Nylon 12

Fused Deposition Modelling (FDM)

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Strong and tough material with good fatigue resistance

Nylon 12 has excellent isotropic properties, making it ideal for applications which require repetitive snap fits, high fatigue resistance, strong chemical resistance and press (friction) fit inserts.

Nylon 12 is primarily used in aerospace, automotive and consumer goods industries to take on everything from tooling, jigs and fixtures; to covers, panels and vibration-resistant components. FDM Nylon 12 offers unparalleled toughness and a simple, clean process – free of powders.

Why choose Nylon 12?

- Good elongation at break and fatigue resistance
- Good resistance to shock, repeat load cycles, stress and vibration
- Resistance to moderate solvents, alcohols and chemicals

Applications

- Panels, covers, housing with snap-fit clips
- Environmental control ducting or venting
- Drill guides
- Parts exposed to high vibration, repetitive stress
- Tools with press-fit inserts
- Functional prototyping, end-use parts

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General properties	Value (XY Axis)	Test method
Colour	Black	Visual
Part density	1.00 g/cm^3	ASTM D792

Thermal properties	Value (XY Axis)	Test method
Heat deflection temperature – annealed[1] (0.45Mpa)	97° C	ASTM D648
Heat deflection temperature – unannealed[2] (0.45Mpa)	75° C	ASTM D648
Heat deflection temperature – annealed[1] (1.8Mpa)	82° C	ASTM D648
Heat deflection temperature – unannealed[2] (1.8Mpa)	55° C	ASTM D648

[1]Annealed: 2 hours @ 140°C
[2]Unannealed: Direct from FDM system

Mechanical properties	Value (XY Axis)	Test method
Tensile strength	53 MPa	ASTM D638
Tensile modulus	1310 MPa	ASTM D638
Elongation at break	9.5%	ASTM D638
Flexural strength	69 MPa	ASTM D790
Flexural strain at break	No break	ASTM D790
Flexural modulus	1300 MPa	ASTM D790
Impact strength – Izod (notched)	150 J/m	ASTM D256
Impact strength – Izod (un-notched)	>2000 J/m	ASTM D256

Other	Value (XY Axis)	Test method
Flammability classification	HB (1.5 mm)	UL94

Get a quote for your parts at rapidfab.ricoh-europe.com
Have a question? Call our friendly team on
+44 (0) 800 304 7196

Specifications are subject to change without notice.

The technical data indicated above is an average value of the test result of a part created under proper management and appropriate conditions. The value is for reference and is not guaranteed.

TDS-FDM-Nylon-12 | 09/19-v1

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