



Authorized PANTONE Partner



# FIBERFORCE


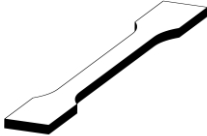
TDS Rev. 2.0  
Updated date: 20.03.2019

## Technical Data Sheet

# PLA

IDENTIFICATION	
Commercial name	FiberForce PLA
Raw Material	PLA – Polylactic Acid
Use	3D printing applications
Manufacturer	FiberForce Italy srl – Vicolo Dotti 4, 31100 Treviso (ITALY)

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

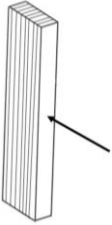
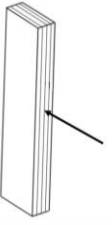


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IMPACT TEST IZOD – STANDARD ISO 180						
Test specimens printed on Ultimaker 2+ with the following setup: <ul style="list-style-type: none"> <li>- Nozzle type: standard brass</li> <li>- Nozzle Temperature: 210 °C</li> <li>- Heat bed Temp: 35 °C</li> <li>- Print speed: 50 mm/s</li> <li>- Infill orientation: 45°</li> </ul>	<b>zy- normal</b> 			<b>xy- parallel</b> 		
	Infill	15%	50%	100%	15%	50%
Impact strength (KJ/m <sup>2</sup> )	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%