



LAB N° 1170

**TEST REPORT**

**CERAMIC TILES - DETERMINATION OF RESISTANCE OF FORCE AND BENDING STRENGTH**

**UNI EN ISO 10545-4: 2014**

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Test report n. 2827/2016 /I  
Date of report: 06/27/2016  
Customer: SERENISSIMA CIR IND. CERAMICHE SPA  
SOC. UNIPERSONALE  
Via A. Volta n.9.23.25  
42013 CASALGRANDE (RE)  
Requested on: 06/21/2016  
Our ref.number: 17808  
Execution place of tests: Scandiano (RE)  
Description of the sample: "Ceramic tiles glazed 60x60 cm  
marked :Gres Porcellanato smaltato Bia GL 60x60 RET"  
Sampling: carried out by the customer  
Receipt date of samples: 06/24/2016  
Execution date of tests: start: 06/24/2016 end: 06/27/2016  
Test specification: UNI EN ISO 10545-4:2014  
Determination of resistance to bending and breaking force  
Warnings: *This test report can not be reproduced in part, without our written consent.  
The reported results relate only to the samples tested.  
The information included in quotation marks was provided by the customer.*





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Principle: Determination of the breaking load, breaking strength and modulus of rupture of tile by applying a force at a definite rate to centre of the tile, the point of application being in contact with the proper surface of the tile.

Used method: see principle

N. of samples tested: 7

Experimental conditions: Roller diameter:  $d = 20$  mm  
Thickness of the coating roller:  $T = 5$  mm  
Distance between the support point and the edge:  $l_1 = 10$  mm  
Distance between the points of support:  $l_2 = 577$  mm  
Width of the sample:  $b = 597$  mm

Test results: **Breaking load F**

n. sample	F [N]
1	3512
2	3710
3	3576
4	3589
5	3728
6	3704
7	3727

Average breaking load:  $F_m[N] = 3650$



**Breaking strength S**

n. sample	S[N]
1	3395
2	3586
3	3456
4	3469
5	3603
6	3580
7	3602

Breaking strength average:  $S_m[N] = 3527$



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Test results: **Modulus of rupture R**

n. sample	R[N/mm <sup>2</sup> ]
1	54,1
2	59,6
3	56,3
4	58,9
5	57,4
6	59,5
7	58,6

Average modulus of rupture:  $R_m[N/mm^2]=$  57,8

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THE DIRECTOR  
(M. Simioli)