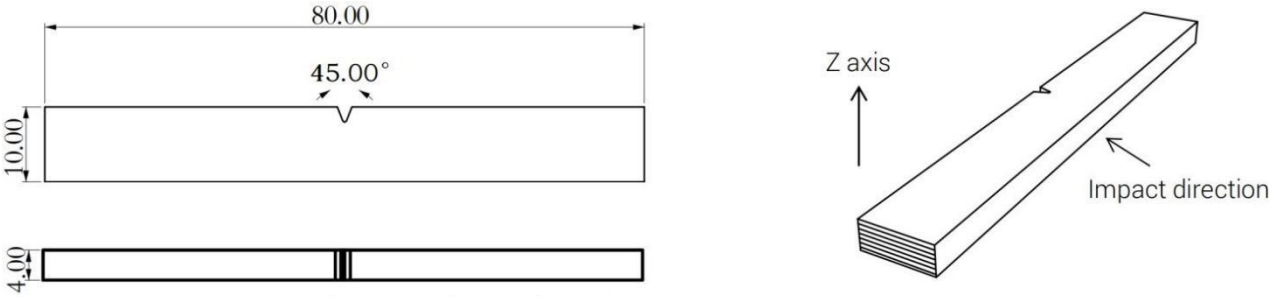
Attachment 1:
Testing Specimen Size and Printing Direction



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



Flexural testing specimen; ASTMD790 (ISO 178, GB/T 9341)



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