



CARACTERISTICAS TECNICAS / Technical features

100 x 200 mm. White Bevelled Ceramic Gloss

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FORMATO/Size : 100 x 200 mm.

FECHA ACTUALIZACION

Updated Date: 01/03/2023

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

100 x 200 mm. Gloss Tile

Ref: **Metro White Bevelled Ceramic Gloss** 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
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- > Measurement uncertainty:

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

Uf = 13 N	Us = 23 N	Ur = 1 N/mm2	(k=2)
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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 10⁻⁶ /° 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. GLOSS 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
= Household chemicals:		
Ammonium Chloride.....	GA	No visible effects.
= Swimming pool salts:		
Sodium Hypochlorite.....	GA	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
= 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.**

CONCLUSIONS

DESCRIPTION OF THE SAMPLE:

Dry-pressed ceramic tiles, 100 x 200 mm. , GLOSS
Ref: **** **Metro White Bevelled Ceramic Gloss** 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 **Eb > 10% Group BIII**)

En Valencia, 01/03/2023

Dpto. Calidad



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