

Kingwood

Please see attached files for more information.

QUALITY CHARACTERISTICS	NORM	REQUIRED STANDARDS	RESULT
 Water absorption of the body	ISO 10545-3	<0.5	Complies with standards
 Breaking strength	ISO 10545-4		
 Abrasion resistance	ISO 10545-7		PEI IV
 Frost resistance	ISO 10545-12	No Alteration	Resistant
 Chemical resistance	ISO 10545-13		Class GA
 Thermal shock resistance	ISO 10545-9	Not a provided requirement	Resistant
 Dynamic coefficient of friction			
 Slight Variation			V4



V1

Uniform appearance



V2

Slight Variation



V3

Moderate Variation



V4

Substantial Variation

FOR THE BEST PRODUCT LAYING RESULTS, MATERIAL FROM AT LEAST THREE BOXES SHOULD BE MIXED

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Proprietà fisico-chimiche/Physical-chemical properties Caractéristiques physico-chimiques/physische Chemische eigenschaften	Norme/Norms Normes Normen	Valori prescelti/prescritti / Required values Valeurs exigées / Vorgeschriebene werte		
Dimensioni Sizes Format Format	ISO 10545-2	Lunghezza e larghezza Length and width Longueur et largeur Länge und Breite	(± 0,75% 190 cm2 < 410 ≈) (± 0,6 % > 410 cm2)	(± 0,75% 190 cm2 < 410 ≈) (± 0,6 % > 410 cm2)
		Rettifinità spigoli Linearity Rectitude de l'angulosité Kantengeradheit	(± 0,5% max)	(± 0,5% max)
		Ortogonalità Wedging Orthogonalité Rechtwinkligkeit	(± 0,8% max)	(± 0,8% max)
		Planarità Warpage Planéité Ebenfächigkeit	(± 5% max)	(± 5% max)
Spessore Thickness Épaisseur Stärke	ISO 10545-2		(± 5% max)	10 mm
Qualità della superficie Appearance quality Qualité de la surface Qualitätsanforderungen für die Oberfläche	ISO 10545-2		95% piastrelle accettabili nel lotto 95 % acceptability of tiles in the lot 95% des carreaux acceptables dans le lot de production 95% der Fliesen erfüllen erste Sortierung	Conforme Complies with standards Conforme aux normes Normgerecht
Assorbimento d'acqua Water absorption Absorption d'eau Wasseraufnahme	ISO 10545-3		< 0,5%	Conforme Complies with standards Conforme aux normes Normgerecht
Resistenza alla flessione Breaking strength Résistance à la flexion Biegefestigkeit	ISO 10545-4		≈ 35 N/mm²	≈ 35 N/mm²
Resistenza agli sbalzi termici Thermal shocks resistant Résistance aux variations thermiques Temperaturwechselbeständigkeit	ISO 10545-9		Requisito non previsto Not provided requirement Qualité pas prévue Erfordernis nicht vorgesehen	Resistente Resistant Résistant Widerstandsfähigkeit
Resistenza al gelo Frost resistance Résistance au gel Froständigkeit	ISO 10545-12		Nessuna alterazione No alteration Aucune altération Keine Änderung	Resistente Resistant Résistant Widerstandsfähigkeit
Resistenza all'abrasione di piastrelle smaltate da pavimento Abrasion resistance for glazed tiles Résistance à l'abrasion des carreaux émaillés Abriebfestigkeit von glasierten Fliesen	ISO 10545-7		Come indicato dal produttore As indicated by manufacturer Comme indiqué par le producteur Wie vom Hersteller angegeben	PEI IV
Coefficiente di dilatazione termica lineare (50°/400°) Linear thermal expansion coefficient (50°/400°) Dilatation thermique linéaire (50°/400°) Lineare Wärmeausdehnung (50°/400°)	ISO 10545-8			Metodo disponibile Test method available Méthode disponible Verfügbares Verfahren
Resistenza al cavillo di piastrelle smaltate Crazing resistance of glazed tiles Résistance à la tréssalure des carreaux émaillés Haarfestschwindigkeit der glasierten Fliesen	ISO 10545-11			Resistente Resistant Résistant Widerstandsfähigkeit
Durezza della Superficie Surface resistance Dureté de la surface Ritzhärte der Oberfläche	EN 101			MOHS 6,5
Resistenza alle basse concentrazioni di acidi e alcali, a prodotti di uso domestico e agli additivi per piscina Resistant to low concentration of acid and alkali, household chemicals and additive for swimming pool Résistance à l'agression acide et basique, résistance aux produits ménagers chimiques et additifs pour piscine Widerstandsfähigkeit gegenüber Haushaltschemikalien und Zusatzstoffe für Schwimmbäder	ISO 10545-13		Come indicato dal produttore As indicated by manufacturer Comme indiqué par le producteur Wie vom Hersteller angegeben	Classe GLA Class GLA Classe GLA Gruppe GLA
Resistenza ai prodotti chimici di uso domestico e agli additivi per piscine Resistance to domestic chemical products and additives for swimming pools Résistance aux produits d'emploi domestiques et additifs pour piscines Widerstand gegen Haushaltschemikalien, Badewasserzusätze	ISO 10545-13		GB min.	Classe GA Class GA Classe GA Gruppe GA
Resistenza alle macchie Resistance to staining Résistance aux taches Fleckbeständigkeit	ISO 10545-14		CLASSE min. 3	Classe 5 Class 5 Classe 5 Gruppe 5
Coefficiente di attrito Coefficient of friction Coefficient de frottement Reibungskoeffizient	DIN 51130			R10
Sciviosità Slipperiness Glissement Rutschfestigkeit	DIN 51097			Classe B Class B Classe B Gruppe B
	B.C.R.A.		μ > 0,40 (Wet) μ > 0,40 (Dry)	Conforme Complies with standards Conforme aux normes Normgerecht
	DOOF Acu Test		≈ 0,42	Conforme Complies with standards Conforme aux normes Normgerecht
Variazione cromatica Colour shading Variations chromatiques Chromatische Abweichungen				V 4



Main Laboratory Sassuolo

Centro di Ricerca, Sperimentazione, Consulenza e Controllo Qualità

Scandiano, 05/12/2016



TEST REQUESTED BY: **SERENISSIMA CIR IND. CERAMICHE SPA**
SOC. UNIPERSONALE
Via A. Volta n.9.23.25
42013 CASALGRANDE
(RE)

Confidential Test Report N. 2089/2016 /I

Our ref.num.: 17390
Date of request: 05/03/2016

TEST SUBJECT MATERIAL

Identified by client as:
" Paver tiles 15x90 cm marked:
KING WOOD"

Source

Submitted to Laboratory by Client

Date Received

05/05/2016

Time of test execution

start: 05/10/2016

end: 05/10/2016

Detailed of test / method description / test procedure

BOT 3000 "Dynamic Coefficient of Friction (DCOF)"
(Ref. 9.6, Standard ANSI A137.1:2012)

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Date 05/12/2016

SERENISSIMA CIR IND. CERAMICHE SPA

Test specimen

" Paver tiles 15x90 cm marked:
KING WOOD"

BOT 3000 "Dynamic Coefficient of Friction (DCOF)"
(Ref. 9.6, Standard ANSI A137.1:2012)

TEST PROCEDURE: must be used sensor SBR rubber with characteristics standardized (par. 9.6.1.1.2 and note 3).

Sensor SBR must be controlled using a surface standard before the test.

Three (3) pieces of tile are tested in all four directions (1-2-3-4).

Testing was done in the wet condition using 0.05% SLS water

Testing was conducted in a laboratory at temperature of 20 ± 2 °C and $50 \pm 5\%$ relative humidity.

Instrument used is BOT 3000 of the Regan Scientific Instruments.

Dynamic Coefficient

Note: considering the size of the sample both calibration and the test was executed on a path of 4 inch, because the longer practicable (as described in paragraph 9.6.1.1)

Test conditions: wet surface (solution SLS 0,05 %), rubber sensor

No.	Position				Average
	1	2	3	4	
1	0,56	0,54	0,56	0,54	0,55
2	0,50	0,49	0,51	0,50	0,50
3	0,63	0,57	0,56	0,58	0,59

DCOF wet of friction Standard Tiles

Before the test	0,30
After the test	0,30



THE DIRECTOR
(M.L. Simioli)