

## TECHNICAL DATA OF PRODUCT

-CONTROL LABORATORY-

PRODUCT DATA

<b>CODE</b>	G4321011	
<b>ITEM</b>	KB NATURE BONE	
<b>FORMAT</b>	100 X 50	
<b>GROUP</b>	Bla - Annexe G - DOP: PPBIA-ANT-002	
<b>BODY</b>	COLOURED BODY PORCELAIN	
<b>FINISH</b>	RECTIFIED PRODUCT WITH VERY HIGH SHADE VARIATION	
<b>CLASS</b>	Unglazed	
<b>ANALISIS OF PRODUCTION (Constant test)</b>	2016	
<b>RECOMMENDATIONS FOR USE</b>	5	High traffic. Commercial areas, halls and public buildings
<b>AREA OF USAGE</b>	Humid interiors with less than 6% inclination: entrances areas, locker room,... Covered exteriors, covered terraces,... Dry interior stairs. / Exterior Facades. *(see applicable safety regulations)	
<b>FIXING</b>	Minimal grout joint: interiors 2 mm/exteriors 3 mm. Do not bond more than 20%.	

**TECHNICAL SPECIFICATIONS OF THE PRODUCT AS PER THE NORMS UNE-EN ISO 13006 AND EN 14411****DIMENSION TEST-NORM UNE-EN ISO 10545-2**

		NORM ISO 13006		KERABEN	
	LENGTH	± 0,60 %	± 2,00 mm	± 0,03 %	B: 1.000,0±0,30mm
	WIDTH	± 0,60 %	± 2,00 mm	± 0,06 %	B: 500,0±0,30mm
	THICKNESS	± 5 %	± 0,50 mm	± 5 %	10,30 ± 0,50 mm
	STRAIGHTNESS OF SIDES	± 0,50 %	± 1,50 mm	± 0,06 %	≤ 0,60 mm
	SQUARENESS	± 0,50 %	± 2,00 mm	± 0,06 %	≤ 0,60 mm
	SURFACE FLATNESS	± 0,5 %	± 2,00 mm	+0,09% / -0,06%	+0,90mm / -0,60mm



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## PHYSICAL PROPERTIES

		TEST-NORM	PRESCRIBED VALUE OF NORM	KERABEN
	SLIP RESISTANCE	UNE-ENV 12633	Class $\geq$ 1	Class 1 <sup>(1)</sup>
		ANSI A137: DCOF	DCOF $\geq$ 0,42	0,42 <sup>(2)</sup>
		DIN 51130	R $\geq$ 9	R10 <sup>(3)</sup>
		DIN 51097	Manufacturer's declaration	NOT APPLICABLE <sup>(4)</sup>
	HARDNESS MOHS	UNE 67-101	Manufacturer's declaration	7
	WATER ABSORPTION	UNE-EN ISO 10545-3	$\leq$ 0,5%	< 0,15%
	BREAKING STRENGTH	UNE-EN ISO 10545-4	1300 N	2.600 N
	MODULUS OF RUPTURE	UNE-EN ISO 10545-4	35 N/mm <sup>2</sup>	46 N/mm <sup>2</sup>
	RESISTANCE TO ABRASION	UNE-EN ISO 10545-7	NOT APPLICABLE	NPD
		UNE-EN ISO 10545-6	$\leq$ 175 mm <sup>3</sup>	< 130 mm <sup>3</sup>
	COEFFICIENT OF EXPANSION	UNE-EN ISO 10545-8	Max. $9 \cdot 10^{-6} K^{-1}$	$6,2 \cdot 10^{-6} K^{-1}$
	THERMAL RESISTANCE	UNE-EN ISO 10545-9	Manufacturer's declaration	RESISTS
	CRAZING RESISTANCE	UNE-EN ISO 10545-11	Required	RESISTS
	FROST RESISTANCE	UNE-EN ISO 10545-12	Manufacturer's declaration	RESISTS

NPD: No performance determined

(1) UNE-ENV 12633. Class 1: Indicated for interior dry areas with surfaces having no more than a 6% inclination.

(2) ANSI A137.1-2012 Section 9.6.1: "Wet Dynamic Coefficient of Friction (DCOF)" indicates a DCOF  $\geq$  0,42 is recommended when the slip resistance is required.(3) DIN 51130: It's recommended R  $\geq$  9 for indoors and R  $\geq$  11 for outdoors when the slip resistance is required.

## CHEMICAL PROPERTIES

		TEST-NORM	NORM ISO 13006	KERABEN	
	RESISTANCE TO ACIDS (WEAK)	CITRIC ACID	UNE-EN ISO 10545-13	Manufacturer's declaration	Class ULA <sup>(5)</sup>
		HYDROCHLORIC ACID	UNE-EN ISO 10545-13	Manufacturer's declaration	Class ULA <sup>(5)</sup>
		POTASSIUM HYDROXIDE (ÁLKALI)	UNE-EN ISO 10545-13	Manufacturer's declaration	Class ULA <sup>(5)</sup>
	RESISTANCE TO ACIDS (STRONG)	LACTIC ACID	UNE-EN ISO 10545-13	Manufacturer's declaration	Class UHA <sup>(5)</sup>
		HYDROCHLORIC ACID	UNE-EN ISO 10545-13	Manufacturer's declaration	Class UHA <sup>(5)</sup>
		POTASSIUM HYDROXIDE (ÁLKALI)	UNE-EN ISO 10545-13	Manufacturer's declaration	Class UHA <sup>(5)</sup>
	RESISTANCE TO HOUSEHOLD CLEANING PRODUCTS	UNE-EN ISO 10545-13	Minimum UB	Class UA <sup>(5)</sup>	
	RESISTANCE TO STAINING	UNE-EN ISO 10545-14	Minimum Class 3	Class 5 <sup>(6)</sup>	

(5) Classes UA, ULA and UHA mean that no visual effect is observed if a test solution is applied.

(6) Class 5 means that the stains produced with test solutions can be cleaned with a wet cloth.

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**INSTRUCTIONS FOR FIXING THE PRODUCT, MAINTENANCE & CLEANING**

To achieve optimum results in the laying of this product it is essential that you carry out the following recommendations :

**Before fixing**

- Prior to the setting of the tile, verify that the ceramic product adjusts to the job specification. The number code and alphabetic code appearing on the box label refers to the shade and caliber respectively . Do not mix and match tiles from cartons showing different shade and caliber information on the same installation site.
- Handle the tiles with care to avoid problems of chipping and scratching.
- Plaster the walls and screed the floors before laying.

**During fixing**

- To fix the tiles, use a quality cement / adhesive and comb both walls, floors and the pieces themselves, combing with a jagged trowel of a size suitable to the format of the tile in question.
- The use of traditional gouts, used for white or red bodied glazed tiles, will not guarantee good adhesion of porcelain tiles. To guarantee good adhesion to the base, for porcelain tiles, the use of specific adhesive and grout is essential.
- In areas requiring waterproof reinforcement, use special epoxi waterproof mortars to seal the grouts. For an adequate waterproof sealing between bath walls and bathtub , the usage of an specific PVC glued profile, a special epoxi waterproof mortar or an special elastic waterproof silicone grout is recommended.
- When sealing , use the appropriate tools such as serrated trowels, drop hammer and rubber trowels. Do not use wedges to set the width of joint. For optimal placement is recommended mechanisms such as leveling pins.
- The sides of the tiles must be perfectly clean before the next tile can be laid. The tiles must be laid perfectly straight in order to maintain the vertical and horizontal alignment of all of the joints. In those cases in which you wish to bond the tiles, it should not be more than 20% of the tile.
- With polished and/or rectified material, the tiles are slightly bevelled, to avoid chipping and simplify laying. For this type of material, when joining the tiles, a gap of at least 1,5 mm must be left for rectified wall tiles and 2 mm for rectified floor tiles, which will then be grouted with "fine seal" type grout, free of any aggregates. In case of non-rectified material, the gap left for the joint must always be at least 2,5 mm wide. Sealing materials that contain "carbon black" ( black grout ) must not be used.
- On walls with internal angles, 5 millimetres of space must be left free for possible expansion of the tiles. It will be necessary to correctly and accurately plan and do 5 mm perimeter boundary joints on surfaces greater than 7 sq. meters, and 5 mm of expansion joints every 20 to 40 sq. meters of surface for exteriors and double that for interiors. Laying without joints is not recommended from a technical point of view.

**After fixing / Maintenance**

- Once the grouting process has been finished, we must remove any excess grout, before it can harden, going ahead with a first cleaning, using non-abrasive products (hydrofluoric acid and derivatives). The use of hot water with a neutral detergent is enough.
- Placed tiles must be properly protected untill the construction activity finishes.

- For cleaning the tiles, you must use a clean sponge. Do not use a scourer or any other materials that might scratch the surface of the tiles. Do not use any product that is abrasive or excessively acidic.

For a good maintenance of the ceramic floor tili, we recomend the use of a neutral detergent of high cleaning power as FilaCleaner.

Recommendations for cases of intense and/or embedded dirt:	Product to use:
· Cement, lime water, stripes metals, oxides.	DETERDEK
· Waste epoxy joints resin.	FILA CR10
· Fats, beverages, food, rubber, dyes, marker, plastic paint droplets.	FILA PS/87
· Graffitis.	FILA NOPAINT STAR
· Candel wax, tree resins, waste adhesive tape	FILASOLV

**OTHER CONSIDERATIONS**

- In case the product ordered is for installation of Ventilated facades or bonded facades, please contact Keraben Systems for consultation and assistance.
- Laying the tiles means that they have been accepted, and , as a result, no claims will be accepted for material installed, arising from a failure to comply with these premises.
- The data shown in the next technical page are valid only for the samples of the particular production previously reviewed.
- For proof of actual productions, you must contact Keraben Group S.A. directly.