



Sizes	120x278 cm 47 1/4"x109 1/2" ± 6mm	120x120 cm 47 1/4"x47 1/4" ± 9mm	120x120 cm 47 1/4"x47 1/4" ± 20mm	75x150 cm 29 1/2"x59" ± 9mm	75x75 cm 29 1/2"x29 1/2" ± 9mm	60x120 cm 23 3/8"x47 1/4" ± 20mm	60x60 cm 23 3/8"x23 3/8" ± 9mm	37,5x75 cm 14 3/4"x29 1/2" ± 9mm	30x60 cm 11 3/4"x23 3/8" ± 9mm
-------	---	--	---	-----------------------------------	--------------------------------------	--	--------------------------------------	--	--------------------------------------

		Technical features	Test method	Requisites for nominal size N			Raw			
				7 cm ≤ N < 15 cm	N ≥ 15 cm		Matte rectified 9mm	Matte rectified 6mm 120x278 cm	Grip rectified	Textured
				(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	Suitable for
		Thickness		± 0,5 (**)	± 5 (**)	± 0,5 (**)	Suitable for	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	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	Suitable for
	Surface flatness			c.c. ± 0,8 Non-rect. c.c. ± 0,6 Rect.	c.c. ± 0,5 Non-rect. c.c. ± 0,4 Rect.	c.c. ± 2,0 Non-rect. c.c. ± 1,8 Rect.	Suitable for	Suitable for	Suitable for	Suitable for
				e.c. ± 0,8 Non-rect. e.c. ± 0,6 Rect.	e.c. ± 0,5 Non-rect. e.c. ± 0,4 Rect.	e.c. ± 2,0 Non-rect. e.c. ± 1,8 Rect.				
Structural features		Water absorption level (in% by mass)	ISO 10545-3	E ≤ 0,5% 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		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	S ≥ 10000 N
		Bending resistance		R ≥ 35 N/mm²			R ≥ 40 N/mm²	R ≥ 40 N/mm²	R ≥ 40 N/mm²	R ≥ 45 N/mm²
	Bending and breaking load resistance (4)(5)	EN 1339 Annex F	-						≥ T11 120X120 ≥ U4 60X120	
	Impact resistance	ISO 10545-5	Declared value			≥ 0,55	≥ 0,55	≥ 0,55	≥ 0,55	
Surface mechanical features		Mohs hardness	EN 101	-			MOHS 6	MOHS 6	MOHS 8	MOHS 8
		Deep abrasion resistance of unglazed tiles	ISO 10545-6	≤ 175 mm³			≤ 150mm³	≤ 150mm³	≤ 150mm³	≤ 150mm³

* 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



Sizes	120x278 cm 47 1/4"x109 1/2" ⊞ 6mm	120x120 cm 47 1/4"x47 1/4" ⊞ 9mm	120x120 cm 47 1/4"x47 1/4" ⊞ 20mm	75x150 cm 29 1/2"x59" ⊞ 9mm	75x75 cm 29 1/2"x29 1/2" ⊞ 9mm	60x120 cm 23 3/4"x47 1/4" ⊞ 20mm	60x60 cm 23 3/4"x23 3/4" ⊞ 9mm	37,5x75 cm 14 3/4"x29 1/2" ⊞ 9mm	30x60 cm 11 3/4"x23 3/4" ⊞ 9mm
-------	---	--	---	-----------------------------------	--------------------------------------	--	--------------------------------------	--	--------------------------------------

	Technical features	Test method	Requisites for nominal size N			Raw				
			7 cm ≤ N < 15 cm		N ≥ 15 cm	Matte rectified 9mm	Matte rectified 6mm 120x278 cm	Grip rectified	Textured	
			(mm)		(%)					(mm)
Thermo- igrometric features	Coefficient of linear thermal expansion	ISO 10545-8	Declared value			≤7MK ⁻¹	≤7MK ⁻¹	≤7MK ⁻¹	≤7MK ⁻¹	
	Thermal shock resistance	ISO 10545-9	Test passed in accordance with ISO 10545-1			Resistant	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)	≤0.01% (0.1mm/m)	
	Frost resistance	ISO 10545-12	Test passed in accordance with ISO 10545-1			Resistant	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)	≥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}	A1 - A1 _{fl}	
Chemical features	Resistance to household chemicals and swimming pool salts Resistance to low concentrations of acids and alkalis Resistance to high concentrations of acids and alkalis	ISO 10545-13	Minimum B class			A	A	A	A	
			Declared class			LA	LA	LA	LA	
			Declared class			HA	HA	HA	HA	
	Stain resistance	ISO 10545-14	Declared class			5	5	5	5	
Safety characteristics (1)(2)		Booted ramp test	DIN 51130	Declared class			R10	R9	R11	R11
		Barefoot Ramp test	DIN 51097	Declared value			A+B	A	A+B+C	A+B+C
		Pendulum friction Test	BS 7976	PTV ≥ 36 classifies the surface as "low slip risk"			≥36Dry ≥36Wet	PTV ≥ 36 Wet on demand	≥36Dry ≥36Wet	≥36Dry ≥36Wet
			AS 4586	Declared Classification of the new pedestrian surface materials according to the Pendulum Test			Class P3	P3 on demand	Class P4	Class P4
			UNE-ENV 12633 UNE 41901:2017 EX	Declared value			Class C2	C2 on demand	Class C3	Class C3
		Coefficient of friction	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			>0.40Asciutto >0.40Bagnato	>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)			> 0.42 Wet	> 0.42 Wet	> 0.42 Wet	> 0.42 Wet

* 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



Sizes	50x120 cm 19% [*] x47 ¼" ± 8.5mm	50x120 cm 19% [*] x47 ¼" ± 10mm
-------	--	---

	Technical features	Test method	Requisites for nominal size N			Raw	
			7 cm ≤ N < 15 cm	N ≥ 15 cm		Matte rectified 8.5mm 50x120 cm	Matte rectified 10mm 50x120 cm
			(mm)	(%)	(mm)		
Regularity features 	Length and width	ISO 10545-2	± 0,4 (*) Rect.	± 0,3 (*) Rect.	± 1,0 (*) Rect.	Suitable for	Suitable for
	Thickness		± 0,5 (**)	± 10 (**)	± 0,5 (**)	Suitable for	Suitable for
	Straightness of sides		± 0,4 (***) Rect.	± 0,3 (***) Rect.	± 0,8 (***) Rect.	Suitable for	Suitable for
	Perpendicularity		± 0,4 (***) Rect.	± 0,3 (***) Rect.	± 1,5 (***) Rect.	Suitable for	Suitable for
	Surface flatness		c.c. ± 0,6 Rect. e.c. ± 0,6 Rect. w. ± 0,6 Rect.	c.c. ± 0,4 Rect. e.c. ± 0,4 Rect. w. ± 0,4 Rect.	c.c. ± 1,8 Rect. e.c. ± 1,8 Rect. w. ± 1,8 Rect.	Suitable for	Not applicable
Structural features 	Water absorption level (in% by mass)	ISO 10545-3	Average >10%. If this value > 20%, it must be indicated. Single value > 9%			10%<Ev≤20%	10%<EV≤20%
Bulk mechanical features 	Breaking strenght	ISO 10545-4	S ≥ 600N			S ≥600 N	S ≥600 N
	Bending resistance		R ≥ 12 N/mm ²			R ≥15 N/mm ²	R ≥15 N/mm ²
Thermo-igrometric features 	Coefficient of linear thermal expansion	ISO 10545-8	Declared value			≤7MK ⁻¹	≤7MK ⁻¹
	Thermal shock resistance	ISO 10545-9	Test passed in accordance with ISO 10545-1			Resistant	Resistant
	Moisture expansion (in mm/m)	ISO 10545-10	Declared value			≤0.06% (0.6mm/m)	≤0.06% (0.6mm/m)
	Craziing resistance: glazed tiles	ISO 10545-11	Test passed in accordance with ISO 10545-1			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)
	Reaction to fire	-	Class A1			A1	A1
Chemical features 	Resistance to household chemicals and swimming pool salts	ISO 10545-13	Minimum B class			A	A
	Resistance to low concentrations of acids and alkalis		Declared class			LA	LA
	Resistance to high concentrations of acids and alkalis		Declared class			HA	HA
	Stain resistance of glazed tiles	ISO 10545-14	Minimum Class 3			5	5
	Release of dangerous substances: Cadmium (in mg/dm ²) and Lead (in mg/dm ²)	ISO 10545-15	Declared value			≤0.01mg/dm ² Cd ≤0.1mg/dm ² Pb	≤0.01mg/dm ² Cd ≤0.1mg/dm ² Pb

- * 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