



Formats Sizes	120x240 cm 47 1/4"x94 1/2" ± 9mm	75x150 cm 29 1/2"x59" ± 9.5mm	120x120 cm 47 1/4"x47 1/4" ± 9mm	45x90 cm 17 3/4"x35 3/8" ± 9mm	75x75 cm 29 1/2"x29 1/2" ± 9.5mm	60x60 cm 23 5/8"x23 5/8" ± 9mm	30x60 cm 11 3/4"x23 5/8" ± 9mm
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	Caratteristica tecnica Characteristics	Metodo di prova Test Method	Requisiti per dimensione nominale N Requirements for nominal size N			MARVEL GEMS			
			7 cm ≤ N < 15 cm		N ≥ 15 cm		Polished rectified	Polished rectified ± 9.5mm 75x75 cm, 75x150 cm	Matt rectified
			(mm)	(%)	(mm)	(mm)			
Caractéristiques de régularité Regularity characteristics		ISO 10545-2	Longueur et largeur Length and width	± 0,9 (*)	± 0,6 (*)	± 2,0 (*)	±0.3% ±1.0mm	±0.3% ±1.0mm	±0.3% ±1.0mm
			Épaisseur Thickness	± 0,5 (**)	± 5 (**)	± 0,5 (**)	±5.0% ±0.5mm	±5.0% ±0.5mm	±5.0% ±0.5mm
			Straightness of sides Straightness of sides	± 0,75 (***)	± 0,5 (***)	± 1,5 (***)	±0.3% ±0.8mm	±0.3% ±0.8mm	±0.3% ±0.8mm
			Ortogonalità (Misurazione da condurre solo sui lati corti quando L/l ≥ 3) Rectangularity (Measurement only on short edges when L/l ≥ 3)	± 0,75 (****)	± 0,5 (****)	± 2,0 (****)	±0.3% ±1.5mm	±0.3% ±1.5mm	±0.3% ±1.5mm
		Planimétrie Surface flatness		c.c. ± 0,75 e.c. ± 0,75 w. ± 0,75	c.c. ± 0,5 e.c. ± 0,5 w. ± 0,5	c.c. ± 2,0 e.c. ± 2,0 w. ± 2,0	±0.3% ±1.5mm	±0.3% ±1.5mm	±0.4% ±1.8mm
Structural characteristics Structural features		ISO 10545-3 ASTM C373-18	Masse d'eau absorbée (come % della massa) Water absorption level (in% by mass)	$E_B \leq 0,5\%$ Valore massimo 0,6% - Individual Maximum 0,6%			≤0.1%	≤0.1%	≤0.1%
				Requirement ANSI A137.1-2017 Water Absorption Max < 0,5%			≤0.5%	≤0.5%	≤0.5%
Caractéristiques mécaniques massives Bulk mechanical features		ISO 10545-4	Force de rupture Breaking strength	S ≥ 700N (per spessore < 7,5mm - for thickness < 7,5mm) S ≥ 1300N (per spessore ≥ 7,5mm - for thickness ≥ 7,5mm)			S ≥ 1500 N	S ≥ 1500 N	S ≥ 1500 N
			Résistance à La Flexion Modulus of Rupture	R ≥ 35 N/mm ²			R ≥ 40 N/mm ²	R ≥ 40 N/mm ²	R ≥ 40 N/mm ²
		EN 1339 Annex F	Resistenza a Flessione ed al Carico di Rottura Bending Strength and Breaking Load	-			-	-	-
		ISO 10545-5	Resistenza all'impatto, espresso come coefficiente di restituzione Impact resistance, as coefficient of restitution	Valore dichiarato Declared value			≥0.55	≥0.55	≥0.55
Caractéristiques mécaniques superficielles Surface mechanical features		EN 101	Dureté Mohs Mohs hardness	-			MOHS 5	MOHS 5	MOHS 6
		ISO 10545-6	Resistance to deep abrasion of unglazed tiles (removed volume) Resistance to deep abrasion of unglazed tiles (removed volume)	≤ 175 mm ³			≤150mm ³	≤150mm ³	≤150mm ³
Caratteristiche Termogrametriche Thermo-igrometric features		ISO 10545-8	Coefficient de dilatation thermique linéique Coefficient of linear thermal expansion	Valore dichiarato Declared value			≤7 1/mk	≤7 1/mk	≤7 1/mk
		ISO 10545-9	Résistance aux écarts de température Thermal shock resistance	Test superato in accordo con ISO 10545-1 Pass according to EN ISO 10545-1			Resiste	Resiste	Resiste
		ISO 10545-10	Dilatazione all'umidità (in mm/m) Moisture expansion (in mm/m)	Valore dichiarato Declared value			≤0.01% (0.1mm/m)	≤0.01% (0.1mm/m)	≤0.01% (0.1mm/m)
		ISO 10545-12	Résistance au gel Frost resistance	Test superato in accordo con ISO 10545-1 Pass according to EN ISO 10545-1			Resiste	Resiste	Resiste
Proprietà Fisiche Physical properties		EN 1348	Effort de cohésion Bond strength/adhesion for improved cementitious adhesives	Valore dichiarato 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)
		-	Réaction au feu Reaction to fire	Classe A1 oppure A1 _{fl} Class A1 or A1 _{fl}			A1 - A1 _{fl}	A1 - A1 _{fl}	A1 - A1 _{fl}
Caractéristiques chimiques Chemical features		ISO 10545-13	Résistance aux produits chimiques à usage domestique et aux adjuvants pour piscine Resistance to household chemicals and swimming pool salts	Classe minima B Minimum Class B			A	A	A
			Résistance aux acides et aux alcalis à basse concentration Resistance to low concentrations of acids and alkalis	Classe dichiarata Declared Class			LA	LA	LA
			Résistance aux acides et aux alcalis à haute concentration Resistance to high concentrations of acids and alkalis	Classe dichiarata Declared Class			0	HA	HA
		ISO 10545-14	Resistenza alle macchie piastrelle smaltate Resistance to staining for glazed tiles	Classe dichiarata Declared Class			5	5	5
Caractéristiques de sécurité Safety characteristics		DIN 51130	Test de la rampe « chaussé » Shod Ramp Test	Classe dichiarata Declared Class			NC	NC	R10
		DIN 51097	Test de la rampe à pieds nus Barefoot Ramp Test	Declared value Valore dichiarato			0	0	A
		BS 7976		PTV 36 classifies the surface as "low slip risk"			≥36Dry ≤ 24Wet	≥36Dry ≥36Wet	≥36Dry ≥36Wet
		AS 4586		Declared Classification of the new pedestrian surface materials according to the Pendulum Test			-	Class P3	Class P3
		UNE-ENV 12633		Valore dichiarato Declared value			-	Class 0	C2 on demand
		B.C.R.A. Rep. CEC/81		Coefficiente di attrito Coefficient of friction (COF)	D. M. 236/89 del 14/06/89 μ >0,40 per elemento scivolante cuoio su pavimentazione asciutta μ >0,40 per elemento scivolante gomma dura su pavimentazione bagnata			>0.40Asciutto <0.40Bagnato	>0.40Asciutto <0.40Bagnato
ANSI A.137.1		Coefficiente de frottement dynamique Dynamic coefficient of friction (DCOF)	ANSI A.137.1-2017 Requires a minimum value of 0.42 for level interior space expected to be walked upon when wet. (3)			<0.42Wet	<0.42Wet	>0.42Wet	

- * Deviazione ammissibile, in % oppure mm, della dimensione media di ogni piastrella (2 oppure 4 lati) dalla dimensione di fabbricazione (W).
The permissible deviation, in % or mm, of the average size for each tile (2 or 4 sides) from work size (W).
- ** Deviazione ammissibile, in % oppure mm, dello spessore medio di ogni piastrella dallo spessore riportato nella dimensione di fabbricazione (W).
The permissible deviation, in % or mm, of the average thickness for each tile from the work size thickness (W).
- *** Deviazione massima ammissibile di rettilineità, in % oppure mm, in rapporto alle dimensioni di fabbricazione (W) corrispondenti.
The maximum permissible deviation from straightness, in % or mm, related to the corresponding work sizes (W).
- **** Deviazione massima ammissibile di ortogonalità, in % oppure mm, in rapporto alle dimensioni di fabbricazione (W) corrispondenti.
The maximum permissible deviation from rectangularity, in % or mm, related to the corresponding work sizes (W).
- c.c. Deviazione massima ammissibile della curvatura del centro, in % oppure mm, in rapporto alla diagonale calcolata secondo le dimensioni di fabbricazione (W).
The maximum permissible deviation from centre curvatures, in % or mm, related to diagonal calculated from the work sizes (W).
- e.c. Deviazione massima ammissibile della curvatura dello spigolo, in % oppure mm, in rapporto alle dimensioni di fabbricazione (W) corrispondenti.
The maximum permissible deviation from edge curvatures, in % or mm, related to the corresponding work sizes (W).

- w. Deviazione massima ammissibile dello svergolamento, in % oppure mm, in rapporto alla diagonale calcolata secondo le dimensioni di fabbricazione (W).
The maximum permissible deviation from warpage, in % or mm, related to diagonal calculated from the work sizes (W).
- Determinazione della resistenza allo scivolamento delle superfici pedonabili; non si applica alle pavimentazioni sportive ed alle pavimentazioni stradali veicolari.
(1) Determination of slip resistance of pedestrian surfaces; it does not cover sports surfaces and road surfaces for vehicles (skid resistance).
- (2) Le prestazioni anti-slip vengono garantite al momento della consegna del prodotto.
Anti-slip performance is guaranteed at the time of delivery of the product.
However, tiles with a DCOF of 0.42 or greater are not necessarily suitable for all projects.
- (3) 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 outdoor design general catalogue.
- (5) Only for products with 20 mm thickness.

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