



Sizes	25x150 cm 25x150 9 7/8"x59" ± 9.5mm	22.5x90 cm 8 7/8"x35 3/8" ± 9mm	15x90 cm 5 7/8"x35 3/8" ± 9mm	30x120 cm 30x120 cm Lastra 20mm ± 20mm	60x60 cm 60x60 cm Lastra 20mm ± 20mm
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TECHNICAL FEATURES / TECHNICAL FEATURES			Requirements for nominal size N Requisiti per dimensione nominale N			ETIC PRO			
			7 cm ≤ N < 15 cm	N ≥ 15 cm		Matt	Polished	Grip	Textured 20 mm
			(mm)	(%)	(mm)				
Regularity features	<b>Length and width</b> Length and width  <b>Thickness</b> Thickness  <b>Straightness of sides</b> Straightness of sides  <b>Rectangularity (Measurement only on short edges when L/l ≥ 3)</b> Ortogonalità (Misurazione da condurre solo sui lati corti quando ≥ L/l 3)	ISO 10545-2	± 0,9 (*)	± 0,6 (*)	± 2,0 (*)	±0.3% ±1.0mm	±0.3% ±1.0mm	±0.3% ±1.0mm	±0.3% ±1.0mm
			± 0,5 (**)	± 5 (***)	± 0,5 (**)	±5.0% ±0.5mm	±5.0% ±0.5mm	±5.0% ±0.5mm	±5.0% ±0.5mm
			± 0,75 (***)	± 0,5 (***)	± 1,5 (***)	±0.3% ±0.8mm	±0.3% ±0.8mm	±0.3% ±0.8mm	±0.3% ±0.8mm
			± 0,75 (****)	± 0,5 (****)	± 2,0 (****)	±0.3% ±1.5mm	±0.3% ±1.5mm	±0.3% ±1.5mm	±0.3% ±1.5mm
	<b>Surface flatness</b> Surface flatness			c.c. ± 0,75	c.c. ± 0,5	c.c. ± 2,0	±0.4% ±1.8mm	±0.3% ±1.5mm	Not applicable
e.c. ± 0,75	e.c. ± 0,5	e.c. ± 2,0							
w. ± 0,75	w. ± 0,5	w. ± 2,0							
			EN 14411 annex G (Group Bla) EN 14411 appendice G (Gruppo Bla)	ISO 13006 annex G (Group Bla) ISO 13006 appendice G (Gruppo Bla)					
Structural features	<b>Water absorption level (in% by mass)</b> Water absorption level (come % della massa)	ISO 10545-3	E <sub>B</sub> ≤ 0,5% Individual max 0,6% E <sub>B</sub> ≤ 0,5% Valore max singolo 0,6%			≤0.1%	≤0.1%	≤0.1%	≤0.1%
Bulk mechanical features	<b>Breaking strength</b> Breaking strength	ISO 10545-4	S ≥ 1300 N			S ≥ 2000 N	S ≥ 2000 N	S ≥ 2000 N	S ≥ 10000 N
	<b>Modulus of Rupture</b> Modulus of Rupture		R ≥ 35 N/mm <sup>2</sup>			R ≥ 45 N/mm <sup>2</sup>	R ≥ 45 N/mm <sup>2</sup>	R ≥ 45 N/mm <sup>2</sup>	R ≥ 45 N/mm <sup>2</sup>
	<b>Impact resistance, as coefficient of restitution</b> Resistenza all'impatto, espresso come coefficiente di restituzione	ISO 10545-5	Declare a value Dichiarare un valore	Test method available Metodo di prova disponibile		≥0.55	≥0.55	≥0.55	≥0.55
Surface mechanical features	<b>Mohs hardness</b> Mohs hardness	EN 101 <sup>(1)</sup>	-			MOHS 6	MOHS 5	MOHS 8	MOHS 8
	<b>Resistance to deep abrasion of unglazed tiles (removed volume)</b> Resistenza all'abrasione profonda delle piastrelle non smaltate (volume materiale asportato)	ISO 10545-6	≤ 175 mm <sup>3</sup>			≤150mm <sup>3</sup>	≤150mm <sup>3</sup>	≤150mm <sup>3</sup>	≤150mm <sup>3</sup>
Thermo-igrometric features	<b>Linear Thermal Expansion Coefficient</b> Linear Thermal Expansion Coefficient	ISO 10545-8	Declare a value Dichiarare un valore	Test method available Metodo di prova disponibile		≤7 1/mk	≤7 1/mk	≤7 1/mk	≤7 1/mk
	<b>Thermal shock resistance</b> Thermal shock resistance	ISO 10545-9	Pass according to EN ISO 10545-1 Test superato in accordo con ISO 10545-1	Test method available Metodo di prova disponibile		Resiste	Resiste	Resiste	Resiste
	<b>Expansion due to humidity (mm/m)</b> Dilatazione all'umidità (in mm/m)	ISO 10545-10	Declare a value Dichiarare un valore	Test method available Metodo di prova disponibile		≤0.01% (0.1mm/m)	≤0.01% (0.1mm/m)	≤0.01% (0.1mm/m)	≤0.01% (0.1mm/m)
	<b>Frost resistance</b> Frost resistance	ISO 10545-12	Pass according to EN ISO 10545-1 Test superato in accordo con ISO 10545-1	Required Metodo di prova richiesto		Resiste	Resiste	Resiste	Resiste
Physical properties	<b>Bond strength/adhesion for improved cementitious adhesives</b> Bond Strength	EN 1348	Declare a value Dichiarare un valore	-		≥1.0 N/mm <sup>2</sup> (Class C2 - EN 12004)	≥1.0 N/mm <sup>2</sup> (Class C2 - EN 12004)	≥1.0 N/mm <sup>2</sup> (Class C2 - EN 12004)	≥1.0 N/mm <sup>2</sup> (Class C2 - EN 12004)
	<b>Reaction to fire</b> Reaction to fire	-	Class A1 or A1 <sub>fl</sub> Classe A1 oppure A1 <sub>fl</sub>	-		A1 - A1 <sub>fl</sub>	A1 - A1 <sub>fl</sub>	A1 - A1 <sub>fl</sub>	A1 - A1 <sub>fl</sub>
Chemical features	<b>Resistance to household chemicals and swimming pool salts</b> Resistance to household chemicals and swimming pool salts	ISO 10545-13	Minimum Class B (UB for unglazed tiles) Classe minima B (UB per piastrelle non smaltate)			UA	UA	UA	UA
	<b>Resistance to low concentrations of acids and alkalis</b> Resistance to low concentrations of acids and alkalis		Declare a class Dichiarare una classe	Manufacturer is to state classification Secondo la classificazione indicata dal fabbricante		ULA	ULA	ULA	ULA
	<b>Resistance to high concentrations of acids and alkalis</b> Resistance to high concentrations of acids and alkalis		Declare a class Dichiarare una classe	Test method available Metodo di prova disponibile		UHA	0	UHA	UHA
	<b>Resistance to staining for glazed tiles</b> Resistenza alle macchie piastrelle smaltate	ISO 10545-14	Declare a class Dichiarare una classe	Test method available Metodo di prova disponibile		UA	UA	UA	UA
Safety features	<b>Barefoot Ramp Test</b> Barefoot Ramp Test	DIN 51097	Declare a value Dichiarare un valore	-		A	0	A+B+C	A+B+C
	<b>Shod Ramp Test</b> Shod Ramp Test	DIN 51130	Declare a value Dichiarare un valore	-		R9	N.C.	R11	R11
	<b>Pendulum Friction Test</b> Pendulum Friction Test	UNE-ENV 12633	Declare a value Dichiarare un valore	-		Class 1	Class 0	Class 3	Class 3
Safety features	<b>Coefficient of friction (COF)</b> Coefficiente di attrito	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	>0.40Asciutto >0.40Bagnato
		ANSI A137.1 - 2012	ANSI A.137.1 Requires a minimum value of 0.42 for commercial areas that are likely to be wet.			>0.42Wet	<0.42Wet	>0.42Wet	>0.42Wet
		ASTM C1028 - 2007	The Ceramic Tiles Institute Identifies Tile Slip Resistant when SCOF ≥ 0.60			≥0.60Dry ≥ 0.60Wet	≥0.60Dry 0.50/0.60Wet	≥0.80Dry ≥ 0.80Wet	≥0.80Dry ≥ 0.80Wet
		AS/NZS 4586 - 2013	Declared Classification of the pedestrian surface materials according to the Wet Pendulum Test			Class P3 on demand	Class P0	Class P4	Class P5

(\*) The permissible deviation, in % or mm, of the average size for each tile (2 or 4 sides) from work size (W).  
 (\*\*) The permissible deviation, in % or mm, of the average thickness for each tile from the work size thickness (W).  
 (\*\*\*) The maximum permissible deviation from straightness, in % or mm, related to the corresponding work sizes (W).  
 (\*\*\*\*) The maximum permissible deviation from rectangularity, in % or mm, related to the corresponding work sizes (W).  
 c.c. The maximum permissible deviation from centre curvature, in % or mm, related to diagonal calculated from the work sizes (W).  
 e.c. The maximum permissible deviation from edge curvature, in % or mm, related to the corresponding work sizes (W).  
 w The maximum permissible deviation from warpage, in % or mm, related to diagonal calculated from the work sizes (W).  
 (1) Requirements european standard EN 176.  
 (2) Determination of slip resistance of pedestrian surfaces; it does not cover sports surfaces and road surfaces for vehicles (skid resistance).  
 Anti-slip performance is guaranteed at the time of delivery of the product