

**MODENA CENTRO PROVE s.r.l.**

Sede legale e Laboratori: 41123 Modena (Italy) - Via Sallustio, 78
Tel. 059 822417 r.a. - Fax 0598635115 - e-mail : info@modenacentroprove.it - www.modenacentroprove.com
C.C.I.A.A. Modena n. 228587 - Tribunale di Modena n° 2231 - C.F. e P. IVA n. 01592020364

MECCANICA

ECOLOGIA

CERAMICA

AUTOMOTIVE

Modena, 26/05/21

To **HARDSCAPE.COM**
15132 Park of Commerce Blvd. Ste # 103
Jupiter, FL 33478

MATERIAL and/or SAMPLE to be tested	Denomination of the Sample	Client Reference – Your delivery	date
Porcelain tiles	PORCELAIN TILES 60x60x3	Vs consegna	23/04/2021

Here attached, you will receive the Test Report of Serial No. **20213340**/n, which shows the results of tests required.

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Director
Sant'Unione dr. Giuseppe



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TEST REPORT: 20213340/1

Modena, 26/05/21

CUSTOMER	HARDSCAPE.COM - 15132 Park of Commerce Blvd. Ste # 103 Jupiter, FL 33478
MATERIAL and/o SAMPLE to be tested	Porcelain tiles;
Denomination	PORCELAIN TILES 60x60x3;
Date of sample reception	23/04/2021;
Kind of test executed	Determination of Water Absorption
Referring standards	ASTM C373-18
Shifting from standards	No one
Equipment	Scales cod. MCP A241 - Forced ventilation stove cod. C43
Subcontracted phases	No one
Sampling made by	Customer

*The test results showing in this Report are only referred to the sample taken by our staff or supplied by the Customer. He commits himself to reproduce integrally this document. Partial reproduction is forbidden.
The times of retain of the samples was indicated in the offer related to the test report.*

Examiner


p.i. Bortolai Alberto

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Ceramic Dept. Responsible
P.I. De Pasquale Roberto

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Director
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DETERMINATION OF THE INTENSITY OF WATER ABSORPTION

Beginning date : 10/05/21

Analysis ending date : 11/05/21

SAMPLE : Ceramic tiles, marked « **PORCELAIN TILES 60x60x3** »

RESULTS

Sample n°	Water Absorption (%)
1	0,13%
2	0,13%
3	0,14%
4	0,13%
5	0,14%
Average value	0,13%

Classification ANSI A137.1-2012:

P1

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TEST REPORT: 20213340/2

Modena, 26/05/21

CUSTOMER	HARDSCAPE.COM - 15132 Park of Commerce Blvd. Ste # 103 Jupiter, FL 33478
MATERIAL and/o SAMPLE to be tested	Porcelain tiles;
Denomination	PORCELAIN TILES 60x60x3;
Date of sample reception	23/04/2021;
Kind of test executed	Determination of Breaking Strength
Referring standards	ASTM C648-20
Shifting from standards	None
Equipment	Flexural test machine cod. MCP M05
Subcontracted phases	None
Sampling made by	Customer

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DETERMINATION OF BREAKING STRENGTH

Beginning date : 14/05/2021

Analysis ending date : 14/05/2021

SAMPLE : Ceramic tiles, marked « **PORCELAIN TILES 60x60x3** »

The method consists of supporting the tile on the ends of three cylindrical rods arranged in an equilateral triangle and applying force at a definite rate to the centre of the triangular support, until the specimen breaks; on the center of the floor tiles it comes applied a force, through an appropriate system, that it increases with one defined speed, until the breach of the piece.

- Length of the sides of the triangular support used in testing : 76.2 mm

RESULTS

Sample	Breaking Load (lbf)
1	7032
2	7602
3	7659
4	7481
5	7294
6	7284
7	7301
8	7428
9	7266
10	7357
Average	7370

REQUIREMENTS

(Norm ANSI A 137.1)

Average breaking strength : ≥ 250 lbf

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LAB N°1018L

Membro degli Accordi di Mutuo Riconoscimento EA, IAF e ILAC

Signatory of EA, IAF and ILAC Mutual Recognition Agreements

TEST REPORT: 20213340/3

Modena, 26/05/21

CUSTOMER	HARDSCAPE.COM - 15132 Park of Commerce Blvd. Ste # 103 Jupiter, FL 33478
MATERIAL and/o SAMPLE to be tested	Porcelain tiles;
Denomination	PORCELAIN TILES 60x60x3;
Date of sample reception	23/04/2021;
Date of sample acceptance	23/04/2021;
Kind of test executed	Determination of Dynamic Coefficient of Friction (DCOF)
Referring standards	ANSI A326.3:2017
Shifting from standards	No one
Equipment	Tribometer BOT3000E cod. MCP C143
Subcontracted phases	No one
Sampling made by	Customer

The test results reported in this Test Report refer only to the sample sampled by our staff and / or given by the Customer as received.

The sample identification data were provided by the customer. Further additional information provided by the Customer will be reported in the Test Report in blue color. If the information provided by the customer influences the validity of the results, MCP declines all responsibility.

Any changes / additions made to the Test Report after its first issue will be identified by underlining the text.

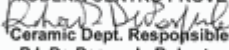
The Customer undertakes to reproduce this document in its entirety. Any form of partial reproduction is prohibited.

The storage times of the samples are indicated on the offer or contract to which this Test Report refers.

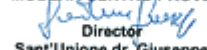
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DETERMINATION OF DYNAMIC COEFFICIENT OF FRICTION

Beginning date : 11/05/2021

Analysis ending date : 11/05/2021

SAMPLE : Ceramic tiles, marked « **PORCELAIN TILES**

60x60x3 test has been carried out using the instrument BOT 3000, tribometer of the coefficient of dynamic friction (DCOF) between a sliding SBR sensor and the surface of test.

WET OPERATING CONDITION

Wet the path that the sensor will follow with 0,05% SLS (*Sodium-Lauryl Sulfate*) water.

SAMPLE CLEANING

The sample has been clean with: **RENOVATOR 120**

SENSOR VERIFICATION

Values of DCOF on standard tile before testing test specimens	0.30
Values of DCOF on standard tile after testing test specimens	0.31

RESULTS

Test Condition	Measure 1	Measure 2	Measure 3	Measure 4	Average
Wet DCOF - tile 1	0.83	0.84	0.83	0.82	0.83
Wet DCOF - tile 2	0.84	0.83	0.85	0.84	0.84
Wet DCOF - tile 3	0.82	0.85	0.85	0.83	0.84

REFERENCE VALUES

ANSI A137.1:2017 prescribe a minimum threshold of 0,42 for level interior spaces expected to be walked upon when wet.

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TEST REPORT: 20213340/4

Modena, 26/05/21

CUSTOMER	HARDSCAPE.COM - 15132 Park of Commerce Blvd. Ste # 103 Jupiter, FL 33478
MATERIAL and/o SAMPLE to be tested	Porcelain tiles;
Denomination	PORCELAIN TILES 60x60x3;
Date of sample reception	23/04/2021;
Kind of test executed	Determination of the Resistance to Frost/Defrost Cycles
Referring standards	ASTM C1026-13(2018)
Shifting from standards	None
Equipment	Cold Room cod. MCP C133
Subcontracted phases	None
Sampling made by	Customer

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DETERMINATION OF THE RESISTANCE TO FROST/DEFROST CYCLES

Beginning date : 23/04/2021

Analysis ending date : 24/05/2021

SAMPLE : Ceramic tiles, marked « **PORCELAIN TILES 60x60x3** »

The test was performed by immersing 10 tiles in water for 24 hours and subsequently subjecting them to 5 hours at the boiling temperature, and additional 24 hours immersed in water. After this first phase, the tiles are subjected 300 times to freeze / thaw cycles from 0 ° F and 55 ° F, after 5 cycles, the specimens were removed and observed for surface defects.

RESULTS

Water absorption after 24 h (%): < 0,1%
Water absorption after 5h and 24h in boiling water (%): 0,1%
Water absorption after 300 cycles:: 0,1%

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