

# **TECHNICAL DATA SHEET**

# PET CF15

#### **MATERIAL PROPERTIES**

Specific gravity	1.40 g/cm <sup>3</sup>	ISO 1183
Water absorption, 23°C/24h	< 0.3%	ISO 62
Mechanical Properties at 23°C / 50% rh		
Tensile strength (dry, at 50 mm/min)	80 MPa	ISO 527
Elongation at max. force (dry, at 50 mm/min)	2,50%	ISO 527
Modulus of elasticity (dry, at 1 mm/min)	9 GPa	ISO 527
Flexural strength (dry, at 10 mm/min)	130 MPa	ISO 178
Flexural elongation at max. force	3,50%	ISO 178
Flexural modulus (dry, at 2 mm/min)	8 GPa	ISO 178
Charpy impact strength, dry	40 kJ/m²	ISO 179 1eU
Thermal Properties		
Service temperature (max. 200h)	125°C	

#### **GUIDELINE FOR PRINT SETTINGS\***

Nozzle temperature	245-270°C	
Bed temperature	50-70°C	
Active cooling fan	0 - 30%	
Layer height**	≥ 0.20mm	
Shell thickness**	0.50 – 3.00 mm	
Print speed**	30-80 mm/s	
Closed chamber	not necessary	
Dry box	recommended	
Ruby or hardened nozzle	recommended	
Recommended nozzle	≥ 0.5 mm	

<sup>\*</sup> settings are based on a 0,5 mm nozzle.

#### 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

Spectrum PET CF15 is a black through-dyed material based on polyethylene terephthalate (PET). It is the easiest-to-print material filled with carbon fiber on the market and shows much better temperature and mechanical properties than PET-G based materials. It presents no retraction issues and does not require a heating chamber. It demonstrates a perfect surface finish directly from the printer, thus reducing the need for further treatments.

#### **FEAUTURES**

- · a relatively high resistance to thermal ageing
- · high Z-strength
- high hardness, stiffness and creep resistance of printed elements
- · chemical resistance to lubricants and oils
- good tribological properties, including dry friction conditions such as in slide bearings
- · very robust interlayer lamination
- · excellent impact strength

### 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



<sup>\*\*</sup> depending on the geometrical complexity