

# PC/PTFE

## MATERIAL PROPERTIES

Density	1.32 g/cm <sup>3</sup>	ISO 1183
<b>Mechanical Properties</b>		
Charpy impact strength, Unnotched, at +23°C	50 kJ/m <sup>2</sup>	ISO 179-1eU
Charpy impact strength, Notched, at +23°C	12 kJ/m <sup>2</sup>	ISO 179-1eA
Tensile elongation at Yield *	3.0%	ISO 527 (1)
Tensile elongation at Break *	8.0%	ISO 527 (1)
Tensile strength at Break *	55 MPa	ISO 527 (1)
Elastic modulus **	2200 MPa	ISO 527 (1)
<b>Thermal Properties</b>		
VICAT Softening point ***	145°C	ISO 306
HDT 0.45 MN/m <sup>2</sup> , annealed	140°C	ISO 75
HDT 1.81 MN/m <sup>2</sup> , annealed	130°C	ISO 75
Flammability 3.0mm thickness	V-1	UL 94
Flammability 1.5mm thickness	HB	UL 94
<b>Electrical Properties</b>		
Electrical resistivity (surface)	1E12 ohm	D 257
<b>Tribological properties</b>		
Wear factor	4 10 <sup>-7</sup> mm <sup>3</sup> /(Nm)	D 3702
Friction Coefficient static	0.18	D 1894
Friction Coefficient dynamic	0.14	D 1894

\* (speed 5mm/min), , at +23°C

\*\* (speed 1 mm/min), at +23°C

\*\*\*50 N (heating rate 50°C/h), injection moulding

## GUIDELINE FOR PRINT SETTINGS\*

Nozzle temperature	265-295°C
Bed temperature	90-120°C
Active cooling fan	0 - 10%
Layer height**	0.05 - 0.30 mm
Shell thickness**	0.40 - 2.70 mm
Print speed**	30-80 mm/s
Closed chamber	recommended
Dry box	not necessary
Ruby or hardened nozzle	not necessary
Adhesive required	YES (Magigoo PC)

\* settings are based on a 0,4 mm nozzle.

\*\* depending on the geometrical complexity

## DESCRIPTION

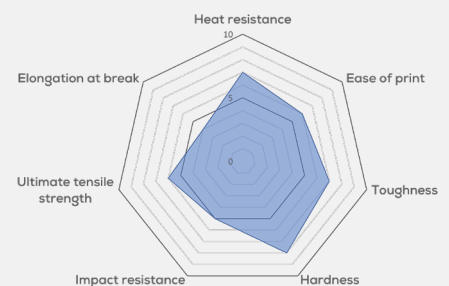
Spectrum PC/PTFE is an advanced polycarbonate-based (PC) composite filament with the addition of PTFE commonly known as teflon. The high demand and limited availability of additive manufacturing materials with very good mechanical properties, with particular emphasis on high abrasion resistance, led to the efforts aimed to combine great properties of PC and PTFE. Polycarbonate provides high mechanical resistance and PTFE complements other properties by reducing wear and friction.

## FEAUTURES

- low processing shrinkage (linear) approx. 0.6%
- high abrasion resistance
- high mechanical strength
- very strong lamination of layers

## 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)

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**Disclaimer**

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