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Product specifications

Our ApolloX CF10 combines all benefits of ApolloX filament plus 10% carbon fibers.

ApolloX CF10 is a high-performance carbon fiber reinforced ASA filament. The use of high modulus carbon fibers make ApolloX CF10 very lightweight and stiff. This engineering filament is very easy to 3D print on open desktop machines. No enclosure, or heated chamber needed. Its low shrinkage factor and perfect layer adhesion make ApolloX CF10 a breeze to print with.

Important key features

- UV- and weather resistant
- Stiff with high modulus and impact resistance
- Heat resistant up to 101°C
- Superior dimensional stability
- Easy to print on open desktop 3D printers

Suitable applications

- Aerospace and automotive
- 3D printing housings and covers
- Rigid parts for outdoor applications
- Civil engineering applications
- Manufacturing end-use products

Carbon fiber reinforcement explained

Reinforcing filaments with carbon results in great benefits. It combines the unique properties of both materials. The properties of the thermoplastic improve with everything carbon fibers offer. Carbon fibers offer lots of benefits, such as:

- Increasing stiffness
- Reducing weight
- Increasing tensile strength
- Increasing dimensional stability
- Reducing shrinkage / warping
- Increasing heat resistance
- Increasing chemical resistance
- Masking layer lines with a matt surface finish in 3D printed objects

This makes carbon fiber reinforced filaments perfect for 3D printing applications that require stiffness and lightweight properties.

Material properties

Density

Typical value

1.1 g/cm³

Test Method

ISO 1183

Mechanical properties

Elastic tensile modulus

7580 MPa

ISO 527

Tensile strength (23°C, 50mm/min)

79 MPa

ISO 527

Elongation at break (23°C, 50mm/min)

1,8%

ISO 527

Charpy unnotched impact strength, 23°C

8 ft.lb/in²

ISO 179/1eU

Charpy notched impact strength, 23°C

2.57 ft.lb/in²

ISO 179/1eU

Thermal properties

VICAT softening point

101.6°C

ISO 306

Heat deflection temperature (HDT) @ 66 psi

100.5°C

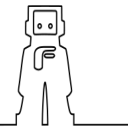
ISO 75

Heat deflection temperature (HDT) @ 264psi

95°C

ISO 75





Abrasiveness

Please be aware that carbon fiber reinforced filaments contain a relatively high concentration of extremely hard carbon fibers, which have an abrasive nature. In general these carbon fibers will accelerate the nozzle-wear of brass nozzles, much faster than unfilled filaments. We recommend to use ruby nozzles or hardened steel nozzles.

Storage and handling

Filament should be stored at room temperature in a dry and dark place with humidity below 15%. Recommended storage temperature is ca. 18-25°C (64.4 -77.0°F). Keep out of moisture, sunlight and direct heat. When stored properly, product has a shelf life of 24 months. To obtain the best parameters of the printed object, it is recommended to dry the material prior to usage and to 3D print it directly from a dry box.

Product export information

HS Code	Description	Origin
39169090	Monofilament for 3D printing	European Union

Disclaimer

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