Spectrum FILAMENTS

TECHNICAL DATA SHEET

PCTG CF10

MATERIAL PROPERTIES

Density	1.28 g/cm3	ASTM D792
Mechanical properties		
Elongation at Break	5,00%	ISO 527
Tensile Strength at Yield	70 MPa	ISO 527
Tensile Strength at Break	65 MPa	ISO 527
Izod Impact Strenght		
Unnotched @ 23°C	45kJ/m2	ISO 179-1eU
Notched @ 23°C	4kJ/m2	ISO 179-1eU
Thermal Properties		
Heat Distortion Temperature		
@ 0.455MPa	78°C	
@ 1.820 MPa	68°C	
VICAT Softening Temperature	89°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

DESCRIPTION

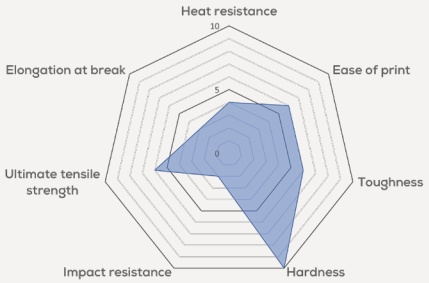
The first of the PCTG-based composites we developed was a carbon fibre version - PCTG CF10. The carbon fibres used give the filament an extremely high stiffness, while reducing the brittle fracture typical for other PETG-based carbon composites. PCTG CF10 filament allows the printing of parts with increased 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**