

# G-CARBON

G-CARBON 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 G-CARBON 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 G-CARBON. 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. G-CARBON 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.

"The values presented in this publication are based on eMotion Tech's knowledge and experience and are intended for reference purposes only. While eMotion Tech has made every reasonable effort to ensure the accuracy of the information in this publication, eMotion Tech does not guarantee that it is error-free, nor does eMotion Tech make any other representation, warranty or guarantee that the information is accurate, correct, reliable or current. eMotion Tech reserves the right to make any adjustments to the information contained herein at any time without notice. eMotion Tech expressly disclaims warranties of any kind regarding the information contained herein, including, but not limited to, any warranties of merchantability or fitness of a particular purpose, use or application. eMotion Tech shall not be liable for any damage, injury or loss induced from the use of eMotion Tech's products in any application. Each user should thoroughly review this publication before selecting a product and, in view of the many factors that may affect processing and application of the product, each user should carry out their own investigations and tests and determining the safety, lawfulness, technical suitability, proprietary rights, and disposal/ recycling practices of the materials for the intended application."