



Sizes	75x150 cm	90x90 cm	45x90 cm	75x75 cm	37.5x75 cm	60x60 cm
Sizes	29 1/2"x59"	35 3/8"x35 3/8"	17 3/4"x35 3/8"	29 1/2"x29 1/2"	14 3/4" x 29 1/2"	23 5/8"x23 5/8"
	± 9,5mm	± 20mm	± 20mm	± 9,5mm	± 9,5mm	± 20mm

	Characteristics	Test Method	Requirements for nominal size N			KLIF		
			Requirements for nominal size N			Matt rectified	Grip rectified	Textured rectified
			7 cm ≤ N < 15 cm	N ≥ 15 cm				
	Characteristics	Test Method	(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		± 0,75 (***)	± 0,5 (***)	± 1,5 (***)	±0.3% ±0.8mm	±0.3% ±0.8mm	±0.3% ±0.8mm
	Rectangularity (Measurement only on short edges when L/I ≥ 3)		± 0,75 (****)	± 0,5 (****)	± 2,0 (****)	±0.3% ±1.5mm	±0.3% ±1.5mm	±0.3% ±1.5mm
Structural features	Surface flatness	ISO 10545-2	c.c. ± 0,75	c.c. ± 0,5	c.c. ± 2,0	Not Applicable	Not applicable	Not Applicable
			e.c. ± 0,75	e.c. ± 0,5	e.c. ± 2,0			
			w. ± 0,75	w. ± 0,5	w. ± 2,0			
Structural features	Water absorption level (in% by mass)	ISO 10545-3	E _p ≤ 0,5% Individual Maximum 0,6% - Individual Maximum 0,6%			≤0.1%	≤0.1%	≤0.1%
		ASTM C373-18	Requirement ANSI A137.1-2017 Water Absorption Max < 0,5%			≤0.5%	≤0.5%	≤0.5%
Bulk mechanical features	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 ≥ 1500 N	S ≥ 1500 N	S ≥ 10000 N
	Modulus of Rupture		R ≥ 35 N/mm ²			R ≥ 40 N/mm ²	R ≥ 40 N/mm ²	R ≥ 45 N/mm ²
	Bending Strength and Breaking Load	EN 1339 Annex F	-			-	-	≥T11 60x60 90x90 ≥U4 45x90
Surface mechanical features	Impact resistance, as coefficient of restitution	ISO 10545-5	Declared value			≥0.55	≥0.55	≥0.55
Surface mechanical features	Mohs hardness	EN 101	-			MOHS 7	MOHS 8	MOHS 8
	Resistance to deep abrasion of unglazed tiles (removed volume)	ISO 10545-6	≤ 175 mm ³			≤150mm ³	≤150mm ³	≤150mm ³
Thermo-igrometric features	Coefficient of linear thermal expansion	ISO 10545-8	Declared value			≤7 1/mk	≤7 1/mk	≤7 1/mk
	Thermal shock resistance	ISO 10545-9	Pass according to EN ISO 10545-1			Resiste	Resiste	Resiste
	Moisture expansion (in mm/m)	ISO 10545-10	Declared value			≤0.01% (0.1mm/m)	≤0.01% (0.1mm/m)	≤0.01% (0.1mm/m)
	Frost resistance	ISO 10545-12	Pass according to EN ISO 10545-1			Resiste	Resiste	Resiste
Physical properties	Bond strength/adhesion for improved cementitious adhesives	EN 1348	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	-	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	Minimum Class B			A	A	A
	Resistance to low concentrations of acids and alkalis		Declared Class			LA	LA	LA
	Resistance to high concentrations of acids and alkalis		Declared Class			HA	HA	HA
Safety characteristics	Resistance to staining for glazed tiles	ISO 10545-14	Declared Class			5	5	5
	Shod Ramp Test	DIN 51130	Declared Class			R10	R11	R11
	Barefoot Ramp Test	DIN 51097	Declared value			A+B	A+B+C	A+B+C
	Pendulum Friction Test	BS 7976	PTV 36 classifies the surface as "low slip risk"			≥36Dry ≥36Wet	≥36Dry ≥36Wet	≥36Dry ≥36Wet
		AS 4586	Declared Classification of the new pedestrian surface materials according to the Pendulum Test			Class P3	Class P4	Class P4
	Coefficient of friction (COF)	UNE-ENV 12633	Declared value			Class C2	Class C3	Class C3
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 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 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.