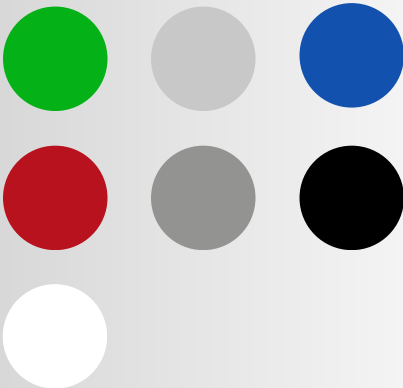




## Technical Data Sheet

# ASA

### Available colors



### Product overview

Professional Lab ASA is a high-performance engineering filament designed for durable, outdoor-ready printed components. The material offers excellent UV and weather resistance while maintaining strength, rigidity, and dimensional stability during long-term exposure to environmental stress. Its balanced mechanical properties and reliable layer adhesion make ASA suitable for functional parts, structural applications, and components requiring durability under changing temperatures.

### Product features

#### Superior Outdoor Performance

Professional Lab ASA provides outstanding resistance to sunlight and external conditions. Its stable thermal behavior ensures consistent results when used for outdoor housings, fixtures, or structural elements.

#### Reliable Printability

The material prints smoothly with low warping and strong interlayer bonding. It performs reliably on both enclosed and open-frame FDM systems, supporting accurate, clean surfaces without extensive tuning.

#### Dimensional Stability and Strength

With its high tensile strength and rigidity, Professional Lab ASA maintains precise geometry in both small and large components. Reduced deformation improves part quality and long-term reliability.

#### Versatile Engineering Applications

The material is suited for end-use parts such as housings, brackets, covers, and functional prototypes requiring mechanical robustness and environmental resistance.

## Printing Recommendations

- Nozzle temperature: 210–250°C
- Melting temperature: 190 °C ± 10 °C
- Build surface material: PEI, glass
- Build surface treatment: glue
- Build plate temperature: 60–100°C
- Cooling fan: off
- Printing speed: 30–70 mm/s
- Raft separation distance: 0.2 mm
- Retraction distance: 7 mm
- Retraction speed: 20 mm/s

Based on a 0.4 mm nozzle. Printing conditions may vary with different nozzle diameters. ASA has a low risk of warping, so it can be printed even without a heated bed.

## Physical properties

Description	Typical value	Test method
Specific gravity	1,1 g/cc	ISO 1183
Shrinking	0,4%	ISO 1133
Tensile modulus	22100 kg / cm <sup>2</sup>	ASTM D790
Tensile strength	800 kg / cm <sup>2</sup>	ASTM D790
MFR	16 g/10 min	ISO 294-4
VICAT A	95 °C	ISO 306

## Drying and storage

For best results, keep Professional Lab ASA stored in a cool, dry place (15–25°C) and protected from UV light to significantly extend shelf life. Since the material is slightly hygroscopic, exposure to humidity may lead to surface imperfections, bubbling, or uneven extrusion—especially after opening. Store the filament in a sealed container with desiccant, particularly in humid conditions.



## Precautions

**Printer Compatibility:** Ensure your printer supports temperatures above 240°C. Due to the material's composition, a hardened steel or ruby nozzle is recommended for extended service life.

**Shrinkage Control:** Although ASA provides good dimensional stability, slight shrinkage may occur if cooled too rapidly. For best results, print in a warm, draft-free environment or use an enclosure to prevent warping and corner lift.

**Cooling Control:** Print with cooling fan turned off to maintain strong layer adhesion and limit the risk of cracking, particularly in structural components.

**Filament Storage:** Store the filament in a cool, dry place. ASA may absorb moisture over time, which can negatively impact print quality. Proper storage ensures stable and repeatable results.

## Disclaimer of Liability

The values and information provided in this document are intended for reference and comparison purposes only. Actual results may vary depending on printer configuration, environmental conditions, and part design. Professional Lab is not responsible for equipment damage, print failures, or performance deviations resulting from improper use or operation outside recommended parameters. Users are responsible for verifying material suitability, ensuring correct handling, and following storage and disposal guidelines in accordance with local regulations.

