



## **CARACTERISTICAS TECNICAS / Technical features**

**100 x 200 mm.    Bisel Blanco Brillo (Group BIII)**

# CARACTERISTICAS TECNICAS / Technical features

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Nº 15 / LE 064

**FORMATO/Size :** 100 x 200 mm.

**FECHA ACTUALIZACION**

**Updated Date:** 01/03/2017

**ARTICULO/Item :** Dry-pressed ceramic tiles, dust pressed,

**100 x 200 mm.** , glazed.

Ref: **Bisel Blanco Brillo (Group BIII)**

Code: 62-17

## **TEST REPORT nº 55.831**

- 1 >> UNE-EN-ISO 10545-2 and Erratum: DETERMINATION OF DIMENSIONS AND SURFACE QUALITY.
- 2 >> UNE-EN-ISO 10545-3: DETERMINATION OF WATER ABSORPTION.
- 3 >> UNE-EN-ISO 10545-4: DETERMINATION OF MODULUS OF RUPTURE AND BREAKING STRENGTH.
- 4 >> UNE-EN-ISO 10545-8: DETERMINATION OF LINEAR THERMAL EXPANSION.
- 5 >> UNE-EN-ISO 10545-9: DETERMINATION OF RESISTANCE TO THERMAL SHOCK.
- 6 >> UNE-EN-ISO 10545-11: DETERMINATION OF CRAZING RESISTANCE. GLAZED TILES.
- 7 >> UNE-EN-ISO 10545-13: DETERMINATION OF CHEMICAL RESISTANCE.
- 8 >> UNE-EN-ISO 10545-14: DETERMINATION OF RESISTANCE TO STAINS.

**1 >> UNE-EN-ISO 10545-2 and Erratum: DETERMINATION OF DIMENSIONS AND SURFACE QUALITY.**

### **\*\*MEASUREMENTS OF LENGTH AND WIDTH\*\***

- > Work size: **200 mm x 100 mm**
- > Average length of the sample: **199.7 mm**
- > Average width of the sample: **100.0 mm**
- > Maximum deviations of the average measurements form the work size: **0.10 % / -0.25 %**
- > Maximum deviations of the average measurements form the work size: **0.1 mm / -0.5 mm**
- > Maximum deviations of the average measurements form the average size of the sample: **0.10 % / -0.10 %**
- > Deviations uncertainty: **U = +- 0.10 % ; U= +- 0.1 mm (k=2)**

### **\*\*MEASUREMENTS OF THICKNESS\*\***

- > Work size thickness: **7.3 mm**
- > Average thickness of the sample: **7.3 mm**
- > Maximum deviation of the thickness from the work size thickness: **1.37 %**
- > Maximum deviation of the thickness from the work size thickness: **0.1 mm**
- > Deviations uncertainty: **U = +- 1.37 % ; U= +- 0.1 mm (k=2)**

### **\*\*MEASUREMENTS OF STRAIGHTNESS OF SIDES\*\***

- > Work size: **200 mm x 100 mm**
- > Maximum deviation from straightness, related to the work size: **0.20 % / -0.10 %**
- > Deviations uncertainty: **U = +- 0.03 % (k=2)**

### **\*\*MEASUREMENTS OF RECTANGULARITY\*\***

- > Work size: **200 mm x 100 mm**
- > Maximum deviation from rectangularity, related to the work size: **0.45 % / -0.40 %**
- > Deviations uncertainty: **U = +- 0.03 % (k=2)**

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**\*\*MEASUREMENTS OF SURFACE FLATNESS\*\***

- > Work size: **200 mm x 100 mm**
- > Diagonal calculated from the work size: **223.6 mm**
- > Maximum centre curvature, related to the diagonal: **0.16 %**
- > Maximum edge curvature, related to the work size: **0.40 %**
- > Maximum warpage, related to the diagonal: **0.27 % / -0.22 %**
- > Deviations uncertainty: **U = +- 0.03 % (k=2)**

**\*\*DETERMINATION OF SURFACE QUALITY\*\***

- > The number of tiles tested: **50 tiles**
- > The percentage of tiles without defects: **100%**
- > Observations: **The tiles tested are free from visible defects.**

**2 >> UNE-EN-ISO 10545-3: DETERMINATION OF WATER ABSORPTION.**

- > Water absorption for each tile, (**BOILING METHOD "E b"**):
- > Average water absorption of the sample: **15.7 %**
- > Measurement uncertainty: **U = +- 0.4 % (k=2)**
- > Average value uncertainty: **U = +- 0.5 % (k=2)**

**3 >> UNE-EN-ISO 10545-4: DETERMINATION OF MODULUS OF RUPTURE AND BREAKING STRENGTH.**

- > Parameters: **l2= 180 mm | l1 = 10 mm | t = 5 mm | d = 20 mm**
- > Measurement uncertainty:

<b>Uf = 4.3 N</b>	<b>Us = 8.0 N</b>	<b>Ur = 0.9 N/mm2</b>	<b>(k=2)</b>
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- > Average value uncertainty:

<b>Uf = 13 N</b>	<b>Us = 23 N</b>	<b>Ur = 1 N/mm2</b>	<b>(k=2)</b>
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**4 >> UNE-EN-ISO 10545-8: DETERMINATION OF LINEAR THERMAL EXPANSION.**

**\*\* Coefficient of linear thermal expansion (from 30° to 100° C) \*\***

- > Measurement uncertainty: **U = +- 0.3 % x 10<sup>-6</sup> /° C (k=2)**
- > Observations: **The dimensions of the test specimens are: P1 = 50.74 x 5.16 x 5.09 mm and P2 = 50.71 x 5.85 x 5.22 mm.**

**5 >> UNE-EN-ISO 10545-9: DETERMINATION OF RESISTANCE TO THERMAL SHOCK.**

- > Water absorption of the tiles: **More than 10 %**
- > Type of test performed: **Without immersion.**
- > Number of test specimens: **FIVE.**
- > Number of test specimens with visible defects: **Not - one.**
- > Observations: **The tiles tested are free from visible defects.**

**6 >> UNE-EN-ISO 10545-11: DETERMINATION OF CRAZING RESISTANCE. GLAZED TILES.**

- > 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.**

**7 >> UNE-EN-ISO 10545-13: DETERMINATION OF CHEMICAL RESISTANCE.**

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

Test solutions	Classification	Visual Changes
<b>= Household chemicals:</b>		
Ammonium Chloride.....	<b>GA</b>	No visible effects.
<b>= Swimming pool salts:</b>		
Sodium Hypochlorite.....	<b>GA</b>	No visible effects.

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**8 >> UNE-EN-ISO 10545-14: DETERMINATION OF RESISTANCE TO STAINS.**

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

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

**CONCLUSIONS**

DESCRIPTION OF THE SAMPLE:

Dry-pressed ceramic tiles, 100 x 200 mm. , glazed.  
Ref: \*\*\*\* **10 x 20 BISEL BLANCO BRILLO (Group BIII)\*\*\*\*** Code: 62-17

CONCLUSIONS:

The results obtained in the test report accomplish the specifications of the Standard **ISO 13006:2012 (Annex L) (Dry-pressed ceramic tiles, with water absorption  $E_b > 10\%$  Group BIII)**

En Valencia, 26/03/2017

Dpto. Calidad



**CLAUSULAS DE RESPONSABILIDAD / Liability clauses:**

>> *Los resultados obtenidos se refieren unicamente a las muestras tomadas para ensayo /  
/ The results refer only to samples taken for testing.*  
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