
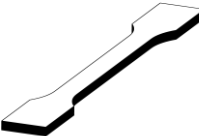


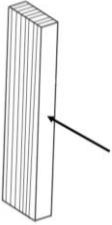
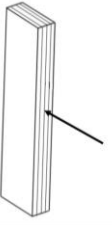
Technical Data Sheet

PLA

IDENTIFICATION	
Commercial name	PLA
Raw Material	PLA – Polylactic Acid
Use	3D printing applications

PHYSICAL PROPERTIES	VALUE	STANDARD
Density	1,24 g/cc	ASTM D1505

MECHANICAL PROPERTIES						
TENSILE TEST – STANDARD ISO 527						
Test specimens printed on Ultimaker 2+ with the following setup: - Nozzle type: standard brass - Nozzle Temperature: 210 °C - Heat bed Temp: 35 °C - Print speed: 50 mm/s - Infill orientation: 45°	 xz			 xy		
	Infill	15%	50%	100%	15%	50%
Tensile strength (Mpa)	12,3	21,8	25,4	29,3	34,6	47,8
Elastic Modulus (Mpa)	1302	1639	2190	1782	2001	2467
Elongation at break (%)	1,80	2,83	2,49	3,87	4,72	4,59
Energy at break (J)	0,5	1,3	1,4	3,1	5	6,6

IMPACT TEST IZOD – STANDARD ISO 180						
Test specimens printed on Ultimaker 2+ with the following setup: <ul style="list-style-type: none"> - Nozzle type: standard brass - Nozzle Temperature: 210 °C - Heat bed Temp: 35 °C - Print speed: 50 mm/s - Infill orientation: 45° 	zy- normal 			xy- parallel 		
	Infill	15%	50%	100%	15%	50%
Impact strength (KJ/m ²)	10,85	11,81	15,27	11,03	11,34	17,91
Impact Energy (J)	0,43	0,47	0,61	0,44	0,45	0,72

THERMAL PROPERTIES	VALUE	STANDARD
Melting point	145 – 160 °C	ASTM D3418
Glass Transition Temperature	60 °C	ASTM D3418

FILAMENT SPECIFICATIONS AND PRINT SETTINGS	
Diameter 1.75mm	1.75 ± 0.05 mm
Diameter 2.85mm	2.85 ± 0.05 mm
Roundness deviation	max 2%
Suggested Print Temperature	200 – 215 °C
Suggested Print Speed	40 – 85 mm/s
Suggested Bed Temperature	30 – 50 °C (not necessary)
Cooling fan	100%