

Technical Data Sheet

Spectrum Filaments ASA 275

Identification	
Trade name	ASA 275
Chemical name	Acrylonitrile styrene acrylate
Use	Additive Manufacturing
Origin	Spectrum Group Sp. z o.o.

Filament Specification	
Diameter:	1.75 & 2.85 ± 0.05 mm

Material properties		
Melt Flow Rate ¹	5 g/10 min	ASTM D1238
Melt temperature	200-230°C	-
Density	1.08 g/cm ³	ASTM D793
Vicat softening temperature	94°C	ASTM D1525
Heat deflection temperature	86°C	ASTM D648
Tensile Strength at Yield ²	42 Mpa	ASTM D638
Tensile Elongation at Break ³	35%, (Min)	ASTM D638
Tensile Modulus ⁴	1800 MPa	ASTM D638
Flammability 1.5mm / 3.0mm	HB	UL 94

¹Test conditions: T = 220°C; m = 10.0 kg

^{2,3,4} Test conditions: 23°C, 50mm/min, 3.2mm



Guideline for print settings*	
Nozzle temperature	200-240°C
Bed temperature	40-60°C
Active cooling fan	YES (up to 100%)
Layer height**	0.05 - 0.30 mm
Shell thickness**	0.40 – 2.4 mm
Print speed**	40 – 200 mm/s


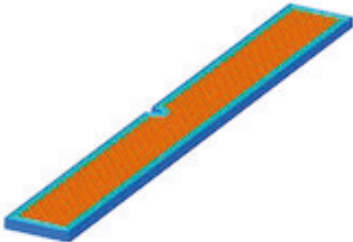
*Settings are based on a 0,4 mm nozzle.

** The range depends on the geometrical complexity



Preparation date: 08-09-2019

All shown data are typical properties. Users should confirm results by their own tests.

Mechanical properties	Tensile test		Test Method ASTM D638	
	Printed vertical (Z-axis)		Printed horizontal (X, Y-axis)	
Infill	50 %	100 %	50 %	100 %
Tensile strength (MPa)	2,9	4,0	3,6	5,2
Force at break (MPa)	2,9	4,0	3,5	5,2
Elongation at max force (%)	2,6	3,1	11,4	3,1 ; 18,1
Elongation at break (%)	2,6	3,1	10,6	18,1
Emodulus (MPa)	157,0	184,5	133,9	199,1
<p>All specimens were printed using the BLIXET B100 Multi 3D printer using following parameters:</p> <p>Nozzle temperature: 240°C Bed temperature: 100°C Printing speed: 45mm/s Number of shells: 4 Infill type: lattice Infill under: 45°</p>				

Mechanical properties	Impact test		Test Method ISO 179	
	Charpy - Printed vertical (Z-axis)		Charpy - Printed horizontal (X, Y-axis)	
Infill	50%	100%	50%	100%
Impact strength (J/cm ²)	1,42	1,21	2,04	2,52
Impact energy (mJ)	600	500	800	1000
<p>All specimens were printed using the BLIXET B100 Multi 3D printer using following parameters:</p> <p>Nozzle temperature: 240°C Bed temperature: 100°C Printing speed: 45mm/s Number of shells: 4 Infill type: lattice Infill under: 45°</p>				



Mechanical properties	Flexural test		Test Method ISO 178	
	Printed vertical (Z-axis)		Printed horizontal (X, Y-axis)	
Infill	50%	100%	50%	100%
Flexural modulus (MPa)	874	900	884	1178
Maximum bending stress (MPa)	11,72	14,01	15,71	21,15
Deflection (mm)	2,5	10	4	10
				

Preparation date: 08-05-2019

All shown data are typical properties. Users should confirm results by their own tests.