



THROUGH-BODY PORCELAIN TILE TECHNICAL FEATURES - COMPLIANT WITH STANDARDS EN 14411 (ISO 13006) ANNEX G GROUP BIa



Sizes	63"x126" ★6mm	63"x63" ★ 6mm	47 ¼"x109 ½" ★ 6mm	47 ⁄₄"x94 ⁄₂" ★ 9mm	47 ⁄₄"x47 ⁄4" ★ 9mm	29 ⁄₂"x59" ★ 9mm	29 ⁄2"x29 ⁄2" ★ 9mm	23%"x47 /₄" ★ 9mm	23%"x23%" ★9mm	17¾"x35%" ★9mm	11¾"x235⁄%" ★ 9mm	
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			Test method	Req	uisites for nominal si	Marvel				
		Technical features		7 cm ≤ N < 15 cm N ≥ 15		5 cm	Polished rectified	Polished rectified	Matte rectified	Matte rectified
				(mm)	(%)	(mm)	9mm	6mm	9mm	6mm
		Length and width		± 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
Regularity features		Perpendicularity (Measurement only on short edges when $L/I \ge 3$)	ISO 10545-2	± 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 S 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.		Suitable for		
				w. ± 0,8 Non-rect. w. ± 0,6 Rect.	w. ± 0,5 Non-rect. w. ± 2,0 Non-rect. w. ± 0,4 Rect. w. ± 1,8 Rect					
Structural		Water absorption level (in% by	ISO 10545-3	E≤ 0,5% Individual Maximum 0,6%			≤0.1%	≤0.1%	≤0.1%	≤0.1%
features		mass)	ASTM C373-18	Requirement ANSI	≤0.5%	≤0.5%	≤0.5%	≤0.5%		
		Breaking strenght	ISO 10545-4		00N (for thickness < 7 00N (for thickness ≥ 7	S≥1500 N	S≥1000 N	S≥1500 N	S≥1000 N	
	$\frac{\downarrow}{\uparrow\uparrow}$	Bending resistance	130 10545-4		R ≥ 35 N/mm²	R ≥40 N/mm²	R ≥40 N/mm²	R ≥40 N/mm²	R ≥40 N/mm²	
Bulk mechanical features		Bending and breaking load resistance ⁽⁴⁾⁽⁵⁾	EN 1339 Annex F	-						
		Impact resistance ISO 10545			Declared value	≥0.55	≥0.55	≥0.55	≥0.55	
Surface mechanical		Mohs hardness	EN 101		MOHS 5	MOHS 5	MOHS 6	MOHS 6		
features	0	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





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	★6mm	★ 6mm	★ 6mm	★ 9mm	★ 9mm	★ 9mm	★ 9mm	★9mm	★9mm	★9mm	★9mm

				Requisites for non	N	Marvel				
		Technical features	Test method	7 cm ≤ N < 15 cm	≥ 15 cm	Polished	Polished	Matte rectified	Matte rectified	
				(mm)	(%)	(mm)	rectified 9mm	rectified 6mm	9mm	6mm
		Coefficient of linear thermal expansion	ISO 10545-8	Declared value			≤7MK ⁻¹	≤7MK ⁻¹	≤7MK ⁻¹	≤7MK ⁻¹
Thermo- igrometric	-	Thermal shock resistance	ISO 10545-9	Test passed in accordance with ISO 10545-1			Resistant	Resistant	Resistant	Resistant
features		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)
	襋	Frost resistance	ISO 10545-12	Test passed in accordance with ISO 10545-1			Resistant	Resistant	Resistant	Resistant
Physical	ŀ	Bond strenght	EN 1348	Declared value			≥1.0 N/mm² (Class C2 - EN 12004)			
properties	*	Reaction to fire	-	Class A1 or A1 _{fi}			A1 - A1 _{fl}			
		Resistance to household chemicals and swimming pool salts		Minimum B		А	А	А	A	
Chemical		Resistance to low concentrations of acids and alkalis	ISO 10545-13	Declared c		LA	LA	LA	LA	
features		Resistance to high concentrations of acids and alkalis		Declared c				HA	HA	
		Stain resistance	ISO 10545-14	Declared class			5	5	5	5
		Booted ramp test DIN 51130		Declared c	Declared class			N.C.	R9	R9
		Barefoot Ramp test	DIN 51097	Declared value				A	A	
			BS 7976	$PTV \ge 36$ classifies the surface as "low slip risk"		≥ 36 Dry ≤ 24 Wet	≥ 36 Dry ≤ 24 Wet	PTV≥36 Wet on demand	PTV≥36 Wet on demand	
		Pendulum friction Test	AS 4586	Declared Classification of surface materials accordin Test					P3 on demand	P3 on demand
Safety characteristics	Þ		UNE-ENV 12633 UNE 41901:2017 EX	Declared v	alue				C2 on demand	C2 on demand
(1)(2)		Coefficient of friction	B.C.R.A. Rep. CEC/81	Min. Dec. 236/89 d μ >0.40 for a sliding leath _{fl} oor μ >0.40 for a sliding hard r wet _{fl} oo	er elemen ubber ele	it on a dry	>0.40Asciutto <0.40Bagnato	>0.40Asciutto <0.40Bagnato	>0.40Asciutto >0.40Bagnato	>0.40Asciutto >0.40Bagnato
		Dynamic coefficent of friction (DCOF)	ANSI A.137.1	ANSI A.137.1 Requires a minimum valu interior space expected t when wet	ue of 0.42 o be walk		< 0.42 Wet	< 0.42 Wet	> 0.42 Wet	> 0.42 Wet

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