

# S-Flex Carbon

## MATERIAL PROPERTIES

Density	1.23 g/cm <sup>3</sup>	ISO 1183
Shore hardness A	90	ISO 7619-1

## Mechanical properties

Charpy impact strength		
unnotched (at 23°C)*	NB	ISO 179-1eU
notched (at 23°C)*	40 kJ/m <sup>2</sup>	ISO 179-1eA
Tensile Elongation* At break	15,00%	ISO 527 (1)
Tensile Strength* At break	61 MPa	ISO 527 (1)
Elastic modulus tensile*	2200 MPa	ISO 527 (1)

## Thermal properties

VICAT Softening point*	91°C	ISO 306
Heat Deflection Temperature*		
0.45mn/m2	134°C	ISO 75
1.81mn/m2	70°C	ISO 75

## Electrical properties

Electrical resistivity surface	3E4 ohm	D 257
--------------------------------	---------	-------

\*injection moulding

## GUIDELINE FOR PRINT SETTINGS\*

Nozzle temperature	210 - 245°C
Bed temperature	45 - 70°C
Active cooling fan	do 100%
Layer height**	0.05 - 0.3 mm
Shell thickness**	0.4 - 2.7 mm
Print speed**	20 - 50 mm/s
Closed chamber	not necessary
Dry box	recommended
Ruby or hardened nozzle	recommended
Drying (if wet)	recommended***

\* settings are based on a 0.5mm nozzle

\*\* depending on the geometrical complexity

\*\*\* at least 4h at 85°C using a hot dry air oven

## 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

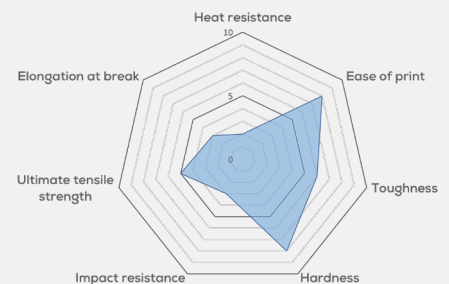
Filament S-Flex Carbon is an innovative 3D printing material that seamlessly combines the flexibility of traditional flex filament with the added strength and durability provided by a 20% carbon fiber reinforcement. This hybrid material offers a wide range of applications thanks to its unique combination of properties.

## FEAUTURES

- Flexibility and resilience
- High mechanical strength
- Resistance to UV radiation
- ESD properties
- Excellent chemical resistance
- Carbon surface finish

## PRZECHOWYWANIE I OKRES TRWAŁOŚCI

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)