



Sizes	75x150 cm 29 1/2"x59" ± 9.5mm	45x90 cm 17 3/4"x35 3/8" ± 9mm	22.5x90 cm 8 7/8"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	60x60 cm 60x60 cm Lastra 20mm ± 20mm
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	Characteristics Characteristics	Test Method Test Method	Requirements for nominal size N Requirements for nominal size N			MARK								
			7 cm ≤ N < 15 cm		N ≥ 15 cm		Matt	Polished	Textured	Textured ± 20mm 60x60 cm				
			(mm)	(%)	(mm)	(mm)								
Regularity characteristics Regularity characteristics		ISO 10545-2	<b>Length and width</b> Length and width			± 0,9 (*)	± 0,6 (*)	± 2,0 (*)	±0.3% ±1.0mm	±0.3% ±1.0mm	±0.3% ±1.0mm	±0.3% ±1.0mm		
			<b>Thickness</b> Thickness			± 0,5 (**)	± 5 (**)	± 0,5 (**)	±5.0% ±0.5mm	±5.0% ±0.5mm	±5.0% ±0.5mm	±5.0% ±0.5mm		
			<b>Straightness of sides</b> Straightness of sides			± 0,75 (***)	± 0,5 (***)	± 1,5 (***)	±0.3% ±0.8mm	±0.3% ±0.8mm	±0.3% ±0.8mm	±0.3% ±0.8mm		
			<b>Rectangularity (Measurement only on short edges when L/l ≥ 3)</b> Rectangularity (Measurement only on short edges when L/l ≥ 3)			± 0,75 (****)	± 0,5 (****)	± 2,0 (****)	±0.3% ±1.5mm	±0.3% ±1.5mm	±0.3% ±1.5mm	±0.3% ±1.5mm		
		ISO 10545-2	<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	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 Structural features		ISO 10545-3	<b>Water absorption level (in% by mass)</b> Water absorption level (in% by mass)			$E_B \leq 0,5\%$ Individual Maximum 0,6% - Individual Maximum 0,6%			≤0.1%	≤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%	≤0.5%				
Bulk mechanical features Bulk mechanical features		ISO 10545-4	<b>Breaking strength</b> Breaking strength			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	S ≥ 2000 N	S ≥ 10000 N		
			<b>Modulus of Rupture</b> Modulus of Rupture			R ≥ 35 N/mm <sup>2</sup>			R ≥ 40 N/mm <sup>2</sup>	R ≥ 40 N/mm <sup>2</sup>	R ≥ 40 N/mm <sup>2</sup>	R ≥ 45 N/mm <sup>2</sup>		
		EN 1339 Annex F	<b>Bending Strength and Breaking Load</b> Bending Strength and Breaking Load			-			-	-	-	≥T11 60x60		
			<b>Impact resistance, as coefficient of restitution</b> Impact resistance, as coefficient of restitution			ISO 10545-5			Declared value Declared value			≥0.55	≥0.55	≥0.55
Surface mechanical features Surface mechanical features		EN 101	<b>Mohs hardness</b> Mohs hardness			-			MOHS 6	MOHS 5	MOHS 8	MOHS 8		
				ISO 10545-6	<b>Resistance to deep abrasion of unglazed tiles (removed volume)</b> Resistance to deep abrasion of unglazed tiles (removed volume)			≤ 175 mm <sup>3</sup>			≤150mm <sup>3</sup>	≤150mm <sup>3</sup>	≤150mm <sup>3</sup>	≤150mm <sup>3</sup>
Thermo-igrometric features Thermo-igrometric features		ISO 10545-8			<b>Coefficient of linear thermal expansion</b> Coefficient of linear thermal expansion			Declared value Declared value			≤7 1/mk	≤7 1/mk	≤7 1/mk	≤7 1/mk
				ISO 10545-9	<b>Thermal shock resistance</b> Thermal shock resistance			Pass according to EN ISO 10545-1 Pass according to EN ISO 10545-1			Resiste	Resiste	Resiste	Resiste
						ISO 10545-10	<b>Moisture expansion (in mm/m)</b> Moisture expansion (in mm/m)			Declared value Declared value			≤0.01% (0.1mm/m)	≤0.01% (0.1mm/m)
				ISO 10545-12			<b>Frost resistance</b> Frost resistance			Pass according to EN ISO 10545-1 Pass according to EN ISO 10545-1			Resiste	Resiste
Physical properties Physical properties		EN 1348			<b>Bond strength/adhesion for improved cementitious adhesives</b> Bond strength/adhesion for improved cementitious adhesives			Declared value Declared value			≥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> Class A1 or 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 Chemical features		ISO 10545-13			<b>Resistance to household chemicals and swimming pool salts</b> Resistance to household chemicals and swimming pool salts			Minimum Class B Minimum Class B			UA	UA	UA	UA
			<b>Resistance to low concentrations of acids and alkalis</b> Resistance to low concentrations of acids and alkalis			Declared Class Declared Class			ULA	ULA	ULA	ULA		
			<b>Resistance to high concentrations of acids and alkalis</b> Resistance to high concentrations of acids and alkalis			Declared Class Declared Class			UHA	0	UHA	UHA		
		ISO 10545-14	<b>Resistance to staining for glazed tiles</b> Resistance to staining for glazed tiles			Declared Class Declared Class			5	5	5	5		
Safety characteristics Safety characteristics				DIN 51130	<b>Shod Ramp Test</b> Shod Ramp Test			Declared Class Declared Class			R10	0	R11	R11
	DIN 51097	<b>Barefoot Ramp Test</b> Barefoot Ramp Test			Declared value Declared value			A	0	A+B+C	A+B+C			
		BS 7976			PTV 36 classifies the surface as "low slip risk"			≥36Dry ≥36Wet			≥36Dry ≥36Wet	≥36Dry ≥36Wet	≥36Dry ≥36Wet	
	AS 4586				<b>Pendulum Friction Test</b> Pendulum Friction Test			Declared Classification of the new pedestrian surface materials according to the Pendulum Test			Class P3	Class P3	Class P3	Class P3
		UNE-ENV 12633			Declared value Declared value			Class 1			Class 0	Class 3	Class 3	
	B.C.R.A. Rep. CEC/81				<b>Coefficient of friction (COF)</b> Coefficient of friction (COF)			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 A.137.1		<b>Dynamic coefficient of friction (DCOF)</b> Dynamic coefficient of friction (DCOF)			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	>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.

