



Sizes Sizes	40x80 cm 15 3/4" x 31 1/2" ± 8.5mm	40x80 cm 15 3/4" x 31 1/2" ± 10mm	
-----------------------	---	--	--

	Characteristics Characteristics	Test Method Test Method	Requirements for nominal size N Requirements for nominal size N			BRAVE WALL			
			7 cm ≤ N < 15 cm	N ≥ 15 cm		Matt rectified	3D Matt rectified	3D Matt rectified ± 10mm 40x80 cm	
			(mm)	(%)	(mm)				
Regularity characteristics Regularity characteristics		ISO 10545-2	Length and width Length and width	± 0,75 (*)	± 0,5 (*)	± 2,0 (*)	±0.3% ±1.0mm	±0.3% ±1.0mm	±0.3% ±1.0mm
			Thickness Thickness	± 0,5 (**)	± 10 (**)	± 0,5 (**)	±10.0% ±0.5mm	±10.0% ±0.5mm	±10.0% ±0.5mm
			Straightness of sides Straightness of sides	± 0,5 (***)	± 0,3 (***)	± 1,5 (***)	±0.3% ±0.8mm	±0.3% ±0.8mm	±0.3% ±0.8mm
			Rectangularity Rectangularity	± 0,75 (****)	± 0,5 (****)	± 2,0 (****)	±0.3% ±1.5mm	±0.3% ±1.5mm	±0.3% ±1.5mm
		Surface flatness Surface flatness		c.c. + 0,75 - 0,50 e.c. + 0,75 - 0,50 w. ± 0,75	c.c. + 0,5 - 0,3 e.c. + 0,5 - 0,3 w. ± 0,5	c.c. + 2,0 - 1,5 e.c. + 2,0 - 1,5 w. ± 2,0	±0.3% ±1.5mm	Not applicable	±0.3% ±1.5mm
Structural features Structural features		Water absorption level (in% by mass) Water absorption level (in% by mass)	ISO 10545-3	Average >10%. When the average > 20%, this shall be indicated. Individual value > 9%			10%<EB≤20%	10%<EB≤20%	10%<EB≤20%
Bulk mechanical features Bulk mechanical features		Breaking strength Breaking strength	ISO 10545-4	S ≥ 600N			S ≥ 600 N	S ≥ 600 N	S ≥ 600 N
		Modulus of Rupture Modulus of Rupture		R ≥ 15 N/mm ²			R ≥ 15 N/mm ²	R ≥ 15 N/mm ²	R ≥ 15 N/mm ²
Thermo-igrometric features Thermo-igrometric features		Coefficient of linear thermal expansion Coefficient of linear thermal expansion	ISO 10545-8	Declared value Declared value			≤7 1/mk	≤7 1/mk	≤7 1/mk
		Thermal shock resistance Thermal shock resistance	ISO 10545-9	Pass according to EN ISO 10545-1 Pass according to EN ISO 10545-1			Resiste	Resiste	Resiste
		Moisture expansion (in mm/m) Moisture expansion (in mm/m)	ISO 10545-10	Declared value Declared value			≤0.06% (0.6mm/m)	≤0.06% (0.6mm/m)	≤0.06% (0.6mm/m)
		Crazing resistance: glazed tiles Crazing resistance: glazed tiles	ISO 10545-11	Pass according to EN ISO 10545-1 Pass according to EN ISO 10545-1			Resiste	Resiste	Resiste
Physical properties Physical properties		Bond strength/adhesion for improved cementitious adhesives Bond strength/adhesion for improved cementitious adhesives	EN 1348	Declared value 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 Reaction to fire	-	Class A1 Class A1			A1	A1	A1
Chemical features Chemical features		Resistance to household chemicals and swimming pool salts Resistance to household chemicals and swimming pool salts	ISO 10545-13	Minimum Class B Minimum Class B			A	A	A
		Resistance to low concentrations of acids and alkalis Resistance to low concentrations of acids and alkalis		Declared Class Declared Class			LA	LA	LA
		Resistance to high concentrations of acids and alkalis Resistance to high concentrations of acids and alkalis		Declared Class Declared Class			HA	HA	HA
		Resistance to staining for glazed tiles Resistance to staining for glazed tiles	ISO 10545-14	Minimum Class 3 Minimum Class 3			5	5	5
		Rilascio di sostanze pericolose: Cadmio (in mg/dm ²) e Piombo (in mg/dm ²) Rilascio di sostanze pericolose: Cadmio (in mg/dm ²) e Piombo (in mg/dm ²)	ISO 10545-15	Declared value Declared value			≤0.01mg/dm ² Cd ≤0.1mg/dm ² Pb	≤0.01mg/dm ² Cd ≤0.1mg/dm ² Pb	≤0.01mg/dm ² Cd ≤0.1mg/dm ² 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.

