

**Testing, Experimentation and Quality Control Laboratory**

Main Laboratory Sassuolo S.r.l. - Via F.lli Setti, 7 - 42019 Scandiano - Reggio Emilia (Italy) Cod.Fisc. e P.IVA 03164360368  
Tel: 0522 982603 Fax: 0522 852834 E-mail: info@mainlaboratorysassuolo.it Web: www.mainlaboratorysassuolo.it

**TEST REPORT n. 1411/2022/I**

**CERAMIC TILES**

**SASO ISO 10545-12:2007**

**DETERMINATION OF FROST RESISTANCE**

Date of report:	03/31/2022
Customer:	<b>LAMINAM S.p.A.</b>  Via Ghiarola Nuova, 258 41042 Fiorano Modenese (MO)
Requested on:	02/07/2022
Our ref.number:	32482
Execution place of tests:	Scandiano (RE)
Description of the sample:	"Unglazed ceramic tiles 500x500 mm marked: UNGLAZED CERAMIC TILES Bia UGL RECTIFIED"
Sampling:	carried out by the customer
Receipt date of samples:	03/08/2022
Execution date of tests:	start: 03/13/2022                      end: 03/22/2022
Test specification:	SASO ISO 10545-12:2007 Ceramic tiles - Determination of frost resistance
Warnings:	<i>This test report may not be reproduced in part without our written approval. The results reported only refer to the samples tested, as received, and are only valid under the conditions in which the work was carried out. The information enclosed in inverted commas was provided by the customer and the laboratory accepts no liability for it.</i>

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**DETERMINATION OF FROST RESISTANCE**

*Principle:* after impregnation with water, submission of the tiles to a cycle between + 5°C and - 5°C, all sides of the tiles being exposed to freezing during a minimum of 100 freeze-thaw cycles.

Number of tested tiles:	10
Initial water absorption, $E_1$ (%):	0,0
Final water absorption, $E_2$ (%):	0,0
Number of damaged tiles after 100 cycles:	0
Defects before the test:	no visible defect.
Damage caused after the test:	no visible alteration.



The Director  
Giulia Gaido

End of the document

**Requirements (Standard SASO ISO 13006:2018 - Table G.1)**

Required

**Note:** the test has been carried out on 50x50 cm samples obtained by the Client by cutting slabs of dimensions 162x324 cm, 120x270 cm and 100x300 cm.