

Technical Properties

Nonvitreous

Technical Properties of Ceramic Tiles and Slabs with High Water Absorption in acc. with DIN EN 14411:2012 Tab. L.1 Group BIII (Water Absorption $E_b > 10\%$)

| Classification Table ZA.1.2 Walls inside | Requirements for nominal size N | | | Test method |
|---|--|-----------------|---------------------|-------------|
| | 7 cm ≤ N < 15 cm | N ≥ 15 cm | | |
| | mm | % | mm | |
| Length and width The permissible deviation of the average size for each tile (2 or 4 sides) from the work size (W) | ± 0.75 mm | ± 0.5 % | ± 2.0 mm | 10545-2 |
| Thickness The permissible deviation, of the average thickness of each tile from the work sizethickness | ± 0.5 mm | ± 10 % | ± 0.5 mm | 10545-2 |
| Straightness of sides: (facial sides) The maximum permissible deviation from straightness, related to the corresponding work sizes | ± 0.5 mm | ± 0.3 % | ± 1.5 mm | 10545-2 |
| Rectangularity the maximum permissible deviation from rectangularity related to the corresponding work sizes | ± 0.75 mm | ± 0.5 % | ± 2.0 mm | 10545-2 |
| Surface flatness: the maximum permissible deviation from flatness | | | | |
| a) Centre curvature, related to the diagonal calculated from the work sizes | + 0.75 / - 0.50 mm | + 0.5 / - 0.3 % | + 2.0 mm / - 1.5 mm | 10545-2 |
| b) Edge curvature, related to the corresponding work sizes | + 0.75 / - 0.50 mm | + 0.5 / - 0.3 % | + 2.0 mm / - 1.5 mm | 10545-2 |
| c) Warpage, related to diagonal calculated from the work sizes | ± 0.75 mm | ± 0.5 % | ± 2.0 mm | 10545-2 |
| Surface quality | A minimum of 95% of the tiles shall be free from visible defects that would impair the appearance of a major area of tiles | | | 10545-2 |
| Water absorption: (in % by mass) | Average > 10%. When the average exceeds 20% this shall be indicated. Individual minimum value 9%. | | | 10545-3 |
| Breaking strength, for | Thickness ≥ 7.5 mm not less than 600 N Thickness < 7.5 mm not less than 200 N | | | 10545-4 |
| Flexural tensile strength or modulus of rupture | Thickness ≥ 7,5 mm minimum 15 N/mm ² Thickness < 7,5 mm minimum 12 N/mm ² | | | 10545-4 |
| Coefficient of linear thermal expansion: from ambient temperature to 100°C (in K ⁻¹) | declared value | | | 10545-8 |
| Thermal shock resistance | Pass according to EN ISO 10545-1 | | | 10545-9 |
| Moisture expansion | Declared value | | | 10545-10 |
| Crazing resistance | Pass according to EN ISO 10545-1 | | | 10545-11 |
| Small colour differences, for glazed tiles | ΔE _{cmc} < 0,75 | | | 10545-16 |
| Impact resistance, as – Coefficient of restitution (COR) | declared value | | | 10545-5 |
| Resistance to staining, for a) glazed tiles b) unglazed tiles | a) minimum class 3 b) declared value | | | 10545-14 |
| Resistance to chemicals a) Resistance to low concentrations of acids and alkalis b) Resistance to high concentrations of acids and alkalis c) Resistance to household chemicals and swimming pool salts | declared value declared value minimum class B | | | 10545-13 |
| Release of dangerous substances a) Cadmium in mg/dm ² b) Lead in mg/dm ² c) other dangerous substances | declared value | | | 10545-15 |