

Technical Data Sheet

Spectrum Filaments Premium PET-G

Identification	
Trade name	Premium PET-G
Chemical name	Polyethylene terephthalate glycol-modified
Use	Additive Manufacturing
Origin	Spectrum Group Sp. z o.o.



Filament Specification	
Diameter 1.75	1.75 ± 0.05 mm
Diameter 2.85	2.85 ± 0.05 mm
“Verify your spool” option	YES


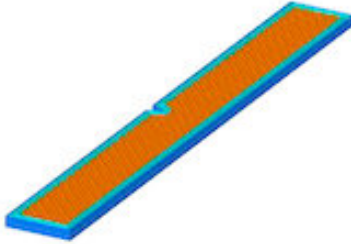
Material properties		
Melt Flow Index	11 g/10 min	ISO 1133
Melting point	> 220°C	-
Density	1.27 g/cm ³	ASTM D792
Vicat softening temperature	85°C	ISO 306
Heat deflection temperature	70°C	ISO 75
Water solubility	insoluble	-
Odor	odorless	-



Guideline for print settings*	
Nozzle temperature	230-255°C
Bed temperature	60-80°C
Active cooling fan	YES (up to 100%)
Layer height**	0.08 - 0.30 mm
Shell thickness**	0.40 – 2.4 mm
Print speed**	40 – 120 mm/s

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

** The range depends on the geometrical complexity

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)	11,5	15,9	18,7	27,1
Force at break (MPa)	11,5	15,9	17,2	25,2
Elongation at max force (%)	0,04	4,7	10,5	11,0
Elongation at break (%)	0,04	4,7	9,6	9,5
Emodulus (MPa)	283,9	341,7	266,5	360,4
<p>All specimens were printed using the BLIXET B100 Multi 3D printer using following parameters: Nozzle temperature: 240°C Bed temperature: 80°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)	1,13	1,25	1,43	1,94
Impact energy (mJ)	500	566	566	766
<p>All specimens were printed using the BLIXET B100 Multi 3D printer using following parameters: Nozzle temperature: 240°C Bed temperature: 80°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)	1388	1628	1388	1932
Maximum bending stress (MPa)	22,09	38,79	47,72	72,26
Deflection (mm)	2	9	3	10,5
<p>All specimens were printed using the BLIXET B100 Multi 3D printer using following parameters: Nozzle temperature: 240°C Bed temperature: 80°C Printing speed: 45mm/s Number of shells: 4 Infill type: lattice Infill under: 45°</p>				

Preparation date: 08-05-2019

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