

Date: 01/10/2014

Intended use of the material:
 wall tiles for interior and exterior

 Impervious Tile class P1
 A137.1 -2012 version 1

Type of material: glazed porcelain stoneware tiles, dry pressed, format 16x40 (W = 160x400x9,0 mm)

 Series Name: **ECO-STONE**

 Article: **ANTRACITE / GRIGIO / BIANCO / TAUPE**

Kind of test		Referring standard	Value
Physical Properties	Water absorption	ASTM C373	0,2 % (P1)
	Determination of breaking strength	ASTM C648	> 110 pounds
	Crazing resistance (1 cycle)	ASTM C424	<i>Not affected - passed</i>
Chemical Resistance	Acetic acid, 3% (v/v)	ASTM C650 Class A	<i>Not affected</i>
	Acetic acid, 10% (v/v)		<i>Not affected</i>
	Ammonium chloride, 100 g/l		<i>Not affected</i>
	Citric acid solution, 100 g/l		<i>Not affected</i>
	Citric acid solution, 30 g/l		<i>Not affected</i>
	Lactic acid, 5% (v/v)		<i>Not affected</i>
	Phosphoric acid, 3% (v/v)		<i>Not affected</i>
	Phosphoric acid, 10% (v/v)		<i>Not affected</i>
	Sulfamic acid, 100 g/l		<i>Not affected</i>
	Sulfamic acid, 30 g/l		<i>Not affected</i>
	Sodium hypochlorite solution, 20 mg/l		<i>Not affected</i>
	Hydrochloric acid solution, 3% (v/v)		<i>Not affected</i>
	Hydrochloric acid solution, 18% (v/v)		<i>Not affected</i>
	Potassium hydroxide, 100 g/l		<i>Not affected</i>
Potassium hydroxide, 30 g/l	<i>Not affected</i>		
Stain resistance	Contrasting Grout	ASTM C1378 Class A	<i>Not affected</i>
	Carbon lamp black		<i>Not affected</i>
	Waterproof ink black		<i>Not affected</i>
	Washable ink		<i>Not affected</i>
	Potassium permanganate solution (1%)		<i>Not affected</i>
	Methylene blue solution (1%)		<i>Not affected</i>

Date: 01/10/2014 **Intended use of the material:** floor and wall tiles for interior and exterior Group BIa UGL - Annex G
EN 14411:2012

Type of material: Unglazed porcelain stoneware tiles, dry pressed, format 30x60 cm (W 300 x 600 x 9,5 mm)

Series Name: **ECO-STONE**

Article: **ANTRACITE OUT / GRIGIO OUT / BIANCO OUT / TAUPE OUT**

Kind of test		Referring standard	Standard Value
Dimensions	Length and width tolerances	UNI EN ISO 10545-2	± 0,6%; ± 2,0 mm
	Thickness Tolerances		± 5%; ± 0,5 mm
	Tolerance straightness of the sides		± 0,5%; ± 1,5 mm
	Squareness and flatness tolerances		± 0,5%; ± 2,0 mm
Physical Properties	Water absorption E _b	UNI EN ISO 10545-3	≤ 0,5 %
	Determination of breaking strength	UNI EN ISO 10545-4	≥ 1300 N
	Determination of modulus of rupture	UNI EN ISO 10545-4	≥ 35 N/mm ²
	Determination of resistance of Deep abrasion	UNI EN ISO 10545-6	142 mm ³
	Thermal Shock resistance	UNI EN ISO 10545-9	resistant
	Frost resistance	UNI EN ISO 10545-12	resistant
	Determination of slip resistance	DIN 51130	R11
ANSI A137.1-2012 - DCOF		Wet condition = 0,84	
Chemical Resistance	Stain resistance - class	UNI EN ISO 10545-14	≥ 4
	Resistance to low concentrations of acids and alkalis	UNI EN ISO 10545-13	ULA
	Resistance to high concentrations of acids and alkalis		UHA
	Resistance to household chemicals and swimming pool salts		UA

Date: 01/10/2014

Intended use of the material:
 floor and wall tiles for interior

 Group BIa UGL - Annex G
 EN 14411:2012

Type of material: Unglazed porcelain stoneware tiles, dry pressed, format:

60x60 cm - RECTIFIED / HONED (W 595 x 595 x 9,5 mm)

30x60 cm - RECTIFIED / HONED (W 296 x 595 x 9,5 mm)

 Series Name: **ECO-STONE**

 Article: **ANTRACITE / GRIGIO / BIANCO / TAUPE**

Kind of test		Referring standard	Standard Value
Dimensions	Length and width tolerances	UNI EN ISO 10545-2	± 0,6%; ± 2,0 mm
	Thickness Tolerances		± 5%; ± 0,5 mm
	Tolerance straightness of the sides		± 0,5%; ± 1,5 mm
	Squareness and flatness tolerances		± 0,5%; ± 2,0 mm
Physical Properties	Water absorption E _b	UNI EN ISO 10545-3	≤ 0,5 %
	Determination of breaking strength	UNI EN ISO 10545-4	≥ 1300 N
	Determination of modulus of rupture	UNI EN ISO 10545-4	≥ 35 N/mm ²
	Determination of resistance of Deep abrasion	UNI EN ISO 10545-6	148 mm ³
	Thermal Shock resistance	UNI EN ISO 10545-9	resistant
	Frost resistance	UNI EN ISO 10545-12	resistant
	Determination of slip resistance	DIN 51130	R9
ANSI A137.1- 2012 - DCOF		Wet condition = 0,43	
Chemical Resistance	Stain resistance - class	UNI EN ISO 10545-14	≥ 4
	Resistance to low concentrations of acids and alkalis	UNI EN ISO 10545-13	ULA
	Resistance to high concentrations of acids and alkalis		UHA
	Resistance to household chemicals and swimming pool salts		UA

Date: 01/10/2014

Intended use of the material:
 floor and wall tiles for interior and exterior

 Group BIa UGL - Annex G
 EN 14411:2012

Type of material: Unglazed porcelain stoneware tiles, dry pressed, format:

 60x60 cm (W 600 x 600 x 9,5 mm)
 30x60 cm (W 300 x 600 x 9,5 mm)

 Series Name: **ECO-STONE**

 Article: **ANTRACITE / GRIGIO / BIANCO / TAUPE**

Kind of test		Referring standard	Standard Value
Dimensions	Length and width tolerances	UNI EN ISO 10545-2	± 0,6%; ± 2,0 mm
	Thickness Tolerances		± 5%; ± 0,5 mm
	Tolerance straightness of the sides		± 0,5%; ± 1,5 mm
	Squareness and flatness tolerances		± 0,5%; ± 2,0 mm
Physical Properties	Water absorption E _b	UNI EN ISO 10545-3	≤ 0,5 %
	Determination of breaking strength	UNI EN ISO 10545-4	≥ 1300 N
	Determination of modulus of rupture	UNI EN ISO 10545-4	≥ 35 N/mm ²
	Determination of resistance of Deep abrasion	UNI EN ISO 10545-6	148 mm ³
	Thermal Shock resistance	UNI EN ISO 10545-9	resistant
	Frost resistance	UNI EN ISO 10545-12	resistant
	Determination of slip resistance	DIN 51130	R10
ANSI A137.1- 2012 - DCOF		Wet condition = 0,65	
Chemical Resistance	Stain resistance - class	UNI EN ISO 10545-14	≥ 4
	Resistance to low concentrations of acids and alkalis	UNI EN ISO 10545-13	ULA
	Resistance to high concentrations of acids and alkalis		UHA
	Resistance to household chemicals and swimming pool salts		UA

Date: 01/10/2014 **Intended use of the material:** floor and wall tiles for interior and exterior Impervious Tile class P1 A137.1 -2012 version 1

Type of material: Unglazed porcelain stoneware tiles, dry pressed, format:

45x90 cm RECTIFIED (W= 447 x 896 x 11 mm)
 30x60 cm NATURALE (W= 300 x 600 x 9,5 mm)

Series Name: **ECO-STONE**

Article: **ANTRACITE / GRIGIO / BIANCO / TAUPE**

Kind of test		Referring standard	Value
Physical Properties	Water absorption	ASTM C373	0,2 % (P1)
	Determination of breaking strength	ASTM C648	45x90 cm >340 pounds 30x60 cm > 300 pounds
	Deep abrasion	ASTM C1243	Conforms
	Determination of slip resistance	DCOF	Wet condition = 0,65
Chemical Resistance	Acetic acid, 3% (v/v)	ASTM C650 Class A	<i>Not affected</i>
	Acetic acid, 10% (v/v)		<i>Not affected</i>
	Ammonium chloride, 100 g/l		<i>Not affected</i>
	Citric acid solution, 100 g/l		<i>Not affected</i>
	Citric acid solution, 30 g/l		<i>Not affected</i>
	Lactic acid, 5% (v/v)		<i>Not affected</i>
	Phosphoric acid, 3% (v/v)		<i>Not affected</i>
	Phosphoric acid, 10% (v/v)		<i>Not affected</i>
	Sulfamic acid, 100 g/l		<i>Not affected</i>
	Sulfamic acid, 30 g/l		<i>Not affected</i>
	Sodium hypochlorite solution, 20 mg/l		<i>Not affected</i>
	Hydrochloric acid solution, 3% (v/v)		<i>Not affected</i>
	Hydrochloric acid solution, 18% (v/v)		<i>Not affected</i>
	Potassium hydroxide, 100 g/l		<i>Not affected</i>
Potassium hydroxide, 30 g/l	<i>Not affected</i>		
Stain resistance	Contrasting Grout	ASTM C1378 Class A	<i>Not affected</i>
	Carbon lamp black		<i>Not affected</i>
	Waterproof ink black		<i>Not affected</i>
	Washable ink		<i>Not affected</i>
	Potassium permanganate solution (1%)		<i>Not affected</i>
	Methylene blue solution (1%)		<i>Not affected</i>