



Infilus™ PA12

Low-moisture nylon. Tough. Chemical and wear-resistant.

Infilus™ PA12 is a 1.75 mm polyamide-12 filament offering the toughness and chemical resistance of the nylon family with significantly lower moisture uptake than PA6 or PA66. It prints reliably, holds tolerance after conditioning and is well-suited to gears, bushings, snap fits and fluid-handling components.

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	1.02 g/cm ³ at 23 °C
Melt flow index	ISO 1133 (235 °C, 2.16 kg)	30 g/10 min
Moisture absorption (24 h)	ISO 62	0.70 %
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	50 °C
Melting point	DSC, 10 °C/min	178 °C
Vicat softening temperature	ISO 306	150 °C
Heat deflection temperature	ISO 75 @ 0.45 MPa	140 °C
Heat deflection temperature	ISO 75 @ 1.80 MPa	50 °C

MECHANICAL PROPERTIES

Property	Testing Method	Typical Value
Tensile strength (X-Y)	ISO 527	45 ± 3 MPa
Tensile strength (Z)	ISO 527	40 ± 3 MPa
Young's modulus (X-Y)	ISO 527	1 400 ± 50 MPa
Young's modulus (Z)	ISO 527	1 300 ± 80 MPa
Elongation at break (X-Y)	ISO 527	120 ± 20 %
Elongation at break (Z)	ISO 527	30 ± 10 %
Flexural strength (X-Y)	ISO 178	55 ± 3 MPa
Flexural modulus (X-Y)	ISO 178	1 250 ± 50 MPa
Charpy impact, notched (X-Y)	ISO 179	8 ± 1 kJ/m ²
Charpy impact, unnotched (X-Y)	ISO 179	40 ± 5 kJ/m ²

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	240 – 270 °C
Build plate temperature	70 – 90 °C
Build surface	PA adhesive, garolite, PEI
Printing speed	up to 80 mm/s
Cooling fan	0 – 30 %

Parameter	Value
First layer height	0.2 mm
Retraction distance	2 – 4 mm
Retraction speed	30 – 45 mm/s
Drying (if required)	80 °C / 8 h
Enclosure	Recommended

Parameters based on a 0.4 mm nozzle. PA12 parts reach equilibrium mechanical properties only after conditioning in ambient humidity for several days.

CHEMICAL RESISTANCE

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

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, < 30 % RH). PA12 absorbs less moisture than other nylons but is still hygroscopic: wet filament causes steam bubbles, stringing and poor surface finish. Dry at 80 °C for 8 h before printing and keep in a heated dry-box during use.

AVAILABLE COLORS

Swatch colors are representative approximations.



DISCLAIMER

All figures on this data sheet describe the typical behaviour of Infilus™ PA12 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.