ALMA
3D PRINTER FILAMENT

Technical Data Sheet

ABS Pro Filament

ABS Pro is a FFF 3D printing filament, which is produced using an optimized ABS modified material. ABS Pro has high tenacity, high impact resistance, better dimensional stability than the ordinary ABS filament, no cracking and easy-to-print properties, making it generally suitable for different FFF 3D printers.

Features:

Easy-to-print property/High tenacity/High impact resistance.

Proper ties:

Physical Properties	Test Method	Units	Typical Value
Density	ISO	g/cm3	1.08~1.1
Melt Index MFR (220℃/5Kg)	1183	g/10min	2~5
Water Absorption (23℃/24h)	ISO	%	1%
Mechanical Properties	1133		
Tensile Strength (X-Y)	ISO 62	Mpa	33~37
Elongation at Break (X-Y)	527	%	9~15
Modulus of Elasticity (X-Y)	ISO 527	Mpa	1500~1650
Bending Strength (X-Y)	ISO 527	Mpa	65~67
Izod Impact Strength (X-Y)	ISO 178	KJ/m	12~13.5
Thermal Properties	ISO 180	2	
HDT@ 0.455 MPa (66 psi)	ISO 75	℃	85

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Testing Specimen Printing Conditions:

Test Equipment Nozzle	Guider IIs (Flashforge) 0.4mm 230 °C 50mm/s
Diameter Nozzle	1.2mm 100% Specific dimensions are shown in
Temperature Printing	Attachment 1
Speed Wall Thickness Infill	
Standard Testing Specimen	

Recommended Printing Conditions:

Parameter	
Nozzle Temperature	220~240℃ (230℃ recommended)
Build Platform Temperature	80~110℃ (100℃ recommended)
Build Surface Material	Tempered glass, BuildTak, Carbon fiber board
Nozzle Diameter	φ0.4/0.6mm (φ0.4mm recommended)
Cooling Fan	0~50%
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~40℃
Retraction Length	1~3mm
Retraction Speed	30~50mm/s
Recommended Support Material	Self-supporting, HIPS

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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 ABS Pro is a high polymer material, the moisture and oxygen in the air and ultraviolet rays will accelerate the aging of the material. In order not to affect the final printing quality, the ABS Pro filament after its package being opened should be used up as soon as possible.
As the ABS Pro filament absorbs moisture easily, 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.

Disclaimer:

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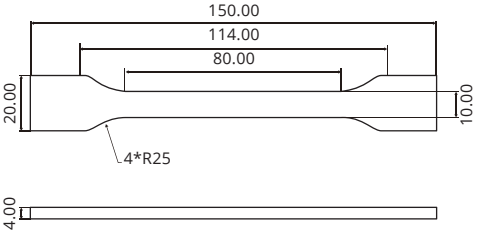
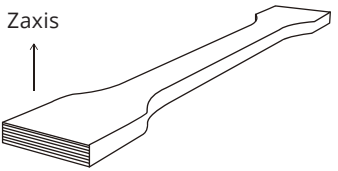
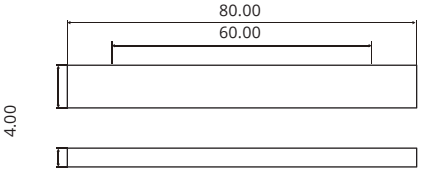
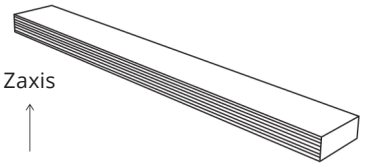
Attachment 1:
Testing Specimen Size and Printing Direction



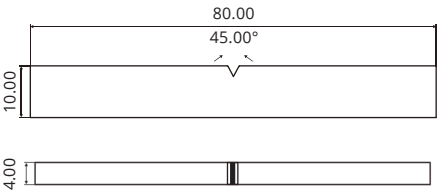


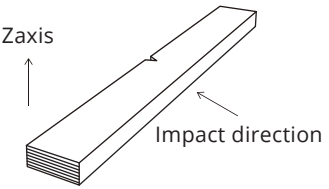
Tensile testing specimen; ASTM D638 (ISO 527, GB/T 1040)





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





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