



PRODUCT PERFORMANCE TESTING LABORATORY

100 Clemson Research Blvd., Anderson, SC 29625

Phone 864.646.8453 Fax 864.646.2821

Email testing@tcnatile.com Web www.TCNAtile.com

January 13, 2021

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-0002-21 – Antiviral Phase 3 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



TCNA TEST REPORT NUMBER: TCNA-0002-21 **PAGE:** 1 OF 4

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

TEST SUBJECT MATERIAL: Identified by client as: **“Product name:
Gold - Royal Stone collection - Italcer Group”**

TEST DATE: 10/21/2020 - 1/8/2021

TEST PROCEDURE:

ISO 18061:2014(E): Fine Ceramics (Advanced Ceramics, Advanced Technical Ceramics) — Determination of antiviral activity of semiconducting photocatalytic materials.

Test method was modified to test with Human Coronavirus 229E.

TEST VIRUSES AND CELL LINES:

Virus	Cell line
Human Coronavirus 229E ATCC VR-740	MRC-5 ATCC CCL-171

ASTM Guidance on SARS-CoV-2 Surrogate Selection:

Surrogates of SARS-CoV-2 used in this testing are Human Coronavirus 229E and OC43. Surrogates were selected based on guidance provided by ASTM E35 Committee for Pesticides, Antimicrobials, and Alternative Control Agents. Further information on surrogate selection guidance provided by ASTM can be found here –

https://www.astm.org/COMMIT/GuidanceCOVID19SurrogateSel_April242020press.pdf

TEST CONDITIONS:

Test sample size: 50 mm x 50 mm
Volume of test suspension applied on test sample: 0.15 mL
Infectivity titer of virus: 10⁶ TCID₅₀/mL
Exposure conditions: UV irradiation and Dark conditions
Exposure time: 30 minutes to 8 hours
Environmental conditions for UV exposure: Temperature at 25°C ± 1
RH ≥ 90%
UV exposure intensity: 0.25 mW/cm²
UV lamp: Interlight F40 T10/BLB 130V 40W
UV light radiometer: Mannix UV340



TCNA TEST REPORT NUMBER:

TCNA-0002-21

PAGE: 2 OF 4

Test Results: Results of UV irradiation test performed on **“Gold - Royal Stone collection - Italcer Group”**

ISO 18061 using Human Coronavirus 229E on Gold - Royal Stone collection - Italcer Group					
Sample	Infectivity Titer	Exposure Conditions	Exposure Time	Reduction under UV exposure on non-treated*	Reduction under UV exposure on Gold - Royal Stone collection - Italcer Group *
“Gold - Royal Stone collection - Italcer Group”	10 ⁶ TCID ₅₀ /mL	UV Irradiation at 0.25 mW/cm ²	15 minutes	No reduction	90%
			30 minutes	No reduction	90%
			1 hour	No reduction	90%
			2 hours	No reduction	90%
			3 hours	No reduction	90%
			4 hours	No reduction	96%
			6 hours	No reduction	100%
			8 hours	No reduction	100%
* Reduction calculated as percentage per the initial infectivity titer inoculated on the surface of the tile sample					



PRODUCT PERFORMANCE TESTING LABORATORY

100 Clemson Research Blvd., Anderson, SC 29625

Phone 864.646.8453 Fax 864.646.2821

Email testing@tcnatile.com Web www.TCNAtile.com

TCNA TEST REPORT NUMBER:

TCNA-0002-21

PAGE: 3 OF 4

Test Results: Results of Dark condition test performed on **“Gold - Royal Stone collection - Italcer Group”**

ISO 18061 using Human Coronavirus 229E on Gold - Royal Stone collection - Italcer Group					
Sample	Infectivity Titer	Exposure Conditions	Exposure Time	Reduction under Dark conditions on non-treated*	Reduction under Dark conditions on Gold - Royal Stone collection - Italcer Group *
“Gold - Royal Stone collection - Italcer Group”	10 ⁶ TCID ₅₀ /mL	Dark (no UV light)	15 minutes	No reduction	No reduction
			30 minutes	No reduction	90%
			1 hour	No reduction	90%
			2 hours	No reduction	90%
			3 hours	No reduction	90%
			4 hours	No reduction	90%
			6 hours	No reduction	93%
			8 hours	No reduction	99%
* Reduction calculated as percentage per the initial infectivity titer inoculated on the surface of the tile sample					



TCNA TEST REPORT NUMBER: TCNA-0002-21
DISCLAIMER AND LIMITATION OF LIABILITY

PAGE: 4 OF 4

This report is provided for the sole use of the client and no one else. It is intended for professional use by a knowledgeable professional. If published by the client, it must be published in full, including this disclaimer and limitation of liability.

This report is not an endorsement, recommendation, approval, certification, or criticism by TCNA of any particular product or its application. TCNA recommends that anyone considering the use or installation of a particular product consult with the manufacturer or an industry professional for advice specific to the person's needs and consider any applicable laws, statutes, codes, or regulations relevant to the particular product. TCNA does not know all the different manners and applications in which a client's particular product might be used, and, therefore, it disclaims any and all duty to provide warnings or to further investigate the suitability of the use of a particular product in a particular situation.

Unless otherwise expressly stated, TCNA tested the specific test subject material provided by the client and identified in the lab report, as indicated by the client. TCNA does not independently verify the information provided by the client, and it makes no representation that similar results would be achieved with other, untested materials, even if such other materials purportedly have the same product name, are purportedly of the same or similar type of tile or product made by the client, or are purportedly from the same batch of tile or product. Nor does TCNA state that the date in this report is representative of production occurring at the same time or at any other time. Only the manufacturer may make that claim, based on sampling and quality control parameters beyond the knowledge and control of TCNA. TCNA does not provide any supervision, review, management, or quality control of any manufacturer's production.

TCNA makes no representation that the client's products are uniform or identical to the test subject material, that the test subject material is suitable for any particular use, application, or installation, or that it will exhibit the same properties when installed or used in a particular manner. The data provided in this report results from standardized laboratory testing performed under laboratory conditions. As such it does not represent all conditions under which the products may be used or subjected. For testing on actual materials being used or considered for a job site, contact TCNA for sampling provisions and possible testing.

This report is intended solely to provide the results of the test procedure stated above as performed on the test subject material provided by the client, and may not be relied on for any other purpose. TCNA MAKES NO OTHER REPRESENTATIONS OR WARRANTIES OF ANY KIND, WHETHER EXPRESS OR IMPLIED. ALL IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, IMPLIED WARRANTIES OF MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE, ARE HEREBY EXPRESSLY DISCLAIMED. IN THE EVENT OF A DISPUTE CONCERNING THIS REPORT, THE EXCLUSIVE REMEDY FOR CLIENT SHALL BE FOR TCNA TO REPEAT THE TEST REQUESTED, BUT IN NO EVENT SHALL TCNA BE LIABLE FOR AN AMOUNT GREATER THAN THE AMOUNT IT RECEIVED FROM CLIENT FOR THE TEST. UNDER NO CIRCUMSTANCES WILL TCNA BE LIABLE TO CLIENT FOR ANY OTHER DAMAGES (NOR SHALL IT BE LIABLE TO ANY OTHER PERSON OR BUSINESS ENTITY FOR ANY DAMAGES), INCLUDING WITHOUT LIMITATION ANY AND ALL DIRECT, INDIRECT, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES, RESULTING, IN WHOLE OR IN PART, FROM ANY USE OF, REFERENCE TO, OR RELIANCE UPON THE REPORT, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. TCNA DISCLAIMS ALL LIABILITY TO ANY THIRD PARTY CONCERNING THIS REPORT. THE FOREGOING LIMITATION OF LIABILITY IS A FUNDAMENTAL ELEMENT OF TCNA'S AGREEMENT TO CONDUCT AND PROVIDE THE REPORT.

1/13/2021

Dr. Jyothi Rangineni
Research Scientist