



Formatos 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
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	Caratteristica tecnica Characteristics	Método de ensayo Test Method	Requisitos por tamaño nominal Requirements for nominal size N			BRAVE		
			(mm)	(%)	(mm)			
Características de tamaño Regularity characteristics	 Longitud y anchura Length and width	ISO 10545-2	± 0,9 (*)	± 0,6 (*)	± 2,0 (*)	Matt rectified ±0.3% ±1.0mm	Grip rectified ±0.3% ±1.0mm	
			 Grosor Thickness	± 0,5 (**)	± 5 (**)	± 0,5 (**)	±5.0% ±0.5mm	±5.0% ±0.5mm
			 Rectitud de los cantos 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
	 planaridad Surface flatness		c.c. ± 0,75	c.c. ± 0,5	c.c. ± 2,0	Not applicable	Not applicable	
			e.c. ± 0,75	e.c. ± 0,5	e.c. ± 2,0			
Características estructurales Structural features	 Absorción de agua (como % de la masa) (come % della massa) Water absorption level (in% by mass)	ISO 10545-3	E _B ≤ 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%	
Características mecánicas de masa Bulk mechanical features	 Resistencia de rotura Breaking strength	ISO 10545-4	S ≥ 700N (per spessore < 7,5mm - for thickness < 7,5mm) S ≥ 1300N (per spessore ≥ 7,5mm - for thickness ≥ 7,5mm)			S ≥ 2000 N	S ≥ 2000 N	
			 Resistencia a la Flexión Modulus of Rupture	R ≥ 35 N/mm ²			R ≥ 40 N/mm ²	R ≥ 40 N/mm ²
	 Resistenza a Flessione ed al Carico di Rottura Bending Strength and Breaking Load	EN 1339 Annex F	-			-	-	
	 Resistencia al impacto, expresado como coeficiente de restitución Impact resistance, as coefficient of restitution	ISO 10545-5	Valore dichiarato Declared value			≥0.55	≥0.55	
Características mecánicas superficiales Surface mechanical features	 Dureza Mohs 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 Termogrometriche Thermo-igrometric features	 Coeficiente de dilatación térmica lineal Coefficient of linear thermal expansion	ISO 10545-8	Valore dichiarato Declared value			≤7 1/mk	≤7 1/mk	
	 Resistencia al choque térmico Thermal shock resistance	ISO 10545-9	Supera el ensayo de acuerdo 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)	
	 Resistencia a las heladas Frost resistance	ISO 10545-12	Supera el ensayo de acuerdo con ISO 10545-1 Pass according to EN ISO 10545-1			Resiste	Resiste	
Características físicas Physical properties	 Resistencia a la tracción de los adhesivos cementosos 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)	
	 Reacción al fuego Reaction to fire	-	Clase A1 oppure A1 _{fl} Class A1 or A1 _{fl}			A1 - A1 _{fl}	A1 - A1 _{fl}	
Características químicas Chemical features	 Resistencia a los productos químicos de uso doméstico y a los aditivos para piscinas Resistance to household chemicals and swimming pool salts	ISO 10545-13	Clase minima B Minimum Class B			UA	UA	
			Resistencia a los ácidos y bases de baja concentración Resistance to low concentrations of acids and alkalis	Clase dichiarata Declared Class			ULA	ULA
			Resistencia a los ácidos y bases de alta concentración Resistance to high concentrations of acids and alkalis	Clase dichiarata Declared Class			UHA	UHA
	 Resistenza alle macchie piastrelle smaltate Resistance to staining for glazed tiles	ISO 10545-14	Clase dichiarata Declared Class			5	5	
Características de seguridad Safety characteristics		Método de la rampa "calzado" Shod Ramp Test	DIN 51130	Clase dichiarata Declared Class			R10	R12
		Método de la rampa a pies descalzos Barefoot Ramp Test	DIN 51097	Declared value Valore dichiarato			A+B	A+B+C
			BS 7976	PTV 36 classifies the surface as "low slip risk"			≥36Dry ≥36Wet	≥36Dry ≥36Wet
		Método del péndulo Pendulum Friction Test	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
		Coeficiente de fricción 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
		Coeficiente de fricción estática 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

- * 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.

