### 3D Wall Design

<table>
<thead>
<tr>
<th>Sizes</th>
<th>19¾”x43¼”</th>
<th>19¾”x43¼”</th>
<th>15¾”x31½”</th>
<th>15¾”x31½”</th>
<th>12”x22”</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>≤ 8,5mm</td>
<td>≤ 8,5mm</td>
<td>≤ 10mm</td>
<td>≤ 8,5mm</td>
<td>≥ 9,5mm</td>
</tr>
</tbody>
</table>

#### Technical Features

<table>
<thead>
<tr>
<th>Test Method</th>
<th>Matte rectified 9,5mm</th>
<th>Matte rectified 9,5mm</th>
<th>Matte rectified 10mm</th>
<th>Matte rectified 8,5mm</th>
<th>Matte rectified 11mm</th>
<th>Shiny rectified 8,5mm</th>
<th>Shiny rectified 10mm</th>
<th>Shiny rectified 11mm</th>
<th>Shiny rectified 15mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISO 10545-2</td>
<td>≤ 2,0 mm²</td>
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<td>≤ 1,5 mm²</td>
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#### Physical Properties

<table>
<thead>
<tr>
<th>Bond strength</th>
<th>EN 1348</th>
<th>Declared value</th>
<th>≥ 10 N/mm² (Class C2 - EN 12004)</th>
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### Requisites for normal nominal N

<table>
<thead>
<tr>
<th>Minimum B class</th>
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</thead>
<tbody>
<tr>
<td>A</td>
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</tr>
</tbody>
</table>

### Performance characteristics

- **Resistance to household chemicals and swimming pool salts:** Minimum B class
- **Resistance to low concentrations of acids and alkalis:** ISO 10545-13
- **Resistance to high concentrations of acids and alkalis:** Declared class
- **Stain resistance of glazed tiles:** ISO 10545-14
- **Release of dangerous substances:**
  - Cadmium (in mg/dm²) and Lead (in mg/dm²)
  - Declared value
  - ≤ 0.01 mg/dm²

### Chemical Properties

- **W. Maximum permitted bending deviation, in % or mm, with respect to the diagonal calculated according to manufacturing sizes.**
- **E. Surface flatness:**
  - Not applicable
  - Declared value
  - ≤ 0.3 mm

### Structural Features

- **Breaking strength:**
  - ISO 10545-4: ≤ 600 N
  - ISO 10545-4: ≤ 600 N
  - ISO 10545-4: ≤ 600 N
  - ISO 10545-4: ≤ 600 N
- **Bending resistance:**
  - ISO 10545-4: ≤ 3.5 N/mm²
  - ISO 10545-4: ≤ 3.5 N/mm²
  - ISO 10545-4: ≤ 3.5 N/mm²
  - ISO 10545-4: ≤ 3.5 N/mm²

### Bulk Mechanical Features

- **Coefficient of linear thermal expansion:**
  - ISO 10545-6: Declared value
  - ISO 10545-6: Declared value
  - ISO 10545-6: Declared value
  - ISO 10545-6: Declared value
- **Thermal shock resistance:**
  - ISO 10545-9: Test passed in accordance with ISO 10545-1
  - ISO 10545-9: Test passed in accordance with ISO 10545-1
  - ISO 10545-9: Test passed in accordance with ISO 10545-1
  - ISO 10545-9: Test passed in accordance with ISO 10545-1

### Thermo-Geometric Features

- **Moisture expansion in (mm/m):**
  - ISO 10545-10: Declared value
  - ISO 10545-11: Declared value
  - ISO 10545-10: Declared value
  - ISO 10545-11: Declared value
- **Cracking resistance in glazed tiles:**
  - ISO 10545-11: Declared value
  - ISO 10545-11: Declared value
  - ISO 10545-11: Declared value
  - ISO 10545-11: Declared value

### Reaction to fire

- **Class A1:** A
- **Class A1:** A
- **Class A1:** A
- **Class A1:** A
- **Class A1:** A
- **Class A1:** A
- **Class A1:** A

### Additional Information

- **Not applicable:**
  - Sports flooring or road traffic flooring.
  - Not applicable for specific project conditions.
  - Not applicable for specific project conditions.
  - Not applicable for specific project conditions.
  - Not applicable for specific project conditions.

- **Classification:**
  - BIII (L)
  - BIII (L)
  - BIII (L)
  - BIII (L)

- **Indications:**
  - Single value > 9%
  - Single value > 9%
  - Single value > 9%
  - Single value > 9%

- **Regularity and features:**
  - Perpendicularity
  - Straightness of tiles
  - Proper length and widths

- **Physical properties:**
  - Moisture absorption level (% by mass)
  - Breaking strength (N)
  - Bending resistance (N/mm²)
  - Coefficient of linear thermal expansion (°C⁻¹)
  - Thermal shock resistance
  - Moisture expansion in (mm/m)
  - Cracking resistance in glazed tiles
  - Bond strength (N/mm²)
  - Reaction to fire

- **Thermo-Geometric features:**
  - Moisture expansion
  - Cracking resistance
  - Bond strength
  - Reaction to fire

- **Chemical properties:**
  - Resistance to household chemicals and swimming pool salts
  - Resistance to low concentrations of acids and alkalis
  - Resistance to high concentrations of acids and alkalis
  - Stain resistance of glazed tiles
  - Release of dangerous substances:

**Notes:**

1. Determining the slip resistance of pedestrian surfaces is not applicable to sports flooring or road traffic flooring.
2. The anti-slip performance is guaranteed at the time of delivering the product.
3. However, tiles with a DCOF of 0.42 or greater are not necessarily suitable for all projects. The specifier shall determine tiles appropriate for specific project conditions, considering by way of example, but not in limitation, type of use, traffic, expected contaminants, expected maintenance, expected wear, and manufacturers’ guidelines and recommendations.
4. For further details, refer to the outdoor design general catalogue.
**Permitted deviation, in % or mm, from the average thickness of each tile with respect to the cited manufacturing thickness (W).**

### Physical Properties

- **Perpendicularity:**
  - Maximum deviation ± 0.5 mm (***)
  - Minimum B class ± 0.3%
  - Declared class ± 0.3%

- **Bond strength:**
  - Minimum class C2 - EN 12004
  - ≥ 1.0 N/mm²

- **Release of chemicals and glazes:**
  - ≤ 0.01 mg/dm²
  - ≤ 0.06%

- **Water absorption:**
  - ≤ 0.75
  - ≥ 3%

- **Thermal shock:**
  - Minimum B class
  - ≥ 0.75
  - ≥ 15 N/mm²

- **Resistance to acids and bases:**
  - Minimum B class
  - ≥ 10 N/mm²

- **Resistance to alkalis:**
  - Minimum B class
  - ≥ 10 N/mm²

- **Resistance to swimming pool chemicals:**
  - Minimum B class
  - ≥ 10 N/mm²

- **Corrosion resistance:**
  - Minimum B class
  - ≥ 10 N/mm²

- **Erosion resistance:**
  - Minimum B class
  - ≥ 10 N/mm²

- **Erosion resistance:**
  - Minimum B class
  - ≥ 10 N/mm²

### Chemicals

- **Lead (Pb):**
  - ≤ 0.06%
  - ≤ 0.06%

- **Cadmium (Cd):**
  - ≤ 0.01 mg/dm²
  - ≤ 0.01 mg/dm²

- **Mercury (Hg):**
  - ≤ 0.005 mg/dm²

- **Barium (Ba):**
  - ≤ 0.01 mg/dm²

- **Nickel (Ni):**
  - ≤ 0.01 mg/dm²

- **Copper (Cu):**
  - ≤ 0.01 mg/dm²

### Dimensions

- **Thickness:**
  - Minimum class C - EN 12004
  - 8,5 mm
  - ≥ 0.75

- **Rectified tiles:**
  - 10,5 mm
  - ≥ 0.75
  - ≥ 10 N/mm²

- **Walls and floors:**
  - Minimum B class
  - ≥ 35 N/mm²

### Requisites for ISO 10545-1 application and Test passed in

- Minimum B class
  - ≥ 15 N/mm²
  - ≥ 20%

- Minimum B class
  - ≥ 15 N/mm²
  - ≥ 20%

- Minimum B class
  - ≥ 15 N/mm²
  - ≥ 20%

- Minimum B class
  - ≥ 15 N/mm²
  - ≥ 20%

### Other Features

- **Shiny tiles:**
  - Minimum B class
  - ≥ 0.06%

- **Matte tiles:**
  - Minimum B class
  - ≥ 0.06%

### Finishes

- **Rectified and matt finishes:**
  - Minimum B class
  - ≥ 35 N/mm²
  - ≥ 20%

- **White body wall tiles:**
  - Minimum B class
  - ≥ 35 N/mm²
  - ≥ 20%

- **White body floor tiles:**
  - Minimum B class
  - ≥ 35 N/mm²
  - ≥ 20%