



**LABORATORIO CERAMICO SEBASTIAN CARPI**  
COLEGIO OFICIAL DE INGENIEROS INDUSTRIALES DE CASTELLÓN

C.I.F.: Q - 4670001-I

**AVENIDA DEL MAR, Nº 46 - 12003 CASTELLÓN**

**TEL: 964 208 583 - FAX: 964 723 141**

**www.laboratoriocarpi.com**

## TEST REPORT

PETITIONER: VIDREPUR, S.A.  
ADDRESS: Pol. Ind. Mijares, C/ Comercio, nº 3  
CITY: ALMAZORA (Castellón)

TEST REPORT Nº: 54.940

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DATE OF TEST REPORT: 16/02/2016

DATE OF RECEIPT OF THE SAMPLE: 03/02/2016

DATE OF TESTS PERFORMANCE: 03 - 12/02/2016

NUMBER OF TILES SUPPLIED: 2 m<sup>2</sup>

### DESCRIPTION OF THE SAMPLE:

Glass mosaic, 25 mm x 25 mm. Ref.:

-- **Serie: 950** --

Code laboratory: 38-16

### TEST PERFORMED:

- UNE-EN-ISO 10545-2 and ERRATUM: DETERMINATION OF SURFACE QUALITY.
- UNE-EN-ISO 10545-3 : DETERMINATION OF WATER ABSORPTION.
- UNE-EN-ISO 10545-7 : DETERMINATION OF RESISTANCE TO SURFACE ABRASION. GLAZED TILES.
- UNE-EN-ISO 10545-8: DETERMINATION OF LINEAR THERMAL EXPANSION.
- UNE-EN-ISO 10545-11 : DETERMINATION OF CRAZING RESISTANCE. GLAZED TILES.
- UNE-EN-ISO 10545-13 : DETERMINATION OF CHEMICAL RESISTANCE.
- UNE-EN-ISO 10545-14 : DETERMINATION OF RESISTANCE TO STAINS.

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

The expanded uncertainties indicated in this report are based on a standard uncertainty multiplied by a coverage factor k=2 wich a normal distribution provides a level of confidence of about 95 %.



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## DETERMINATION OF SURFACE QUALITY

### DESCRIPTION OF THE SAMPLE.-

Glass mosaic, 25 mm x 25 mm. Ref.:

-- **Serie: 950** --

Code laboratory: 38-16

### RESULTS.- (Test performed after **UNE-EN-ISO 10545 Part 2 and Erratum:1998**)

\* The number of tiles tested: **1 m<sup>2</sup>**.

\* The percentage of tiles without defects: **100 %**

\* Observations: The tiles tested are free from visible defects.

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## DETERMINATION OF WATER ABSORPTION

### DESCRIPTION OF THE SAMPLE.-

Glass mosaic, 25 mm x 25 mm. Ref.:

-- **Serie: 950** --

Code laboratory: 38-16

### RESULTS.- (Test performed after **UNE-EN-ISO 10545 Part 3:1997**)

\* Water absorption for each tile (**Boiling method "E<sub>b</sub>"**):

<b>Tile</b>	<b>Water absorption (E<sub>b</sub>) (%)</b>
1	0.1
2	0.1
3	0.0
4	0.1
5	0.1

\* Average water absorption of the sample: **0.1 %**

\* Measurement uncertainty: **U = ± 0.1 % (k=2)**

\* Average value uncertainty: **U = ± 0.1 % (k=2)**



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## DETERMINATION OF RESISTANCE TO SURFACE ABRASION

**\* GLAZED TILES \***

### DESCRIPTION OF THE SAMPLE.-

Glass mosaic, 25 mm x 25 mm. Ref.:

-- **Serie: 950** --

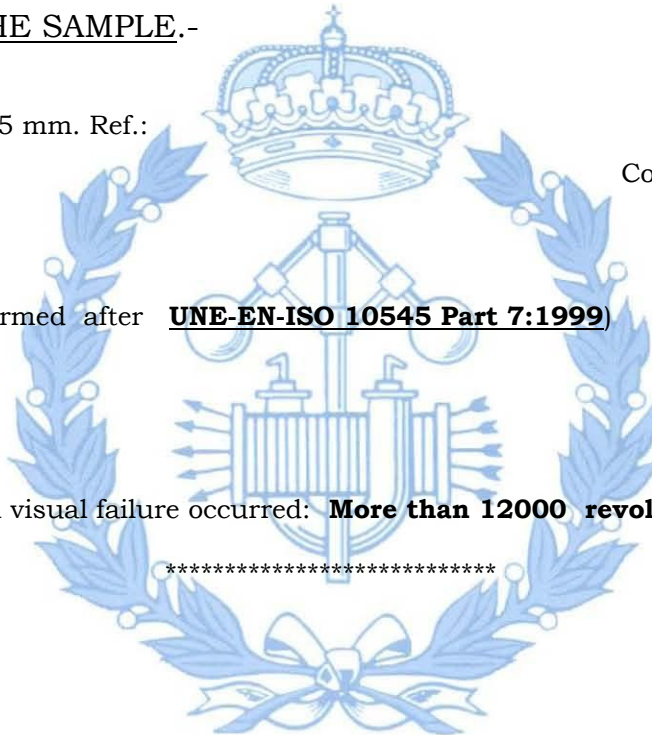
Code laboratory: 38-16

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

\* Classification: **Class 4**

\* Abrasion stage at which visual failure occurred: **More than 12000 revolutions.**

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## DETERMINATION OF LINEAR THERMAL EXPANSION

### DESCRIPTION OF THE SAMPLE.-

Glass mosaic, 25 mm x 25 mm. Ref.:

-- **Serie: 950** --

Code laboratory: 38-16

RESULTS.- (Test performed after **UNE-EN-ISO 10545 Part 8:2014**)

<u>Specimen</u>	<u>Coefficient of linear thermal expansion (from 30° to 100 °C )</u>
1	$8.7 \times 10^{-6}/^{\circ}\text{C}$
2	$8.7 \times 10^{-6}/^{\circ}\text{C}$

\* Measurement uncertainty:  **$U = \pm 0.3 \times 10^{-6}/^{\circ}\text{C}$  (k=2)**

\* Observations: The dimensions of the test specimens are:  $P_1 = 49.01 \times 4.16 \times 5.60$  mm and  $P_2 = 49.08 \times 4.00 \times 5.27$  mm.

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## DETERMINATION OF CRAZING RESISTANCE

### **\* GLAZED TILES \***

#### DESCRIPTION OF THE SAMPLE.-

Glass mosaic, 25 mm x 25 mm. Ref.:

-- **Serie: 950** --

Code laboratory: 38-16

#### RESULTS.- (Test performed after **UNE-EN-ISO 10545 Part 11:1997**)

\* Number of tiles tested: **Five**

\* Number of tiles showing crazing: **Not - one.**

\* Description of crazing: The tiles tested are free from crazes on the glazed surface.

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## DETERMINATION OF CHEMICAL RESISTANCE

### DESCRIPTION OF THE SAMPLE.-

Glass mosaic, 25 mm x 25 mm. Ref.:

-- **Serie: 950** --

Code laboratory: 38-16

### 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 .....	<b>GA</b>	- No visible effects.
* <u>Swimming pool salts</u> - Sodium Hypochlorite .....	<b>GA</b>	- No visible effects.

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## DETERMINATION OF RESISTANCE TO STAINS

### DESCRIPTION OF THE SAMPLE.-

Glass mosaic, 25 mm x 25 mm. Ref.:

-- **Serie: 950** --

Code laboratory: 38-16

### 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>Stains having tracing action (Pastes).</i> - Green staining agent in light oil .....	- Running hot water for five minutes. (Procedure A).	<b>5</b>	- Stain removed.
* <i>Stains having chemical / oxidizing action</i> - Iodine alcohol solution .....	- Running hot water for five minutes. (Procedure A).	<b>5</b>	- Stain removed.
* <i>Stains having filming action</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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## CONCLUSIONS

### DESCRIPTION OF THE SAMPLE.-

Glass mosaic, 25 mm x 25 mm. Ref.:

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### CONCLUSIONS.-

The results obtained in the test report accomplish the specifications of the Standard **ISO 13006:2012 (Annex G)** (Dry-pressed ceramic tiles, with low water absorption  **$E_b \leq 0.5$  % Group BIa**).

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