

# PA6 CS20 FR V0

## MATERIAL PROPERTIES

Specific gravity	1.49 g/cm <sup>3</sup>	ISO 1183-3
Water absorption, 23°C/24h	< 0.3%	ISO 62
Flammability behaviour (1/16")	V-0	UL 94
Linear shrinkage	0.0-0.1%	DIN 16742

## Mechanical Properties at 23°C / 50% rh

Tensile strength (dry, at 50 mm/min)	55 MPa	ISO 527
Elongation at max. force (dry, at 50 mm/min)	1.2%	ISO 527
Modulus of elasticity (dry, at 1 mm/min)	6 GPa	ISO 527

## Thermal Properties

Heat distortion temperature (HDT A)	90°C	ISO 75
Continuous service temperature (20.000h)	120°C	IEC 60216
Service temperature (max. 200h)	160°C	

## Electrical Properties

Insulation resistance (strip electrode R25)	> 10 <sup>9</sup> Ω	DIN IEC 60167
Surface resistance (ROB)	> 10 <sup>9</sup> Ω	DIN IEC 60093

## GUIDELINE FOR PRINT SETTINGS\*

Nozzle temperature	265-290°C
Bed temperature	> 80°C
Active cooling fan	0 - 10%
Layer height**	≥ 0.20mm
Shell thickness**	0.50 - 3.00 mm
Print speed**	30-70 mm/s
Closed chamber	not necessary
Dry box	recommended
Ruby or hardened nozzle	recommended
Recommended nozzle	≥ 0.5 mm
Drying (if wet)	necessary***

\* settings are based on a 0.5 mm nozzle.

\*\*\* at least 12h at 80 using a hot dry air oven

\*\* 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

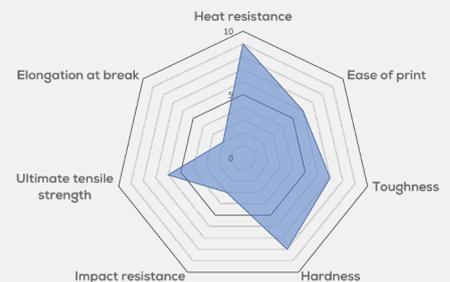
Spectrum PA6 CS20 FR V0 filament is a new flame-resistant construction material based on polyamide 6. The applied ceramic fillers enhance thermal stability without causing problems with processing. Thanks to the halogen-free flame retardant used, the UL-94 V0 flammability rating is achieved on ≥0.4 mm thick printed parts. Spectrum PA6 CS20 FR V0 also exhibits low moisture absorption, high temperature resistance and good electrical insulation. The material is compatible with HIPS and PVOH support materials. The raw material from which Spectrum PA6 CS20 FR V0 filament is made complies with the EN 45545 standard in the railway industry.

## FEAUTURES

- unprecedentedly low processing shrinkage (linear) <0.1%
- electrical insulator
- high mechanical strength
- very strong lamination of layers
- high hardness and rigidity of manufactured elements

## 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)