



## Infilus™ ASA

**UV-stable. Weather-resistant. Outdoor-grade engineering plastic.**

Infilus™ ASA is a 1.75 mm acrylonitrile-styrene-acrylate filament engineered as a UV- and weather-resistant alternative to ABS. It retains mechanical strength and surface appearance after long-term outdoor exposure, making it ideal for automotive trim, signage, garden equipment and architectural prototypes.

DIAMETER

**1.75 ± 0.02 mm**

ORIGIN

**Made in Germany**

NET WEIGHT

**1 kg (2.2 lb)**

PACKAGING

**Recycled spool & box**

[www.infilus.com](http://www.infilus.com)

### PHYSICAL PROPERTIES

| Property                    | Testing Method           | Typical Value       |
|-----------------------------|--------------------------|---------------------|
| Density                     | ISO 1183                 | 1.07 g/cm³ at 23 °C |
| Melt flow index             | ISO 1133 (220 °C, 10 kg) | 22 g/10 min         |
| Moisture absorption (24 h)  | ISO 62                   | 0.30 %              |
| Filament diameter tolerance | Laser gauge, in-line     | ± 0.02 mm           |
| Roundness                   | Laser gauge, in-line     | > 99.5 %            |

### THERMAL PROPERTIES

| Property                     | Testing Method    | Typical Value |
|------------------------------|-------------------|---------------|
| Glass transition temperature | DSC, 10 °C/min    | 105 °C        |
| Vicat softening temperature  | ISO 306           | 100 °C        |
| Heat deflection temperature  | ISO 75 @ 0.45 MPa | 95 °C         |
| Heat deflection temperature  | ISO 75 @ 1.80 MPa | 85 °C         |
| Decomposition temperature    | TGA, 20 °C/min    | 410 °C        |

### MECHANICAL PROPERTIES

| Property                       | Testing Method | Typical Value   |
|--------------------------------|----------------|-----------------|
| Tensile strength (X-Y)         | ISO 527        | 42 ± 3 MPa      |
| Tensile strength (Z)           | ISO 527        | 28 ± 3 MPa      |
| Young's modulus (X-Y)          | ISO 527        | 2 100 ± 80 MPa  |
| Young's modulus (Z)            | ISO 527        | 1 800 ± 120 MPa |
| Elongation at break (X-Y)      | ISO 527        | 25 ± 5 %        |
| Elongation at break (Z)        | ISO 527        | 7 ± 2 %         |
| Flexural strength (X-Y)        | ISO 178        | 70 ± 4 MPa      |
| Flexural modulus (X-Y)         | ISO 178        | 2 250 ± 100 MPa |
| Charpy impact, notched (X-Y)   | ISO 179        | 9 ± 1 kJ/m²     |
| Charpy impact, unnotched (X-Y) | ISO 179        | 35 ± 5 kJ/m²    |

Typical values – not a specification. Actual values may vary with printing conditions and part geometry.

# Infilus™ ASA — Technical Data Sheet

V1.0 | Continued



## RECOMMENDED PRINTING CONDITIONS

| Parameter               | Value           |
|-------------------------|-----------------|
| Nozzle temperature      | 240 – 260 °C    |
| Build plate temperature | 95 – 110 °C     |
| Build surface           | ABS slurry, PEI |
| Printing speed          | up to 80 mm/s   |
| Cooling fan             | 0 – 20 %        |

| Parameter            | Value                |
|----------------------|----------------------|
| First layer height   | 0.2 mm               |
| Retraction distance  | 2 – 5 mm             |
| Retraction speed     | 30 – 50 mm/s         |
| Drying (if required) | 80 °C / 4 h          |
| Enclosure            | Strongly recommended |

Parameters based on a 0.4 mm nozzle. An enclosed printer is strongly recommended; ensure adequate ventilation as styrene fumes are released during printing.

## CHEMICAL RESISTANCE

| Agent                  | Effect | Agent                 | Effect |
|------------------------|--------|-----------------------|--------|
| Weak acids             | Good   | Weak alkalis          | Good   |
| Strong acids           | Poor   | Strong alkalis        | Fair   |
| Oils & greases         | Good   | Alcohols              | Fair   |
| Aliphatic hydrocarbons | Fair   | Aromatic hydrocarbons | Poor   |
| Water (ambient)        | Good   | Ketones               | Poor   |

**LEGEND**  
Good – minor effect after prolonged contact at ambient temperature.  
Fair – suitable for short-term contact at ambient temperature.  
Poor – material becomes unstable on contact at ambient temperature.

## STORAGE & HANDLING

Store the filament sealed in its original packaging in a cool, dry environment (15 – 25 °C, < 50 % RH). ASA is mildly hygroscopic; prolonged humidity exposure causes surface defects during printing. If the filament has been exposed for more than 48 hours, dry at 80 °C for 4 h before printing.

## AVAILABLE COLORS

Swatch colors are representative approximations.



## DISCLAIMER

All figures on this data sheet describe the typical behaviour of Infilus™ ASA and are provided as general guidance. They are not contractual specifications and must not be used on their own to qualify parts, set acceptance criteria, or validate regulated applications. Real-world results depend on the printer, slicer settings, nozzle wear, environmental conditions and part geometry, so customers are strongly advised to run their own trials before committing the material to a production or end-use application. Infilus may adjust formulations, suppliers or packaging whenever we believe it improves quality; when that happens, this sheet will be revised and the version number updated. Customers remain responsible for ensuring that their chosen application complies with all local laws, safety standards and recycling obligations. Infilus does not assume liability for any direct or indirect damage, loss or injury connected to the handling, printing or end use of this product, and no warranty is given beyond what is expressly agreed in a separate written contract.