

TECHNICAL FEATURES	
Collection: Grande metal look	Brand: Marazzi
Size (cm): 162x324	Thickness (mm): 12

Semi-finished unrectified product. Maximum working size 160x320 cm

Technical Features	Testing Method	Meas. unit	Average Typical Values	Established limits		
DIMENSIONAL PROPERTIES AND SURFACE QUALITY						
Dimensions				Nominal Length of edge N (cm) 7≤N<15	Nominal Length of edge N (cm) N≥15	
Length and width (*)	ISO 10545-2	(mm) (%)	NA	±2% (max 5mm)	±2% (max 5mm)	±2% (max 5mm)
Length and width (**)			NA	±0,9 mm	±0,6%	±2,0 mm
Thickness			Complies with the standards	±0,5 mm	±5%	±0,5 mm
Straightness of sides			NA	±0,75 mm	±0,5%	±1,5 mm
Rectangularity			NA	±0,75 mm	±0,5%	±2,0 mm
Surface Flatness c.c - e.c. - w.			Complies with the standards	±0,75 mm	±0,5%	±2,0 mm
Surface Quality		(%)	Complies with the standards	≥95%		
PHYSICAL PROPERTIES						
Water absorption	ISO 10545-3	(%)	<= 0,1	Eb ≤ 0,5 (Individual maximum value 0,6%)		
Modulus of rupture	ISO 10545-4	(N/mm2)	>= 35	R ≥35 (Individual minimun value 32 N/mm2)		
Breaking Strength	ISO 10545-4	(N)	>= 1300	≥1300 (Thickness ≥7,5 mm) ≥700 (Thickness < 7,5 mm)		
Shock resistance	ISO 10545-5		0,85	Declared value (EN 14411:2016) Test Method available (ISO 13006:2016)		
Resistance to deep abrasion	ISO 10545-6	(mm3)	120 - 150	≤175		
Resistance to surface abrasion	Internal Method		Intended use - Class G			
Linear thermal expansion coefficient	ISO 10545-8	(x(10)-6°C)	<= 9	Declared value (EN 14411:2016) Test Method available (ISO 13006:2016)		
Thermal shock resistance	ISO 10545-9		Complies with the standards	Declared value (EN 14411:2016) **** Test Method available (ISO 13006:2016)		
Frost resistance	ISO 10545-12		Complies with the standards	Pass according to EN ISO 10545-1 (EN 14411:2016) Required (ISO 13006:2016)		
Reaction to fire	-	-	A1 (only for ceramic tile)	Class A1 or Class A1 FL		
Colour resistance to light exposure	DIN 51094		Complies with the standards	No sample must show noticeable colour modifications.		

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CHEMICAL PROPERTIES				
Resistance to chemicals for household use and swimming pool salts	ISO 10545-13		A	UB Minimum (EN 14411:2016) UB Minimum (ISO 13006:2016)
Resistance to low concentrations of acids and alkalis	ISO 10545-13		LA-LB	Declared value (EN 14411:2016) Test Method available (ISO 13006:2016)
Resistance to high concentrations of acids and alkalis	ISO 10545-13		HA-HB	Declared value (EN 14411:2016) Test Method available (ISO 13006:2016)
Stain resistance	ISO 10545-14		Class 5	Declared value (EN 14411:2016) Test Method available (ISO 13006:2016)
Release of dangerous substances: cadmium	ISO 10545-15	(mg/l)	0	Declared value (EN 14411:2016) **** Test Method available (ISO 13006:2016)
Release of dangerous substances: lead	ISO 10545-15	(mg/l)	0	Declared value (EN 14411:2016) **** Test Method available (ISO 13006:2016)

* The work size shall be chose, for non-modular tiles, so that the difference between the work size and the nominal size is:
** The deviation, in percent, of the average size for each tile (2 or 4 sides) from the work size..
**** See Table 2 for uses where it is applicable
c.c. Centre curvature, related to diagonal calculated from the work sizes
e.c. Edge curvature, related to the corresponding work sizes.
w. Warpage, related to diagonal calculated from the work sizes.

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OTHER PROPERTIES				
Determination of apparent density	EN ISO 14617-1	(Kg/m³)	2500	
Water absorption	EN ISO 14617-1	(%)	<= 0,1	
Determination of flexural strength (bending)	EN ISO 14617-2	(MPa)	>= 35	
Deep abrasion	EN ISO 14617-4	(mm)	24 - 27	
Resistance to freezing/defrosting	EN ISO 14617-5		No variation after thermal cycle	
Thermal shock resistance	EN ISO 14617-6		No variation after thermal cycle	
Impact resistance	EN ISO 14617-9		3 J	
VOC emission	ISO 16000-9		Class A+	
Resistance to cold liquids	EN 12720:2013		From Class 5 to Class 3	
Resistance to damp heat	EN 12721:2013		CEN/TS 16209 Class A	
Resistance to dry heat	EN 12722:2013		CEN/TS 16209 Class A	
Tendency to retain dirt	EN 9300:2015		No visible change	
Scratch resistance	EN 15186:2012 met.B		CEN/TS 16209 Class A	
Fungal resistance	ASTM G 21		No growth on the surface	