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PORCELAIN
TILE

Ceramics of Italy


NovaBell[®]
Ceramiche Gruppo Bellei

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KHROMA

The international reference standards: ISO – EN:

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%	$\leq 0,06\%$ Average value and individual maximum
	Classification	Definition § 3.2 and § 3.7	BIa – 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
	Resistance to deep abrasion - (ISO 10545-6)	Max volume abraded ≤ 175 mm ³	< 175 mm ³
	Resistance to surface abrasion - (ISO 10545-7)	Abrasion class and cycles passed	Class 0 - 5
	Recommened use	Novabell criterion	Class 4 (see Annex N - ISO 13006 / EN 14411)
	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
	Small colour differences - (ISO 10545-16)	$\Delta E_{cmc} < 0,75$ ⁽¹⁾	If agreed
	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 / A1 _{FL} (Classified Without Testing (CWT) – 96/603 EC)
	Mohs hardness scale - (ex EN 101 / BS 6431-13)	--	≥ 5
			Chemical properties
	Chemical resistance - (GL) (ISO 10545-13): • Resistance to low and high concentrations of acids and alkalis • Resistance to household chemicals and swimming pool salts	Declared value ⁽¹⁾ / Manufacturer is to state classification ⁽²⁾ Minimum class B	Resistant (see "Maintenance and care" section) A
	Resistance to staining - (ISO 10545-14)	Minimum class 3	5 (see "Maintenance and care" section)
	Release of dangerous substances - (ISO 10545-15)	Declared value ⁽¹⁾ / Test method available ⁽²⁾	Pb $< 0,1$ / Cd $< 0,01$ mg/dm ²
			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
			Slipperiness
	Determination of anti-slip properties – Workrooms and fields of activities with raised slip danger, walking method- Ramp test (DIN 51130) – Germany	BGR / ASR From R9 to R13	R10
	Determination of anti-slip properties. Wet-loaded barefoot areas – Walking method – Ramp test (DIN 51097) - Germany	GUV-I 8527 A-B-C	A + B
	Dynamic Coefficient Friction wet and dry condition (BCR – ex BCRA) Italy	DM n. 236 / 1989 $\mu > 0,40$	$\mu > 0,40$

(1) Requirements according to EN 14411 (2) Requirements according to ISO 13006

PRODUCT INFORMATION - IMPORTANT NOTES FOR THE CONSUMER - CLEANING AND CARE - PROPERTY RIGHTS: www.novabell.it

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.