



Infilus™ ABS

Tough. Heat-resistant. Classic engineering-grade thermoplastic.

Infilus™ ABS is a 1.75 mm filament based on acrylonitrile butadiene styrene, a proven engineering polymer with high impact strength and good heat resistance. It is well suited to mechanical housings, automotive prototypes and interior parts where toughness and dimensional stability matter more than optical clarity.

DIAMETER

1.75 ± 0.02 mm

ORIGIN

Made in Germany

NET WEIGHT

1 kg (2.2 lb)

PACKAGING

Recycled spool & box

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PHYSICAL PROPERTIES

Property	Testing Method	Typical Value
Density	ISO 1183	1.04 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	98 °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	38 ± 3 MPa
Tensile strength (Z)	ISO 527	25 ± 3 MPa
Young's modulus (X-Y)	ISO 527	2 100 ± 80 MPa
Young's modulus (Z)	ISO 527	1 850 ± 120 MPa
Elongation at break (X-Y)	ISO 527	20 ± 5 %
Elongation at break (Z)	ISO 527	6 ± 2 %
Flexural strength (X-Y)	ISO 178	64 ± 4 MPa
Flexural modulus (X-Y)	ISO 178	2 200 ± 100 MPa
Charpy impact, notched (X-Y)	ISO 179	10 ± 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.

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RECOMMENDED PRINTING CONDITIONS

Parameter	Value
Nozzle temperature	230 – 260 °C
Build plate temperature	95 – 110 °C
Build surface	ABS slurry, PEI, Kapton
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 to prevent warping and delamination. Ensure adequate ventilation.

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). ABS is mildly hygroscopic; prolonged exposure to humidity can cause steam bubbles and a rough surface finish. If the filament has been exposed to humid air for more than 48 hours, dry at 80 °C for 4 h before printing. A dry-box is recommended for continuous printing.

AVAILABLE COLORS

Swatch colors are representative approximations.



DISCLAIMER

All figures on this data sheet describe the typical behaviour of Infilus™ ABS 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.