

# PA6 Low Warp CF15S

## MATERIAL PROPERTIES

|                                                |                        |             |
|------------------------------------------------|------------------------|-------------|
| Density                                        | 1,18 g/cm <sup>3</sup> | EN ISO 1183 |
| Moisture Absorption (23 °C / 50% r.h.)         | 2,50%                  | ISO 62      |
| Water Absorption (23 °C / saturation in water) | 8%                     | ISO 62      |

## Mechanical properties\*

|                                        |          |              |
|----------------------------------------|----------|--------------|
| Tensile strength (23 °C, 50 mm/min)    | 120 MPa  | EN ISO 527-1 |
| Tensile modulus (23 °C, 50 mm/min)     | 9000 MPa | EN ISO 527-1 |
| Elongation at break (23 °C, 50 mm/min) | 4,00%    | EN ISO 527-1 |
| Flexural Modulus (23 °C, 2 mm/min)     | 8000 MPa | EN ISO 178   |
| Flexural Strength (23 °C, 2 mm/min)    | 180 MPa  | EN ISO 178   |

## Charpy impact strength

|                  |                      |             |
|------------------|----------------------|-------------|
| Unnotched @ 23°C | 60 kJ/m <sup>2</sup> | ISO 179/1eU |
| Notched @ 23°C   | 4 kJ/m <sup>2</sup>  | ISO 179/1eU |

## Thermal properties

|                             |       |              |
|-----------------------------|-------|--------------|
| Heat Deflection Temperature |       |              |
| 1.8 MPa                     | 65°C  | ISO 75 -I/-2 |
| 0.45 MPa                    | 180°C | ISO 75 -I/-2 |

\*dry

## GUIDELINE FOR PRINT SETTINGS\*

|                         |                |
|-------------------------|----------------|
| Nozzle temperature      | 250-280°C      |
| Bed temperature         | < 80°C         |
| Active cooling fan      | 0 - 30%        |
| Layer height**          | ≥ 0.15mm       |
| Shell thickness**       | 0.50 - 3.00 mm |
| Print speed**           | 30-60 mm/s     |
| Closed chamber          | recommended    |
| Dry box                 | recommended    |
| Ruby or hardened nozzle | recommended    |
| Recommended nozzle      | ≥ 0.5 mm       |
| Drying (if wet)         | recommended*** |

\* 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

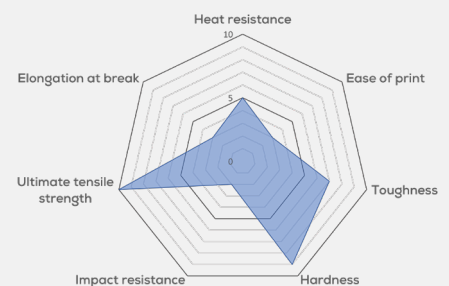
Spectrum PA6 Low Warp CF15S is a heat-stabilized, carbon fibre reinforced composite filament. The fibre content reduces the shrinkage, which is common or most high-temperature materials, making the printing process much easier and giving prints an aesthetically pleasing "carbon-like" look. Spectrum PA6 Low Warp CF15S is the best choice for printing functional models that require high rigidity and continuous high-temperature and chemical resistance.

## FEAUTURES

- 15% carbon fibres
- 2x increase in rigidness compared to non-modified polyamid
- high mechanical properties and abrasion resistance
- excellent chemical resistance
- printable on desktop devices without a heated chamber
- matt, carbonised print surface
- perfect bonding of the 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)