Last Updated: 2024-08-22

Technical Data Sheet

Filalab ASA

Product Information

Product Name	Filalab ASA
Chemical Name	Acrylonitrile Styrene Acrylate
Diameter	1.75 ± 0.05 mm
Manufacturer	Filalab, Vilnius, Lithuania

General Description:

Filalab ASA Filament is a high-performance 3D printing material designed for outdoor applications due to its excellent UV resistance, weatherability, and durability. ASA is similar to ABS but offers improved resistance to environmental conditions, making it ideal for parts exposed to sunlight and harsh weather. It also provides good mechanical properties, such as impact resistance and high dimensional stability.

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Product Properties

Property	Test Method	Result
Density	ASTM D792	1.07 g/cm³
Melting temperature	-	> 180°C
Melt Mass-Flow Rate	ASTM D1238	5g/10 min
Molding Shrinkage - Flow	ASTM D955	0.40-0.70%
Tensile Strength	ASTM D638	42 MPa
Tensile Elongation	ASTM D638	> 35%
Flexural Strength	ASTM D790	64 MPa
Flexural Modulus	ASTM D790	1900 MPa
Notched Izod Impact	ASTM D256	340 J/m
Rockwell Hardness	ASTM D785	92 HRR
Deflection Temperature Under Load	ASTM D648	86°C

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Recommended Printing Settings

Nozzle Temperature	240-280˚C (270˚C for Bambu Lab printers)
Bed Temperature	90˚C
Fan Speed	10-35%
Printing Speed	40-250 mm/s
Bed Type	Textured PEI Sheet, Smooth PEI Sheet
Optional Adhesives for Build Plate	Bambu Lab Glue Stick, Magigoo
Filament Drying Recommendations	Temperature: 65˚C, Drying Time: 6-12 hours,

Safety Information:

Filalab ASA Filament is generally safe for 3D printing, but it is recommended to use it in a well-ventilated area due to the potential release of fumes during printing. Avoid inhaling the fumes directly, and consider using an enclosure or an air filtration system if printing in a confined space. Always handle the filament and printed parts with care, and consult the Safety Data Sheet (SDS) for more detailed safety guidelines.

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Storage, Handling, and Drying Process:

ASA filament is hygroscopic, so proper storage and occasional drying are essential to maintain print quality and material properties.

Storage:

- **Environment:** Store in a cool, dry place away from direct sunlight.
- **Sealing:** Keep the filament in an airtight container with desiccants to prevent moisture absorption.

Drying Process:

- **Drying Temperature:** 70-80°C (158-176°F)
- **Drying Duration:** 4-6 hours
- **Drying Equipment:** Use a filament dryer, convection oven, or food dehydrator.

After drying, immediately store the filament in an airtight container to prevent moisture reabsorption.

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Features:

- **UV and Weather Resistance:** ASA is ideal for outdoor use, resisting degradation from sunlight and weather exposure.
- **Durable:** High impact resistance and excellent mechanical strength.
- **Good Dimensional Stability:** Low warping and shrinkage, ensuring accurate prints.
- **Matte Finish:** Provides a smooth, matte surface with minimal post-processing.

Pros and Cons:

Pros:

- **UV Resistant:** Excellent for outdoor applications.
- **Durable:** High impact and weather resistance.
- **Stable:** Low warping and shrinkage during printing.

Cons:

- **Higher Printing Temp:** Requires higher nozzle and bed temperatures.
- **Moisture-sensitive:** Needs proper storage and drying.

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