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LAB N° 1505

Laboratory for Experimental and Technological Ceramics and Brick Industries

TEST REPORT

TS N°: 287/17eng

DATE 05/01/2018

Spett.le
GRUPPO ROMANI S.p.A.
Via A. Volta, 9-23/25
42013 CASALGRANDE RE

UNI EN ISO 10545-4 : 2014

CERAMIC TILES DETERMINATION OF MODULUS OF RUPTURE AND BREAKING STRENGTH

The present norm establishes a test method in order to determine the modulus of rupture (R) and the breaking strength (S) of all the floor tiles of ceramics for means of a cargo applied on three points, with the point centers them of cargo in contact with the surface of exercise of the floor tile.

The modulus of rupture, expressed in Newton to the square millimetre, is given gives:
The breaking strength, expressed in Newton, is given gives:

$$R = 3 \cdot F \cdot L / 2 \cdot b \cdot h^2$$
$$S = F \cdot L / b$$

where: F is the necessary cargo to the breach (in Newton); L is the distance between the seams of support (in millimeters); b it is the width of the floor tile (in millimetres); h it is the minimal thickness of the champion of test (in millimeters) measured after the long test the edge of the breach.

Samples arrived 20/12/2017 (sampling executed by Costumer)

DESCRIPTION TILES : 100x100 cm
TYPE : 1B2 CERCOM MB3 GHIACCIO RET A 51 5

Test start 21/12/2017
Test finished 21/12/2017

Description equipment

- Crometro - Cod. GR AS/004
- vernier caliper up to 500 mm - Cod. GR AC/012
- feeler 0÷20 mm - Cod. AC/011
- diameter of the seam (d) : mm 20
- thickness of the rubber (t): 5
- distance between support and extremity camp. (l₁): 10

Laboratory Head
P.I. Riccardo Frabetti



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Samples arrived 20/12/2017 (sampling executed by Costumer)

DESCRIPTION TILES : 100x100 cm
TYPE : 1B2 CERCOM MB3 GHIACCIO RET A 51 5

Test start 21/12/2017
Test finished 21/12/2017

- number of tile for the test..... 7
- distance between support and extremity sample (l₁):mm..... 10
- distance between the seams of support (l₂) mm..... 920

Tile n°	l ₂	b	h	F	S	R
	mm	mm	mm	N	N	N/mm ²
1	920	1000	8,5	2845	2617	54,3
2	920	1000	8,5	2802	2578	53,5
3	920	1000	8,4	2756	2536	53,9
4	920	1000	8,4	2696	2480	52,7
5	920	1000	8,6	2877	2647	53,7
6	920	1000	8,5	2751	2531	52,5
7	920	1000	8,5	2763	2542	52,8
media	920	1000,0	8,5	2784	2562	53,4

Average breaking load F.....2784.....N

Breaking strength S.....2562.....N

Average modulus of rupture R.....53,4.....N/mm²

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