

## PLA

It is a biodegradable filament and for all printers, with which we can print easily, since it has no contractions allowing, in this way, to manufacture large pieces. With our PLA filament you can get a great finish and bright colors in our pieces.



Biodegradable



Compostable



Allow for all printers



Food Approved

	VALUES	UNIT OF MEASUREMENT	STANDARD
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### PHYSICAL PROPERTIES

Chemical name	Polylactic acid		
Density	1,24	g/cm <sup>3</sup>	ASTM D792

### MECHANICAL PROPERTIES <sup>1</sup>

	XY PLANE	ZX PLANE		
Tensile strength	55,5	43,8	MPa	ISO 527
Traction module	4635,7	3129,8	MPa	ISO 527
Flexion strength	107	18	MPa	ISO 178
Flexion module	3189,7	2467,1	MPa	ISO 178
Elongation at maximum effort	1	1,4	%	ISO 527
Tensile elongation (until breakage)	1,1	1,4	%	ISO 527
Elongation by flexion at break	5,2	1,8	%	ISO 178
Charpy Impact Force (non-notched)	17,5	7	kJ/m <sup>2</sup>	ISO 179
Hardness	85		Shore D	ISO 7619-1

<sup>(1)</sup> 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](mailto:info@smartmaterials.com) or visit our website [www.smartmaterials3d.com](http://www.smartmaterials3d.com)

### THERMAL PROPERTIES

Glass transition temperature (T <sub>g</sub> )	60	°C	ISO 11357
VICAT B (50 N 50°C/h)	59	°C	ISO 306
HDT B (0,45 MPa)	60	°C	ISO 75

### 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 - 50	mm/s

SIZE	NET WEIGHT	GROSS WEIGHT	DIAMETER	COLOR	PACKAGING
S	330 g	465 g	1,75 mm	Several	SmartBag, security seal,
M	750 g	975 g	1,75 mm/2,85 mm	Several	desiccant bag.
L	1000 g	1130 g	1,75 mm/2,85 mm	Several	

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.