Nylon 12 CF
Fused Deposition Modelling (FDM)

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Carbon fibre filled Nylon 12 material with excellent structural properties

Nylon 12 CF is a carbon-filled thermoplastic with structural characteristics that make it one of the strongest thermoplastics in the FDM material range and an ideal substitute for metal tooling. Chopped carbon fibre comprises 35% of the weight, blended with Nylon 12 polymer, which results in the highest stiffness-to-weight ratio and flexural strength.

Nylon 12 CF is particularly useful for strong but lightweight tooling applications and functional prototypes in the aerospace, automotive, industrial and recreational manufacturing industries.

Why choose Nylon 12 CF?

- High stiffness-to-weight ratio
- Static dissipative properties to prevent build-up of static electricity
- Exceptional strength
- Parts can be smoothed to enhance appearance

Applications

- Tooling
- Metal replacement
- Lightweight functional prototypes
- Selected end-use parts

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General properties	Value (XY Axis)	Test method
Colour	Black	Visual
Part density	1.15 g/cm³	ASTM D792

Thermal properties	Value (XY Axis)	Test method
Heat deflection temperature (0.45Mpa)	-	ASTM D648
Heat deflection temperature (1.8Mpa)	143° C	ASTM D648

Mechanical properties	Value (XY Axis)	Test method
Tensile strength (ultimate)	75.6 MPa	ASTM D638
Tensile modulus	7515 MPa	ASTM D638
Elongation at break	1.9%	ASTM D638
Flexural strength	142 MPa	ASTM D790
Flexural strain at break	3%	ASTM D790
Flexural modulus	10620 MPa	ASTM D790
Impact strength – Izod (notched)	85 J/m	ASTM D256
Impact strength – Izod (un-notched)	310 J/m	ASTM D256

Electrical	Value (XY Axis)	Test method
Volume resistivity	$1.4 \cdot 10^5 - 1.012 \cdot 10^6$ ohm·cm	ASTM D257

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.

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