ceramica
SANT'AGOSTINO

Ceramics of Italy

## TECHNICAL DATA SHEET – ITEM SPECIFICATIONS

# " SET " - collection

1. Process characteristics

   Ceramic Porcelain tiles made by dry pressing of atomized clay mix of high-quality natural raw materials (clays, feldspar, and aggregates). The support thus obtained is enamelled and fired at temperatures above 1200 °C resulting in a compact mass, impervious and resistant to chemical attack.

2. Regulatory compliance

   The material complies, only for first choice, with the requirements UNI EN 14411 appendix G, and ISO 13006 with respect to physical and chemical surface properties. For the safety features of the CE marking, compliance is extended to all commercial choices. Compliance maintenance is ensured by the Quality Management System, implemented by the company and certified according to UNI EN ISO 9001.

3. Technical features

**European standard UNI EN 14411 - Annex G – Dry-pressed ceramic tiles with low water absorption – GROUP BIa GL**

| | Technical feature | Norms | Required std N <7cm | Required std 7 ≤ N< 15 cm | Required std for N ≥ 15 cm | | Production Ceramica Sant'Agostino |
|---|---|---|---|---|---|---|---|
| | | | (mm) | (mm) | (%) | (mm) | |
| REGULARITY CHARACTERISTICS | LENGHT AND WIDTH (Acceptable deviation of the average size of each tile from the manufacturing size W) | UNI EN ISO 10545-2 | ± 0,5 | ± 0,9 | ± 0,6 | ± 2,0 | COMPLIANT |
| | THICKNESS | | ± 0,5 | ± 0,5 | ± 5 | ± 0,5 | COMPLIANT |
| | STRAIGHTNESS OF EDGES | | *Without testing* | ± 0,75 | ± 0,5 | ± 1,5 | COMPLIANT |
| | RECTANGULARITY | | *Without testing* | ± 0,75 | ± 0,5 | ± 2,0 | COMPLIANT |
| | SURFACE FLATNESS | | *Without testing* | ± 0,75 | ± 0,5 | ± 2,0 | COMPLIANT |
| | SURFACE QUALITY | | A minimum of 95 % of the tiles shall be free from visible defects | | | | COMPLIANT |



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| | Technical features | Norms | Required standards | Average production |
|---|---|---|---|---|
| **BULK MECHANICAL CARACTERISTCHS (MASSIVE, SURFACE AND THERMO-HYGROMETRIC)** | WATER ABSORPTION | UNI EN ISO 10545-3 | Eb ≤ 0,5 % | < 0,1 % |
| | BREAKING STRENGHT (S) – MODULUS OF RUPTURE (R) | UNI EN ISO 10545-4 | S ≥ 1300 N<br>R ≥ 35 N/mm$^2$ | S COMPLIANT<br>R > 45 N/mm$^2$ |
| | CRAZING RESISTANCE | UNI EN ISO 10545-11 | REQUIRED | RESISTANT |
| | FROST RESISTANCE | UNI EN ISO 10545-12 | REQUIRED | RESISTANT |
| **CHEMICAL CHARACTERISTICS** | RESISTANCE TO HOUSEHOLD CHEMICALS AND SWIMMING POOL SALTS | UNI EN ISO 10545-13 | Minimum Class GB | COMPLIANT |
| | RESISTANCE TO STAINING | UNI EN ISO 10545-14 | Minimum Class 3 | COMPLIANT |
| **SAFETY CHARACTERISTICS** | STATIC COEFFICIENT OF FRICTION | ASTM C1028 | ≥ 0,60 | COMPLIANT |
| | DYNAMIC COEFFICIENT OF FRICTION | ANSI A 137.1 (DCOF) | ≥ 0,42 | COMPLIANT |
| | SLIP CLASSIFICATION | DIN 51130 | Depending -on workplace | R 10 |
| | | DIN 51097 | | A+B |

Suggestion on how to use our products:

⇨ Classification of the floor tiles for wear resistance (as per General Catalogue):

- Natural surface **5**

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"*Contribute of Ceramica Sant'Agostino products to LEED certification points*"

**MATERIALS & RESOURCES (MR CREDITS)**

- **Building Product Disclosure and Optimization – Environmental Product Declarations (EPD) (1/2 point)**

Porcelain Tiles of Ceramica Sant'Agostino are manufactured respecting the Life Cycle Assessment (LCA) and contribute to LEED points by EPD (Environmental Product declaration) Media Sector certified by IBU and ECO PLATFORM.

- **Building Product Disclosure and Optimization - Sourcing for of Raw Materials (1 point)**

Porcelain Tiles of Ceramica Sant'Agostino are manufactured using pre-consumer recycled products. The percentage of these recycled materials is > 20% (Bureau Veritas certificate).

- **Construction and Demolition Waste Management (2 points)**

Porcelain Tiles of Ceramica Sant'Agostino can contribute to management of building wastes because the recyclable material and especially the used packaging does not exceed 2.5% of the total weight of a supply average (1 pallet of about 870 kg). Packing waste can reach at least value below 2 kgs ( with option 2 it helps to reduce the waste material because less than 12.2 kgs/mqs of building area).



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## SUSTAINABLE SITES (SS CREDITS)

- **Heat Island Reduction** **(1 to 2 points)**

Large part of Ceramica Sant'Agostino products in the lighter colors does not increase the temperature of the city areas compared to country areas (No heat island effect) because the solar reflectance SR (start value) is ≥ 0.33. These products are suitable for be used in outdoor areas.

## ENERGY AND ATMOSPHERE (EA CREDITS)

- **Optimize Energy Performance** **(1 to 20 points depending on the scope)**

In performance analysis tiles are part of the opaque elements of the packaging.The thermal conductivity **λ** of Ceramica Sant'Agostino products is **1,3 Watt/m·K** (1,1 Kcal/m·h·°C). The low thermal conductivity of tiles contributes to the optimization of the building's energy performance minimizing the environmental and economic impacts associated with excessive energy use. Ceramica Sant'Agostino products can be used on heated floors and for ventilated walls.

## INDOOR ENVIRONMENTAL QUALITY (EQ CREDITS)

- **Low-Emitting Materials (No VOC)** **(1 to 3 points)**

Ceramica Sant'Agostino products do not emit VOC (volatile Organic Compounds) because they contain inert materials that satisfy automatically the requirements

## INNOVATION (IN CREDITS)

- **Innovation** **(1 to 5 points)**

Ceramica Sant'Agostino products are environmentally friendly due to the absence of harmful materials to humans and to the environment and also due to the production process performed with the lowest environmental impact made possible by the today technology.

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For any other technical features and for more information please see the general catalogue or our internet site www.ceramicasantagostino.it

Ceramica Sant'Agostino reserves the right to make amendments or changes at any time to the information of this document.

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