



Sizes	120x278 cm 47 1/4"x109 1/2" ±6mm	80x160 cm 31 1/2"x63" ±9mm	80x80 cm 31 1/2"x31 1/2" ±9mm	60x120 cm 23 3/4"x47 1/4" ±9mm	60x60 cm 23 3/4"x23 3/4" ±9mm
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	Technical features	Test method	Requisites for nominal size N			Empire		
			7 cm ≤ N < 15 cm		N ≥ 15 cm	Polished rectified 9mm	Polished rectified 6mm 120x278 cm	Matte rectified
			(mm)	(%)	(mm)			
Regularity features 	Length and width	ISO 10545-2	± 0,9 (*) Non-rect. ± 0,4 (*) Rect.	± 0,6 (*) Non-rect. ± 0,3 (*) Rect.	± 2,0 (*) Non-rect. ± 1,0 (*) Rect.	Suitable for	Suitable for	Suitable for
	Thickness		± 0,5 (**)	± 5 (**)	± 0,5 (**)	Suitable for	Suitable for	Suitable for
	Straightness of sides		± 0,8 (***) Non-rect. ± 0,4 (***) Rect.	± 0,5 (***) Non-rect. ± 0,3 (***) Rect.	± 1,5 (***) Non-rect. ± 0,8 (***) Rect.	Suitable for	Suitable for	Suitable for
	Perpendicularity (Measurement only on short edges when L/l ≥ 3)		± 0,8 (***) Non-rect. ± 0,4 (***) Rect.	± 0,5 (***) Non-rect. ± 0,3 (***) Rect.	± 2,0 (***) Non-rect. ± 1,5 (***) Rect.	Suitable for	Suitable for	Suitable for
	Surface flatness		c.c. ± 0,8 Non-rect. c.c. ± 0,6 Rect. e.c. ± 0,8 Non-rect. e.c. ± 0,6 Rect. w. ± 0,8 Non-rect. w. ± 0,6 Rect.	c.c. ± 0,5 Non-rect. c.c. ± 0,4 Rect. e.c. ± 0,5 Non-rect. e.c. ± 0,4 Rect. w. ± 0,5 Non-rect. w. ± 0,4 Rect.	c.c. ± 2,0 Non-rect. c.c. ± 1,8 Rect. e.c. ± 2,0 Non-rect. e.c. ± 1,8 Rect. w. ± 2,0 Non-rect. w. ± 1,8 Rect.	Suitable for	Suitable for	Suitable for
Structural features 	Water absorption level (in% by mass)	ISO 10545-3	E ≤ 0,5% 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%	
Bulk mechanical features 	Breaking strenght	ISO 10545-4	S ≥ 700N (for thickness < 7,5mm) S ≥ 1300N (for thickness ≥ 7,5mm)			S ≥ 1500 N	S ≥ 1000 N	S ≥ 1500 N
	Bending resistance		R ≥ 35 N/mm ²			R ≥ 40 N/mm ²	R ≥ 40 N/mm ²	R ≥ 40 N/mm ²
	Bending and breaking load resistance ⁽⁴⁾ ₍₅₎	EN 1339 Annex F	-					
Surface mechanical features 	Impact resistance	ISO 10545-5	Declared value			≥ 0,55	≥ 0,55	≥ 0,55
	Mohs hardness	EN 101	-			MOHS 5	MOHS 5	MOHS 6
	Deep abrasion resistance of unglazed tiles	ISO 10545-6	≤ 175 mm ³			≤ 150mm ³	≤ 150mm ³	≤ 150mm ³

* Permitted deviation, in % or mm, from the average size of each tile (2 or 4 sides) with respect to the manufacturing size (W).
 ** Permitted deviation, in % or mm, from the average thickness of each tile with respect to the cited manufacturing thickness (W).
 *** Maximum permitted straightness deviation, in % or mm, with respect to the corresponding manufacturing sizes (W).
 **** Maximum permitted perpendicularity deviation, in % or mm, with respect to the corresponding manufacturing sizes (W).
 **** Maximum permitted centre curvature deviation, in % or mm, with respect to the diagonal calculated according to manufacturing sizes (W).
 e.c. Maximum permitted corner curvature deviation, in % or mm, with respect to the corresponding manufacturing sizes (W).
 w. Maximum permitted bending deviation, in % or mm, with respect to the diagonal calculated according to manufacturing sizes (W).
 (1) Determining the slip resistance of pedestrian surfaces; not applicable to sports flooring or road traffic flooring.
 (2) The anti-slip performance is guaranteed at the time of delivering the product.
 (3) However, tiles with a DCOF of 0.42 or greater are not necessarily suitable for all projects. 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 the outdoor design general catalogue.
 (5) Only for products with 20 mm thickness



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				(mm)	(%)	(mm)			
Thermo- igrometric features		Coefficient of linear thermal expansion	ISO 10545-8	Declared value		≤7MK ⁻¹	≤7MK ⁻¹	≤7MK ⁻¹	
		Thermal shock resistance	ISO 10545-9	Test passed in accordance with ISO 10545-1		Resistant	Resistant	Resistant	
		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	Test passed in accordance with ISO 10545-1		Resistant	Resistant	Resistant	
Physical properties		Bond strenght	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 B class		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	
		Stain resistance	ISO 10545-14	Declared class		5	5	5	
Safety characteristics (1)(2)		Booted ramp test	DIN 51130	Declared class		N.C.	N.C.	R9	
		Barefoot Ramp test	DIN 51097	Declared value				A	
		Pendulum friction Test	BS 7976	PTV ≥ 36 classifies the surface as "low slip risk"					
			AS 4586	Declared Classification of the new pedestrian surface materials according to the Pendulum Test					
		Coefficient of friction	UNE-ENV 12633 UNE 41901:2017 EX	Declared value					
			B.C.R.A. Rep. CEC/81	Min. Dec. 236/89 of 14/06/89 μ >0.40 for a sliding leather element on a dry floor μ >0.40 for a sliding hard rubber element on a wet floor					
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)							

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