

# CARBON-P

CARBON-P is our 15% carbon fiber reinforced PET-G based filament. The result is a more than twice as stiff filament as PET-G with increased impact and heat resistance (Vicat) to 75°C. This, together with other features, such as a matt surface, no warp, dimensionally stable and extremely forgiving to print, makes CARBON-P suitable for a very wide variety of applications besides the typically mentioned RC parts, drones, automotive and more

## Material features:

- 15% Carbon fiber reinforced PET-G
- Extremely stiff
- Increased impact and heat resistance
- No warping and dimensionally stable
- Matt surface
- Abrasive (see \* at additional info)



## Filament specs.

| Size   | Ø tolerance | Roundness |
|--------|-------------|-----------|
| 1,75mm | ± 0,05mm    | ≥ 95%     |
| 2,85mm | ± 0,10mm    | ≥ 95%     |

## Material properties

| Description                           | Testmethod      | Typical value |
|---------------------------------------|-----------------|---------------|
| Specific gravity                      | ISO 1183        | 1,31 g/cc     |
| MFI 200°C/5 kg                        | ISO 1133        | 3,8 g/10min   |
| Tensile strength at yield             | ISO 527         | 101 MPa       |
| Tensile strength at break             | ISO 527         | 100 MPa       |
| Elongation strain at yield            | ISO 527         | 2,7%          |
| Elongation strain at break            | ISO 527         | 3,7%          |
| Tensile (E) modulus                   | ISO 527         | 9930 MPa      |
| Impact strength - Charpy notched 23°C | ISO 179 1eA     | 7 kJ/m2       |
| Printing temp.                        | Internal method | 240±10°C      |
| Vicat softening temp.                 | ISO 306         | 75°C          |
| Heat deflection temp.                 | ISO 75          | 78,6°C        |

## Additional info:

We recommend to print with a heated bed, the recommend temperature is 70-90°C.

\*Please consider the use of a hardened steel nozzle when printing with CARBON-P. The carbon fibers are abrasive and will result in fast wear of regular brass nozzles. Less active cooling is required, which leads to less thermal shock in a print and increased material stability. CARBON-P can be used on all common desktop FDM or FFF technology 3D printers.

Storage: Cool and dry (15-25°C) and away from UV light. This enhances the shelf life significantly.

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