

# TECHNICAL DATA SHEET

Premium ASA

Date of issue: 21-05-2025 / Date of update: 21-05-2025



## Product specifications

Premium ASA (Acrylonitrile Styrene Acrylate) is a high-performance filament engineered for professional and industrial applications. Known for its exceptional UV stability and weather resistance, Premium ASA is ideal for both indoor and outdoor use, even in harsh environmental conditions.

Formulated without plasticizers, Premium ASA offers outstanding mechanical properties, including high stiffness, excellent strength, and remarkable impact resistance. Its rigid structure ensures dimensional stability, while its resilience makes it suitable for functional parts exposed to mechanical stress or outdoor exposure.

Printed components exhibit long-term durability, retaining their physical properties and color when exposed to sunlight, moisture, and temperature fluctuations. This makes Premium ASA an excellent choice for applications such as: automotive parts, drone housings and components, electrical enclosures, outdoor fixtures and tools, functional prototypes, and end-use products.

## Important key features

- Excellent UV and weatherability properties.
- HDT of 86°C / Vicat of 95°C.
- Meets UL 94 HB flammability standards\*.
- Good resistance to chemicals, oils, and greases.
- Strong, stiff, and impact resistant.

## Suitable applications

- Manufacturing electrical/electronic products.
- Fabricating interior and exterior automotive parts .
- Various outdoor applications.
- Making window profiles.
- 3D printing miscellaneous end use goods.

\* Premium ASA meets the self-extinguishing flammability standards of UL 94 HB, but the Yellow Card from Underwriters Laboratories (UL) cannot be provided due to the proprietary information of the composition of this filament.

## Recommended print settings

**Nozzle temp:** ± 275 - 290°C

**Print speed:** ± 50 - 200 mm/s

**Drying:** ≥12 hours at 70°C

**Experience level:** Intermediate

**Heat bed:** ± 90 - 110°C

**Nozzle:** ≥ 0.2mm

**Drybox:** Recommended

**Fan speed:** ± 15 - 50%

**Buildplate adhesion:** EasyFix Nr. 1

**Enclosure:** Recommended

## Material properties

Specific Gravity (23°C)

Melt Flow Rate (220°C, 10kg)

## Typical value

1.08 g/cm<sup>3</sup>

5.2 g/10min

## Test Method

ASTM D792

5.2 g/10min

## Mechanical properties

Tensile Strength @ Yield (23°C, 50mm/min, 3.2mm)

Tensile Elongation at Break (23°C, 50mm/min, 3.2mm)

Tensile Modulus (23°C, 50mm/min, 3.2mm)

Flexural Strength (23°C, 15mm/min, 3.2mm)

Izod Impact Strength (Notched, 3.2mm, 23°C)

Izod Impact Strength (Notched, 6.4mm, 23°C)

## Typical value

44 MPa

33% (Min)

1850 MPa

65 MPa

440 J/m

345 J/m

## Test Method

ASTM D638

ASTM D638

ASTM D638

ASTM D638

ASTM D256

ASTM D256

## Thermal properties

HDT (1.82MPa, 6.4mm, unannealed)

VICAT (50N, 50°C/h)

## Typical value

86°C

95°C

## Test Method

ASTM D648

ASTM D1525



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| Flammability properties * | Typical value | Test Method |
|---------------------------|---------------|-------------|
| Fire Resistance (1.5mm)   | HB            | UL94        |
| Fire Resistance (3.0mm)   | HB            | UL94        |

\* UL Yellow Card cannot be provided due to proprietary information about the composition of Premium ASA filament.

## Pre-drying Premium ASA

Premium ASA is a moderately hygroscopic filament and therefore it is necessary to pre-dry the filament at 70°C for approximately 12 hours before usage. For optimal print results we recommend to print Premium ASA filament from a drying box to avoid that the material can accumulate humidity from the environment.

## Buildplate adhesion

For optimal buildplate adhesion we recommend to set your buildplate temperature at 90°C - 110°C and to use our EasyFix Adhesive – Nr. 1.

## Storage and handling

Filament should be stored at room temperature in a dry and dark place with humidity below 15%. Recommended storage temperature is ca. 18-25°C (64.4 -77.0°F). Keep out of moisture, sunlight and direct heat. When stored properly, product has a shelf life of at least 24 months. To obtain the best parameters of the printed object, it is recommended to dry the material prior to usage and to 3D print it directly from a dry box.

## Product export information

| HS Code  | Description                  | Origin         |
|----------|------------------------------|----------------|
| 39169090 | Monofilament for 3D printing | European Union |

## Disclaimer

*The product- and technical data provided in this datasheet is correct to the best of FormFutura BV's knowledge and are intended for reference and comparison purposes only. Actual values may vary according to printing conditions, model complexity, environmental conditions, etcetera. Typical values are indicative only and are not to be construed as being binding specifications. All other information supplied, including that herein, is considered accurate but is furnished upon the express condition that the customer shall make its own assessment to determine a product's suitability for a particular purpose. We make no warranty, express or implied, including regarding any information supplied or the data upon which it is based or the results to be obtained from the use of such products or information, or concerning product, whether of satisfactory quality, merchantability, fitness for any particular purpose or otherwise, or with respect to intellectual property infringement as a result of use of information or products, and none shall be implied.*

