

CPE CF112 Carbon

Description:

Material used for production of CPE CF112 Carbon is optimized for the best results in FDM 3D printing technology. The material used for CPE HG100 filament is reinforced with milled carbon fibres to improve some properties.

This material is optimal for applications with long-term load. It has higher wear resistance, heat distortion temperature, hardness and chemical resistance in comparison with CPE HG100.

The contained fibres ensure functionality, great printability, dimensional stability and layer adhesion. The objects have nice smooth surface.

It may be used for production of electrical and electronic equipment. It doesn't contain the restricted substances. The use for application that come into contact with food is not recommended.

For filaments with fillers, Fillamentum guarantees dimensions within the tolerance of +/- 0,10 mm, which is strictly controlled throughout the production.

The material contains milled carbon fibres 100 µm long.

Note: The CPE CF112 Carbon 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	1,16 g/cm ³		
Diameter tolerance	± 0,10 mm		
Weight	600 g of filament (+ 250 g spool)		

Mechanical properties	Typical Value	Test Method	Test Condition
Tensile strength	52,4 MPa	ISO 527	at yield, 50 mm/min
	37,7 MPa	ISO 527	at break, 50 mm/min
Elongation	8,0 %	ISO 527	at break, 50 mm/min
Tensile modulus	2200 MPa	ISO 527	0,15 mm/min
Charpy impact strength	105,9 kJ/m ²	ISO 179	25 °C, unnotched
Hardness	77 Shore D	ISO 7619	

Chemical properties	Typical Value	Test Method	Test Condition
Polymer base	co-polyester		
Resistance against acids, alkalis, alcohols	good		25 °C
Resistance against water, acetone, oils, greases, car fluids, ozone	medium to low		25 °C

Printing properties	Recommended	Notes
Print temperature	250-270 °C	Recommended settings! It may differ according to the printer and the object.
Hot pad	70-85 °C	Try your own settings before printing.
Bed adhesive	Magigoo, 3Dlac	Use of adhesive is necessary to prevent damage of the pad!
Part cooling fan	0-15 %	Higher part cooling fan speed is recommended only for supports, bridges and overhangs.
Speed of printing	20-40 mm/s	

Workability of 3D printing filament is at least 12 months from delivery.

The information was processed with the best knowledge of the manufacturer and it is for information only.