MARVEL STONE

GRES PORCELLANATO
TECHNICAL FEATURES - COMPLIANT WITH STANDARDS EN 14411 (ISO 13006)
ANNEX G GROUP Bla

atlas concorde

Sizes	160x320 cm 63"x126" 6mm	160x160 cm 63"x63" 6mm	120x278 cm 47 ¼"x109 ½" 6mm	120x240 cm 47 ¼"x94 ½" 9mm	120x120 cm 47 ¼"x47 ¼" 9mm	75x150 cm 29 ½"x59" 9mm	75x75 cm 29 ½"x29 ½" 9mm	60x120 cm 23⅝"x47 ¼" 9mm	60x60 cm 23⅝"x23⅝" 9mm	30x60 cm 11¾"x23⅝" 9mm

		Technical features	Test method	Requisites for nominal size N			Marvel Stone			
				7 cm ≤ N < 15 cm	N ≥ 15 cm		Polished rectified 9mm	Polished rectified 6mm	Matte rectified 6mm 120x278 cm	Matte rectified 9mm
				(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.				
				w. ± 0,8 Non-rect. w. ± 0,6 Rect.	w. ± 0,5 Non-rect. w. ± 0,4 Rect.	w. ± 2,0 Non-rect. w. ± 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 ≥1000 N	S ≥1500 N
		Bending resistance		R ≥ 35 N/mm²			R ≥40 N/mm²	R ≥40 N/mm²	R ≥40 N/mm²	R ≥40 N/mm²
		Bending and breaking load resistance (4)(5)	EN 1339 Annex F	-						
		Impact resistance	ISO 10545-5	Declared value			≥0.55	≥0.55	≥0.55	≥0.55
Surface mechanical features		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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		Technical features	Test method	Requisites for nominal size N			Marvel Stone			
				7 cm ≤ N < 15 cm	N ≥ 15 cm		Polished rectified 9mm	Polished rectified 6mm	Matte rectified 6mm 120x278 cm	Matte rectified 9mm
				(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/mm² (Class C2 - EN 12004)	≥1.0 N/mm² (Class C2 - EN 12004)	≥1.0 N/mm² (Class C2 - EN 12004)	≥1.0 N/mm² (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	ISO 10545-13	Minimum B class			A	A	A	A
		Resistance to low concentrations of acids and alkalis		Declared class			LA	LA	LA	LA
		Resistance to high concentrations of acids and alkalis		Declared class					HA	HA
		Stain resistance	ISO 10545-14	Declared class			5	5	5	5
Safety characteristics (1)(2)		Booted ramp test	DIN EN 16165 ANNEX B (EX DIN 51130)	Declared class			N.C.	N.C.	R9	R10
		Barefoot Ramp test	DIN EN 16165 ANNEX A (EX DIN 51097)	Declared value					A	A+B
		Pendulum friction Test	BS EN 16165 ANNEX C (EX BS 7976)	PTV ≥ 36 classifies the surface as "low slip risk"			≥ 36 Dry ≤ 24 Wet	≥ 36 Dry ≤ 24 Wet	PTV ≥ 36 Wet on demand	≥36Dry ≥36Wet
			AS 4586	Declared Classification of the new pedestrian surface materials according to the Pendulum Test					P3 on demand	Class P3
			UNE 41901 EX:2017	Declared value					C2 on demand	Class C2
		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 $_{fl}$oor μ >0.40 for a sliding hard rubber element on a wet $_{fl}$oor			>0.40Asciutto <0.40Bagnato	>0.40Asciutto <0.40Bagnato	>0.40Asciutto >0.40Bagnato	>0.40Asciutto >0.40Bagnato
		Dynamic coefficent of friction (DCOF)	ANSI A 326.3	-			Dry DCOF ≥ 0.42	Dry DCOF ≥ 0.42	Wet DCOF ≥ 0.42	Wet DCOF ≥ 0.50

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