

## PLA 3D870

SMARTFIL PLA 3D870 has been designed by NatureWorks especially for 3D printing.

This material offers high mechanical and thermal resistance in the parts printed with it. It has characteristics similar to ABS, maintaining the advantages and printing facilities of PLA. In addition, after printing, annealing can be applied to further improve the mechanical and thermal properties.



Biodegradable



Impact resistance



Allow for all printers

	VALUES		UNIT OF MEASUREMENT	STANDARD	
<b>PHYSICAL PROPERTIES</b>					
Chemical name	Polylactic acid				
Density	1,22		g/cm <sup>3</sup>	ASTM D792	
<b>MECHANICAL PROPERTIES <sup>1</sup></b>					
	<b>XY PLANE</b>	<b>ZX PLANE</b>			
Tensile strength	42,4	21	MPa	ISO 527	
Traction module	1835,9	2099,7	MPa	ISO 527	
Flexion strength	83	41,9	MPa	ISO 178	
Flexion module	2749	2256	MPa	ISO 178	
Elongation at maximum effort	2,4	0,9	%	ISO 527	
Elongation by traction at break	3,6	0,9	%	ISO 527	
Elongation by flexion at break	14,4	2,3	%	ISO 178	
Charpy Impact Force (non-notched)	23,8	3,3	kJ/m <sup>2</sup>	ISO 179	
Hardness	86		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 <a href="mailto:info@smartmaterials.com">info@smartmaterials.com</a> or visit our website <a href="http://www.smartmaterials3d.com">www.smartmaterials3d.com</a>					
<b>THERMAL PROPERTIES</b>					
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) <sup>(2)</sup>	80		°C	ISO 75	
<sup>(2)</sup> Values obtained on printed specimens and annealing.					
<b>PRINTING PROPERTIES</b>					
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		
<b>SIZE</b>	<b>NET WEIGHT</b>	<b>GROSS WEIGHT</b>	<b>DIAMETROS</b>	<b>COLOR</b>	<b>PACKAGING</b>
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.