

STANDARDS

ISO 13006/UNI EN 14411 E UNI EN ISO 10545/1-16 General technical specifications in compliance with standards

The ISO (International Organisation for Standardization) standards have been adopted and published in all the associated countries (over 150 countries in the world). The ISO 13006 classifies ceramic tiles according to the moulding methods and water absorption and for each group it defines the characteristics and requisites for FIRST GRADE tiles. The EN 14411 standard was published by the CEN (European Committee for Standardization) and includes the "harmonised" part in appendix ZA, which constitutes the tool for affixing the EC mark according to the effective European Parliament regulation for the sale of construction products. The CE mark is obligatory for the circulation of tiles within the EU. This regards tiles of all grades on the market and taking into consideration the essential requirements for "safety" according to the intended use declared by the manufacturer. All Cipa Gres spa products are marked EC and are classified for destination of use after passing the initial and periodic tests set down in the current version of the UNI EN 14411 standard.

The UNI ISO 10545/1-16 standards set out the testing and sampling methods to check the characteristics prescribed by ISO 13006 and UNI EN 14411.



ISO 10545-3 Water absorption

Cipa Gres spa markets materials that offer minimum rates of absorption, achieved by applying stringent production and quality standards to safeguard a compact product with a low degree of porosity. The figure in the tables of specifications is the percentage of water absorption with reference to the mass.



ISO 10545-4 Bending strength

The figure shown refers to the analysis of the tile's capacity to withstand static and dynamic stress in test conditions.



ISO 10545-6 Resistance to abrasion

This test is done on unglazed surfaces (UGL) and aims to determine the quantity of material removed by the action of an abrasive disc (150 revs). The less material removed by the disc implies a stronger ceramic product.



ISO 10545-12 Frost resistance

Outdoor products are particularly susceptible to the damage that can be caused by frost and a tile may crack if any water it has absorbed turns into ice. Cipa Gres products are not affected by frost because of their compact body and low porosity.



ISO 10545-13 Chemical resistance

Laboratory tests using low and high concentrations of acids and bases are able to assess the chemical resistance of glazed (GL) and unglazed (UGL) surfaces. They are classed in the following categories. Unglazed products (UGL):

ULA, UHA, UA: no visible effect.

ULB, UHB, UB: visible effects on cut edges.

ULC, UHC, UC: visible effects on cut edges, on uncut edges and on the top surface.



ISO 10545-14 Resistance to stains

Three different elements (oil, iodine solution and chrome green) are placed in contact with the tile for 24 hours, after which it is cleaned:

CLASS 5: The stain is removed by means of running hot water applied for 5 minutes.

CLASS 4: The stain is removed with the help of a weak neutral detergent and a non-abrasive sponge.

CLASS 3: The stain is removed using an alkaline detergent containing abrasives and a rotating brush with hard bristles.

CLASS 2: The stain is removed using a specific solvent, left on the stain for 24 hours.

CLASS 1: The stain is not removed

ISO 13006/UNI EN 14411 e UNI EN ISO 10545/1-1

General technical specifications in compliance with standards

Ceramic tiles are classified in groups by the abovementioned standards according to the forming method and their water absorption:

GROUP A

Extruded tiles, plastic making in an extruder and then cut into set lengths.

GROUP B

Dry-pressed tiles, obtained from raw materials in the form of a powder or small grains and within high pressure moulds.

Cipa Gres's products are obtained by pressing. They belong to Bla.



European Standars Fire Resistance

The behavior of a material that contributes with its own decomposition to the lire to which it is subjected under certain conditions. The reaction to lire of a material is conventionally expressed in classes. The ceramic is classified in class A 1 - A 1 fl (non-combustible products).

Differences in tone ANSI A 137.1

Aesthetic classification and shade variations. Tiles may vary in color, texture, or appearance according to the manufacturer's design lor that particular tile series or produci line. The following aesthetic class designations have been provided in the Table, so that the manufacturer may communicate the aesthetic characteristics of a particular tile product.



V0: NONE

Very uniform appearance. Pieces of the same shade value are very uniform.



V1: MINOR

Uniform appearance. Differences among pieces from the same production run are minimal.



V2: LOW

Slight variation. Clearly distinguishable differences in texture and/or pattern within similar colors.



V3: MEDIUM

Moderate variation. While the colors and or texture present on a single piece of tile will be indicative of the colors and or texture to be expected on the other tiles, the amount of colors and or texture on each piece may vary significantly. 11 is recommended that the range be viewed before selection.



V4: MAJOR

Substantial variation. Random color and or texture differences from tile to tile, so that one tile may have totally different colors and or texture from that on other tiles. Thus, the final installation will be unique. It is recommended thai the range be viewed before selection.

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MAIN LABORATORY



The laboratory provides services and produces equipment tor the ceramic industry and construction products. The services include the carrying out of laboratory tests on ceramic tiles and articles, brick products, stone, adhesives, sanitaryware, generai construction products and tableware.

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