

# PLA ANTIBACTERIAL

## TECHNICAL DATA SHEET VERSION 1.0

### PLA ANTIBACTERIAL

Smartfil ANTIBACTERIAL is a filament manufactured with PLA and silver nanoparticles that provide antibacterial properties to the material, preventing the growth of rust, fungus and all bacteria that causes bad smells, discoloration, stains, deterioration and corrosion on the printed pieces.

The antibacterial effectiveness of this filament has been tested and certified by an external laboratory under the norm ISO 22196. The test has been carried out on two bacterial strains: *Staphylococcus aureus* and *Escherichia coli*. The results obtained indicate a reduction in bacterial activity by 99.99% after 24 hours



**Recyclable**  
Recyclable  
Recyclable



**Antibacteriano**  
Antibacterial  
Antibactérien

	TYPICAL VALUE	UNITS	TEST METHOD		
<b>PHYSICAL PROPERTIES</b>					
Chemical Name	Modified Polylactic Acid				
Material Density	1.24	g/cm <sup>3</sup>	ISO 1183		
Glass Transition Temperature	55-60	°C	D3418		
<b>MECHANICAL PROPERTIES</b>					
Tensile Strength at Break	45.5	MPa	ISO 527		
Tensile Modulus	31800	MPa	ISO 527		
Tensile Elongation at Break	≤ 5	%	ISO 527		
Charpy Impact (Notched at 23°C)	≤ 5	KJ/m <sup>2</sup>	ISO 179 1eU		
<b>THERMAL PROPERTIES</b>					
Heat Distorsion Temperature (HDT B)	60	°C	ISO 75		
<b>PRINTING PROPERTIES</b>					
Print Temperature	200-240	°C			
Hot Pad	0-60	°C			
Fan Layer	ON (100)	%			
<b>SIZE</b>	<b>NET W.</b>	<b>GROSS W.</b>	<b>DIAMETERS</b>	<b>COLOR</b>	<b>PACKAGING</b>
M	750 g	975 g	1.75 mm/2.85 mm	Snow	SmartBag, security seal, desiccant bag

DISCLAIMER: The information provided in the data sheets is intended to be just a reference. It should not be used as design or quality control values. Actual values may differ significantly depending on the printing conditions. The final performance of the printed components does not only depend on the materials, also the design and printing conditions are important.

Smart Materials assumes no responsibility for any damage, injury or loss produced by the use of its filaments in any particular application.