Spectrum FILAMENTS

# TECHNICAL DATA SHEET

# PA6 Low Warp

## MATERIAL PROPERTIES

| | | |
|---|---|---|
| Density | 1.15 g/cm3 | ISO 1183 |
| Moisture absorption, 23°C/ 50% r.h. | 3,00% | ISO 62 |
| Water absorption, 23°C/ saturation in water | 9.5% | ISO 62 |
| Melt Volume Rate, 275°C/5kg | 120 cm³/10 min | ISO 1133 |
| **Mechanical Properties** | (dry) | |
| Tensile modulus (23°C, 1mm/min) | 2 900 MPa | ISO 527-1/-2 |
| Tensile strength (23°C, 50mm/min) | 50 MPa | ISO 527-1/-2 |
| Elongation at break (23°C, 50mm/min) | 1,9% | ISO 527-1/-3 |
| Flexural modulus (23°C, 2mm/min) | 2 800 MPa | ISO 178 |
| Flexural strength (23°C, 2mm/min) | 112 MPa | ISO 178 |
| Charpy unnotched impact strength, 23°C | 139 NB kJ/m² | ISO 179/1eU |
| Charpy notched impact strength, 23°C | 6,8 kJ/m² | ISO 179/1eU |
| **Thermal Properties** | | |
| Melting temperature (DSC), 10°C/min | 185°C | ISO 3146 |
| Heat Deflection Temperature (HDT) | 60°C | ISO 75-1/-2 |
| Flammability, 1.5mm | V2 | UL-94 |

## GUIDELINE FOR PRINT SETTINGS*

| | |
|---|---|
| Nozzle temperature | 250-280°C |
| Bed temperature | 85-100°C |
| Active cooling fan | 0 - 30% |
| Layer height** | ≥ 0.15mm |
| Shell thickness** | 0.40 - 2.70 mm |
| Print speed** | 30-70 mm/s |
| Closed chamber | recommended |
| Dry box | recommended |
| Ruby or hardened nozzle | not necessary |
| Drying (if wet) | necessary*** |

* settings are based on a 0,4 mm nozzle.
** depending on the geometrical complexity
*** at least 12h at 80 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 Spectum Group Sp. z o.o. materials in any particular application.

## DESCRIPTION

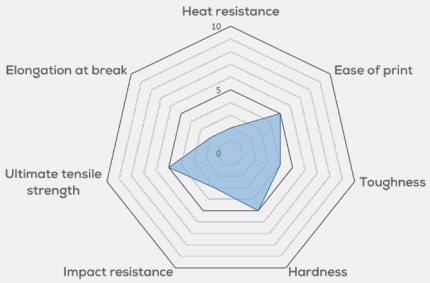
Spectrum PA6 Low Warp is an extremely durable construction material based on polycaprolactam improved with admixtures to reduce the high shrinkage inherent to the processing of such materials. The most important characteristics of the Spectrum PA6 Low Warp filament are, among others: resistance to fuel and oils, high impact strength and very good mechanical properties.

## FEAUTURES

- low processing shrinkage
- high mechanical strength
- chemical resistance to lubricants and oils
- wide variety of applications
- a very high adhesion between layers, which minimises the risk of delamination

## 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**