



Sizes	75x150 cm 29 1/2"x59" ± 9.5mm	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	60x120 cm 60x120 cm Lastra 20mm ± 20mm	45x90 cm 17 3/4"x35 3/8" Lastra 20mm ± 20mm	60x60 cm 60x60 cm Lastra 20mm ± 20mm	30x60 cm 0"x0" ± 20mm
-------	-------------------------------------	--------------------------------------	--	--------------------------------------	--------------------------------------	--	--	--	-----------------------------

	Caratteristica tecnica Characteristics	Metodo di prova Test Method	Requisiti per dimensione nominale N Requirements for nominal size N			BRAVE	
			7 cm ≤ N < 15 cm (mm)	N ≥ 15 cm (%) (mm)		Matt	Grip
Regularity features Regularity characteristics	Length and width Length and width	ISO 10545-2	± 0,9 (*)	± 0,6 (*)	± 2,0 (*)	±0.3% ±1.0mm	±0.3% ±1.0mm
	Thickness Thickness		± 0,5 (**)	± 5 (**)	± 0,5 (**)	±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
	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
	Surface flatness Surface flatness		c.c. ± 0,75 e.c. ± 0,75 w. ± 0,75	c.c. ± 0,5 e.c. ± 0,5 w. ± 0,5	c.c. ± 2,0 e.c. ± 2,0 w. ± 2,0	Not applicable	Not applicable
Structural features Structural features	Water absorption level (come % della massa) Water absorption level (in% by mass)	ISO 10545-3	$E_B \leq 0,5\%$ Valore massimo 0,6% - Individual Maximum 0,6%			≤0.1%	≤0.1%
		ASTM C373-18	Requirement ANSI A137.1-2017 Water Absorption Max < 0,5%			≤0.5%	≤0.5%
Bulk mechanical features Bulk mechanical features	Breaking strength Breaking strength	ISO 10545-4	$S \geq 700N$ (per spessore < 7,5mm - for thickness < 7,5mm) $S \geq 1300N$ (per spessore ≥ 7,5mm - for thickness ≥ 7,5mm)			$S \geq 2000 N$	$S \geq 2000 N$
	Modulus of Rupture Modulus of Rupture		$R \geq 35 N/mm^2$			$R \geq 40 N/mm^2$	$R \geq 40 N/mm^2$
	Resistenza a Flessione ed al Carico di Rottura Bending Strength and Breaking Load	EN 1339 Annex F	-			-	-
	Resistenza all'impatto, espresso come coefficiente di restituzione Impact resistance, as coefficient of restitution	ISO 10545-5	Valore dichiarato Declared value			≥0.55	≥0.55
Surface mechanical features Surface mechanical features	Mohs hardness Mohs hardness	EN 101	-			MOHS 7	MOHS 8
	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
Caratteristiche Termogrametriche Thermo-igrometric features	Linear Thermal Expansion Coefficient Coefficient of linear thermal expansion	ISO 10545-8	Valore dichiarato Declared value			≤7 1/mk	≤7 1/mk
	Thermal shock resistance Thermal shock resistance	ISO 10545-9	Test superato in accordo con ISO 10545-1 Pass according to EN ISO 10545-1			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)
	Frost resistance Frost resistance	ISO 10545-12	Test superato in accordo con ISO 10545-1 Pass according to EN ISO 10545-1			Resiste	Resiste
Physical properties Physical properties	Bond Strength 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)
	Reaction to fire Reaction to fire	-	Classe A1 oppure A1_{fl} Class A1 or A1 _{fl}			A1 - A1 _{fl}	A1 - A1 _{fl}
Chemical features Chemical features	Resistance to household chemicals and swimming pool salts Resistance to household chemicals and swimming pool salts	ISO 10545-13	Classe minima B Minimum Class B			UA	UA
	Resistance to low concentrations of acids and alkalis Resistance to low concentrations of acids and alkalis		Classe dichiarata Declared Class			ULA	ULA
	Resistance to high concentrations of acids and alkalis Resistance to high concentrations of acids and alkalis		Classe dichiarata Declared Class			UHA	UHA
	Resistenza alle macchie piastrelle smaltate Resistance to staining for glazed tiles	ISO 10545-14	Classe dichiarata Declared Class			5	5
Safety features Safety characteristics	Shod Ramp Test Shod Ramp Test	DIN 51130	Classe dichiarata Declared Class			R10	R12
	Barefoot Ramp Test Barefoot Ramp Test	DIN 51097	Declared value Valore dichiarato			A+B	A+B+C
	Pendulum Friction Test Pendulum Friction Test	BS 7976	PTV 36 classifies the surface as "low slip risk"			≥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 2	Class 3
	Coefficiente di attrito Coefficient of friction (COF)	B.C.R.A. Rep. CEC/81	D. M. 236/89 del 14/06/89 $\mu > 0,40$ per elemento scivolante cuoio su pavimentazione asciutta $\mu > 0,40$ per elemento scivolante gomma dura su pavimentazione bagnata			>0.40Asciutto >0.40Bagnato	>0.40Asciutto >0.40Bagnato
Dynamic Coefficient of Friction Dynamic coefficient of friction (DCOF)	ANSI A.137.1	ANSI A.137.1-2017			>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 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).
- Determinazione della resistenza allo scivolamento delle superfici pedonabili; non si applica alle pavimentazioni sportive ed alle pavimentazioni stradali veicolari.
- (1) 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.

