



PRODUCT CERTIFICATE

LABORATORY OF FINISHED PRODUCT

ISO 13006-10545
Equivalent Brazilian Norm ABNT NBR ISO 13006 - NBR ISO 10545
Brazilian Performance Norm ABNT - NBR 15575

Eliane Revestimentos Ceramicos Ltda . Rua Maximiliano Gaidzinski-sala 2, N. 245
88845-000 . Cocal do Sul- SC . Brasil . +55 (048) 3447-7777 . www.eliane.com

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|------------------|------------------------|------------------------|-------------------------|
| Product: | QUARTZ AREIA EXT 60X60 | Manufacturing Process: | Wet ceramic process |
| Code: | 8042077 | Manufacturing Size: | 600,0 x 600,0 mm |
| Class: | Bla | Nominal Size: | 60x60 cm |
| Typology: | Porcelain tile | Thickness: | 9,5 mm |
| Shade Variation: | V2 | Coverage Area: | 1,44m ² /box |
| Grout Joint: | 3 mm | Pieces per box: | 4,00 |
| Edge finish: | Bold | Surface: | GL (Glazed) |



| | CHARACTERISTICS | | TESTING METHOD | SPECIFICATION | | RESULTS |
|------------------------------------|-------------------------------|---|-------------------------------|---------------|-------------|-------------|
| USAGE RECOMMENDATION | FIR | Indoor dry residential floors | Manufacturer's recommendation | ISO 13006: | ± 5,00 | ± 5,00 |
| | FLC | Indoor light commercial floors, including the areas FIR | | | | |
| | FMC | Indoor medium commercial floors, including the areas FLC and FIR | | | | |
| | FHC | Indoor heavy commercial floors, including the areas FMC, FLC, FIR | | | | |
| | WID | Indoor dry residential and commercial walls | | | | |
| | FWI | Indoor wet residential and commercial floors | | | | |
| | WRC | Indoor and outdoor, wet or dry, residential and commercial walls, including the areas WID. For regions reaching below freezing temperatures, non frost resistant tiles are indoor only. | | | | |
| | WWS | Swimming pool interior walls, including the areas WRC and WID | | | | |
| | WFA | External facades, including the areas WRC and WID | | | | |
| | FHO | Floor - Very Heavy Outdoor Commercial and Outdoor Residential | | | | |
| | FMO | Floor - Light to Heavy Outdoor Commercial and Outdoor Residential | | | | |
| | FRH | Floor - Ramp Very Heavy Outdoor Commercial and Outdoor Residential | | | | |
| | FRM | Floor - Ramp Light to Heavy Outdoor Commercial and Outdoor Residential | | | | |
| DIMENSIONAL AND SURFACE PROPERTIES | Deviation of W/N: | W - Work size (mm) N - Nominal Size (mm) | ISO 10545-2 | ISO 13006: | ± 5,00 | ± 5,00 |
| | Deviation of r/W: | r - Average tile size (mm) W - Work size (mm) | ISO 10545-2 | ISO 13006: | ± 2,00 | ± 2,00 |
| | Rectangularity: | Deviation from W (mm) | ISO 10545-2 | ISO 13006: | ± 2,00 | ± 2,00 |
| | Straightness of sides: | Deviation from W (mm) | ISO 10545-2 | ISO 13006: | ± 1,50 | ± 1,50 |
| | Edge curvature: | Deviation from W (mm) | ISO 10545-2 | ISO 13006: | ± 2,00 | ± 2,00 |
| | Centre Curvature: | Deviation from dW (mm) | ISO 10545-2 | ISO 13006: | ± 2,00 | ± 2,00 |
| | Warpage: | Deviation from dW (mm) | ISO 10545-2 | ISO 13006: | ± 2,00 | ± 2,00 |
| | Deviation of e/eW: | e - Average tile thickness (mm) eW - Fabrication thickness (mm) | ISO 10545-2 | ISO 13006: | 9,02 - 9,98 | 9,02 - 9,98 |

| | CHARACTERISTICS | | TESTING METHOD | SPECIFICATION | | RESULTS | |
|------------------------------|--|-----------------------------|----------------|---------------|--------------|--------------|--------|
| PHYSICAL PROPERTIES | Water Absorption: | (%) | ISO 10545-3 | ISO 13006: | ≤ 0,5 | ≤ 0,50 | |
| | Breaking Strength: | (N) | ISO 10545-4 | ISO 13006: | ≥ 1300 | ≥ 1500 | |
| | Modulus of Rupture: | (MPa) | ISO 10545-4 | ISO 13006: | ≥ 35 | ≥ 37 | |
| | Moisture Expansion: | (mm/m) | ISO 10545-10 | ISO 13006: | ≤ 0,6 | ≤ 0,2 | |
| | Resistance to Cracking: | (Cycles) | ISO 10545-11 | ISO 13006: | 1 | 5 | |
| | Coefficient of Restitution | | | ISO 10545-5 | ISO 13006: | ≥ 0,55 | ≥ 0,60 |
| CHEMICAL PROPERTIES | Stain Resistance | | | | | | |
| | Penetrating Agent | Green Chrome (40% oil) | ISO 10545-14 | ISO 13006: | ≥ 3 | 5 | |
| | Layer Forming Agent | Olive Oil | | | | | |
| | Oxidizing Agent | Alcoholic Iodine | | | | | |
| | Chemical Resistance | | | | | | |
| | Domestic product | Ammonium Chloride 100g/L | ISO 10545-13 | ISO 13006: | ≥ GB | GA | |
| | Pool water treatment | Sodium hypochlorite 20mg | | | ≥ GB | GA | |
| | Low concentration alkali | Potassium Hydroxide 30g / L | | | A declarar | GLA | |
| | Low concentration acid | Chloridric acid 3% (v/v) | | | A declarar | GLA | |
| Low concentration acid | Citric Acid 100g/L | A declarar | | | GLA | | |
| DYNAMIC FRICTION COEFFICIENT | Wet Dynamic Friction Coefficient | | NBR 16919- | NBR 16919: | ≥ 0,40 | ≥ 0,60 | |
| | | | | | | | |
| PERFORMANCE | Solar Absorbance - α^* | | NBR 15575 - 3- | NBR 15575: | To declare | 0.4 - 0.5 | |
| | Solar Reflectance - ρ^* | | NBR 15575 - 3- | NBR 15575: | To declare | 0.6 - 0.5 | |
| | Solar Deflection - ϵ^* | | NBR 15575 - 3- | NBR 15575: | To declare | 0.75 - 0.85 | |
| | Solar Reflectance Index - SRI $H = 5 (W / m^2K)^*$ | | NBR 15575 - 3- | NBR 15575: | To declare | 80 - 65 | |
| | Impact of Hard Object | | NBR 15575 - 3- | NBR 15575: | Ruptura (5J) | Ruptura (5J) | |
| | Moisture Resistance | | NBR 15575 - 3- | NBR 15575: | To declare | Resistant | |
| | Useful life: | (years) | NBR 15575 - 3- | NBR 15575: | 13 | 13 | |
| | Flammability | | NBR 15575 - 3- | NBR 15575: | Class I | Class I | |

Note:

Check if the product is suitable for the intended use. When it has the WFA use specification, it can be used in facade, provided that its indication is included in the constructive and executive project, which is the responsibility of the designer, according to the ABNT NBR 13755 standard.

The characteristics defined by the performance standard ABNT NBR 15575 are only applicable to residential areas and are directly related to the performance of the installed product. Therefore, the statements are valid when the installation guidelines described by the manufacturer are followed.

*According to information in the ANFACER sectorial performance manual



QR WARRANTY CODE:
Validate this certificate in:



COCAL DO SUL (SC), June 16th, 2023

Sergio Pereira Ruzza
CRQ: 13200008

Angela Waterkemper Vieira
P&D Coordinator

