



Vero

COLLECTION SUMMARY			
SIZE (cm)	THICKNESS	GROUP	USE
22,5x180	10 mm	Bla GL EN14411/G	FLOOR/WALL
11x54	9 mm	Bla GL EN14411/G	FLOOR/WALL
20x120	10,5 mm	Bla GL EN14411/G	FLOOR/WALL

Marazzi group srl single-member limited liability company, Viale Regina Pacis, 39 41049 Sassuolo (MO) italy
T +39 0536 860800 F +39 0536 860644 info@marazzi.it www.marazzi.it

Share Capital Euro 102,232,000 fully paid-up VAT and Intrastat Code IT00611410374 Tax Code and Modena companies register reg. no. 00611410374 R.E.A.
Modena No. 49219 Meccanografico No. MO 041028 Company subject to the direction and coordination of Mohawk Industries, Inc.

Vero

Compliant with standard EN 14411:2016 annex G group Bla GL

Compliant with standard ISO 13006:2018 annex G group Bla GL

TECHNICAL FEATURES		TESTING METHOD	ESTABLISHED LIMITS		AVERAGE TYPICAL VALUE	
DIMENSIONAL PROPERTIES AND SURFACE QUALITY						
			Nominal side length N (cm) 7≤N<15	Nominal side length N (cm) N≥15		
	LENGTH AND WIDTH (*)	ISO 10545-2			Compliant	
	RECTIFIED		±0,4 mm	±0,3 %		±1,0 mm
	NOT RECTIFIED		±0,9 mm	±0,6 %		±2,0 mm
	THICKNESS					Compliant
	RECTIFIED		±0,5 mm	±5 %	±0,5 mm	
	NOT RECTIFIED		±0,5 mm	±5 %	±0,5 mm	
	STRAIGHTNESS OF SIDES					Compliant
	RECTIFIED		±0,4 mm	±0,3 %	±0,8 mm	
	NOT RECTIFIED		±0,75 mm	±0,5 %	±1,5 mm	
	RECTANGULARITY					Compliant
	RECTIFIED		±0,4 mm	±0,3 %	±1,5 mm	
	NOT RECTIFIED		±0,75 mm	±0,5 %	±2,0 mm	
	SURFACE FLATNESS C.C.- E.C.- W.					Compliant
	RECTIFIED		±0,6 mm	±0,4 %	±1,8 mm	
	NOT RECTIFIED		±0,75 mm	±0,5 %	±2,0 mm	
	SURFACE QUALITY			≥95 %		Compliant

PHYSICAL AND CHEMICAL PROPERTIES				
	WATER ABSORPTION	EN ISO 10545-3	Eb ≤ 0,5% (maximum individual value 0,6%)	Eb ≤ 0,5%

	FLEXURAL STRENGTH (S) AND MODULUS OF RUPTURE (R)	EN ISO 10545-4	---	---
			Thickness ≥ 7,5 mm: S ≥ 1.300 N R ≥ 35 N/mm² (min individual value 32 N/mm²)	Thickness ≥ 7,5 mm: S ≥ 1300 N R ≥ 35 N/mm²
			---	---
			---	---
	CRAZING RESISTANCE	EN ISO 10545-11	Pass according to EN ISO 10545-1(EN 14411:2016) Required (ISO 13006:2018)	Complies with the standards
	LINEAR THERMAL EXPANSION COEFFICIENT	EN ISO 10545-8	Declared value (EN 14411:2016) Test method available (ISO 13006:2018)	$\leq 9 \left(\frac{x(10)^{-6}}{^{\circ}\text{C}} \right)$
	THERMAL SHOCK RESISTANCE	EN ISO 10545-9	Pass according to EN ISO 10545-1 (EN 14411:2016)** Test method available (ISO 13006:2018)	Complies with the standards
	FROST RESISTANCE*****	EN ISO 10545-12	Pass according to EN ISO 10545-1 (EN 14411:2016) Required (ISO 13006:2018)	Complies with the standards
	REACTION TO FIRE	---	Class A1 or Class A1 FL*****	Floor/wall: class A1 FL/ A1

	COLOR RESISTANCE TO LIGHT EXPOSURE	DIN 51094	The samples must not show any appreciable color variations	Complies with the standards
	CHEMICAL RESISTANCE****	EN ISO 10545-13	Minimum B (EN 14411:2016) Minimum B (ISO 13006:2018)	A
			Declared value (EN 14411:2016) Test method available (ISO 13006:2018)	LA-LB
			Declared value (EN 14411:2016) Test method available (ISO 13006:2018)	HA-HB
	STAIN RESISTANCE	EN ISO 10545-14	Minimum Class 3 (EN 14411:2016) Minimum Class 3 (ISO 13006:2018)	Class 5

Vero

Compliant with standard EN 14411:2016 annex G group Bla GL

Compliant with standard ISO 13006:2018 annex G group Bla GL

	TECHNICAL FEATURES	STANDARDS	SIZE (cm)	THICKNESS	SURFACE	COLOR	DECLARED VALUE
	Resistance to surface abrasion (only for tiles intended use on floors)	INTERNAL TEST METHOD	22,5x180	10 mm	Natural	BETULLA, CASTAGNO, LARICE, QUERCIA, ROVERE, SABBIA	Class G
			22,5x180	10 mm	Natural	NATURAL	Class H
			11x54	9 mm	Natural	BETULLA, LARICE, SABBIA	Class G
			11x54	9 mm	Natural	CASTAGNO, NATURAL, QUERCIA, ROVERE	Class H
			20x120	10,5 mm	Grip	BETULLA, CASTAGNO, LARICE, NATURAL, QUERCIA, ROVERE, SABBIA	Class G
			20x120	10,5 mm	Natural	BETULLA, CASTAGNO, LARICE, QUERCIA, ROVERE, SABBIA	Class G
			20x120	10,5 mm	Natural	NATURAL	Class H

* The deviation, in percent, of the average size for each tile (2 or 4 sides) from the work size. Regarding the deviation between nominal size and work size, the work size shall be chosen, for non-modular tiles, so that the difference between the work size and the nominal size is: $\pm 2\%$ (max 5 mm)

** See Table 2 EN 14411:2016 for uses where it is applicable

*** High Performance product

**** Resistance to household chemicals and pool salts (from A to C); Resistance to low-concentration acids and bases (from LA to LC); Resistance to high-concentration acids and bases (from HA to HC)

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

***** Not valid for interior wall tiles

***** This requirement refers to the ceramic tiles only

Class D: Tiles suitable only for residential bathrooms and bedrooms; any type of abrasion must be avoided

Class E: Tiles suitable for any room of a house except for entrance areas and kitchens. Low stress abrasive wear

Class F: Tiles suitable for any room of a house without direct access from the outside or access not protected by doormats. Average stress abrasive wear

Class G: Materials suitable for rooms subject to medium-heavy abrasion, such as detached houses and light-traffic commercial buildings

Class H: Materials suitable for situations of relatively hard abrasion in environments without protection against scratching, both public and private



Vero

Compliant with standard EN 14411:2016 annex G group Bla GL

Compliant with standard ISO 13006:2018 annex G group Bla GL

ASTM COMPLIANT				
TECHNICAL FEATURES	STANDARDS	ESTABLISHED LIMITS		AVERAGE TYPICAL VALUE
NOMINAL SIZE	ASTM C499	MIN - 3,00%	MAX 2,00%	Compliant
CALIBER RANGE	ASTM C499	MIN - 0,25% or -0,03 in (-0,8 mm) (1)		Compliant
		MAX 0,25% or 0,03 (0,8 mm) (1)		
WEDGING	ASTM C502	MIN - 0,25% or -0,03 in (-0,8 mm)		Compliant
		MAX 0,25% or 0,03 (0,8 mm)		
WARPAGE EDGE	ASTM C485	MIN - 0,40% or -0,05 in (-1,3 mm) (3) or -1,8 mm (4)		Compliant
		MAX 0,40% or 0,05 in (1,3 mm) (3) or 1,8 mm (4)		
WARPAGE DIAGONAL	ASTM C485	MIN - 0,40% or -0,07 in (-1,8 mm)		Compliant
		MAX 0,40% or 0,07 in (1,8 mm)		
WATER ABSORPTION	ASTM C373	MIN 0,00%	MAX 0,50%	Compliant
THICKNESS (2)	ASTM C499	Range: 0,040 in (1,02 mm)		Not affected
COLOR UNIFORMITY (8)	ASTM C609	V0 - 3 Judds		Compliant
BREAKING STRENGTH	ASTM C648	Average ≥ 275 lbf (1,22 kN)		≥ 400
		Individual ≥ 250 lbf (1,11 kN)		
THERMAL SHOCK (5)	ASTM C484	Passed		Compliant
RESISTANCE TO FREEZE/THAW CYCLING (6)	ASTM C1026	Declared value		No damage
STAIN RESISTANCE	ASTM 1378	As reported		Not affected
CHEMICAL RESISTANCE	ASTM C650	As reported		Not affected
CRAZING RESISTANCE (5)	ASTM C424	Passed		Not affected
BOND STRENGTH	ASTM C482	≥ 50 psi (0,34 Mpa)		Compliant

(1) Whichever is less.

(2) May not apply to textured surfaces or tiles with uneven back patterns.

(3) Whichever is less, for tiles up to 24" (610 mm) on any side

(4) Applies to tiles larger than 24" (610 mm) on any side

(5) Glazed tiles only

(6) When installation subject to freeze/thaw conditions.

(7) For level interior spaces expected to be walked upon when wet (see section 6.2.2.1.10)

(8) Class V0 Tile Only

Vero

Antislippery Properties (only for tiles intended for floor use)											
					DIN EN 16165 Annex B (ex DIN 51130); ASR A1.	DIN EN 16165 Annex A (ex DIN 51097) DGUV Information 207-006	D.M. N. 236 14/6/89 BCR-A	ANSI 326.3:2021 D-COF	BS EN 16165:2021 Annex C (ex BS 7976-2:2002 / BS EN 13036-4:2011) - UK PTV	UNE EN 16165 Annex C (ex UNE 41901:2017 EX - DB SUA) - Spain PTV	AS 4586-2013 Annex A Australian PTV
Established limits					from R9 to R13	from A to C	$\mu > 0,40$	Interior Dry (ID) $\geq$ 0.42 dry, Interior Wet (IW) $\geq$ 0.42 wet, Interior Wet+ (IW+): Declared value, Exterior Wet (EW): Declared value	0 - 24 Slippery; 25 - 35 Moderate slipperiness; 36+ Low risk of slipping	from class 0 to class 3	from P0 to P5
Surface	Size (cm) Thickness	Color	Group	Catalog code	DIN EN 16165 Annex B (ex DIN 51130); ASR A1.	DIN EN 16165 Annex A (ex DIN 51097) DGUV Information 207-006	D.M. N. 236 14/6/89 BCR-A	ANSI 326.3:2021 D-COF	BS EN 16165:2021 Annex C (ex BS 7976-2:2002 / BS EN 13036-4:2011) - UK PTV	UNE EN 16165 Annex C (ex UNE 41901:2017 EX - DB SUA) - Spain PTV	AS 4586-2013 Annex A Australian PTV
Natural	22,5x180 10 mm	BETULLA	Bla GL	ME0C	R9	---	> 0.40	---	---	Class 1	---
Natural	22,5x180 10 mm	CASTAGNO	Bla GL	M7AV	R9	---	> 0.40	---	---	Class 1	---
Natural	22,5x180 10 mm	LARICE	Bla GL	ME0D	R9	---	> 0.40	---	---	Class 1	---
Natural	22,5x180 10 mm	NATURAL	Bla GL	M7AP	R9	---	> 0.40	---	---	Class 1	---
Natural	22,5x180 10 mm	QUERCIA	Bla GL	M7AW	R9	---	> 0.40	---	---	Class 1	---
Natural	22,5x180 10 mm	ROVERE	Bla GL	M7AS	R9	---	> 0.40	---	---	Class 1	---
Natural	22,5x180 10 mm	SABBIA	Bla GL	ME0A	R9	---	> 0.40	---	---	Class 1	---
Natural	11x54 9 mm	BETULLA	Bla GL	MDYG	R9	---	> 0.40	---	---	Class 1	---
Natural	11x54 9 mm	CASTAGNO	Bla GL	MA8Y	R9	---	> 0.40	---	---	Class 1	---
Natural	11x54 9 mm	LARICE	Bla GL	MDYH	R9	---	> 0.40	---	---	Class 1	---
Natural	11x54 9 mm	NATURAL	Bla GL	MA8W	R9	---	> 0.40	---	---	Class 1	---
Natural	11x54 9 mm	QUERCIA	Bla GL	MA8Z	R9	---	> 0.40	---	---	Class 1	---
Natural	11x54 9 mm	ROVERE	Bla GL	MA8X	R9	---	> 0.40	---	---	Class 1	---
Natural	11x54 9 mm	SABBIA	Bla GL	MDXS	R9	---	> 0.40	---	---	Class 1	---
Grip	20x120 10,5 mm	BETULLA	Bla GL	MDZZ	R11	A+B	> 0.40	≥ 0.42	>36 low slip potential slider 96	Class 3	---
Grip	20x120 10,5 mm	CASTAGNO	Bla GL	M7CP	R11	A+B	> 0.40	≥ 0.42	>36 low slip potential slider 96	Class 3	---
Grip	20x120 10,5 mm	LARICE	Bla GL	ME01	R11	A+B	> 0.40	≥ 0.42	>36 low slip potential slider 96	Class 3	---
Grip	20x120 10,5 mm	NATURAL	Bla GL	M7CM	R11	A+B	> 0.40	≥ 0.42	>36 low slip potential slider 96	Class 3	---
Grip	20x120 10,5 mm	QUERCIA	Bla GL	M7CS	R11	A+B	> 0.40	≥ 0.42	>36 low slip potential slider 96	Class 3	---
Grip	20x120 10,5 mm	ROVERE	Bla GL	M7CN	R11	A+B	> 0.40	≥ 0.42	>36 low slip potential slider 96	Class 3	---
Grip	20x120 10,5 mm	SABBIA	Bla GL	MDZS	R11	A+B	> 0.40	≥ 0.42	>36 low slip potential slider 96	Class 3	---
Natural	20x120 10,5 mm	BETULLA	Bla GL	ME05	R9	---	> 0.40	---	---	Class 1	---
Natural	20x120 10,5 mm	CASTAGNO	Bla GL	M7CJ	R9	---	> 0.40	---	---	Class 1	---
Natural	20x120 10,5 mm	LARICE	Bla GL	ME07	R9	---	> 0.40	---	---	Class 1	---

Vero

Surface	Size (cm) Thickness	Color	Group	Catalog code	DIN EN 16165 Annex B (ex DIN 51130); ASR A1.	DIN EN 16165 Annex A (ex DIN 51097) DGUV Information 207-006	D.M. N. 236 14/6/89 BCR-A	ANSI 326.3:2021 D-COF	BS EN 16165:2021 Annex C (ex BS 7976-2:2002 / BS EN 13036-4:2011) - UK PTV	UNE EN 16165 Annex C (ex UNE 41901:2017 EX - DB SUA) - Spain PTV	AS 4586-2013 Annex A Australian PTV
Natural	20x120 10,5 mm	NATURAL	Bla GL	M7AY	R9	---	> 0.40	---	---	Class 1	---
Natural	20x120 10,5 mm	QUERCIA	Bla GL	M7CK	R9	---	> 0.40	---	---	Class 1	---
Natural	20x120 10,5 mm	ROVERE	Bla GL	M7C0	R9	---	> 0.40	---	---	Class 1	---
Natural	20x120 10,5 mm	SABBIA	Bla GL	ME04	R9	---	> 0.40	---	---	Class 1	---