

TECHNICAL DATA SHEET

Spectrum Filaments ABS GP450

The material offered by Spectrum Group Sp. z o.o. has been developed and adapted to general modeling. Tests performed by Spectrum Group Sp. z o.o. have showed that it is feasible to use the offered product in most 3D printers operating in FDM/FFF technology. Before the first use, it is advisable to print out a hard proof to check if the filament is compatible with user's printer. All shown data are typical properties. The information were processed with the best knowledge of the manufacturer and it is for information only. Users should confirm results by their own tests.

Identification	
Trade name	Spectrum Filaments ABS GP450
Chemical name	Acrylonitrile Butadiene Styrene (ABS) copolymer
Use	Additive Manufacturing
Origin	Spectrum Group Sp. z o.o.

Filament specification	
Diameter	1.75mm \pm 0.05mm
Verify your spool	Yes

Material properties				
Properties	Test condition	Unit	Test method	Typical value
Density	25°C	g/cm ³	ISO 1183-1	1,04
Melt Volume Rate	220°C, 10kg	cm ³ /10	ISO 1133	18
Yield Stress	50mm/min	MPa	ISO 527-1,2	39
Elongation at Break	1mm/min	%	ISO 527-1,2	13
Tensile modulus	1mm/min	MPa	ISO 527-1,2	2100
Flexural modulus	2mm/min	MPa	ISO 178	2000
Izod notched impact strenght	23°C	KJ/m ²	ISO 180-1A	19
Izod notched impact strenght	-30°C	KJ/m ²	ISO 180-1A	10
Vicat softening temperature	B50, 50°C /h	°C	ISO 306	95
Burning behaviour UL 94	1.6mm	Class	UL94	HB

Guideline for print settings*

Nozzle temperature	235 - 255°C
Bed temperature	100°C
Active cooling fan	Yes (up to 100%)
Layer height**	0.05 - 0.35mm
Shell thickness**	0.40-1.60mm
Print speed**	30-200mm/s
Bed adhesive	3DLac, Dimafix, glue stick

* settings are based on a 0.4mm nozzle

** the range depends on the geometrical complexity