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
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TEST REPORT

PETITIONER: VIDREPUR, S.A.

ADDRESS: C/ Comercio, nº 4

CITY: ALMAZORA (Castellón)

TEST REPORT Nº: 51.831

PAGE Nº: 1 / 6

DATE OF TEST REPORT: 31/07/2012

DATE OF RECEIPT OF THE SAMPLE: 17/07/2012

DATE OF TESTS PERFORMANCE: 17 – 31/07/2012

NUMBER OF TILES SUPPLIED: 300 units.

DESCRIPTION OF THE SAMPLE:

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

-- **Serie "LUX"** -- Code Lab.: 264-12

TEST PERFORMED:

- UNE-EN-ISO 10545-3 : DETERMINATION OF WATER ABSORPTION.
- 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.
- UNE 67101 and 1M : DETERMINATION OF SCRATCH HARDNESS ACCORDING TO MOHS.

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JOSE ANTONIO ESTIBALEZ CATALAN - NIF:18922203B

Firmado digitalmente por JOSE ANTONIO ESTIBALEZ CATALAN - NIF:18922203B
Nombre de reconocimiento (DN): cn=JOSE ANTONIO ESTIBALEZ CATALAN - NIF:18922203B, sn=ESTIBALEZ CATALAN, givenName=JOSE ANTONIO, c=ES, o=Generalitat Valenciana, ou=Ciudadanos, serialNumber=18922203B
Fecha: 2012.08.01 08:46:49 +02'00'

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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DETERMINATION OF WATER ABSORPTION

DESCRIPTION OF THE SAMPLE.-

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

-- **Serie "LUX"** -- Code Lab.: 264-12

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

* Water absorption for each tile (**Boiling method** " $\mathbf{E_b}$"):

Tile	**Water absorption (E_b) (%)**
1	0.0
2	0.1
3	0.1
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 CRAZING RESISTANCE
* GLAZED TILES *

DESCRIPTION OF THE SAMPLE.-

Glass mosaic, 25 mm x 25 mm. Ref.:
-- **Serie "LUX"** -- Code Lab.: 264-12

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

* Number of tiles tested: **Twenty-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 "LUX"** -- Code Lab.: 264-12

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

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

Test solutions	**Classification**	**Visual Changes**
* *Household chemicals*		
- Ammonium Chloride	**GA**	- No visible effects.
* *Swimming pool salts*		
- Sodium Hypochlorite	**GA**	- No visible effects.
* *Acids and Alkalis (Low concentrations)*		
- Hydrochloric Acid	**GLA**	- No visible effects.
- Citric Acid	**GLA**	- No visible effects.
- Potassium Hydroxide	**GLA**	- No visible effects.
* *Acids and Alkalis (High concentrations)*		
- Hydrochloric Acid	**GHA**	- No visible effects.
- Lactic Acid	**GHA**	- No visible effects.
- Potassium Hydroxide	**GHA**	- 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 "LUX"** -- Code Lab.: 264-12

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

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

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

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

-- **Serie "LUX"** -- Code Lab.: 264-12

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

Tile	**Mohs Hardness**
1	4
2	4
3	4

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