

PLA 3D850

SMARTFIL® PLA 3D850 is a PLA filament developed by the company NatureWorks specifically for 3D printing. It is an improved, biodegradable PLA without thermal shrinkage.

This material is ideal for printing high resolution pieces with complex shapes, avoiding the use of supports due to its rapid crystallization, in addition, it allows printing at a higher speed than usual.

This filament has higher mechanical and thermal properties than a standard PLA.



Biodegradable



Compostable



Allow for all printers



Food Approved

	VALUES	UNIT OF MEASUREMENT	STANDARD
PHYSICAL PROPERTIES			
Chemical name	Polylactic acid		
Density	1,24	g/cm ³	ASTM D792
MECHANICAL PROPERTIES ¹			
	XY PLANE	ZX PLANE	
Tensile strength	57,7	29,9	MPa
Traction module	2636,2	3886,9	MPa
Flexion strength	103,6	60,4	MPa
Flexion module	3323,7	3112,2	MPa
Elongation at maximum effort	2,3	1,5	%
Elongation by traction at break	3,1	1,2	%
Elongation by flexion at break	5,4	2	%
Charpy Impact Force (non-notched)	18,8	6,3	kJ/m ²
Hardness	84,4		Shore D

⁽¹⁾ Values obtained on printed specimens, nozzle 0,4 mm, rectilinear infill 100%, layer height 0,2 mm. For more information please contact us by email at info@smartmaterials.com or visit our website www.smartmaterials3d.com

THERMAL PROPERTIES			
Glass transition temperature	65	°C	ISO 11357
VICAT B (50 N 50°C/h)	61	°C	ISO 306
HDT B (0,45 MPa) ²	85	°C	ISO 75

⁽²⁾ Values obtained on printed specimens and an annealing treatment.

PRINTING PROPERTIES			
Printing temperature	205 - 220	°C	
Bed temperature	40 - 60	°C	
Layer fan	100	%	
Material flow	100	%	
Layer height	≥ 0,1	mm	
Nozzle recommendations	≥ 0,2	mm	
Print speed	30 - 60	mm/s	

SIZE	NET WEIGHT	GROSS WEIGHT	DIAMETER	COLOR	PACKAGING
M	750 g	975 g	1,75 mm/2,85 mm	Several	SmartBag, security seal, desiccant bag.

NOTICE: The information provided in the data sheets is intended for reference only. It should not be used as design or quality control values. Actual values may differ significantly depending on printing conditions. The final performance of printed components not only depends on materials, design and printing conditions are also important.