



**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: 51.280

PAGE Nº: 1 / 5

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, 245 mm x 245 mm, glazed. Ref.:

-- **Serie ROCINANTE** --

Code lab.: 28-3-12

### 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.

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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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Page n°: 2 / 5  
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Date: 01/03/2012

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

**DESCRIPTION OF THE SAMPLE.-**

Ceramic tiles, double extruded, 245 mm x 245 mm, glazed. Ref.:

-- **Serie ROCINANTE** --

Code lab.: 28-3-12

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

\* Classification: **Class 2**

\* Abrasion stage at which visual failure occurred: **600 revolutions.**

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Page n°: 3 / 5

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## DETERMINATION OF CHEMICAL RESISTANCE

### DESCRIPTION OF THE SAMPLE.-

Ceramic tiles, double extruded, 245 mm x 245 mm, glazed. Ref.:

-- **Serie ROCINANTE** --

Code lab.: 28-3-12

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

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

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



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Page n° : 4 / 5

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## DETERMINATION OF RESISTANCE TO STAINS

### DESCRIPTION OF THE SAMPLE.-

Ceramic tiles, double extruded, 245 mm x 245 mm, glazed. Ref.:

-- **Serie ROCINANTE** --

Code lab.: 28-3-12

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

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

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

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## DETERMINATION OF SCRATCH HARDNESS ACCORDING TO MOHS

### DESCRIPTION OF THE SAMPLE.-

Ceramic tiles, double extruded, 245 mm x 245 mm, glazed. Ref.:

-- **Serie ROCINANTE** --

Code lab.: 28-3-12

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

<u>Tile</u>	<u>Mohs Hardness</u>
1	8
2	8
3	8

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