

Nylon 12CF / PA 12 carbon-filled (Industrial grade)

Key Features

Strength • Abrasion resistance • Stiffness • Heat resistance

Applications

Prototyping • Jigs and fixtures • Tooling • Aerospace • Automotive • Consumer goods

Product Description

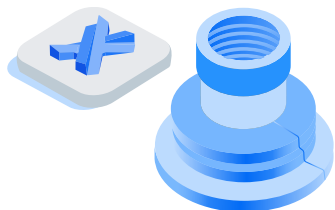
FDM Nylon 12 Carbon Fiber (Nylon 12CF) combines Nylon 12 with chopped carbon fiber (30%) to achieve remarkable flexural strength and stiffness-to-weight ratio, surpassing other FDM materials. This material offers superior strength and rigidity, making it an ideal alternative to metal in various applications. Additionally, it provides a cleaner carbon fiber additive process compared to SLA while maintaining equivalent strength properties.

Properties

Tensile strength (XZ, ZX)	83.5, 32.7MPa
Elongation at break (XZ, ZX)	2.4, 1.2%
Flexural strength at break (XZ, ZX)	153, 62.4 MPa
Flexural modulus (XZ, ZX)	1,110, 2,340 MPa
Heat deflection temperature (0.45 MPa)	160.4°C
Heat deflection temperature (1.80 MPa)	129.8°C
Thermal conductivity (ASTM E1952 @30C)	0.5988 W/m*K
Density	1.190 g/cm ³

Reference

For more detailed source information, please consult the original document linked [here](#). We encourage users to verify the data's relevance and suitability for their specific needs.



Nylon 12CF / PA 12 carbon-filled (Standard grade)

Key Features

Stiffness • Heat resistance > 100°C • Filled composite

Applications

Prototyping • End-use parts • Automotive • Electronics • Engineering

Product Description

PA12 CF15 is a nylon 12-based filament reinforced with 15% carbon fibers, offering good thermal resistance up to 170 °C. This makes it ideal for high-temperature applications in demanding environments. Its excellent mechanical and thermal properties make it a lightweight alternative to metal components, suitable for various industries including automotive and engineering.

Properties

Tensile strength	120 MPa
Elongation at break	5%
Izod impact strength (notched) @23°C	15 kJ/m²
Melting temperature (20°C/min)	178°C
Heat deflection temperature (0.45 MPa)	170°C
Heat deflection temperature (1.80 MPa)	150°C
Softening temperature	170°C
Density	1.07 g/cm³

Reference

For more detailed source information, please consult the original document linked [here](#). We encourage users to verify the data's relevance and suitability for their specific needs.

