

**TECHNICAL SPECIFICATIONS FOR 300x450mm TILES**

| Characteristics  | Requirement as per IS 15622: 2017 E>10, Group BIII   | Requirements as per ISO 13006 E>10, Group BIII  | Our Value   | Test Method                                  |
|--|--|---|---|--|
| <b>Dimension &amp; Surface Quality</b>   |  |   |   |  |
| Length & Width   | ± 0.20%  | ± 0.50%   | ± 0.1%  | IS 13630 Part 1/ISO 10454-2                  |
| Thickness  | ± 5.0%   | ± 10.0%   | ± 4.0%  |  |
| Straightness of Side   | ± 0.15%  | ± 0.30%   | ± 0.1%  |  |
| Rectengularity   | ± 0.20%  | ± 0.50%   | ± 0.2%  |  |
| Surface Flatness Max Deveation in %  |  |   |   |  |
| Center curvature related to diagonal   | ± 0.30%  | +0.5% / -0.3%   | ± 0.22%   |  |
| Edge curvature related to corrsponding side  | ± 0.30%  | +0.5% / -0.3%   | ± 0.22%   |  |
| warpage related to diagonal  | ± 0.30%  | +0.5%   | ± 0.22%   |  |
| Surface Quality  | Min. 95 % of tiles will be free from visible defects.  | Min. 95 % of tiles will be free from visible defects.                                     | Min. 95 % of tiles will be free from visible defects. |  |
| <b>Physical Properties</b>   |  |   |   |  |
| Water Absorption   | E ≥ 10 %. (when the value exceeds 20 % this shall be indicated by the manufacturer) Individual 9 percent, Min. | E ≥ 10 %. (when the value exceeds 20 % this shall be indicated Individual 9 percent, Min. | Avg. 10-20 %  | IS 13630 Part 2/ ISO 10545-3                 |
| Modulus of Rupture [N/mm <sup>2</sup> ]  | Min 15   | Avg. Min 15   | Average 15  | IS 13630 Part 6/ ISO 10545-4                 |
| Breaking Strength in N   | Min 600  | Not Less Than 600   | Min 600   |  |
| Scratch Hardness (Mohs)  | Min 3  |   | Min 3   | IS 13630 Part 13                             |
| Coefficient of linear thermal expansion from embiant temperature to 100 0 C              | 9 x 10 <sup>-6</sup> k <sup>-1</sup> Max   |   | 8 x 10 <sup>-6</sup> k <sup>-1</sup> Max              | IS 13630 Part 4/ISO 10545-8                  |
| Thermal Shock Resistance   | 10 Cycle Min   | 10 Cycle Min  | 10 cycle min  | IS 13630 Part 5/ISO 10545-9                  |
| Crazing Resistance   | 4 Cycle @ 7.5 bar Min  | Manufacturer to Declared  | 4 Cycle @ 7.5 bar Min                                 | IS 13630 Part 9/ ISO 10545-11                |
| <b>Chemical Properties</b>   |  |   |   |  |
| Stain Resistance   | Min class-1  | Required  | Class-1   | IS 13630 Part 8 /ISO 10545-13 & ISO 10545-14 |
| Resistance to household chemicals  | Min class-AA   | Required  | Class-AA  |  |
| Resistance to acids and alkalis ( with exception of hydrofluoric acid and its compounds) | Required if agreed   | Required  | Class-AA  |  |

**PACKING DETAIL FOR 300x450MM & 300x300MM TILES**

| Nominal Size | Thickness (Approx) | Average Weight | No of Tiles/Carton | Coverage Area/Carton        |
|--------------|--------------------|----------------|--------------------|-----------------------------|
| 300x450mm    | 7.5 mm             | 10.5 Kg        | 6 Pcs              | 0.810 Sq.Mtr / 8.718 Sq.Ft. |
| 300x300mm    | 8 mm               | 10.5 Kg        | 8 Pcs              | 0.720 Sq.Mtr / 7.75 Sq.Ft.  |



**CERAMAX**  
TILES

### TECHNICAL SPECIFICATIONS FOR 300x300MM FLOOR TILES

| Characteristics   | Requirements as per IS 15622 :2017 3<E<6% Group BIIa |           | ISO 13006 3<E≤6% Group BIIa          |           | Our Values                                |           | Test Method                                  |
|---|--|-----------|--------------------------------------|-----------|---|-----------|--|
|   | Un Rectified   | Rectified | Un Rectified                         | Rectified | Un Rectified                              | Rectified |  |
| <b>A) Dimension &amp; Surface Quality</b>   | Un Rectified   | Rectified | Un Rectified                         | Rectified | Un Rectified                              | Rectified |  |
| <b>i) Length &amp; Width</b>  | ±0.40%   | ±0.10%    | ±0.6%                                | ±0.5%     | ±0.40%                                    | ±0.10%    | IS 13630 Part 1/ ISO 10545-2                 |
| <b>ii) Thickness</b>  | ± 5.0%   |           | ± 5.0%                               |           | ± 4.0%                                    |           |  |
| <b>iii) Straightness of Side</b>  | ±0.3%  | ±0.10%    | ±0.50%                               |           | ±0.30%                                    | ±0.10%    |  |
| <b>iv) Rectengularity</b>   | ±0.3%  | ±0.10%    | ±0.60%                               |           | ±0.30%                                    | ±0.10%    |  |
| <b>v) Surface Flatness</b>  |  |           |                                      |           |   |           |  |
| <b>a) Center curvature (%) ( max.Deviation)</b>   | ±0.50 %  |           | ±0.50 %                              |           | ±0.4 %                                    |           |  |
| <b>b) Edge curvature (%) { max.Deviation)</b>   | ±0.50 %  |           | ±0.50 %                              |           | ±0.4 %                                    |           |  |
| <b>c) Corner warpage (%) ( max.Deviation)</b>   | ± 0.50 %   |           | ± 0.50 %                             |           | ± 0.4 %                                   |           |  |
| <b>vi) Surface Quality</b>  | >95 % free from visible defects                      |           | >95 % free from visible defects      |           | >95 % free from visible defects           |           |  |
| <b>B) Physical Properties</b>   |  |           |                                      |           |   |           |  |
| <b>i) Water Absorption</b>  | Av 3%< E ≤ 6% %, Individual 6.2% max                 |           | 3 < E ≤ 6% %, Individual 6.5% max    |           | 3% < E < 6%                               |           | IS 13630 Part 2/ ISO 10545-3                 |
| <b>ii) Modulus of Rupture [N/mm2]</b>   | Av 22, Individual 20 min                             |           | Av 22, Individual 20 min             |           | >25                                       |           | IS 13630 Part 6/ISO 10545-4                  |
| <b>iii) Breaking Strength in N</b> <small>≤7.5mm thickness &gt;7.5mm thickness</small>              | Min 600 / Min 1000                                   |           | Min 600 / Min 1000                   |           | Min 600 / Min 1000                        |           |  |
| <b>iv) Scratch Hardness of surface (Mohs)</b>   | Min 4  |           | N.A.                                 |           | Min-4 (For Matt)<br>Min-3 (For Glossy)    |           | IS 13630 Part 13                             |
| <b>v) Surface Abrasion Resistance</b>   | Min II   |           | Abrasion Class & Cycle passed        |           | Min III                                   |           | IS 13630 Part 11 /ISO 10545-7                |
| <b>vi) Coefficient of linear thermal expansion from embiant temperature to 100° C</b>               | Max. 9 X 10 <sup>-6</sup> K <sup>-1</sup>            |           | Required                             |           | Max. 8 X 10 <sup>-6</sup> K <sup>-1</sup> |           | IS 13630 Part 4/ ISO 10545-8                 |
| <b>vii) Thermal Shock Resistance</b>  | 10 cycle min   |           | Test Method Available                |           | 10 cycle Passed                           |           | IS 13630 Part 5/ISO-10545-9                  |
| <b>Viii) Crazing Resistance</b>   | 4 cycle @ 7.5bar min                                 |           | Required                             |           | 4 cycle passed                            |           | IS 13630 Part 9/ISO 10545-11                 |
| <b>ix) Impact Resistance as Co-efficient of Restitution</b>   |  |           | Declared Value <sup>r</sup>          |           | NA  |           |  |
| <b>x) Frost Resistance</b>  |  |           | Required if agreed                   |           | NA  |           |  |
| <b>C) Chemical Resistance (glazed Tiles)</b>  |  |           |                                      |           |   |           |  |
| <b>i) Stain Resistance</b>  | Min Class-1  |           | Min Class-3                          |           | Class 1                                   |           | IS 13630 Part 8/ ISO 10545-13 & ISO 10545-14 |
| <b>ii) Resistance to household chemicals</b>  | Min Class AA   |           | Min Class GA                         |           | Class AA                                  |           |  |
| <b>iii) Resistance to acids and alkalis (with exception of hydrofluoric acid and its compounds)</b> | Required if agreed                                   |           | Manufacturer to state classification |           | Min Class AA                              |           |  |