

SUPPORTED BY



DISCOVER



COPPER 3D

ANTIBACTERIAL INNOVATIONS

PLACTIVE

ANTIMICROBIAL NANOCOMPOSITE



No. 102211
No. 1830-2004
No. 0020-2004



Produced by a ISO 9001/2015 company

THE NEW STANDARD IN BIOMEDICAL 3D PRINTING

We are a Chilean company founded by professionals passionate about the impact that new technologies have on the quality of life of people. Copper3D uses the best Nano-Copper additive in the world, functionalized and improved to provide the best antimicrobial action against a wide range of microorganisms. (Learn more in www.copper3d.com).

FROM THE DEEPEST COPPER MINES IN CHILE



Produced by a ISO 9001/2015 company



TO THE MOST SOFISTICATED AND HIGH END
ANTIMICROBIAL PRODUCTS OF THE WORLD

PLACTIVE AN1™ is an innovative Nanocomposite developed with a high quality PLA and a patented, scientifically validated and highly effective Nano-Copper additive. This unique combination of technologies brings the following characteristics to our products:



Antimicrobial action has been scientifically validated eliminating more than 99.99% of fungi, viruses, bacteria and a wide range of microorganisms.



Clinically tested in prosthesis for amputees with excellent results. Ideal for the manufacture of other medical applications where it's dangerous to have bacterial contamination, such as postoperative prostheses, wound dressing and surgical equipment.



Antimicrobial properties confirmed by two microbiology laboratories in Chile and USA.

PLACTIVE™ is a FDA Registered Material and EU compliant (No. 10/2011, No. 1935/2004 and No. 2023/2006).

The manufacturer also has certification ISO 9001/2015 and is REACH compliant.



The Nano-Additive maintains all the mechanical properties of the material



It has thermoforming characteristics that facilitates post-processing and final adjustments of the 3D printed application.



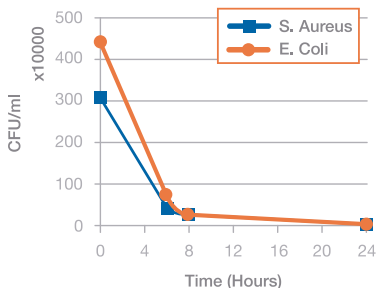
Non-toxic product and environmentally friendly (biodegradable).

PLACTIVE™ ANTIMICROBIAL ACTIVITY

This graphic shows the results of 2 studies conducted by microbiology laboratories in USA and Chile^{1,2}.

Both studies confirm that the Colony Forming Units (CFU) of Staphylococcus aureus MRSA and Escherichia coli DH5 α , falls abruptly during the first 6 hours of exposure to PLACTIVE (>95%), continuing the elimination of bacterial strains until reaching >98% elimination at 8 hours and >99.99% elimination at 24 hours.

CFU REDUCTION PLACTIVE AN1



WE BELIEVE IN THE POWER OF INNOVATION TO RESHAPE THE FUTURE.

1. SITU Biosciences Microbiology Laboratory, USA.

2. Microbiology Laboratory of Universidad Católica de Valparaíso, Chile.

3D PRINTER CONFIGURATION PARAMETERS WITH PLACTIVE™

PRINTING TEMP. 190 - 210 °C

PRINTING SPEED 40 - 50 MM/SEG

LAYER HEIGHT ≥ 0.1 MM

PRINT BED TEMP. ± 0 - 60 °C

MATERIAL PROPERTIES OF PLACTIVE™

Physical Properties	PLACTIVE™	ASIM Method
Specific Gravity, g/cc	1.24	D792
MFR, g/10 min ⁽²⁾	6	D1238
Relative Viscosity ⁽³⁾	4.0	D5225
Clarity	Transparent	-
Peak Melt Temperature, °C	145-160	D3418
Glass Transition Temperature, °C	55-60	D3418
Mechanical Property		
Tensile Yield Strength, psi (MPa)	8700 (60)	D882
Tensile Strength at Break, psi (MPa)	7700 (53)	D882
Tensile Modulus, psi (MPa)	524,000 (3.6)	D882
Tensile Elongation, %	6	D882
Notched Izod Impact, ft-lb/in (J/m)	0.3 (16)	D256
Flexural Strength, psi (MPa)	12,000 (83)	D790
Flexural Modulus, psi (MPa)	555,000 (3.8)	D790
Heat Distortion Temperature, °C	55	E2092
66 psi (0.45 MPa)		

"Keep the package sealed until ready to use and promptly reseal any unused material"

(1) Typical properties for injection molded amorphous bars; not to be construed as specifications.

(2) 210 °C/2.16kg

(3) RV measured at 1.0 g/dL in chloroform at 30°C

*Values can vary by +/- 5% due to environmental conditions

Copper 3D expects each customer or final user of its products to study the present document carefully and ask for appropriate expertise to learn about its correct uses.

Copper 3D declares that the client is made fully accountable for the ultimate use given to this product.

BE A PART OF THIS NEW ECOSYSTEM AND JOIN THE ANTIMICROBIAL 3D PRINTING REVOLUTION!

Our Antimicrobial 3D Printing Ecosystem with great added value for ALL:

- Patients
- Hospitals
- Doctors
- Universities, R&D Centers
- Startups & Makers
- Big 3D Print Developers
- Resellers

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