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|-----------------------|--|---|--|
| <b>Sizes</b><br>Sizes | <b>50x110 cm</b><br>19 5/8"x43 1/4"<br>± 8.5mm | <b>40x80 cm</b><br>15 3/4" x 31 1/2"<br>± 8.5mm |  |
|-----------------------|--|---|--|

|   | Characteristics<br>Characteristics  | Test Method<br>Test Method | Requirements for nominal size N  |  |  | MARVEL GEMS WALL                                      |
|---|---|----------------------------|--|--|--|---|
|   |   |                            | Requirements for nominal size N  |  |  |   |
|   |   |                            | 7 cm ≤ N < 15 cm<br>(mm)   | N ≥ 15 cm<br>(%) (mm)                            |  |   |
| <b>Regularity characteristics</b><br>Regularity characteristics | <b>Length and width</b><br>Length and width   | ISO 10545-2                | ± 0,75 (*)   | ± 0,5 (*)  | ± 2,0 (*)  | ±0.3% ±1.0mm  |
|   | <b>Thickness</b><br>Thickness   |                            | ± 0,5 (**)   | ± 10 (**)  | ± 0,5 (**)                                       | ±10.0% ±0.5mm   |
|   | <b>Straightness of sides</b><br>Straightness of sides   |                            | ± 0,5 (***)  | ± 0,3 (***)                                      | ± 1,5 (***)                                      | ±0.3% ±0.8mm  |
|   | <b>Rectangularity</b><br>Rectangularity   |                            | ± 0,75 (****)  | ± 0,5 (****)                                     | ± 2,0 (****)                                     | ±0.3% ±1.5mm  |
|   | <b>Surface flatness</b><br>Surface flatness   |                            | c.c. + 0,75 - 0,50<br>e.c. + 0,75 - 0,50<br>w. ± 0,75  | c.c. + 0,5 - 0,3<br>e.c. + 0,5 - 0,3<br>w. ± 0,5 | c.c. + 2,0 - 1,5<br>e.c. + 2,0 - 1,5<br>w. ± 2,0 | ±0.3% ±1.5mm  |
| <b>Structural features</b><br>Structural features               | <b>Water absorption level (in% by mass)</b><br>Water absorption level (in% by mass)   | ISO 10545-3                | <b>Average &gt;10%. When the average &gt; 20%, this shall be indicated. Individual value &gt; 9%</b><br>Average >10%. When the average > 20%, this shall be indicated. Individual value > 9% |  |  | 10%<EB≤20%  |
| <b>Bulk mechanical features</b><br>Bulk mechanical features     | <b>Breaking strength</b><br>Breaking strength   | ISO 10545-4                | S ≥ 600N   |  |  | S ≥600 N  |
|   | <b>Modulus of Rupture</b><br>Modulus of Rupture   |                            | R ≥ 15 N/mm <sup>2</sup>   |  |  | R ≥15 N/mm <sup>2</sup>                               |
| <b>Thermo-igrometric features</b><br>Thermo-igrometric features | <b>Coefficient of linear thermal expansion</b><br>Coefficient of linear thermal expansion   | ISO 10545-8                | <b>Declared value</b><br>Declared value  |  |  | ≤7 1/mk   |
|   | <b>Thermal shock resistance</b><br>Thermal shock resistance   | ISO 10545-9                | <b>Pass according to EN ISO 10545-1</b><br>Pass according to EN ISO 10545-1  |  |  | Resiste   |
|   | <b>Moisture expansion (in mm/m)</b><br>Moisture expansion (in mm/m)   | ISO 10545-10               | <b>Declared value</b><br>Declared value  |  |  | ≤0.06% (0.6mm/m)                                      |
|   | <b>Crazing resistance: glazed tiles</b><br>Crazing resistance: glazed tiles   | ISO 10545-11               | <b>Pass according to EN ISO 10545-1</b><br>Pass according to EN ISO 10545-1  |  |  | Resiste   |
| <b>Physical properties</b><br>Physical properties               | <b>Bond strength/adhesion for improved cementitious adhesives</b><br>Bond strength/adhesion for improved cementitious adhesives   | EN 1348                    | <b>Declared value</b><br>Declared value  |  |  | ≥ 1.0 N/mm <sup>2</sup> (Class C2 - EN 12004)         |
|   | <b>Reaction to fire</b><br>Reaction to fire   | -                          | <b>Class A1</b><br>Class A1  |  |  | A1  |
| <b>Chemical features</b><br>Chemical features                   | <b>Resistance to household chemicals and swimming pool salts</b><br>Resistance to household chemicals and swimming pool salts   | ISO 10545-13               | <b>Minimum Class B</b><br>Minimum Class B  |  |  | A   |
|   | <b>Resistance to low concentrations of acids and alkalis</b><br>Resistance to low concentrations of acids and alkalis   |                            | <b>Declared Class</b><br>Declared Class  |  |  | LA  |
|   | <b>Resistance to high concentrations of acids and alkalis</b><br>Resistance to high concentrations of acids and alkalis   |                            | <b>Declared Class</b><br>Declared Class  |  |  | HA  |
|   | <b>Resistance to staining for glazed tiles</b><br>Resistance to staining for glazed tiles   | ISO 10545-14               | <b>Minimum Class 3</b><br>Minimum Class 3  |  |  | 5   |
|   | <b>Rilascio di sostanze pericolose: Cadmio (in mg/dm<sup>2</sup>) e Piombo (in mg/dm<sup>2</sup>)</b><br>Rilascio di sostanze pericolose: Cadmio (in mg/dm <sup>2</sup> ) e Piombo (in mg/dm <sup>2</sup> ) | ISO 10545-15               | <b>Declared value</b><br>Declared value  |  |  | ≤0.01mg/dm <sup>2</sup> Cd ≤ 0.1mg/dm <sup>2</sup> Pb |

- \* Deviazione ammissibile, in % oppure mm, della dimensione media di ogni piastrella (2 oppure 4 lati) dalla dimensione di fabbricazione (W).  
The permissible deviation, in % or mm, of the average size for each tile (2 or 4 sides) from work size (W).
- \*\* Deviazione ammissibile, in % oppure mm, dello spessore medio di ogni piastrella dallo spessore riportato nella dimensione di fabbricazione (W).  
The permissible deviation, in % or mm, of the average thickness for each tile from the work size thickness (W).
- \*\*\* Deviazione massima ammissibile di rettilineità, in % oppure mm, in rapporto alle dimensioni di fabbricazione (W) corrispondenti.  
The maximum permissible deviation from straightness, in % or mm, related to the corresponding work sizes (W).
- \*\*\*\* Deviazione massima ammissibile di ortogonalità, in % oppure mm, in rapporto alle dimensioni di fabbricazione (W) corrispondenti.  
The maximum permissible deviation from rectangularity, in % or mm, related to the corresponding work sizes (W).
- c.c. Deviazione massima ammissibile della curvatura del centro, in % oppure mm, in rapporto alla diagonale calcolata secondo le dimensioni di fabbricazione (W).  
The maximum permissible deviation from centre curvatures, in % or mm, related to diagonal calculated from the work sizes (W).
- e.c. Deviazione massima ammissibile della curvatura dello spigolo, in % oppure mm, in rapporto alle dimensioni di fabbricazione (W) corrispondenti.  
The maximum permissible deviation from edge curvatures, in % or mm, related to the corresponding work sizes (W).

- w. Deviazione massima ammissibile dello svergolamento, in % oppure mm, in rapporto alla diagonale calcolata secondo le dimensioni di fabbricazione (W).  
The maximum permissible deviation from warpage, in % or mm, related to diagonal calculated from the work sizes (W).
- (1) Determinazione della resistenza allo scivolamento delle superfici pedonabili; non si applica alle pavimentazioni sportive ed alle pavimentazioni stradali veicolari.  
Determination of slip resistance of pedestrian surfaces; it does not cover sports surfaces and road surfaces for vehicles (skid resistance).
- (2) Le prestazioni anti-slip vengono garantite al momento della consegna del prodotto.  
Anti-slip performance is guaranteed at the time of delivery of the product.  
However, tiles with a DCOF of 0.42 or greater are not necessarily suitable for all projects.
- (3) 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, please refer to outdoor design general catalogue.
- (5) Only for products with 20 mm thickness.