TECHNICAL DATA SHEET

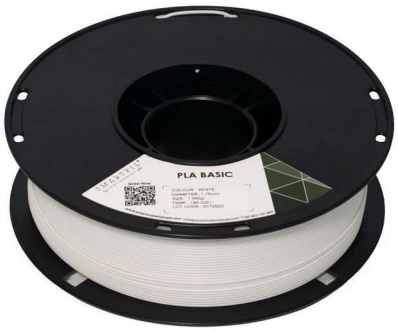
VERSION 1.2
REVISION: 29/05/2025

SMARTFIL by smart materials 3D

PLA BASIC

PLA Basic is a biodegradable filament specially designed for makers seeking fast and reliable results. Compatible with all FDM 3D printers, this material enables easy, warp-free printing, allowing for the fabrication of large parts without complications.

Thanks to its excellent flow properties, PLA Basic prints at high speeds without compromising quality. The result: clean finishes, well-defined details, and vibrant colors. Ideal for prototypes, functional parts, or everyday creative projects.



Biodegradable | Compostable | Allow for all printers

	VALUES		UNIT OF MEASUREMENT	STANDARD
PHYSICAL PROPERTIES				
Chemical name	Polylactic Acid			
Density	1,28		g/cm^3	ASTM D792
MECHANICAL PROPERTIES[1]	**XY PLANE**	**ZX PLANE**		
Tensile strength	52,26	-	MPa	ISO 527
Tensile modulus	1438,72	-	MPa	ISO 527
Flexural strength	86,85	-	MPa	ISO 178
Flexural modulus	3133,0,7	-	MPa	ISO 178
Elongation at break (to failure)	5,8	-	%	ISO 527
Impact Strength (notched)	5,375	-	kJ/m2	ISO 179
Hardness	-		Shore D	ISO 7619-1

(1) Values obtained from printed test specimens: 0.4 mm nozzle, 100% rectilinear infill, 0.2 mm layer height. For more information, please contact us by email at info@smartmaterials.com or visit our website at www.smartmaterials3d.com.

THERMICAL PROPERTIES			
Glass Transition Temperature (Tg)	58	˚C	ISO 11357
VICAT B (50 N 50˚C/h)	53	˚C	ISO 306
HDT B (0,45 MPa)	54	˚C	ISO 75
PRINTING PROPERTIES			
Printing temperature	200 – 240	˚C	
Bed temperature	45 – 55	˚C	
Fan layer	100	%	
Material Flow	100	%	
Layer height	≥ 0,1	mm	
Nozzle recommendations	≥ 0,2	mm	
Printing speed	40 – 300	mm/s	

SIZE	NET WEIGHT	GROSS WEIGHT	DIAMETER	COLOUR	PACKAGING
L	1000 g	1130 g	1,75 mm/2,85 mm	Varios	Smartfil box, deseccant gel

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