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|-----------------|---|--|---|---|---|---|---|
| ?????? Sizes | 120x240 cm 47 1/4"x94 1/2" ± 9mm | 75x150 cm 29 1/2"x59" ± 9.5mm | 120x120 cm 47 1/4"x47 1/4" ± 9mm | 45x90 cm 17 3/4"x35 3/8" ± 9mm | 75x75 cm 29 1/2"x29 1/2" ± 9.5mm | 60x60 cm 23 5/8"x23 5/8" ± 9mm | 30x60 cm 11 3/4"x23 5/8" ± 9mm |
|-----------------|---|--|---|---|---|---|---|

| | Caratteristica tecnica Characteristics | Metodo di prova Test Method | Requisiti per dimensione nominale N Requirements for nominal size N | | | MARVEL GEMS | | |
|---|--|---|---|--------------|--------------|---|--|---|
| | | | 7 cm ≤ N < 15 cm | N ≥ 15 cm | | Polished rectified | Polished rectified ± 9.5mm 75x75 cm, 75x150 cm | Matt rectified |
| | | | (mm) | (%) | (mm) | | | |
| ???????? Regularity characteristics | ???????? Length and width | ISO 10545-2 | ± 0,9 (*) | ± 0,6 (*) | ± 2,0 (*) | ±0.3% ±1.0mm | ±0.3% ±1.0mm | ±0.3% ±1.0mm |
| | ???????? Thickness | | ± 0,5 (**) | ± 5 (**) | ± 0,5 (**) | ±5.0% ±0.5mm | ±5.0% ±0.5mm | ±5.0% ±0.5mm |
| | Straightness of sides Straightness of sides | | ± 0,75 (***) | ± 0,5 (***) | ± 1,5 (***) | ±0.3% ±0.8mm | ±0.3% ±0.8mm | ±0.3% ±0.8mm |
| | Ortogonalità (Misurazione da condurre solo sui lati corti quando L/l ≥ 3) Rectangularity (Measurement only on short edges when L/l ≥ 3) | | ± 0,75 (****) | ± 0,5 (****) | ± 2,0 (****) | ±0.3% ±1.5mm | ±0.3% ±1.5mm | ±0.3% ±1.5mm |
| ???????? Structural features | ???????? Surface flatness | ISO 10545-3 | c.c. ± 0,75 | c.c. ± 0,5 | c.c. ± 2,0 | ±0.3% ±1.5mm | ±0.3% ±1.5mm | ±0.4% ±1.8mm |
| | ???????? (come % della massa) Water absorption level (in% by mass) | | e.c. ± 0,75 | e.c. ± 0,5 | e.c. ± 2,0 | | | |
| | | | w. ± 0,75 | w. ± 0,5 | w. ± 2,0 | | | |
| ???????? Bulk mechanical features | ???????? Breaking strength | ISO 10545-4 | E _b ≤ 0,5% Valore massimo 0,6% - Individual Maximum 0,6% | | | ≤0.1% | ≤0.1% | ≤0.1% |
| | ???????? Modulus of Rupture | | Requirement ANSI A137.1-2017 Water Absorption Max < 0,5% | | | ≤0.5% | ≤0.5% | ≤0.5% |
| | Resistenza a flessione ed al carico di rottura Bending Strength and Breaking Load | EN 1339 Annex F | S ≥ 700N (per spessore < 7,5mm - for thickness < 7,5mm) S ≥ 1300N (per spessore ≥ 7,5mm - for thickness ≥ 7,5mm) | | | S ≥ 1500 N | S ≥ 1500 N | S ≥ 1500 N |
| | Resistenza all'impatto, espresso come coefficiente di restituzione Impact resistance, as coefficient of restitution | ISO 10545-5 | R ≥ 35 N/mm ² | | | R ≥ 40 N/mm ² | R ≥ 40 N/mm ² | R ≥ 40 N/mm ² |
| ???????? Surface mechanical features | ???????? Mohs hardness | EN 101 | - | | | MOHS 5 | MOHS 5 | MOHS 6 |
| | Resistance to deep abrasion of unglazed tiles (removed volume) Resistance to deep abrasion of unglazed tiles (removed volume) | ISO 10545-6 | ≤ 175 mm ³ | | | ≤150mm ³ | ≤150mm ³ | ≤150mm ³ |
| Caratteristiche Termometriche Thermo-igrometric features | ???????? Coefficient of linear thermal expansion | ISO 10545-8 | Valore dichiarato Declared value | | | ≤7 1/mk | ≤7 1/mk | ≤7 1/mk |
| | ???????? Thermal shock resistance | ISO 10545-9 | Test superato in accordo con ISO 10545-1 Pass according to EN ISO 10545-1 | | | Resiste | Resiste | Resiste |
| | Dilatazione all'umidità (in mm/m) Moisture expansion (in mm/m) | ISO 10545-10 | Valore dichiarato Declared value | | | ≤0.01% (0.1mm/m) | ≤0.01% (0.1mm/m) | ≤0.01% (0.1mm/m) |
| | ???????? Frost resistance | ISO 10545-12 | Test superato in accordo con ISO 10545-1 Pass according to EN ISO 10545-1 | | | Resiste | Resiste | Resiste |
| ???????? Physical properties | ???????? Bond strength/adhesion for improved cementitious adhesives | EN 1348 | Valore dichiarato Declared value | | | ≥1.0 N/mm ² (Class C2 - EN 12004) | ≥1.0 N/mm ² (Class C2 - EN 12004) | ≥1.0 N/mm ² (Class C2 - EN 12004) |
| | ???????? Reaction to fire | - | Classe A1 oppure A1 _{fl} Class A1 or A1 _{fl} | | | A1 - A1 _{fl} | A1 - A1 _{fl} | A1 - A1 _{fl} |
| ???????? Chemical features | ???????? Resistance to household chemicals and swimming pool salts | ISO 10545-13 | Classe minima B Minimum Class B | | | A | A | A |
| | ???????? Resistance to low concentrations of acids and alkalis | | Classe dichiarata Declared Class | | | LA | LA | LA |
| | ???????? Resistance to high concentrations of acids and alkalis | | Classe dichiarata Declared Class | | | 0 | HA | HA |
| | Resistenza alle macchie piastrelle smaltate Resistance to staining for glazed tiles | ISO 10545-14 | Classe dichiarata Declared Class | | | 5 | 5 | 5 |
| ???????? Safety characteristics | ????? Shod Ramp Test | DIN 51130 | Classe dichiarata Declared Class | | | NC | NC | R10 |
| | ????? Barefoot Ramp Test | DIN 51097 | Declared value Valore dichiarato | | | 0 | 0 | A |
| | ????? Pendulum Friction Test | BS 7976 | PTV ≥ 36 classifies the surface as "low slip risk" | | | ≥36Dry ≤ 24Wet | ≥36Dry ≥ 36Wet | ≥36Dry ≥ 36Wet |
| | | AS 4586 | Declared Classification of the new pedestrian surface materials according to the Pendulum Test | | | - | Class P3 | Class P3 |
| | | UNE-ENV 12633 | Valore dichiarato Declared value | | | - | Class 0 | C2 on demand |
| | Coefficiente di attrito Coefficient of friction (COF) | B.C.R.A. Rep. CEC/81 | D. M. 236/89 del 14/06/89 μ > 0,40 per elemento scivolante cuoio su pavimentazione asciutta μ > 0,40 per elemento scivolante gomma dura su pavimentazione bagnata | | | >0.40Asciutto <0.40Bagnato | >0.40Asciutto <0.40Bagnato | >0.40Asciutto >0.40Bagnato |
| ????? Dynamic coefficient of friction (DCOF) | ANSI A.137.1 | ANSI A.137.1-2017 Requires a minimum value of 0.42 for level interior space expected to be walked upon when wet. (3) | | | <0.42Wet | <0.42Wet | >0.42Wet | |

* 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 curvature, 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 curvature, in % or mm, related to the corresponding work sizes (W).

w. Deviazione massima ammissibile dello sverglamento, 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.