

NYLON CF15 CARBON

DESCRIPTION

Fillamentum Nylon CF15 is a Nylon based carbon fibres reinforced material for the FFF (also known as FDM) 3D printing technology.

It is characterized not only by high strength, rigidity and high thermal or chemical resistance, but also by great processing stability and rheological properties. The material properties are preserved also at low temperatures.

Thanks to the filler, this material excels by a low thermal expansion. It is suitable for printing of frequently stressed parts, for example bearings, cogwheels, reinfor-cement parts etc.

The use of the material in the food or medical industry is not recommended.

For filaments with fillers, Fillamentum guarantees dimensions within the tolerance +/- 0,10 mm, which are strictly controlled throughout production. This material contains milled carbon fibres 100 µm long.

Note: The Nylon CF15 filament has abrasive properties. It means that it will accelerate the nozzle-wear of brass nozzles faster than unfilled filaments. The hardened steel nozzles are recommended.



PHYSICAL PROPERTIES	TYPICAL VALUE	TEST METHOD	TEST CONDITION
Material density	1,08 g/cm ³ 0,96 g/cm ³	ISO 1183 ISO 1183	20 °C 235 °C
Melt flow index	9,92 g/10 min	ISO 1133	235 °C, 2,16 kg
Diameter tolerance	± 0,10 mm		
Weight	600 g of filament (+ 250 g spool)		

MECHANICAL PROPERTIES	TYPICAL VALUE	TEST METHOD	TEST CONDITION
Tensile strength	54,5 MPa	ISO 527	50 mm/min
Elongation at break	103 %	ISO 527	50 mm/min
Tensile modulus	500 MPa	ISO 527	50 mm/min
Charpy impact resistance	86,2 kJ/m ²	ISO 179	25 °C, unnotched
Hardness	75 Shore D	ISO 7619	

THERMAL PROPERTIES	TYPICAL VALUE	TEST METHOD	TEST METHOD
Melting temperature	160 °C		

PRINTING PROPERTIES	RECOMMENDED	NOTES
Print temperature	235-260 °C	Recommended settings!
Hot pad	80-105 °C	It may differ according to the printer and the object. Try your own optimization before printing.
Bed adhesive	glue stick + 3Dlac	Always use brim for better bed adhesion.
Speed of printing	20-30 mm/s	
Other recommendations	cover around printer	Protection against change of ambient temperature.