

## Technical Specification

| CHARACTERISTICS   | Requirement as per ISO 13006:2018 Gr BIa E ≤ 0.5%  | Requirement as per IS 15622:2017 Gr BIb 0.08 ≤ E ≤ 3.0%  | AGL Value  | Test Method                           |
|---|--|--|--|---------------------------------------|
| <b>(A) DIMENSION &amp; SURFACE QUALITY</b>  |  |  |  |                                       |
| Deviation In Length & Width   | ± 0.3%, ± 1.0 mm   | ± 0.1%   | ± 0.1%   | ISO 10545 Part-2<br>IS 13630 Part-1   |
| Deviation In Thickness  | ± 5.0%, ± 0.5 mm   | ± 5.0%   | ± 3.0%   | ISO 10545 Part-2<br>IS 13630 Part-1   |
| Straightness of Edge  | ± 0.3%, ± 0.8 mm   | ± 0.1%   | ± 0.1%   | ISO 10545 Part-2<br>IS 13630 Part-1   |
| Rectangularity  | ± 0.3%, ± 1.5 mm   | ± 0.1%   | ± 0.1%   | ISO 10545 Part-2<br>IS 13630 Part-1   |
| Surface Flatness  | ± 0.4%, ± 1.8 mm   | ± 0.5%   | ± 0.2%   | ISO 10545 Part-2<br>IS 13630 Part-1   |
| Surface Quality   | Min. 95% of Tiles shall be free from visible defects that would impair the appearance of a major area of the tiles | Min. 95% of Tiles shall be free from visible defects that would impair the appearance of a major area of the tiles | Min. 95% of Tiles shall be free from visible defects that would impair the appearance of a major area of the tiles | ISO 10545 Part-2<br>IS 13630 Part-1   |
| Solar Reflectance Index (SRI)   |  |  | Min 75   |                                       |
| <b>(B) PHYSICAL &amp; THERMAL PROPERTIES</b>  |  |  |  |                                       |
| Water Absorption % By Wt.   | ≤ 0.5, Ind. 0.6 Max.   | 0.08 ≤ E ≤ 3.0, Ind. 3.3 Max.  | ≤ 0.5%   | ISO 10545 Part-3<br>IS 13630 Part-2   |
| Flexural Strength (MOR) In N/mm <sup>2</sup>  | Avr. 30, Ind. Min. 27  | Avr. 30, Ind. Min. 27  | ≥ 35 N/mm <sup>2</sup>   | ISO 10545 Part-4<br>IS 13630 Part-6   |
| Breaking Strength in N  | 1300 N Min.  | 1100 N Min.  | > 1800 N   | ISO 10545 Part-4<br>IS 13630 Part-6   |
| Bulk Density (gm/cc)  | 2.0 Min.   | 2.0 Min.   | ≥ 2.2  | ISO 10545 Part-3<br>IS 13630 Part-2   |
| Resistance to Surface Abrasion  | Manufacturer to State Class  | PEI II Min   | Min PEI IV   | ISO 10545 Part-7<br>IS 13630 Part-11  |
| Co-efficient of Liner Thermal Expansion from ambient temp to 100°C (K <sup>-1</sup> ) | 9x10 <sup>-6</sup> Max.  | 7x10 <sup>-6</sup> Max.  | ≤ 6x10 <sup>-6</sup>   | ISO 10545 Part-8<br>IS 13630 Part-4   |
| Thermal Shock Resistance  | 10 Cycle Min.  | 10 Cycle Min.  | No Damage after 10 Cycles  | ISO 10545 Part-9<br>IS 13630 Part-5   |
| Moisture Expansion in mm/M  | Test Method Available  | 0.02 Max.  | Nil  | ISO 10545 Part-10<br>IS 13630 Part-3  |
| Crazeing Resistance   | Required   | 4 Cycle at 7.5 bar Min.  | Resistance   | ISO 10545 Part-11<br>IS 13630 Part-9  |
| Frost Resistance  | Resistance   | Resistance   | Resistance   | ISO 10545 Part-12<br>IS 13630 Part-10 |
| Moh'S Scratch Hardness  | Min. 5   | Min. 5   | ≥ 7  | EN 101<br>IS 13630 Part-13            |
| <b>(C) CHEMICAL PROPERTIES</b>  |  |  |  |                                       |
| Resistance To Household Chemicals   | No Damage  | Min. Class AA  | Class AA   | ISO 10545 Part-13<br>IS 13630 Part-8  |
| Resistance To Acids & Alkalis (Except HF Acid)  | No Damage  | Min. Class AA  | Class AA   | ISO 10545 Part-13<br>IS 13630 Part-8  |
| Stain Resistance  | Min. Class 3   | Min. Class 1   | Class 1  | ISO 10545 Part-14<br>IS 13630 Part-8  |

## Packing Specification

| Size (mm) | Thickness (mm) | Weight (Kg.) | No. of Tiles / Box | Area Sq. mtr./ Box |
|-----------|----------------|--------------|--------------------|--------------------|
| 300x300mm | 9.5 mm         | 14.5 kgs.    | 08 pcs.            | 0.72m <sup>2</sup> |

## Technical Specification

| CHARACTERISTICS   | Requirement as per ISO 13006:2018 Gr BIa E ≤ 0.5%  | Requirement as per IS 15622:2017 Gr BIb 0.08 ≤ E ≤ 3.0%  | AGL Value  | Test Method                           |
|---|--|--|--|---------------------------------------|
| <b>(A) DIMENSION &amp; SURFACE QUALITY</b>  |  |  |  |                                       |
| Deviation In Length & Width   | ± 0.3%, ± 1.0 mm   | ± 0.1%   | ± 0.1%   | ISO 10545 Part-2<br>IS 13630 Part-1   |
| Deviation In Thickness  | ± 5.0%, ± 0.5 mm   | ± 5.0%   | ± 3.0%   | ISO 10545 Part-2<br>IS 13630 Part-1   |
| Straightness of Edge  | ± 0.3%, ± 0.8 mm   | ± 0.1%   | ± 0.2%   | ISO 10545 Part-2<br>IS 13630 Part-1   |
| Rectangularity  | ± 0.3%, ± 1.5 mm   | ± 0.1%   | ± 0.2%   | ISO 10545 Part-2<br>IS 13630 Part-1   |
| Surface Flatness  | ± 0.4%, ± 1.8 mm   | ± 0.5%   | ± 0.2%   | ISO 10545 Part-2<br>IS 13630 Part-1   |
| Surface Quality   | Min. 95% of Tiles shall be free from visible defects that would impair the appearance of a major area of the tiles | Min. 95% of Tiles shall be free from visible defects that would impair the appearance of a major area of the tiles | Min. 95% of Tiles shall be free from visible defects that would impair the appearance of a major area of the tiles | ISO 10545 Part-2<br>IS 13630 Part-1   |
| Glossiness  | -  | -  | > 85   | Glossmeter                            |
| <b>(B) PHYSICAL &amp; THERMAL PROPERTIES</b>  |  |  |  |                                       |
| Water Absorption % By Wt.   | ≤ 0.5, Ind. 0.6 Max.   | 0.08 ≤ E ≤ 3.0   | ≤ 0.5%   | ISO 10545 Part-3<br>IS 13630 Part-2   |
| Flexural Strength (MOR) In N/mm <sup>2</sup>  | Avr. 35, Ind. Min. 32  | Avr. 35, Ind. Min. 32  | ≥ 35 N/mm <sup>2</sup>   | ISO 10545 Part-4<br>IS 13630 Part-6   |
| Breaking Strength in N  | 1300 N Min.  | 1300 N Min.  | > 1800 N   | ISO 10545 Part-4<br>IS 13630 Part-6   |
| Bulk Density (gm/cc)  | 2.0 Min.   | 2.2 Min.   | ≥ 2.3  | ISO 10545 Part-3<br>IS 13630 Part-2   |
| Impact Resistance   | > 0.40   | > 0.55   | > 0.55   | ISO 10545 Part-5<br>IS 13630 Part-14  |
| Resistance to Deep Abrasion   | 175mm <sup>3</sup> Max.  | 140mm <sup>3</sup> Max.  | ≤ 120mm <sup>3</sup>   | ISO 10545 Part-6<br>IS 13630 Part-12  |
| Co-efficient of Liner Thermal Expansion from ambient temp to 100°C (K <sup>-1</sup> ) | 9x10 <sup>-6</sup> Max.  | 6x10 <sup>-6</sup> Max.  | ≤ 6x10 <sup>-6</sup>   | ISO 10545 Part-8<br>IS 13630 Part-4   |
| Thermal Shock Resistance  | 10 Cycle Min.  | 10 Cycle Min.  | No Damage after 10 Cycles  | ISO 10545 Part-9<br>IS 13630 Part-5   |
| Moisture Expansion in mm/M  | Test Method Available  | 0.02 Max.  | Nil  | ISO 10545 Part-10<br>IS 13630 Part-3  |
| Frost Resistance  | Resistance   | Resistance   | Resistance   | ISO 10545 Part-12<br>IS 13630 Part-10 |
| Moh'S Scratch Hardness  | Min. 5   | Min. 5   | Min. 5   | EN 101<br>IS 13630 Part-13            |
| <b>(C) CHEMICAL PROPERTIES</b>  |  |  |  |                                       |
| Resistance To Household Chemicals   | No Damage  | Min. Class AA  | Class AA   | ISO 10545 Part-13<br>IS 13630 Part-8  |
| Resistance To Acids & Alkalis (Except HF Acid)  | No Damage  | Min. Class AA  | Class AA   | ISO 10545 Part-13<br>IS 13630 Part-8  |
| Stain Resistance  | Min. Class 3   | Min. Class 2   | Resistance   | ISO 10545 Part-14<br>IS 13630 Part-8  |

## Packing Specification

| Size (mm)           | Thickness (mm) | Weight (Kg.) | No. of Tiles / Box | Area Sq. mtr./ Box |
|---------------------|----------------|--------------|--------------------|--------------------|
| 1200x300mm (Step)   | 11.0 mm        | 26.0 kg.     | 03 pcs.            | 1.08m <sup>2</sup> |
| 1200x300mm (Riser)  | 11.0 mm        | 26.0 kg.     | 03 pcs.            | 1.08m <sup>2</sup> |
| 1200x200mm ((Riser) | 11.0 mm        | 16.0 kg.     | 03 pcs.            | 0.72m <sup>2</sup> |

## Technical Specification

| CHARACTERISTICS                            | Requirement as per ISO 13006:2018<br>Gr B Ia E ≤ 0.5%  | Requirement as per IS 15622:2017<br>Gr B Ib 0.08 ≤ E ≤ 3.0%  | Value  | Test Method                         |
|--|--|--|--|-------------------------------------|
| <b>(A) DIMENSION &amp; SURFACE QUALITY</b> |  |  |  |                                     |
| Deviation In Length & Width                | ± 0.3%, ± 1.0 mm   | ± 0.1%   | ± 0.1%   | ISO 10545 Part-2<br>IS 13630 Part-1 |
| Deviation In Thickness                     | ± 5.0%, ± 0.5 mm   | ± 5.0%   | ± 3.0%   | ISO 10545 Part-2<br>IS 13630 Part-1 |
| Straightness of Edge                       | ± 0.3%, ± 0.8 mm   | ± 0.1%   | ± 0.1%   | ISO 10545 Part-2<br>IS 13630 Part-1 |
| Rectangularity                             | ± 0.3%, ± 1.5 mm   | ± 0.1%   | ± 0.1%   | ISO 10545 Part-2<br>IS 13630 Part-1 |
| Surface Flatness                           | ± 0.4%, ± 1.8 mm   | ± 0.5%   | ± 0.2%   | ISO 10545 Part-2<br>IS 13630 Part-1 |
| Surface Quality                            | Min. 95% of Tiles shall be free from visible defects that would impair the appearance of a major area of the tiles | Min. 95% of Tiles shall be free from visible defects that would impair the appearance of a major area of the tiles | Min. 95% of Tiles shall be free from visible defects that would impair the appearance of a major area of the tiles | ISO 10545 Part-2<br>IS 13630 Part-1 |

## (B) PHYSICAL & THERMAL PROPERTIES

|   |                             |                              |                           |                                       |
|---|-----------------------------|------------------------------|---------------------------|---------------------------------------|
| Water Absorption % By Wt.   | ≤ 0.5. Ind. 0.6 Max.        | 0.08 ≤ E ≤ 3.0 Ind. 3.3 Max. | ≤ 0.5                     | ISO 10545 Part-3<br>IS 13630 Part-2   |
| Flexural Strength (MOR) In N/mm <sup>2</sup>  | Avr. 30. Ind. Min. 27       | Avr. 30. Ind. Min. 27        | ≥ 35 N/mm <sup>2</sup>    | ISO 10545 Part-4<br>IS 13630 Part-6   |
| Breaking Strength in N  | 1300 N Min.                 | 1100 N Min.                  | > 1800 N                  | ISO 10545 Part-4<br>IS 13630 Part-6   |
| Bulk Density (gm/cc)  | 2.0 Min.                    | 2.0 Min.                     | ≥ 2.2                     | ISO 10545 Part-3<br>IS 13630 Part-2   |
| Resistance to Surface Abrasion  | Manufacturer to State Class | PEI II Min                   | Min. PEI IV               | ISO 10545 Part-7<br>IS 13630 Part-11  |
| Co-efficient of Liner Thermal Expansion from ambient temp to 100°C (K <sup>-1</sup> ) | 9x10 <sup>-6</sup> Max.     | 7x10 <sup>-6</sup> Max.      | ≤ 6x10 <sup>-6</sup>      | ISO 10545 Part-8<br>IS 13630 Part-4   |
| Thermal Shock Resistance  | 10 Cycle Min.               | 10 Cycle Min.                | No Damage after 10 Cycles | ISO 10545 Part-9<br>IS 13630 Part-5   |
| Moisture Expansion in mm/M  | Test Method Available       | 0.02 Max.                    | Nil                       | ISO 10545 Part-10<br>IS 13630 Part-3  |
| Crazing Resistance  | Required                    | 4 Cycle at 7.5 bar Min.      | Resistance                | ISO 10545 Part-11<br>IS 13630 Part-9  |
| Frost Resistance  | Resistance                  | Resistance                   | Resistance                | ISO 10545 Part-12<br>IS 13630 Part-10 |
| Moh'S Scratch Hardness  | Min. 5                      | Min. 5                       | ≥ 7                       | EN 101<br>IS 13630 Part-13            |

## (C) CHEMICAL PROPERTIES

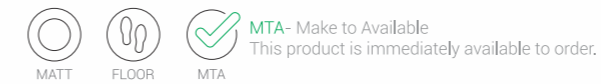
|  |              |               |          |                                      |
|--|--------------|---------------|----------|--------------------------------------|
| Resistance To Household Chemicals              | No Damage    | Min. Class AA | Class AA | ISO 10545 Part-13<br>IS 13630 Part-8 |
| Resistance To Acids & Alkalis (Except HF Acid) | No Damage    | Min. Class AA | Class AA | ISO 10545 Part-13<br>IS 13630 Part-8 |
| Stain Resistance                               | Min. Class 3 | Min. Class 1  | Class 1  | ISO 10545 Part-14<br>IS 13630 Part-8 |

## Packing Specification

| Size (mm)             | Thickness (mm) | Weight (Kg.) | No. of Tiles / Box | Area Sq. mtr./ Box |
|-----------------------|----------------|--------------|--------------------|--------------------|
| 300x300mm (Grandura+) | 9.5 mm         | 14.5 kg.     | 08 pcs.            | 0.72m <sup>2</sup> |
| 450x450mm (Grandura+) | 12.0 mm        | 21.0 kg.     | 04 pcs.            | 0.81m <sup>2</sup> |
| 300x300mm (Grandura)  | 9.5 mm         | 17.5 kg.     | 10 pcs.            | 0.90m <sup>2</sup> |
| 300x300mm (Grandura)  | 12.0 mm        | 14.6 kg.     | 06 pcs.            | 0.54m <sup>2</sup> |
| 300x300mm (Tac Tile)  | 15.05 mm       | 14.6 kg.     | 06 pcs.            | 0.54m <sup>2</sup> |

## Notes & Recommendation

### UNDERSTANDING ICONS



### APPLICATION



### NOTES

- All Technical Specifications in This Catalogue are for Premium Grade Material only.
  - SHADE/SIZE VARIATION are inherent characteristics to ceramics. Certain products purposely have variations which are part of design & process. The same have been indicated.
  - It is Recommended To Blend Tiles by Mixing Tiles from Various Boxes & Check For Natural Hue Before Fixing The Tiles.
  - It is recommended to check the tiles before laying/fixing. Quality standards cover 1st/Premium Quality only.
  - Company's liability is limited on material that has not been laid.
  - NO COMPLAINT SHALL BE ENTERTAINED ON TILES ALREADY FIXED/LAID.
  - The liability is also limited to the material supplied by the company; no other claim is entertained under any circumstances.
  - No complaint is entertained on decoration done on tiles, other than the ones done
- GENERAL NOTE : Any Complaint Must be Brought To The Company's Notice Within 10 Days of Purchase & Before Fixing of Tiles.

#### How to avoid defects & complaints :

- Use good quality Tiles
- Choose good quality Tiles, with proper consideration to area intended of usage.
- Avoid careless laying of Tiles
- Avoid poor maintenance-for instance, by cleaning with strong Chemicals or with abrasive equipment e.g. metallic scrubber
- Always keep Tiled area clean & ensure dusting/mopping regularly
- Put Doormats/Foot-mats at all strategic locations to avoid loose debris/dust from entering the Tiled area

#### List of Detergents For Removal of Stain

| STAIN (Created By)                                       | Beer | Blood | Calcar | Cement | Cigarette | Soft Drinks | Coffee | Edible Oil | Glue | Ice Cream | Ink | Juices | Marker Ink | Nicotine | Paints | Resin | Rust | Tar | Tea | Turmeric | Wine |   |
|--|------|-------|--------|--------|-----------|-------------|--------|------------|------|-----------|-----|--------|------------|----------|--------|-------|------|-----|-----|----------|------|---|
| SOLVENTS (Turpentine, acetone, trichloroety - line etc.) |      |       |        |        |           |             |        | ●          | ●    |           | ●   |        | ●          |          |        | ●     |      |     |     |          |      |   |
| SODIUM HYPO (Chlorite (NaOCL))                           |      |       |        |        |           |             |        |            |      |           |     | ●      |            |          |        |       |      |     |     | ●        |      |   |
| ACIDS DILUTED (Hydrochloric acid*)                       |      |       | ●      | ●      | ●         |             |        |            |      |           | ●   |        |            | ●        | ●      |       | ●    |     |     | ●        |      |   |
| ALKALI (Sodium hydroxide/potassium hydroxide)            | ●    | ●     |        |        |           | ●           | ●      |            |      | ●         |     |        |            |          |        |       |      |     |     |          |      | ● |

\*Commercial grade shall not be used

DISCLAIMER : Amazoone Ceramic Ltd. reserves the right to delete & amend either totally or partially, any of the colors, shapes, sizes, references and other technical specifications contained in this catalogue at anytime. The colors shown of tiles in this catalogue are purely illustrative and limited to printing process. Please refer actual sample before final selection. The details of sizes, colors, references should be verified for typographical errors. All complaints need to be reported within 10 days of purchase. Always follow instructions to avoid complaint due to bad masonry.