

Tender specifications / MUST collection **Zero.3**

Supply of ceramic tiles made of Panaria Ceramica Zero.3 laminated porcelain tile for floors and walls.

Product characteristics

Panaria Ceramiche Zero.3 laminated porcelain tiles, totally carbon neutral (CO₂ generated from the life cycle 100% neutralised produced in a maximum size of 3000x1000 mm and 3mm thick, reinforced with fibreglass mesh, obtained from raw materials of the highest quality and purity (light clay, feldspar and ceramic pigments with high chromatic performance), and manufactured by dry pressing on a belt of atomized powder, subsequently sintered by means of industrial firing at temperatures exceeding 1200 °C.

The innovative Zero.3 manufacturing process produces a final product which is light, flat and flexible, but at the same time compact, non-absorbent, frost-resistant, resistant to stains, chemical attack and thermal shock. The application of the fibreglass mesh gives the product high resistance and extreme versatility and ease of use for a wide range of applications in the architectural world.

Compliance with EN 14411-G / ISO 13006-G

The Must Zero.3 collection is in compliance with the regulations required for first quality products in Italy and Europe UNI EN 14411-G and internationally through ISO 13006-G.

Quality and environmental certifications

The conservation of the product characteristics is guaranteed by the Quality Management System put into practice by Panaria Ceramiche in its plants and certified in accordance with UNI EN ISO 9001.

The collection is manufactured in plants with UNI EN ISO 14001 certified Environmental Management Systems (internationally recognised standard) and EMAS (Regulation 1221/09 - eco-management and audit community system).

The collection helps to meet the criteria for obtaining LEED credits. The product contains no VOC (volatile organic compounds) and got the GREENGUARD GOLD certification. The Environmental Product Declaration (EPD) is available, this tool communicates clearly the environmental performances of the Must Zero.3 collection based on its Life Cycle Assessment (LCA).

Think Zero: Zero.3 ultra-thin slabs are totally carbon neutral and produced with innovative technology to minimise environmental impact: the CO₂ generated by the life cycle of this product has been 100% neutralised with the purchase of carbon credits belonging to the CDM (Clean Development Mechanism) standard.

Antibacterial properties

Thanks to Protect antibacterial technology, the tiles from the Must Zero.3 collection have continuous, effective and durable protection against the proliferation of bacteria, tested and certified in accordance with ISO 22196 and ASTM E3031.

| Commercial description of the product | |
|---------------------------------------|--|
| Company | PANARIA CERAMICA (Panariagroup Industrie Ceramiche S.p.A.) |
| Collection | MUST Zero.3 |
| Colours | STAR WHITE |
| Sizes | 100X100cm |
| | 100X300cm |
| | 50x100cm |
| Surfaces | SMOOTH- Recommended for flooring in residential and low traffic commercial spaces. |
| Edges | RECTIFIED |
| Thickness | 3,5mm |

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Technical features

Product type: laminated porcelain stoneware (UGL)

According to: ISO 13006-G (Group Bla), EN 14411-G (Group Bla)

| Technical features | | Test method | Required values - ISO 13006-G, EN 14411-G Bla-UGL Group | Average values MUST Zero.3 |
|---------------------------------|-----------------------|--------------|--|--|
| Water absorption | | ISO 10545-3 | ≤ 0,5 % | 0,1 % (*) |
| Modulus of rupture | | ISO 10545-4 | ≥ 35 N/mm ² | 50 N/mm ² |
| Deep abrasion resistance | | ISO 10545-6 | ≤ 175mm ³ | COMPLIANT |
| Linear thermal expansion | | ISO 10545-8 | No provision | $\alpha \leq 7 \cdot 10^{-6} \text{ } ^\circ\text{C}^{-1}$ |
| Stain resistance | | ISO 10545-14 | Class 3 Min. | 5 RESISTANT |
| Chemical resistance (**) | | ISO 10545-13 | As indicated by manufacturer | LA, HA RESISTANT |
| Frost resistance | | ISO 10545-12 | No alteration | RESISTANT |
| Dimensions | Lenght and width | ISO 10545-2 | ± 0,3 %, max ± 1 mm | COMPLIANT |
| | Straightness of sides | ISO 10545-2 | ± 0,3 %, max ± 0,8 mm | COMPLIANT |
| | Rectangularity | ISO 10545-2 | ± 0,3 %, max ± 1,5 mm | COMPLIANT |
| | Warpage | ISO 10545-2 | ± 0,4 %, max ± 1,8 mm | COMPLIANT |
| | Thickness | ISO 10545-2 | ± 5 %, max ± 0,5 mm | COMPLIANT |
| Slip resistance | | ANSI A326.3 | - | ID - DCOF≥0.42 (Dry) |
| Shade variation | | ANSI A137.1 | As indicated by manufacturer | V1 |
| Fire reaction | | EN 13823 | CPR (UE) 305/2011, 2000/147/CE, UNI EN 13501-1 | Class A2-s1,d0 (wall) |
| | | EN 9239-1 | | Class A2fr-s1 (floor) |
| Thermal conductivity | | EN 12524 | - | $\lambda = 1,3 \text{ W/m } ^\circ\text{K}$ |
| Recommended minimum joint (***) | | Indoor | - | 1mm (wall) 2mm (floor) |
| | | Outdoor | - | 5mm (wall) |

(*) Average value referred to ceramic material only.

(**) Excluding hydrofluoric acid and its derivatives.

(***)The width of grout joints must be established by the installation supervisor, unless grout widths are regulated by national laying standards