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The international reference standards: ISO - EN



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The values of the main technical characteristics measured on our products, compared with international standards, are clearly shown and reproduced on our contractual documents (catalogs, price lists, etc.).

The values given in this document are common to groups of articles or series of our tiles and therefore are to be used as a guide for a first orientation in choosing the product. If required, the specific values for a given product of a determined supply can be provided depending on its intended use, when formally brought to our attention by notice in writing.

Characteristics and Test methods 	Requirements EN 14411 ⁽¹⁾ – G / ISO 13006 ⁽²⁾ – G	Our general values												
Determination of water absorption - (ISO 10545-3)	Average value $E_b \leq 0,5\%$ / Individual maximum 0,6%	Average value and individual maximum < 0,5%												
Classification	Definition § 3.2 and § 3.7	BI_a – Porcelain tiles												
		Physical properties												
Modulus of rupture - (ISO 10545-4)	Average ≥ 35 N/mm ²	≥ 35 N/mm ²												
Breaking strength - (ISO 10545-4)	Average ≥ 1300 N for thickness $\geq 7,5$ mm Average ≥ 700 N for thickness < 7,5 mm	Complies												
Abrasion resistance - (ISO 10545-7)	Abrasion class and cycles passed	-												
Coefficient of linear thermal expansion (ISO 10545-8)	Declared value ⁽¹⁾ / Test method available ⁽²⁾	$< 7,1 \times 10^{-6} \text{ } ^\circ\text{C}^{-1}$												
Thermal shock resistance (ISO 10545-9)	Pass according to EN ISO 10545-1 ⁽¹⁾ / Test method available ⁽²⁾	Complies												
Crazing resistance (ISO 10545-11)	Pass according to EN ISO 10545-1 ⁽¹⁾ / Required ⁽²⁾	Complies												
Frost resistance (ISO 10545-12)	Pass according to EN ISO 10545-1 ⁽¹⁾ / Required ⁽²⁾	Complies												
Moisture expansion (ISO 10545-10)	Declared value ⁽¹⁾ / Test method available ⁽²⁾	$\leq 0,2$ mm/m												
Impact resistance - (ISO 10545-5)	Declared value ⁽¹⁾ / Test method available ⁽²⁾	COR > 0,75												
Reaction to fire	Class A1 or A1 _{FL} ⁽¹⁾	A1 _{FL} Classified Without Testing (CWT) – 96/603 EC												
		Chemical properties												
Chemical resistance -(GL) (ISO 10545-13)	Declared value ⁽¹⁾ / Manufacturer is to state classification (2) / Minimum class B	<table border="1"> <tr> <td>Household Chemicals: Ammonium Chloride 100g/l</td> <td>GA(V)</td> </tr> <tr> <td>Swimming pool salts: Sodium hypochlorite 20mg/l</td> <td>GA(V)</td> </tr> <tr> <td>Acids: Hydrochloric acid 3% V/V Citric acid 100g/l</td> <td>GLB(V) GLA(V)</td> </tr> <tr> <td>Alkali: Potassium Hydroxide 30g/l</td> <td>GLB(V)</td> </tr> <tr> <td>Acids: Hydrochloric acid 18%V/V Lactic acid 5% V/V</td> <td>GHA(V) GHA(V)</td> </tr> <tr> <td>Alkali: Potassium Hydroxide 100g/l</td> <td>GHB(V)</td> </tr> </table>	Household Chemicals: Ammonium Chloride 100g/l	GA(V)	Swimming pool salts: Sodium hypochlorite 20mg/l	GA(V)	Acids: Hydrochloric acid 3% V/V Citric acid 100g/l	GLB(V) GLA(V)	Alkali: Potassium Hydroxide 30g/l	GLB(V)	Acids: Hydrochloric acid 18%V/V Lactic acid 5% V/V	GHA(V) GHA(V)	Alkali: Potassium Hydroxide 100g/l	GHB(V)
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	<p>CLASSIFICATION (Pencil test and/or reflexion test are not applicable:)</p> <table border="1"> <tr> <td>U: Unglazed tiles G: Glazed tiles L: Low concentration chemicals H: High concentration chemicals</td> <td>Class A(V): no visible effect Class B(V): definitive change in appearance Class C(V): partial or complete loss of the surface</td> </tr> </table>	U: Unglazed tiles G: Glazed tiles L: Low concentration chemicals H: High concentration chemicals	Class A(V): no visible effect Class B(V): definitive change in appearance Class C(V): partial or complete loss of the surface											
U: Unglazed tiles G: Glazed tiles L: Low concentration chemicals H: High concentration chemicals	Class A(V): no visible effect Class B(V): definitive change in appearance Class C(V): partial or complete loss of the surface													
Resistance to staining (ISO 10545-14)	Minimum class 3	See "Maintenance and care" section												
		Dimensions and surface quality												
Dimensions - (ISO 10545-2)	See ANNEX G	Complies												
Surface quality - (ISO 10545-2 § 7)	A minimum of 95% of the tiles shall be free from visible defects that would impair the appearance of a major area of tiles	Complies												

(1) Requirements according to EN 14411

(2) Requirements according to ISO 13006

Test methods	Requirements and references	Our general values
Dynamic Coefficient Friction wet and dry condition (BCR – ex BCRA) Italy	DM n. 236 / 1989 $\mu > 0,40$	$\mu > 0,40$



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CARE and MAINTENANCE



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Our porcelain stoneware tiles are made from raw materials of great technical potential. This potential is enhanced by means of a production process where the body and surface of the material are treated in exactly the same way, where the tile's shape and appearance are rendered permanent by firing at temperatures which may even exceed 1200°C. This ensures that the surface and body of the tile become one, adding style and beauty to its intrinsic strength. Consequently, tiles' natural surfaces are stable against and unaffected by the chemicals and staining substances specified by the toughest international standards (ISO, EN, ASTM/ANSI), as documented by our product technical data sheets, including the statements of applicability which precede them. Maintenance performed at frequencies and by methods which effectively remove dirt will not only ensure hygiene but also conserve the material's beauty and, above all, its functional and safety characteristics: remember that the antislip properties declared refer to clean, new surfaces, as required by the standards. Inadequately removed dirt can, in itself, cause slipping unrelated to the properties of our coverings. Similarly, failure to remove or prevent abrasive dirt (e.g. by means of devices for cleaning the soles of shoes before coming indoors) may modify the structure of surfaces, reducing antislip properties below the values originally declared. Reference should be made to the ISO 13006/EN 14411 Annex N and ANSI A 137.1 § 6.2.2.1 standards.

Similarly, these surfaces are so compact as to be impenetrable by many potentially staining substances, and this is also documented by the results of the tests performed in accordance with the above standards. These exceptional performance values mean that surfaces can also undergo a mechanical finishing or honing process, which leaves them absolutely flat and with a bright shine, fully revealing all the beauty provided by the raw materials and the innovative surface decoration technologies used by Novabell. The result is a very fine surface, which brings immense prestige to the locations where it is installed. As with other choice coverings, prolonged contact with dirt or aggressive substances, which might even temporarily impair the overall effect of the covering's appearance, should be avoided or prevented. If not removed frequently enough or prevented, dirt may stratify to the point where strong chemical cleaning, hazardous for the people who carry it out and with negative environmental impact, is required. In line with our policy of environmental sustainability, we do not intend to provide lists of acid or alkaline chemicals for the various types of dirt. We prefer to advise you to adopt preventive measures and make a careful choice from the various cleaning products available on the market, many of which are sustainable and effective. These products can easily be identified from their labels, which are required by law to state chemical compositions as well as instructions for use. With a view to prevention, our honed surfaces have a low environmental impact protective coating which renders them more impermeable to staining substances in order to simplify maintenance procedures. It is important not to damage this coating with aggressive cleaning products (including methylated spirits and jets of steam), and if measures of this kind are required the cleaner should first be left on a small, concealed area for a few hours. If changes in the surface are noted, less hazardous products, certainly available on the market, should be used once the type of dirt left to stain the surface has been identified.

WARNING. It should be remembered that all ceramics are intrinsically vulnerable to attack by hydrofluoric acid and its compounds. It is equally important to remember that this acid may cause serious, permanent injury, even merely by contact, to anyone who uses it without the necessary precautions. Sometimes, products containing this acid are offered on the market to remove some types of stains (e.g. rust) or to increase the grip of a ceramic surface, since it is strongly corrosive.

WARNING. "Tiles not intended for contact with food"



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North America reference standards : ANSI – ASTM



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The values of the main technical characteristics measured on our products, compared with international standards, are clearly shown and reproduced on our contractual documents (catalogs, price lists, etc.).

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Characteristics and Test methods	Requirements ANSI A 137.1	Our general values																																																																				
Determination of water absorption - (ASTM C 373)	Average value $E_b \leq 0,5 \%$	Average value $\leq 0,5\%$																																																																				
Classification	Definition § 3.0	Porcelain tiles																																																																				
		Physical properties																																																																				
Breaking strength - (ASTM C 648)	Average ≥ 250 lbf (1.11 kN)	Complies																																																																				
Visible abrasion - (ASTM C 1027)	As reported	-																																																																				
Thermal shock resistance (ASTM C 428)	Pass	Complies																																																																				
Crazing resistance (ASTM C 424)	Pass	Complies																																																																				
Resistance to freeze/thaw cycling (ASTM C 1026)	As reported	Resistant																																																																				
DCOF Resistance (ANSI A 137.1 Section 9.6)	≥ 0.42 ⁽¹⁾	DCOF ≥ 0.42																																																																				
Bond strength (ASTM C 482)	≥ 50 psi (0.34 MPa)	> 1 MPa																																																																				
Color Uniformity (ASTM C 609 and ANSI A 137.1 Section 9.3) ⁽²⁾	V0 – 3 Judds	See the specific section																																																																				
		Chemical properties																																																																				
Chemical resistance (ASTM C 650)	As reported																																																																					
RESULTS																																																																						
<table border="1" style="width: 100%;"> <tr> <td>Pencil test</td> <td>applicable</td> <td>X</td> <td>Not applicable</td> </tr> </table>			Pencil test	applicable	X	Not applicable																																																																
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<table border="1" style="width: 100%;"> <thead> <tr> <th>Chemical test solution (Item 1.2 of the standard)</th> <th>Visual test</th> <th>Pencil test</th> <th>N. of specimens affected</th> </tr> </thead> <tbody> <tr> <td rowspan="10">Common Household and Cleaning</td> <td>Acetic acid 3 % (V/V)</td> <td>Not affected</td> <td>Not affected</td> <td>0</td> </tr> <tr> <td>Acetic acid 10 % (V/V)</td> <td>Not affected</td> <td>Not affected</td> <td>0</td> </tr> <tr> <td>Ammonium chloride 100 g/l</td> <td>Not affected</td> <td>Not affected</td> <td>0</td> </tr> <tr> <td>Citric acid 30 g/l</td> <td>Not affected</td> <td>Not affected</td> <td>0</td> </tr> <tr> <td>Citric acid 100 g/l</td> <td>Not affected</td> <td>Not affected</td> <td>0</td> </tr> <tr> <td>Lactic acid 5 % (V/V)</td> <td>Not affected</td> <td>Not affected</td> <td>0</td> </tr> <tr> <td>Phosphoric acid 3 % (V/V)</td> <td>Not affected</td> <td>Not affected</td> <td>0</td> </tr> <tr> <td>Phosphoric acid 10 % (V/V)</td> <td>Not affected</td> <td>Not affected</td> <td>0</td> </tr> <tr> <td>Sulfamic acid 30 g/l</td> <td>Not affected</td> <td>Not affected</td> <td>0</td> </tr> <tr> <td>Sulfamic acid 100 g/l</td> <td>Not affected</td> <td>Not affected</td> <td>0</td> </tr> <tr> <td>Swimming Pool</td> <td>Sodium hypochlorite 20 mg/l</td> <td>Not affected</td> <td>Not affected</td> <td>0</td> </tr> <tr> <td rowspan="2">Acids:</td> <td>Hydrochloric acid 3 % (V/V)</td> <td>Affected</td> <td>Affected</td> <td>1</td> </tr> <tr> <td>Hydrochloric acid 18 % (V/V)</td> <td>Not affected</td> <td>Not affected</td> <td>0</td> </tr> <tr> <td rowspan="2">Bases:</td> <td>Potassium hydroxide 30 g/l</td> <td>Affected</td> <td>Affected</td> <td>1</td> </tr> <tr> <td>Potassium hydroxide 100 g/l</td> <td>Affected</td> <td>Affected</td> <td>1</td> </tr> </tbody> </table>			Chemical test solution (Item 1.2 of the standard)	Visual test	Pencil test	N. of specimens affected	Common Household and Cleaning	Acetic acid 3 % (V/V)	Not affected	Not affected	0	Acetic acid 10 % (V/V)	Not affected	Not affected	0	Ammonium chloride 100 g/l	Not affected	Not affected	0	Citric acid 30 g/l	Not affected	Not affected	0	Citric acid 100 g/l	Not affected	Not affected	0	Lactic acid 5 % (V/V)	Not affected	Not affected	0	Phosphoric acid 3 % (V/V)	Not affected	Not affected	0	Phosphoric acid 10 % (V/V)	Not affected	Not affected	0	Sulfamic acid 30 g/l	Not affected	Not affected	0	Sulfamic acid 100 g/l	Not affected	Not affected	0	Swimming Pool	Sodium hypochlorite 20 mg/l	Not affected	Not affected	0	Acids:	Hydrochloric acid 3 % (V/V)	Affected	Affected	1	Hydrochloric acid 18 % (V/V)	Not affected	Not affected	0	Bases:	Potassium hydroxide 30 g/l	Affected	Affected	1	Potassium hydroxide 100 g/l	Affected	Affected	1
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Bases:	Potassium hydroxide 30 g/l	Affected	Affected	1																																																																		
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Stain resistance (ASTM C 1378)	As reported	See "Maintenance and care" section																																																																				
		Dimensions - Calibrated tiles																																																																				
Dimensions - (ASTM C 499) - (ASTM C 485) - (ASTM C 502)	See ANSI A 137.1 - Tab. 10	Complies																																																																				
		Dimensions - Rectified tiles																																																																				
Dimensions - (ASTM C 499) - (ASTM C 485) - (ASTM C 502)	See ANSI A 137.1 - Tab. 10	Complies																																																																				

(1) For level interior spaces expected to be walked upon when wet - (2) For V0 tiles only



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CARE and MAINTENANCE



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WARNING. "Tiles not intended for contact with food"



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Le normative internazionali di riferimento : ISO - EN



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I valori delle principali caratteristiche tecniche misurate sui nostri prodotti rispetto alle norme internazionali vigenti sono riportati ed illustrati chiaramente sui nostri documenti contrattuali (cataloghi, listini, etc).

I valori riportati in questo documento sono comuni a gruppi di articoli o serie di nostre piastrelle e pertanto sono da utilizzare come una guida per un primo orientamento nella scelta del prodotto. Se richiesto, i valori specifici delle caratteristiche per un determinato prodotto, possono essere forniti in funzione della sua destinazione d'uso oggetto della fornitura, quando a noi formalmente nota tramite notifica scritta.

Caratteristiche e metodi di prova	Requisiti EN 14411 ⁽¹⁾ - G / ISO 13006 ⁽²⁾ - G	I nostri valori																												
Determinazione dell'assorbimento d'acqua -(ISO 10545-3)	Valore medio $E_b \leq 0,5\%$ / valore massimo individuale 0,6%	Valore medio e valore massimo individuale < 0,5%																												
Classificazioni	Definizioni § 3.2 e § 3.7	Bl_a - Gres Porcellanato																												
		Proprietà Fisiche																												
Modulo di rottura - (ISO 10545-4)	Valore medio $\geq 35 \text{ N/mm}^2$	$\geq 35 \text{ N/mm}^2$																												
Resistenza a rottura - (ISO 10545-4)	Media $\geq 1300 \text{ N}$ per spessori $\geq 7,5 \text{ mm}$ Media $\geq 700 \text{ N}$ per spessori $< 7,5 \text{ mm}$	Conforme																												
Resistenza all'abrasione - (ISO 10545-7)	Classe di abrasione e cicli superati	-																												
Coefficiente di dilatazione termica lineare (ISO 10545-8)	Valore dichiarato ⁽¹⁾ / Metodo di prova disponibile ⁽²⁾	$< 7,1 \times 10^{-6} \text{ }^\circ\text{C}^{-1}$																												
Resistenza agli sbalzi termici (ISO 10545-9)	Superato come da EN ISO 10545-1 (1) / Metodo di prova disponibile (2)	Conforme																												
Resistenza al cavillo (ISO 10545-11)	Superato come da EN ISO 10545-1 ⁽¹⁾ / Richiesto ⁽²⁾	Conforme																												
Resistenza al gelo (ISO 10545-12)	Superato come da EN ISO 10545-1 ⁽¹⁾ / Richiesto ⁽²⁾	Conforme																												
Dilatazione dovuta all'umidità (ISO 10545-10)	Valore dichiarato ⁽¹⁾ / Metodo di prova disponibile ⁽²⁾	$\leq 0,2 \text{ mm/m}$																												
Resistenza all'impatto - (ISO 10545-5)	Valore dichiarato ⁽¹⁾ / Metodo di prova disponibile ⁽²⁾	COR > 0,75																												
Reazione al fuoco	Classe A1 or A1_{FL} ⁽¹⁾	Classificato senza prova A1 _{FL} (CWT) - 96/603 EC																												
		Proprietà Chimiche																												
Resistenza chimica -(GL) (ISO 10545-13)	Valore dichiarato ⁽¹⁾ / Il produttore deve dichiarare classificazione(2) / Minimo classe B	<table border="1"> <thead> <tr> <th colspan="2">Household Chemicals:</th> </tr> </thead> <tbody> <tr> <td>Ammonium Chloride 100g/l</td> <td>GA(V)</td> </tr> <tr> <th colspan="2">Swimming pool salts:</th> </tr> <tr> <td>Sodium hypochlorite 20mg/l</td> <td>GA(V)</td> </tr> <tr> <th colspan="2">Acids:</th> </tr> <tr> <td>Hydrochloric acid 3% V/V</td> <td>GLB(V)</td> </tr> <tr> <td>Citric acid 100g/l</td> <td>GLA(V)</td> </tr> <tr> <th colspan="2">Alkali:</th> </tr> <tr> <td>Potassium Hydroxide 30g/l</td> <td>GLB(V)</td> </tr> <tr> <th colspan="2">Acids:</th> </tr> <tr> <td>Hydrochloric acid 18%V/V</td> <td>GHA(V)</td> </tr> <tr> <td>Lactic acid 5% V/V</td> <td>GHA(V)</td> </tr> <tr> <th colspan="2">Alkali:</th> </tr> <tr> <td>Potassium Hydroxide 100g/l</td> <td>GHB(V)</td> </tr> </tbody> </table>	Household Chemicals:		Ammonium Chloride 100g/l	GA(V)	Swimming pool salts:		Sodium hypochlorite 20mg/l	GA(V)	Acids:		Hydrochloric acid 3% V/V	GLB(V)	Citric acid 100g/l	GLA(V)	Alkali:		Potassium Hydroxide 30g/l	GLB(V)	Acids:		Hydrochloric acid 18%V/V	GHA(V)	Lactic acid 5% V/V	GHA(V)	Alkali:		Potassium Hydroxide 100g/l	GHB(V)
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Alkali:																														
Potassium Hydroxide 100g/l	GHB(V)																													
		Resistenza alle macchie (ISO 10545-14)																												
	Minimo classe 3	Vedere la sezione "Manutenzione e cura"																												
		Dimensioni e qualità della superficie																												
Dimensioni - (ISO 10545-2)	Vedere ANNEX G	Conforme																												
Qualità della superficie- (ISO 10545-2 § 7)	Un minimo del 95% delle piastrelle deve essere privo di difetti visibili tali da compromettere l'aspetto di un'area maggiore di piastrelle	Conforme																												

(1) Requisiti secondo EN 14411

(2) Requisiti secondo ISO 13006

Metodi di prova	Requisiti e riferimenti	I nostri valori
Coefficiente di attrito dinamico su asciutto e bagnato (BCR - ex BCRA) Italy	DM n. 236 / 1989 $\mu > 0,40$	$\mu > 0,40$



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MANUTENZIONE e CURA



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Le nostre piastrelle di gres porcellanato sono ottenute a partire da materie prime di grande potenzialità tecnica. Questa potenzialità viene esaltata attraverso un processo produttivo integrale per massa e superficie dove forma ed estetica sono stabilizzate dalla cottura a temperature che possono superare i 1200 °C. In questo modo la superficie risulta un tutt'uno con la massa arricchendo la forza con l'estetica e la bellezza. Grazie a questo, le superfici naturali delle piastrelle sono stabili e inalterabili rispetto alle sostanze chimiche e macchianti previste dalle normative internazionali più severe (ISO, EN, ASTM/ANSI) come documentato nelle nostre schede tecniche incluse le dichiarazioni di applicabilità che le precedono. Una manutenzione adeguata, nella frequenza e nelle modalità, alla rimozione dello sporco, oltre a garantire l'igiene, ne mantiene il valore estetico e, soprattutto, la funzionalità e la sicurezza: si ricorda che la resistenza allo scivolamento dichiarata è riferita alle superfici nuove e pulite, come prescritto dalle normative. Lo sporco non adeguatamente rimosso può essere, in sé, causa di scivolamenti non attribuibili alle nostre superfici. Analogamente la permanenza di sporco abrasivo non rimosso o prevenuto (ad esempio attraverso dispositivi di pulizia delle suole delle scarpe prima di accedere agli ambienti) può alterare la morfologia della superficie con conseguente decadimento degli originari valori di resistenza dichiarati. A tale proposito si rimanda alle norme ISO 13006/EN 14411 Annex N e ANSI A 137.1 § 6.2.2.1.

Allo stesso modo, la compattezza di queste superfici le rende, di fatto impenetrabili da parte di molteplici sostanze macchianti e anche questo è documentato dai risultati delle prove eseguite secondo le normative di cui sopra. Le superfici, ancora grazie alle loro elevate prestazioni, possono essere sottoposte ad una lavorazione meccanica, la lappatura, che le rende assolutamente piane e brillanti estraendo ulteriormente il contenuto estetico risultante dalle materie prime e dalle innovative tecnologie di decorazione superficiale adottate da Novabell. Ciò che risulta è una superficie di grande finezza che conferisce pregio agli ambienti dove viene installata. In analogia con altri materiali pregiati, si consiglia di evitare o prevenire il contatto prolungato di sostanze sporcanti o aggressive che potrebbero compromettere la percezione estetica complessiva dell'ambiente, anche se solo temporaneamente. Lo sporco, se non rimosso con idonea frequenza o prevenuto, può formare stratificazioni che potrebbero richiedere interventi di pulizia chimicamente forti e quindi pericolosi per chi li esegue ed impattanti sull'ambiente.

In continuità con la nostre scelte di sostenibilità ambientale, non vogliamo riportare elenchi di sostanze chimiche acide o basiche per i diversi tipi di sporco, ma consigliarvi prevenzione ed una scelta attenta tra i vari prodotti per la pulizia disponibili sul mercato, molti dei quali sono sostenibili ed efficaci: questi prodotti sono facilmente identificabili dalle loro etichette che, per legge, devono riportare le composizioni chimiche, oltre che le istruzioni d'uso. Nell'ottica della prevenzione, le nostre superfici lappate sono fornite con una protezione a basso impatto ambientale, che ne incrementa la impermeabilità agli agenti macchianti per rendere più semplice le operazioni di manutenzione. Si raccomanda di non compromettere questa protezione con pulitori aggressivi (inclusi alcol denaturato e getti di vapore) e si consiglia, in caso di necessità particolari, di mantenere a contatto il pulitore su una piccola area non esposta per alcune ore. Se si notano alterazioni, occorre procedere con prodotti meno pericolosi, sicuramente disponibili sul mercato, una volta identificata la natura dello sporco lasciato permanere sulla superficie.

AVVERTENZE. Ci sembra opportuno ricordare che tutti i materiali ceramici, per loro natura, sono attaccabili dall'acido fluoridrico e dai suoi composti. Ci sembra altrettanto importante ricordare che tale acido può causare danni gravi e irreversibili, anche solo per contatto, a di chi lo utilizza senza attente cautele. A volte, prodotti che lo contengono, sono proposti come pulitori per certi tipi di macchie (ad es. quelle di ruggine) o per aumentare il grip di una superficie ceramica, essendo un forte corrosivo.

AVVERTENZE. "Piastrelle non destinate al contatto con alimenti"



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Angewandte internationale Normen: ISO - EN



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Die Prüfwerte, die an unseren Produkten für die wichtigsten technischen Eigenschaften gemäß den geltenden internationalen Normen gemessen wurden, sind in unseren Vertragsunterlagen (Kataloge, Preislisten etc.) klar ausgewiesen und erläutert. Alle hier angegebenen Prüfwerte gelten für unsere Artikelgruppen bzw. Fliesenserien und dienen daher lediglich zur groben Orientierung bei der Produktauswahl. Auf formelle schriftliche Anfrage können wir die spezifische Leistungserklärung für ein bestimmtes Produkt in Abhängigkeit von seiner Zweckbestimmung zusenden.

Eigenschaft und Prüfmethode	Anforderung EN 14411 ⁽¹⁾ - G / ISO 13006 ⁽²⁾ - G	Unser Prüfwert																												
Wasseraufnahme - (ISO 10545-3)	$E_b \leq 0,5\%$ / Max. Einzelwert 0,6%	im Mittel und max. Einzelwert < 0,5%																												
Eingruppierung	Begriffsbestimmungen § 3.2 und § 3.7	Bl_a – Feinsteinzeug																												
		Physikalische Eigenschaften																												
Biegefestigkeit (ISO 10545-4)	Im Mittel $\geq 35 \text{ N/mm}^2$	$\geq 35 \text{ N/mm}^2$																												
Bruchlast (ISO 10545-4)	Im Mittel $\geq 1300 \text{ N}$, Dicke $\geq 7,5 \text{ mm}$ Im Mittel $\geq 700 \text{ N}$, Dicke $> 7,5 \text{ mm}$	Anforderung erfüllt																												
Widerstand gegen Verschleiß (ISO 10545-7)	Verschleißklasse und Anzahl der Schleifzyklen	-																												
Linearer Wärmeausdehnungskoeffizient (ISO 10545-8)	Angegebener Wert ⁽¹⁾ / Prüfverfahren vorhanden ⁽²⁾	$< 7,1 \times 10^{-6} \text{ }^\circ\text{C}^{-1}$																												
Temperaturwechselbeständigkeit (ISO 10545-9)	Bestanden nach EN ISO 10545-1 (1) / Prüfverfahren vorhanden (2)	Anforderung erfüllt																												
Widerstand gegen Glasrisse (ISO 10545-11)	Bestanden nach EN ISO 10545-1 ⁽¹⁾ / gefordert ⁽²⁾	Anforderung erfüllt																												
Frostbeständigkeit (ISO 10545-12)	Bestanden nach EN ISO 10545-1 ⁽¹⁾ / gefordert ⁽²⁾	Anforderung erfüllt																												
Feuchtigkeitsdehnung (ISO 10545-10)	Angegebener Wert ⁽¹⁾ / Prüfverfahren vorhanden ⁽²⁾	$\leq 0,2 \text{ mm/m}$																												
Schlagfestigkeit (ISO 10545-5)	Angegebener Wert ⁽¹⁾ / Prüfverfahren vorhanden ⁽²⁾	COR > 0,75																												
Brandverhalten	Klasse A1 oder A1_{FL} ⁽¹⁾	Klassifiziert ohne Prüfung A1 _{FL} (CWT) - 96/603 EG																												
		Chemische Eigenschaften																												
Beständigkeit gegen Chemikalien (GL) (ISO 10545-13)	Angegebener Wert ⁽¹⁾ / Hersteller muss Klassifizierung deklarieren (2) / Min. Klasse B	<table border="1"> <thead> <tr> <th colspan="2">Household Chemicals:</th> </tr> </thead> <tbody> <tr> <td>Ammonium Chloride 100g/l</td> <td>GA(V)</td> </tr> <tr> <th colspan="2">Swimming pool salts:</th> </tr> <tr> <td>Sodium hypochlorite 20mg/l</td> <td>GA(V)</td> </tr> <tr> <th colspan="2">Acids:</th> </tr> <tr> <td>Hydrochloric acid 3% V/V</td> <td>GLB(V)</td> </tr> <tr> <td>Citric acid 100g/l</td> <td>GLA(V)</td> </tr> <tr> <th colspan="2">Alkali:</th> </tr> <tr> <td>Potassium Hydroxide 30g/l</td> <td>GLB(V)</td> </tr> <tr> <th colspan="2">Acids:</th> </tr> <tr> <td>Hydrochloric acid 18%V/V</td> <td>GHA(V)</td> </tr> <tr> <td>Lactic acid 5% V/V</td> <td>GHA(V)</td> </tr> <tr> <th colspan="2">Alkali:</th> </tr> <tr> <td>Potassium Hydroxide 100g/l</td> <td>GHB(V)</td> </tr> </tbody> </table>	Household Chemicals:		Ammonium Chloride 100g/l	GA(V)	Swimming pool salts:		Sodium hypochlorite 20mg/l	GA(V)	Acids:		Hydrochloric acid 3% V/V	GLB(V)	Citric acid 100g/l	GLA(V)	Alkali:		Potassium Hydroxide 30g/l	GLB(V)	Acids:		Hydrochloric acid 18%V/V	GHA(V)	Lactic acid 5% V/V	GHA(V)	Alkali:		Potassium Hydroxide 100g/l	GHB(V)
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Beständigkeit gegen Fleckenbildner (ISO 10545-14)	Min. Klasse 3	Siehe Abschnitt „Reinigung und Pflege“																												
		Abmessungen und Oberflächenbeschaffenheit																												
Abmessungen - (ISO 10545-2)	siehe ANNEX G	Anforderung erfüllt																												
Oberflächenbeschaffenheit (ISO 10545-2 § 7)	Mindestens 95% der Fliesen und Platten müssen frei von sichtbaren Fehlern sein, die das Aussehen einer größeren Fliesen- / Plattenfläche beeinträchtigen würden	Anforderung erfüllt																												

(1) Anforderungen gemäß EN 14411

(2) Anforderungen nach ISO 13006

Prüfverfahren	Anforderungen und Verweise	Unser Prüfwert
Dynamischer Reibungskoeffizient auf trockenen und nassen Oberflächen (BCR - ex BCRA) Italien	Min. Dekret Nr. 236 / 1989 $\mu > 0,40$	$\mu > 0,40$



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REINIGUNG UND PFLEGE



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Unsere Feinsteinzeugfliesen werden aus Rohstoffen mit einem hohen Leistungspotenzial hergestellt. Im Herstellungsprozess, wenn Fliesenkörper und Oberfläche in einem einzigen Brenngang bei Brenntemperaturen von mitunter mehr als 1.200 °C ihre endgültige Form und Optik erhalten, erfährt dieses Leistungspotenzial eine zusätzliche Steigerung: Oberfläche und Fliesenkörper verschmelzen zu einem einheitlichen Ganzen und die hervorragenden Leistungsmerkmale werden durch eine hochwertige Ästhetik ergänzt. Aus diesem Grund sind die natürlichen Fliesenoberflächen, wie aus unseren Datenblättern einschließlich der vorausgehenden Anwendbarkeitserklärungen ersichtlich, den strengsten internationalen Normen (ISO, EN, ASTM/ANSI) entsprechend stabil und beständig gegenüber Chemikalien und Fleckenbildnern. Eine geeignete Pflege, die mit einer für die Schmutzentfernung angemessenen Häufigkeit und Vorgehensweise durchgeführt wird, gewährleistet nicht nur die Hygiene, sondern auch die bleibende Erhaltung der Optik, Funktionalität und Sicherheit. Die deklarierte Rutschhemmung bezieht sich normgemäß auf die neuen und sauberen Oberflächen. Nicht ordnungsgemäß entfernter Schmutz kann Rutschereignisse verursachen, die nicht auf unsere Oberflächen zurückzuführen sind. Schleifkörperhaltiger Schmutz, der nicht entfernt oder (zum Beispiel durch Reinigungsgeräte für Schuhsohlen vor dem Zugang) verhindert wurde, kann die Beschaffenheit der Oberfläche verändern, was die Hinfälligkeit der ursprünglich deklarierten Widerstandswerte zur Folge hat. In diesem Zusammenhang wird auf die Normen ISO 13006/EN 14411 Annex N e ANSI A 137.1 § 6.2.2.1 verwiesen.

Mit einer anschließenden mechanischen Bearbeitung (Läppung), die das Gestaltungspotenzial der Rohstoffe und der innovativen Dekorationstechniken von Novabell zusätzlich zur Geltung bringt, können die Oberflächen plan geschliffen und glanzpoliert werden. Es entsteht ein feines Oberflächenbild, das jedem Raumkonzept eine wertige Ausstrahlung verleiht. Analog wie bei anderen hochwertigen Materialien sollte die längere Einwirkung von fleckbildenden oder ätzenden Stoffen vermieden werden, da sie selbst nur zeitweise der optischen Wahrnehmung des Raums abträglich sein könnte. Verschmutzungen, die nicht ausreichend häufig entfernt werden oder denen nicht entsprechend vorgebeugt wird, können hartnäckige Ablagerungen bilden, für deren Entfernung starke Chemikalien erforderlich sind, die eine Gefahr für Gesundheit und Umwelt darstellen. In Übereinstimmung mit unseren Nachhaltigkeitsprinzipien möchten wir keine sauren oder alkalischen Chemikalien für die einzelnen Schmutzarten auflisten, sondern die Vorbeugung von Verschmutzungen sowie eine sorgfältige Auswahl der marktgängigen Reinigungsmittel empfehlen, unter denen sich etliche nachhaltige, wirksame Produkte befinden. Bei der Auswahl sind die Angaben auf den Etiketten zu beachten, die laut Gesetz die chemische Zusammensetzung sowie die Gebrauchsanleitung aufweisen müssen. In Hinsicht auf die Vorbeugung werden unsere geläppten Oberflächen mit einer umweltverträglichen Vergütung versehen, die ihre Beständigkeit gegenüber Fleckenbildnern erhöht und die Reinigung erleichtert. Es ist darauf zu achten, dass diese Vergütung nicht durch aggressive Reinigungsmittel (einschließlich denaturierter Alkohol und Dampfstrahlen) Schaden erleidet. Bei besonderen Erfordernissen wird empfohlen, das Reinigungsmittel mehrere Stunden in einem kleinen, schwer einsehbaren Bereich einwirken zu lassen. Werden Veränderungen festgestellt, sind weniger aggressive, handelsübliche Produkte zu verwenden, die der jeweiligen Schmutzart entsprechen.

WARNHINWEISE. Alle keramischen Stoffe sind von Natur aus empfindlich gegenüber Fluorsäure und deren Zusammensetzungen. Diese Säure kann, sofern sie ohne die geeigneten Vorsichtsmaßnahmen verwendet wird, lediglich durch Kontakt schwerwiegende, irreversible Schäden verursachen. Mitunter werden fluorsäurehaltige Produkte aufgrund ihrer starken Ätzwirkung für bestimmte Fleckentypen (z.B. Rostflecken) oder zur Steigerung der Haftreibung einer keramischen Oberfläche empfohlen.

WARNHINWEISE. „Nicht für den Lebensmittelkontakt bestimmte Fliesen“



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Les normes internationales de référence : ISO - EN



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Les valeurs des principales caractéristiques techniques mesurées sur nos produits, par rapport aux seuils requis par les normes internationales en vigueur, figurent explicitement sur nos documents contractuels (catalogues, prix catalogues, etc.). Sur ce document figurent des valeurs communes à certains de nos groupes d'articles ou de nos séries de carreaux, qui pourront se révéler utiles pour orienter son choix vers le produit souhaité. Sur simple demande qui nous sera adressée par écrit, nous pouvons fournir les valeurs spécifiques des caractéristiques concernant un produit donné, en fonction du domaine d'application faisant l'objet de la fourniture.

Caractéristiques et méthodes d'essai	Exigences selon EN 14411 ⁽¹⁾ – G / ISO 13006 ⁽²⁾ - G	Nos valeurs																												
Absorption d'eau - ISO 10545-3	Valeur moyenne $E_p \leq 0,5\%$ / maximum 0,6 % pour chaque carreau	Valeur moyenne et maximum 0,5 % pour chaque carreau																												
Classements	Définitions § 3.2 et § 3.7	BI_a – Grès cérame																												
		Propriétés physiques																												
Module de rupture - (ISO 10545-4)	Valeur moyenne $\geq 35 \text{ N/mm}^2$	$\geq 35 \text{ N/mm}^2$																												
Force de rupture - (ISO 10545-4)	Moyenne $\geq 1300 \text{ N} \geq 7,5 \text{ mm}$ d'épaisseur Moyenne $\geq 700 \text{ N} < 7,5 \text{ mm}$ d'épaisseur	Conforme																												
Résistance à l'abrasion - (ISO 10545-7)	Classe d'abrasion et nombre de cycles subis	-																												
Coefficient de dilatation thermique linéaire (ISO 10545-8)	Valeur déclarée ⁽¹⁾ / Méthode d'essai disponible ⁽²⁾	$< 7,1 \times 10^{-6} \text{ }^\circ\text{C}^{-1}$																												
Résistance aux chocs thermiques (ISO 10545-9)	Conforme à l'EN 10545-1 ⁽¹⁾ / Méthode d'essai disponible ⁽²⁾	Conforme																												
Résistance au tressailage (ISO 10545-11)	Conforme à l'EN ISO 10545-1 ⁽¹⁾ / Demandé ⁽²⁾	Conforme																												
Résistance au gel (ISO 10545-12)	Conforme à l'EN ISO 10545-1 ⁽¹⁾ / Demandé ⁽²⁾	Conforme																												
Dilatation à l'humidité (ISO 10545-10)	Valeur déclarée ⁽¹⁾ / Méthode d'essai disponible ⁽²⁾	$\leq 0,2 \text{ mm/m}$																												
Résistance au choc - (ISO 10545-5)	Valeur déclarée ⁽¹⁾ / Méthode d'essai disponible ⁽²⁾	COR > 0,75																												
Réaction au feu	Classe A1 ou A1_{FL} ⁽¹⁾	Classé sans essai A1 _{FL} (CWT) – 96/603 CE																												
		Propriétés chimiques																												
Résistance aux produits chimiques - (GL) (ISO 10545-13)	Valeur déclarée ⁽¹⁾ / Le producteur doit déclarer le classement (2) / Classe B au minimum	<table border="1"> <thead> <tr> <th colspan="2">Household Chemicals:</th> </tr> </thead> <tbody> <tr> <td>Ammonium Chloride 100g/l</td> <td>GA(V)</td> </tr> <tr> <th colspan="2">Swimming pool salts:</th> </tr> <tr> <td>Sodium hypochlorite 20mg/l</td> <td>GA(V)</td> </tr> <tr> <th colspan="2">Acids:</th> </tr> <tr> <td>Hydrochloric acid 3% V/V</td> <td>GLB(V)</td> </tr> <tr> <td>Citric acid 100g/l</td> <td>GLA(V)</td> </tr> <tr> <th colspan="2">Alkali:</th> </tr> <tr> <td>Potassium Hydroxide 30g/l</td> <td>GLB(V)</td> </tr> <tr> <th colspan="2">Acids:</th> </tr> <tr> <td>Hydrochloric acid 18%V/V</td> <td>GHA(V)</td> </tr> <tr> <td>Lactic acid 5% V/V</td> <td>GHA(V)</td> </tr> <tr> <th colspan="2">Alkali:</th> </tr> <tr> <td>Potassium Hydroxide 100g/l</td> <td>GHB(V)</td> </tr> </tbody> </table>	Household Chemicals:		Ammonium Chloride 100g/l	GA(V)	Swimming pool salts:		Sodium hypochlorite 20mg/l	GA(V)	Acids:		Hydrochloric acid 3% V/V	GLB(V)	Citric acid 100g/l	GLA(V)	Alkali:		Potassium Hydroxide 30g/l	GLB(V)	Acids:		Hydrochloric acid 18%V/V	GHA(V)	Lactic acid 5% V/V	GHA(V)	Alkali:		Potassium Hydroxide 100g/l	GHB(V)
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		Dimensions et qualité de surface																												
Résistance aux taches (ISO 10545-14)	Classe 3 au minimum	Voir la section « Entretien et soin »																												
Dimensions - (ISO 10545-2)	Voir ANNEX G	Conforme																												
Qualité de surface - (ISO 10545-2 § 7)	95 % au moins des carreaux doivent être exempts de défauts visibles susceptibles de nuire à l'aspect d'une proportion importante de la surface des carreaux	Conforme																												

(1) Exigences selon la norme EN 14411

(2) Exigences selon la norme ISO 13006

Méthodes d'essai	Exigences et références	Nos valeurs
Coefficient de frottement dynamique sur sol sec et mouillé (selon la méthode BCR – ex BCRA) - Italie	DM n°236 / 1989 $\mu > 0,40$	$\mu > 0,40$

INFORMATIONS SUR LE PRODUIT - MISES EN GARDE À L'INTENTION DU CONSOMMATEUR -
NETTOYAGE ET ENTRETIEN - DROITS DE PROPRIÉTÉ :

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ENTRETIEN et SOIN



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Nos carreaux en grès cérame sont issus de matières premières présentant un haut potentiel technique. Ce potentiel est valorisé par un procédé de production intégral pour la masse et la surface où la forme et l'esthétique sont stabilisées par une cuisson à des températures pouvant dépasser 1 200°C. La surface forme ainsi un tout avec la masse, ce qui renforce son aspect esthétique et sa beauté. Grâce à ce procédé, les surfaces naturelles des carreaux sont stables et inaltérables face aux substances chimiques et tachantes mentionnées dans les normes internationales les plus sévères (ISO, EN, ASTM/ANSI) comme l'indiquent nos fiches techniques y compris les déclarations d'applicabilité qui les précèdent. Une fréquence et des méthodes d'entretien judicieuses, visant à éliminer efficacement la saleté, sont non seulement un gage d'hygiène, mais permettent également de préserver la valeur esthétique et surtout la fonctionnalité et la sécurité du sol. Rappelons en effet que la résistance à la glissance déclarée se rapporte à des surfaces neuves et propres, conformément aux réglementations. La saleté mal éliminée peut rendre le sol glissant sans mettre en cause la résistance à la glissance de nos surfaces. De même qu'un sol sur lequel reste de la saleté abrasive parce qu'elle n'a pas été éliminée ou prévenue (par la présence de dispositifs de nettoyage des semelles de chaussures avant d'entrer, par exemple) peut altérer la morphologie de la surface et lui faire perdre les valeurs de résistance déclarées à l'origine. À ce propos, voir les normes ISO 13006 et EN 14411 Annexe N et ANSI A 137.1 § 6.2.2.1.

De la même manière, la compacité de ces surfaces empêche les multiples substances tachantes de pénétrer le matériau, comme le montrent les résultats des essais effectués sur la base des normes mentionnées plus haut. Grâce à leurs excellentes performances, les surfaces peuvent être soumises à un usinage mécanique, le rodage, qui les rend parfaitement plates et brillantes, de sorte qu'elles subliment encore davantage la beauté due aux matières premières dont elles sont issues et à l'action des technologies de décoration de surfaces adoptées par Novabell. Au final, une surface très raffinée qui constitue une précieuse valeur ajoutée aux intérieurs qu'elle revêt. Comme pour toutes les matières précieuses, il est conseillé d'éviter ou de prévenir un contact prolongé avec des substances salissantes ou agressives qui pourraient compromettre, même temporairement, la perception esthétique de la pièce. Si elle n'est pas éliminée fréquemment ou prévenue, la saleté peut se stratifier au point d'exiger par la suite des opérations de nettoyage chimique intenses, dangereuses pour ceux qui les exécutent et nuisibles à l'environnement. Dans un souci de cohérence avec nos choix d'une gestion durable de l'environnement, nous ne souhaitons pas lister ici les substances chimiques acides ou basiques apportant leur solution à plusieurs types de saleté. Nous vous conseillons plutôt d'opter pour une action préventive et un choix pondéré parmi les divers nettoyants existant sur le marché, nombre d'entre eux étant écologiques et efficaces. Ces produits sont facilement reconnaissables par leurs étiquettes qui, aux termes de la loi, doivent indiquer leur composition chimique et leur mode d'emploi. Dans une optique de prévention, nos surfaces rodées sont fournies avec une protection écopile qui en augmente l'imperméabilité aux agents tachants, pour faciliter les opérations d'entretien. Il est recommandé de ne pas endommager cette protection par l'action de nettoyants agressifs (y compris l'alcool dénaturé et les jets de vapeur) et il est conseillé, si besoin est, de laisser agir le nettoyant sur une petite partie de la surface non exposée pendant quelques heures. Si des variations apparaissent, procéder avec des produits moins dangereux, certainement disponibles sur le marché, après avoir déterminé la nature de la saleté restée sur la surface.

MISES EN GARDE. Il nous semble opportun de rappeler que tous les matériaux céramiques sont naturellement attaquables par l'acide fluorhydrique et ses composés. Il nous paraît également important de rappeler que cet acide peut causer des blessures graves et irréversibles, même par simple contact, à ceux qui l'utiliseraient sans prendre les précautions nécessaires. Il arrive que des produits en contenant soient proposés pour éliminer certaines taches, comme celles de rouille, ou pour augmenter l'adhérence d'une surface céramique, car c'est un puissant corrosif.

MISES EN GARDE. « Carreaux non aptes au contact alimentaire »



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Las normas de referencia internacionales: ISO - EN



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Nuestros documentos contractuales (catálogos, listas de precios, etc.) indican y reproducen claramente los valores de las principales características técnicas medidas en nuestros productos y comparadas con las normas internacionales.

Los valores indicados en este documento son comunes a grupos de artículos o series de nuestras baldosas y por tanto deben utilizarse como guía de orientación inicial a la hora de elegir el producto. En caso necesario, podemos proporcionar los valores específicos de las características de un determinado producto suministrado, en función de su uso previsto, siempre que éste nos sea comunicado formalmente por escrito.

Características y métodos de ensayo	Requisitos EN 14411 ⁽¹⁾ - G / ISO 13006 ⁽²⁾ - G	Nuestros valores																												
Determinación de la absorción de agua (ISO 10545-3)	Valor medio $E_b \leq 0,5\%$ / Valor individual máximo $0,6\%$	Valor medio y valor individual máximo < 0,5%																												
Clasificación	Definiciones § 3.2 y § 3.7	BI_a – Gres porcelánico																												
		Características físicas																												
Módulo de rotura (ISO 10545-4)	Valor medio $\geq 35 \text{ N/mm}^2$	$\geq 35 \text{ N/mm}^2$																												
Fuerza de rotura (ISO 10545-4)	Media $\geq 1300 \text{ N}$ para grosor $\geq 7,5 \text{ mm}$ Media $\geq 700 \text{ N}$ para grosor $< 7,5 \text{ mm}$	Cumple																												
Resistencia a la abrasión (ISO 10545-7)	Clase de abrasión y número de ciclos	-																												
Coefficiente de dilatación térmica lineal (ISO 10545-8)	Valor declarado ⁽¹⁾ / Método de ensayo disponible ⁽²⁾	$< 7,1 \times 10^{-6} \text{ }^\circ\text{C}^{-1}$																												
Resistencia al choque térmico (ISO 10545-9)	Superado conforme a EN ISO 10545-1 ⁽¹⁾ / Método de ensayo disponible ⁽²⁾	Cumple																												
Resistencia al cuarteo (ISO 10545-11)	Superado conforme a EN ISO 10545-1 ⁽¹⁾ / Exigido ⁽²⁾	Cumple																												
Resistencia a la helada (ISO 10545-12)	Superado conforme a EN ISO 10545-1 ⁽¹⁾ / Exigido ⁽²⁾	Cumple																												
Dilatación por humedad (ISO 10545-10)	Valor declarado ⁽¹⁾ / Método de ensayo disponible ⁽²⁾	$\leq 0,2 \text{ mm/m}$																												
Resistencia al impacto (ISO 10545-5)	Valor declarado ⁽¹⁾ / Método de ensayo disponible ⁽²⁾	COR > 0,75																												
Reacción al fuego	Clase A1 o A1 _{FL} ⁽¹⁾	Clasificado como A1 _{FL} sin ensayo (CWT) – 96/603 CE																												
		Características químicas																												
Resistencia química (GL) (ISO 10545-13)	Valor declarado ⁽¹⁾ / El fabricante está obligado a declarar la clase (2) / Mínimo Clase B	<table border="1"> <thead> <tr> <th colspan="2">Household Chemicals:</th> </tr> </thead> <tbody> <tr> <td>Ammonium Chloride 100g/l</td> <td>GA(V)</td> </tr> <tr> <th colspan="2">Swimming pool salts:</th> </tr> <tr> <td>Sodium hypochlorite 20mg/l</td> <td>GA(V)</td> </tr> <tr> <th colspan="2">Acids:</th> </tr> <tr> <td>Hydrochloric acid 3% V/V</td> <td>GLB(V)</td> </tr> <tr> <td>Citric acid 100g/l</td> <td>GLA(V)</td> </tr> <tr> <th colspan="2">Alkali:</th> </tr> <tr> <td>Potassium Hydroxide 30g/l</td> <td>GLB(V)</td> </tr> <tr> <th colspan="2">Acids:</th> </tr> <tr> <td>Hydrochloric acid 18%V/V</td> <td>GHA(V)</td> </tr> <tr> <td>Lactic acid 5% V/V</td> <td>GHA(V)</td> </tr> <tr> <th colspan="2">Alkali:</th> </tr> <tr> <td>Potassium Hydroxide 100g/l</td> <td>GHB(V)</td> </tr> </tbody> </table>	Household Chemicals:		Ammonium Chloride 100g/l	GA(V)	Swimming pool salts:		Sodium hypochlorite 20mg/l	GA(V)	Acids:		Hydrochloric acid 3% V/V	GLB(V)	Citric acid 100g/l	GLA(V)	Alkali:		Potassium Hydroxide 30g/l	GLB(V)	Acids:		Hydrochloric acid 18%V/V	GHA(V)	Lactic acid 5% V/V	GHA(V)	Alkali:		Potassium Hydroxide 100g/l	GHB(V)
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		Véase la sección «Mantenimiento y cuidado»																												
		Dimensiones y aspecto superficial																												
Dimensiones - (ISO 10545-2)	Véase ANNEX G	Cumple																												
Calidad superficial (ISO 10545-2 § 7)	Un mínimo del 95 % de las baldosas deben estar libres de defectos visibles que pudieran perjudicar el aspecto de una superficie considerable de baldosas.	Cumple																												

(1) Requisitos según EN 14411

(2) Requisitos según ISO 13006

Métodos de ensayo	Requisitos y referencias	Nuestros valores
Coefficiente de fricción dinámico en seco y en húmedo (BCR – ex BCRA) – Italia	Decreto Ministerial italiano n.º 236 / 1989 $\mu > 0,40$	$\mu > 0,40$



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MANTENIMIENTO Y CUIDADO



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Nuestras baldosas de gres porcelánico se obtienen a partir de materias primas cuyo gran potencial técnico se realza a través de un proceso de fabricación integral de la masa y la superficie en el que la forma y el aspecto del producto se estabilizan mediante la cocción a temperaturas que pueden llegar a superar los 1200 °C. Esto crea una unión indisoluble entre la superficie y la masa con el fin de incorporar la fuerza, la belleza y la estética en una sola pieza. Gracias a ello, las superficies naturales de las baldosas ofrecen estabilidad y resistencia a las sustancias químicas y manchantes previstas por las normas internacionales más rigurosas (ISO, EN, ASTM/ANSI), como documentan nuestras fichas técnicas, incluidas las declaraciones de aplicabilidad que las preceden. La correcta realización del mantenimiento y la limpieza, con la frecuencia y las modalidades adecuadas, garantiza la higiene y conserva el valor estético y, sobre todo, la funcionalidad y la seguridad: cabe recordar que la resistencia al resbalamiento declarada se refiere a superficies nuevas y limpias, como establece la normativa. Si la suciedad no se elimina de forma apropiada, existe el riesgo de resbalamiento por causas no atribuibles a nuestras superficies. Asimismo, si no se previene o no se elimina prontamente la suciedad abrasiva (por ejemplo, limpiando las suelas de los zapatos antes de entrar en un local), puede alterarse la morfología de la superficie, con la consiguiente pérdida de los valores originales de resistencia declarados. Véanse a este efecto las normas ISO 13006 / EN 14411, Anexo N, y ANSI A 137.1, ap. 6.2.2.1.

Asimismo, estas superficies son tan compactas que resultan impenetrables para numerosas sustancias manchantes, como también está documentado mediante los resultados de los ensayos realizados conforme a las normas mencionadas anteriormente. Gracias a sus altas prestaciones, las superficies pueden someterse a una elaboración mecánica, el esmerilado, que las hace extremadamente lisas y brillantes y resalta aún más el contenido estético de las materias primas y de las innovadoras tecnologías de decoración superficial utilizadas por Novabell. El resultado es una superficie de gran sofisticación que aporta elegancia y valor a los lugares donde se instala. De forma análoga a lo que sucede con otros materiales nobles, es aconsejable evitar y prevenir el contacto prolongado con sustancias manchantes o agresivas que puedan perjudicar la percepción estética global del entorno, aunque solo sea temporalmente. Si no se previene o se elimina la suciedad con la frecuencia necesaria, pueden formarse capas que requieran una limpieza con productos químicos más fuertes (que son peligrosos para quien los usa y son menos ecológicos). Por coherencia con nuestras decisiones en materia de sostenibilidad medioambiental, preferimos no ofrecer listas de ácidos o álcalis para distintos tipos de suciedad sino recomendar la prevención y una selección atenta de los distintos productos de limpieza disponibles comercialmente, muchos de los cuales son sostenibles y eficaces. Estos productos son fáciles de identificar gracias a sus etiquetas, que por ley deben indicar su composición química, además de las instrucciones de uso. De cara a la prevención, nuestras superficies esmeriladas llevan una protección de bajo impacto ecológico que incrementa su resistencia a las manchas y facilita el mantenimiento. Recomendamos no eliminar esta protección con detergentes agresivos (incluido el alcohol desnaturalizado y los chorros de vapor); si fuera necesario usar un detergente de este tipo, es aconsejable aplicar una pequeña cantidad en una zona no visible durante algunas horas. Si se altera la superficie, habrá que utilizar otro producto comercial que sea menos peligroso, una vez identificado el tipo de suciedad que se ha acumulado en la superficie.

ADVERTENCIAS. Cabe recordar que, por naturaleza, todos los materiales cerámicos son atacables por el ácido fluorhídrico y sus compuestos. Además, es importante recordar que este ácido puede provocar lesiones graves e irreversibles, incluso simplemente por contacto, en quienes lo manipulan sin tomar las debidas precauciones. A veces, los productos que lo contienen se comercializan como detergentes para ciertos tipos de manchas (por ejemplo, de óxido) o para aumentar el agarre de una superficie cerámica, dado que es un potente corrosivo.

ADVERTENCIAS. «Baldosas no aptas para el contacto con alimentos»



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Применяемые международные стандарты: ISO - EN



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Полученные путем измерений основные технические характеристики нашей продукции и их сравнение с международными стандартами явно указаны в нашей контрактной документации (каталогах, прайс-листах и проч.).

Указанные в настоящем документе значения применимы к целым группам изделий или сериям нашей плитки, поэтому ими следует руководствоваться на начальном этапе выбора необходимой продукции. В случае необходимости по письменному запросу могут быть предоставлены характеристики конкретного изделия из поставляемой партии с учетом его назначения.

Характеристики изделий и методики их оценки 	Требуемые значения показателей EN 14411 ⁽¹⁾ – G / ISO 13006 ⁽²⁾ – G	Показатели нашей продукции																												
Определение водопоглощения (по стандарту ISO 10545-3)	Среднее значение $E_b \leq 0,5\%$ / максимальное одиночное значение 0,6 %	Среднее значение и макс. одиночное значение $< 0,5\%$																												
Классификация	Определения см. в §§ 3.2 и 3.7	VI_a — керамогранит																												
Физические свойства																														
Предел прочности на разрыв (по стандарту ISO 10545-4)	Среднее значение ≥ 35 Н/мм ²	≥ 35 Н/мм ²																												
Предел прочности (по стандарту ISO 10545-4)	Среднее значение ≥ 1300 Н при толщине $\geq 7,5$ мм Среднее значение ≥ 700 Н при толщине $< 7,5$ мм	Соответствует																												
Сопротивление истиранию (по стандарту ISO 10545-7)	Класс истирания и число пройденных циклов	-																												
Коэффициент линейного теплового расширения (по стандарту ISO 10545-8)	Заявленное значение ⁽¹⁾ / методика испытаний имеется в наличии ⁽²⁾	$< 7,1 \times 10^{-6} \text{ } ^\circ\text{C}^{-1}$																												
Термоустойчивость (по стандарту ISO 10545-9)	Соответствует стандарту EN ISO 10545-1 (1) / методика испытаний имеется в наличии (2)	Соответствует																												
Устойчивость к образованию трещин (по стандарту ISO 10545-11)	Соответствует стандарту EN ISO 10545-1 ⁽¹⁾ / требуется ⁽²⁾	Соответствует																												
Морозостойкость (по стандарту ISO 10545-12)	Соответствует стандарту EN ISO 10545-1 ⁽¹⁾ / требуется ⁽²⁾	Соответствует																												
Расширение при влагопоглощении (по стандарту ISO 10545-10)	Заявленное значение ⁽¹⁾ / методика испытаний имеется в наличии ⁽²⁾	$\leq 0,2$ мм/м																												
Ударопрочность (по стандарту ISO 10545-5)	Заявленное значение ⁽¹⁾ / методика испытаний имеется в наличии ⁽²⁾	COR $> 0,75$																												
Пожароопасность	Класс A1 или A1_{FL} ⁽¹⁾	Классифицирован без проведения испытания A1_{FL} (CWT) – 96/603 EC																												
Химические свойства																														
Химическая стойкость (GL) (по стандарту ISO 10545-13)	Заявленное значение ⁽¹⁾ / Завод-изготовитель должен объявить классификацию изделия (2) / Соответствует как минимум классу B	<table border="1"> <tr><td colspan="2">Household Chemicals:</td></tr> <tr><td>Ammonium Chloride 100g/l</td><td>GA(V)</td></tr> <tr><td colspan="2">Swimming pool salts:</td></tr> <tr><td>Sodium hypochlorite 20mg/l</td><td>GA(V)</td></tr> <tr><td colspan="2">Acids:</td></tr> <tr><td>Hydrochloric acid 3% V/V</td><td>GLB(V)</td></tr> <tr><td>Citric acid 100g/l</td><td>GLA(V)</td></tr> <tr><td colspan="2">Alkali:</td></tr> <tr><td>Potassium Hydroxide 30g/l</td><td>GLB(V)</td></tr> <tr><td colspan="2">Acids:</td></tr> <tr><td>Hydrochloric acid 18%V/V</td><td>GHA(V)</td></tr> <tr><td>Lactic acid 5% V/V</td><td>GHA(V)</td></tr> <tr><td colspan="2">Alkali:</td></tr> <tr><td>Potassium Hydroxide 100g/l</td><td>GHB(V)</td></tr> </table>	Household Chemicals:		Ammonium Chloride 100g/l	GA(V)	Swimming pool salts:		Sodium hypochlorite 20mg/l	GA(V)	Acids:		Hydrochloric acid 3% V/V	GLB(V)	Citric acid 100g/l	GLA(V)	Alkali:		Potassium Hydroxide 30g/l	GLB(V)	Acids:		Hydrochloric acid 18%V/V	GHA(V)	Lactic acid 5% V/V	GHA(V)	Alkali:		Potassium Hydroxide 100g/l	GHB(V)
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Стойкость к образованию пятен (по стандарту ISO 10545-14)	Соответствует как минимум классу 3	см. раздел «Обслуживание и уход»																												
Габариты и качество поверхности																														
Габариты - (по стандарту ISO 10545-2)	см. раздел ANNEX G	Соответствует																												
Качество поверхности (по стандарту ISO 10545-2 § 7)	Не менее чем у 95 % плиток должны отсутствовать видимые дефекты, нарушающие картину восприятия большого участка, выложенного плитками	Соответствует																												

(1) Требования согласно стандарту EN 14411

(2) Требования согласно стандарту ISO 13006

Методики испытаний	Требования и нормативы	Показатели нашей продукции
Коэффициент динамического трения сухой и мокрой поверхности (BCR – в соответствии с BCRA) — Италия	Постановление Министерства № 236 / 1989 г. $\mu > 0,40$	$\mu > 0,40$

СВЕДЕНИЯ О ПРОДУКЦИИ – ПРЕДУПРЕЖДЕНИЯ ДЛЯ ПОТРЕБИТЕЛЯ – ЧИСТКА И УХОД – ПРАВО СОБСТВЕННОСТИ :

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ОБСЛУЖИВАНИЕ И УХОД



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Наша керамогранитная плитка изготавливается из сырья, обладающего высокими техническими характеристиками. Этим обусловлено ее превосходное качество, достигаемое за полный цикл производства с обжигом массы при температуре, которая может превышать 1200 °С, в результате чего полностью спекаются отдельные компоненты, плитка приобретает необходимую прочность, а на ее поверхности формируется оригинальный рисунок. Благодаря этому, натуральные поверхности плитки являются устойчивыми и неизменяемыми при воздействии химических и пятнообразующих веществ, предусматривающихся самыми жесткими международными стандартами (ISO, EN, ASTM/ANSI), что зафиксировано в наших технических описаниях, а также в прилагающихся к ним декларациях применимости. Уход, выполняемый с нужной периодичностью и правильными способами удаления грязи, не только обеспечивает гигиену, но и сохраняет эстетическую ценность и, прежде всего, функциональность и безопасность. Следует помнить, что заявленное сопротивление скольжению относится к новым и чистым поверхностям, как предписывается стандартами. Неправильно очищенная грязь может стать причиной скольжения, которое не зависит от наших материалов. Аналогично этому, наличие неудаленной абразивной грязи или же отсутствие средств защиты от нее (например, средства очистки подошв обуви на входе в помещение) может изменить морфологию поверхностей с вытекающей из этого отменой изначально заявленных значений прочности. По этим вопросам следует обращаться к стандартам ISO 13006/EN 14411 Annex N и ANSI A 137.1 § 6.2.2.1.

Кроме того, ее поверхность настолько плотная, что она практически не впитывает многочисленные загрязнения, что также подтверждено результатами испытаний, проведенных согласно вышеупомянутым стандартам. При этом благодаря своим высоким эксплуатационным качествам плитка выдерживает механическую обработку и шлифовку для получения идеально ровной блестящей поверхности, отличающейся высокой эстетической ценностью, которая была бы невозможной без использования соответствующего сырья и инновационных технологий, применяемых компанией Novabell. Выложенная плитками поверхность придает помещению благородный вид. Как и в случае с другими ценными материалами, не допустим продолжительный контакт, даже временно, с оставляющими грязные следы или агрессивными веществами, иначе можно испортить интерьер. При нерегулярной и несвоевременной чистке для удаления стойких загрязнений могут понадобиться сильнодействующие химические средства, вредные для здоровья выполняющего такую работу лица и для окружающей среды. Как сторонники экологической устойчивости, мы воздерживаемся от перечисления химических средств на основе кислот и щелочей для удаления различных типов загрязнений. Рекомендуем бережно обращаться с поверхностью плиток и взвешенно подходить к выбору чистящих средств из числа представленных в продаже, многие из которых надежны и эффективны. Их легко найти по этикеткам, на которых, по закону, помимо инструкций должен быть указан химический состав. Отшлифованная поверхность нашей плитки имеет специальное защитное покрытие, повышающее ее экологичность. Благодаря ему меньше впитывается грязь, что облегчает уборку. Для сохранения такого покрытия не рекомендуется применять на нем агрессивные чистящие средства (включая спирт-денатурат и струи пара). Если все же такая необходимость возникнет, действие чистящего средства следует проверить на небольшом участке плитки, не допуская его длительного контакта с поверхностью в течение нескольких часов. Если на поверхности отмечается выцветание, следует пользоваться менее агрессивными средствами, подходящими для конкретного стойкого загрязнения, которые легко приобрести в розничной сети.

ПРЕДУПРЕЖДЕНИЕ: Не стоит забывать, что в силу своих особенностей все керамические материалы уязвимы перед фтористоводородной кислотой и смесями на ее основе. Не стоит забывать и о том, что при неосторожном обращении с такой кислотой она может нанести серьезный и непоправимый вред здоровью, даже при одном только контакте с ней. Встречаются средства на ее основе, предлагаемые для удаления определенных видов пятен (например ржавчины) или для уменьшения скользкости керамической поверхности, которые обладают сильным разъедающим действием.

ПРЕДУПРЕЖДЕНИЕ: “Плитка, не предназначенная для контакта с пищевыми продуктами”