



DIPARTIMENTO DI FARMACIA E BIOTECNOLOGIE

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Bologna 11/12/2020

#### 1. Test Method

Analysis period	start date: 28/10/2020	end date: 07/12/2020
Material	Ceramics material	
Product	Ceramic tile	
Sample	BIOS ANTIBACTERIAL	
Test information	sample size: 50 x 50 mm <sup>2</sup> , 7 mm thickness all samples are treated with ethanol 70% for 1 hour before the analysis cover film: polyethylene film 40 x 40 mm <sup>2</sup> , 0.1 mm thickness tested bacteria: <i>Escherichia coli</i> ATCC8739, <i>Staphylococcus aureus</i> ATCC 6538P volume of test inoculum: 400 µL Inoculation medium: 1/500 NB; Incubation T°: 37 °C	
Sampling	made by Casalgrande Padana SpA	

#### 2. Test results

	MU	Results with <i>E.coli</i>	Results with <i>S.aureus</i>
N. of bacteria inoculated	n. CFU	5.00E+05	7.83E+06
Average n. of bacteria, non-treated specimen after inoculation t=0h (U0)	Log (cells/cm <sup>2</sup> )	3.35	4.92
Average n. of bacteria, non-treated specimen after 24 h (Ut)	Log (cells/cm <sup>2</sup> )	4.89	3.6
Average n. of bacteria, treated specimen after 24 h (At)	Log (cells/cm <sup>2</sup> )	1.24	1
Log reduction (R)	Log <sub>10</sub>	3.6448	3.5975
Antibacterial activity	%	99.98%	99.97%

Note: BIOS ANTIBACTERIAL has a strong antibacterial activity ( $\geq 99.97\%$ ), with R values of around 3.6 against both the bacterial strains under analysis (indicated by the International Standard ISO 22196)

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