

# PRODUCT CERTIFICATE

Finished Product Laboratory

## ISO 13006-10545

Equivalent to the Brazilian Norm NBR 15463/NBR 13818

Dry-pressed ceramic tiles with low water absorption  $E_b \leq 0,5\%$

**PRODUCT:** BIANCO 30X60 Polish Rectified

**PRODUCT:** PORCELAIN TILE

**SIZE:** 30X60

**SIZE:** 24910E

**LINE:** TRAVERTINO NAVONA



| Characteristics                                                            | Test as per                                                     | Results                         |
|----------------------------------------------------------------------------|-----------------------------------------------------------------|---------------------------------|
| Physical                                                                   |                                                                 |                                 |
| Water Absorption (%E)                                                      | ISO 10545-3<br>NBR 13818 - annex: B (E ≤ 0,5%)                  | 0,5                             |
| Coefficient of Linear Thermal Expansion<br>50 at 500°C (°C <sup>-1</sup> ) | ISO 10545-8<br>NBR 13818 - annex: K                             | α = 68 ± 2,0 . 10 <sup>-7</sup> |
| Modulus of Breaking Strength (MPa)                                         | ISO 10545-4<br>NBR 13818 - annex: C (NBR 15463 Average: ≥ 37)   | 37                              |
| Breaking Load (N)                                                          | ISO 10545-4<br>NBR 13818 - annex: C (NBR 15463 Average: ≥ 1500) | 1500                            |
| Moisture Expansion (mm/m)                                                  | ISO 10545- 10<br>NBR 13818 - annex: J                           | 0,1                             |
| Resistance to Deep Abrasion (mm3)                                          |                                                                 | NA                              |
| Crazing Resistance                                                         | ISO 10545-11<br>NBR 13818 - annex: F                            | Resist                          |
| Resistance to Thermal Shock                                                | ISO 10545-9<br>NBR 13818 - annex: L                             | Resist                          |
| Chemical                                                                   |                                                                 |                                 |
| Resistance to Stains                                                       |                                                                 |                                 |
| Green staining agent in light oil                                          | ISO 10545-14<br>NBR 13818 - annex: G<br>(Minimum: 3)            | 5                               |
| Red staining agent in light oil                                            |                                                                 | 4                               |
| Iodine                                                                     |                                                                 | 5                               |
| Olive Oil                                                                  |                                                                 | 5                               |
| Chemical Resistance                                                        |                                                                 |                                 |
| Hydrochloric Acid 3% (v/v)                                                 | ISO 10545-13<br>NBR 13818 - annex: H<br>(Minimum: C)            | B                               |
| Potassium Hydroxide 30g/L                                                  |                                                                 | B                               |
| Citric Acid 100g/L                                                         |                                                                 | B                               |
| Lactic Acid 5% (v/v)                                                       |                                                                 | B                               |
| Hydrochloric Acid 18% (v/v)                                                |                                                                 | B                               |
| Potassium Hydroxide 100g/L                                                 |                                                                 | B                               |
| Ammonium Chloride 100g/L                                                   |                                                                 | A                               |
| Sodium Hypochloride 20mg/L                                                 |                                                                 | A                               |

| Coefficient of Friction                                |                                                                       |     |
|--------------------------------------------------------|-----------------------------------------------------------------------|-----|
| Dry Surface                                            | NBR 13818 - annex: N<br>Method: TORTUS III<br>(Minimum Average Value) | 0,4 |
| Wet Surface                                            |                                                                       | 0,3 |
| Wet Surface                                            | ANSI A137. Section 9.6<br>(Minimum Average Value 0,42)                | 0,3 |
| Local of Use                                           |                                                                       |     |
| Cl - Commercial Light   RE - Residential   FA - Facade |                                                                       |     |
| Recommendation for Application                         |                                                                       |     |

For information on application recommendations, refer to the virtual specifier: <http://especificadorvirtual.portobello.com.br>

\* If properly installed according to ABNT NBR 13.753.  
 \*\* For traditional structures of reinforced concrete according to NBR 6118 does not interfere significantly in the system results.  
 For other types of structure, should proceed with testing on-site or prototype according to NBR 15.575.

Tijucas, 15/06/2018

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