

Smart ABS

MATERIAL PROPERTIES

Specific Gravity	1.05 g/cm ³	D 792
Shrinkage (Flow), 3,2mm	0,4-0,7%	D955
Melt Flow Rate (220°C/10kg)	21 g/10min	D1238

Mechanical Properties

Tensile Strength at Yield, 3.2mm (50mm/min)	460 kg/cm ²	D 638
Tensile Elongation at Break, 3.2mm (50mm/min)	>10 %	D 638
Flexural Strength, 3.2mm (15mm/min)	740 kg/cm ²	D 790
Flexural Modulus, 3.2mm (15mm/min)	25 000 kg/cm ²	D 790
Rockwell Hardness, R Scale	108	D 785
Izod Impact Strength, Notched, 3,2mm @ 23°C	33 kg cm/cm	D 256
Izod Impact Strength, Notched, 3,2mm @ -30°C	16 kg cm/cm	D 256

Thermal Properties

Heat Deflection Temperature, 6.4mm	85°C	D 648
Vicat Softening Temperature	93°C	D 1525
Flammability (1.5mm & 3.0mm)	HB	UL94
Relative Temperature Index	95°C	UL 746B

GUIDELINE FOR PRINT SETTINGS*

Nozzle temperature	230-255°C
Bed temperature	100°C
Active cooling fan	0 - 25%
Layer height**	0.05 - 0.30 mm
Shell thickness**	0.40 - 2.70 mm
Print speed**	40-100 mm/s
Closed chamber	recommended for larger prints
Dry box	not necessary
Ruby or hardened nozzle	not necessary

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

** 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

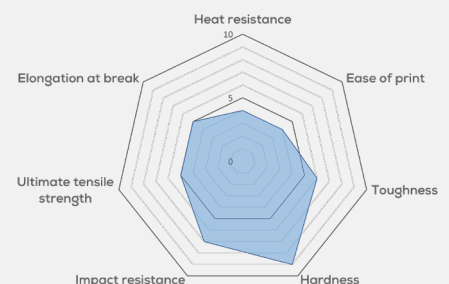
The specific qualities of Spectrum Smart ABS include a high impact resistance and relatively high rigidity. "Smart" version demonstrates improved processing parameters which considerably reduce the difficulties which accompany the additive manufacturing using the standard ABS.

FEAUTURES

- high impact resistance and rigidity
- high gloss of external surface
- reduced warping ratio (0.5-0.7%)
- good interlayer adhesion, especially using 3D printer with heated chamber
- low water absorption
- easy post-processing (grinding, drilling, sawing)

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