TILE COUNCIL OF NORTH AMERICA, INC.

PRODUCT PERFORMANCE TESTING LABORATORY
100 Clemson Research Blvd., Anderson, SC 29625
Phone 864.646.8453 **Fax** 864.646.2821
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October 15, 2020

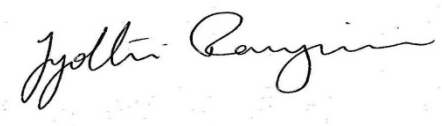
Italcer
Attn: Elena Vandelli
Via Emilia Ovest 53/a
Rubiera, 42048
ITALY

Dear Ms. Vandelli,

Tile Council of North America has tested the samples you submitted. Test report TCNA-0492-20 – Antibacterial is enclosed. If you have any questions or concerns, please contact us.

Best Regards,

TILE COUNCIL OF NORTH AMERICA, INC.



Dr. Jyothi Rangineni
Research Scientist
Enclosures

This report is confidential and has been prepared for the exclusive use of the client. It is not an endorsement, approval, certification, or criticism of any product by TCNA. This report shall not be published in any form without prior written consent from TCNA

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TCNA TEST REPORT NUMBER: **TCNA-0492-20**

TEST REQUESTED BY:
Italcer
Attn: Elena Vandelli
Via Emilia Ovest 53/a
Rubiera, 42048
ITALY

TEST SUBJECT MATERIAL: Identified by client as: **"B, B3"**

TEST DATE: 8/27/2020 - 9/30/2020

TEST PROCEDURE:
ISO 27447:2019(E): Test method for antibacterial activity of semiconducting photocatalytic materials – E. coli and S. aureus.

TEST CONDITIONS:

Test sample size:	50 mm x 50 mm
Test bacteria:	*E. coli* ATCC 8739 *S. aureus* ATCC 6538P
Volume of test suspension applied on test sample:	0.15 mL
UV exposure intensity:	0.25 mW/cm^2 and 1 mW/cm^2
UV exposure time:	8 hours
Environmental conditions for UV exposure:	Temperature at 25°C ± 1 RH ≥ 90%
UV lamp:	Interlight F40 T10/BLB 130V 40W
UV light radiometer:	Mannix UV340

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Test Results: Results of testing performed on sample **"B"** UV irradiation

Sample	Bacteria	Inoculum cfu/ml	Test number	Percentage Reduction UV 0.25 mW/cm^2*	Percentage Reduction UV 1 mW/cm^2*	Percentage Reduction Dark*
"B"	*E. coli*	10^6	Test 1	96.4%	100%	93.4%
			Test 2	95.0%	100%	95.7%
			Test 3	95.9%	100%	95.9%
	S. aureus	10^6	Test 1	100%	100%	96.7%
			Test 2	99.9%	100%	95.5%
			Test 3	100%	100%	97.2%

* Reduction in bacteria calculated per the initial number of bacteria inoculated on the surface of the bacteria

Test Results: Results of testing performed on sample **"B3"** UV irradiation

Sample	Bacteria	Inoculum cfu/ml	Test number	Percentage Reduction UV 0.25 mW/cm^2*	Percentage Reduction UV 1 mW/cm^2*	Percentage Reduction Dark*
"B3"	*E. coli*	10^6	Test 1	90.8%	100%	92.8.4%
	S. aureus	10^6	Test 1	99.1%	100%	94.9%

* Reduction in bacteria calculated per the initial number of bacteria inoculated on the surface of the bacteria

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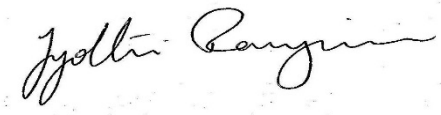
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10/15/2020

Dr. Jyothi Rangineni
Research Scientist

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