

# PCTG CF10

**MATERIAL PROPERTIES**

Density	1.28 g/cm <sup>3</sup>	ASTM D792
<b>Mechanical properties</b>		
Elongation at Break	5,00%	ISO 527
Tensile Strength at Yield	70 MPa	ISO 527
Tensile Strength at Break	65 MPa	ISO 527
<b>Izod Impact Strenght</b>		
Unnotched @ 23°C	45kJ/m <sup>2</sup>	ISO 179-1eU
Notched @ 23°C	4kJ/m <sup>2</sup>	ISO 179-1eU
<b>Thermal Properties</b>		
<b>Heat Distortion Temperature</b>		
@ 0.455MPa	78°C	
@ 1.820 MPa	68°C	
VICAT Softening Temperature	77°C	

**GUIDELINE FOR PRINT SETTINGS\***

Nozzle temperature	250-270°C
Bed temperature	> 50°C
Active cooling fan	50-85%
Layer height**	0.05 - 0.30 mm
Shell thickness**	0.40 - 2.70 mm
Print speed**	30-80 mm/s
Closed chamber	not necessary
Dry box	not necessary
Ruby or hardened nozzle	recommended

\* settings are based on a 0,4 mm nozzle.  
\*\* depending on the geometrical complexity

**Disclaimer**  
The product- and technical data provided in this datasheet is correct to the best of Spectrum Group Sp. z o.o. knowledge and are intended for reference and comparison purposes only. They should not be used for design specifications or quality control purposes. Actual values may vary according to printing conditions, model complexity, environmental conditions, etc. The user assumes all responsibility for the use of all information provided and shall verify quality and other properties or any consequence from the use of all such information. Typical values are indicative only and are not to be construed as being binding specifications. Spectrum Group Sp. z o.o. shall not be made liable for any damage, injury or loss induced from the use of Spectrum Group Sp. z o.o. materials in any particular application.

**DESCRIPTION**

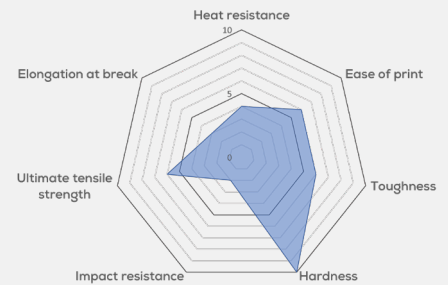
The first of the PCTG-based composites we developed was a carbon fibre version - PCTG CF10. The carbon fibres used give the filament an extremely high stiffness, while reducing the brittle fracture typical for other PETG-based carbon composites. PCTG CF10 filament allows the printing of parts with increased hardness and tensile strength compared to classic PCTG. The use of carbon fibres increases the thermal resistance of the filament, further reduces shrinkage and gives the characteristic "carbon" matt appearance to the printed models.

**FEAUTURES**

- 10% carbon fiber
- high stiffness and tensile strength
- good impact resistance
- chemical resistance
- high dimensional accuracy of the printed elements
- carbon, matt printed surface

**STORAGE AND SHELF LIFE**

Filament should be stored in a dry room at room temperature. 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.



**SUPPORT**

If you have any questions or experience any issues, please do not hesitate to contact us at [support@spectrumfilaments.com](mailto:support@spectrumfilaments.com)