



LABORATORIO CERAMICO SEBASTIAN CARPI
COLEGIO OFICIAL DE INGENIEROS INDUSTRIALES DE CASTELLON

N.I.F: Q - 4670001 - I

AVENIDA DEL MAR, Nº 46 - 12003 CASTELLON
TEL: 964 208 583 - FAX: 964 202 594
www.laboratoriocarpi.com



TEST REPORT

PETITIONER: GRES DE LA MANCHA, S.L.

ADDRESS: Ctra. Consuegra, Km. 1,200

CITY: LOS YEBENES (Toledo)

TEST REPORT Nº: 51.282

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DATE OF TEST REPORT: 01/03/2012

DATE OF RECEIPT OF THE SAMPLE: 27/01/2012

DATE OF TESTS PERFORMANCE: 27/01 - 28/02/2012

NUMBER OF TILES SUPPLIED: 32

DESCRIPTION OF THE SAMPLE:

Ceramic tiles, double extruded, 310 mm x 310 mm, glazed. Ref.:

-- **Serie TABACO** --

Code lab.: 28-5-12

TEST PERFORMED:

- UNE-EN-ISO 10545-7 : DETERMINATION OF RESISTANCE TO SURFACE ABRASION.
GLAZED TILES.
- UNE-EN-ISO 10545-13 : DETERMINATION OF CHEMICAL RESISTANCE.
- UNE-EN-ISO 10545-14 : DETERMINATION OF RESISTANCE TO STAINS.
- UNE 67101 and 1M : DETERMINATION OF SCRATCH HARDNESS ACCORDING TO MOHS.

José A. Estibález Catalán
MANAGER

The samples and his description have been chosen by the petitioner.

The reported results relate only to the samples tested.

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The uncertaintys have been evaluated according to recommendations of document ISO/TAG5/WGE : June 95.



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Petitioner: GRES DE LA MANCHA

Date: 01/03/2012

DETERMINATION OF RESISTANCE TO SURFACE ABRASION *** GLAZED TILES ***

DESCRIPTION OF THE SAMPLE.-

Ceramic tiles, double extruded, 310 mm x 310 mm, glazed. Ref.:

-- **Serie TABACO** --

Code lab.: 28-5-12

RESULTS.- (Test performed after **UNE-EN-ISO 10545 Part 7:1999**)

* Classification: **Class 1**

* Abrasion stage at which visual failure occurred: **150 revolutions.**



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Petitioner: GRES DE LA MANCHA

Date: 01/03/2012

DETERMINATION OF CHEMICAL RESISTANCE

DESCRIPTION OF THE SAMPLE.-

Ceramic tiles, double extruded, 310 mm x 310 mm, glazed. Ref.:

-- **Serie TABACO** --

Code lab.: 28-5-12

RESULTS.- (Test performed after **UNE-EN-ISO 10545 Part 13:1998**)

* Number of test specimens used with each test solution: FIVE.

<u>Test solutions</u>	<u>Classification</u>	<u>Visual Changes</u>
* <u>Household chemicals</u> - Ammonium Chloride	GA	- No visible effects.
* <u>Swimming pool salts</u> - Sodium Hypochlorite	GA	- No visible effects.
* <u>Acids and Alkalis (Low concentrations)</u> - Hydrochloric Acid	GLA (V)	- Slight change in appearance.
- Citric Acid	GLA	- No visible effects.
- Potassium Hydroxide	GLA	- No visible effects.
* <u>Acids and Alkalis (High concentrations)</u> - Hydrochloric Acid	GHA (V)	- Slight change in appearance.
- Lactic Acid	GHA	- No visible effects.
- Potassium Hydroxide	GHA	- No visible effects.



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Petitioner: GRES DE LA MANCHA

Date: 01/03/2012

DETERMINATION OF RESISTANCE TO STAINS

DESCRIPTION OF THE SAMPLE.-

Ceramic tiles, double extruded, 310 mm x 310 mm, glazed. Ref.:

-- **Serie TABACO** --

Code lab.: 28-5-12

RESULTS.- (Test performed after **UNE-EN-ISO 10545 Part 14:1998**)

* Number of test specimens used with each test solution: FIVE.

<u>Staining Agents</u>	<u>Cleaning Procedure</u>	<u>Class</u>	<u>Observations</u>
* <i><u>Stains having tracing action (Pastes).</u></i> - Green staining agent in light oil	- Running hot water for five minutes. (Procedure A).	5	- Stain removed.
* <i><u>Stains having chemical / oxidizing action</u></i> - Iodine alcohol solution	- Running hot water for five minutes. (Procedure A).	5	- Stain removed.
* <i><u>Stains having filming action</u></i> - Olive oil	- Running hot water for five minutes. (Procedure A).	5	- Stain removed.

* Observations: The chromium oxide used as green staining agent have a grain size less than 80 microns, being the 50 % (m/m) of theirs down on 3 microns.



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DETERMINATION OF SCRATCH HARDNESS ACCORDING TO MOHS

DESCRIPTION OF THE SAMPLE.-

Ceramic tiles, double extruded, 310 mm x 310 mm, glazed. Ref.:

-- **Serie TABACO** --

Code lab.: 28-5-12

RESULTS.- (Test performed after Standard **UNE 67-101:1985 and UNE 67-101/1M:1992**) (*)

<u>Tile</u>	<u>Mohs Hardness</u>
1	6
2	6
3	6

(*) Note: This standards are repealed since 18.03.2009.