

LAYING, USE, CLEANING  
AND MAINTENANCE  
MANUAL /

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# LAYING, USE, CLEANING AND MAINTENANCE MANUAL

## Laying

When you receive the material ordered, after having checked that the goods delivered correspond to the shipping documents, and in any case before laying, it is important to check carefully that the tone, gauge and grade of material match your order. It is also necessary to check that the material presents no visible defects (as defined by the general terms of sale and by table 2 of this manual), as no complaints will be accepted once the material has been laid, if such defects were visible beforehand.

As the shading is a characteristic of ceramic products, we request that you check the value V- SHADE of the tiles you wish to fit. To obtain the best aesthetic result possible, the material should be laid using tiles from different boxes and thus obtain a varied mixture.

For products with vein markings, as with natural stone effect tiles, we recommend arranging the vein markings of the slabs in such a way that the best aesthetic and chromatic effect is obtained.

The end customer must assure that the environmental and lighting conditions for which he is responsible are suitable to allow the tile fitter to carry out his work in a reliable manner. He must therefore check the materials and the tile-laying operation, as described above.

We recommend that the tiles are glued to the substrate using specific, high-performance adhesives. Please remember that the substrate must be stable, dry and properly prepared for laying. It is necessary in any case to follow the instructions provided by the manufacturers of substrates and the specific adhesives used. Cement-based adhesives must be applied at room temperature, generally between +5° and 30/35° C.

The most suitable adhesives for the laying of Ceramiche Keope materials should be labelled according to the currently valid European Standard, EN12004.

When laying the material, no marks should be made on the surface with pencils (graphite) or permanent markers, particularly on polished surfaces.

Although it is not necessary to dampen the tiles before laying, if the tiles are very dusty, it is advisable to rinse quickly in clean water.

In the period after the surfaces have been tiled until they are handed over to the end customer, the ceramic tiles must be kept clean and free of cement, sand, mortar and any other material that might cause stains and/or mechanical surface abrasion. The finished surfaces must be protected from potential damage or contaminations owing to the foreseeable presence of other tradesmen such as painters and decorators, electricians, carpenters etc.

For continuous surfaces we recommend staggered layouts, with a distance between edges of no more than 20 cm. For rectified materials, the minimum joint prescribed is 2 mm (this method allows the grout to have a better grip on the sides of the slabs, greater absorption of any movements of the substrate and consequently of the slabs themselves). For non-rectified materials the minimum joint prescribed is 5 mm.

Ceramiche Keope will not accept any complaints for rectified tiles that have been laid leaving joints of less than 2 mm.

Although products in Ceramiche Keope porcelain stoneware are highly resistant materials, they can be shaped (to create worktops, stairs, ...) and drilled to fit around pipes and other fittings etc, using purpose-built diamond abrasive discs and other suitable equipment.

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**WARNING:****FOR MATERIAL THAT HAS ALREADY BEEN LAID, CERAMICHE KEOPE:**

- **DOES NOT ACCEPT ANY COMPLAINTS FOR VISIBLE DEFECTS, AS DEFINED IN TABLE 2 OF THIS MANUAL**
- **DOES NOT ACCEPT LIABILITY FOR THE QUALITY OF THE TILED SURFACE BUT ONLY FOR THE CHARACTERISTICS OF THE MATERIAL SUPPLIED.**

**ONCE THE MATERIAL HAS BEEN LAID, IT IS WISE TO KEEP ASIDE A FEW TILES FOR POSSIBLE FUTURE REPAIRS OR TO HAVE A SAMPLE OF THE MATERIAL IN THE EVENT OF COMPLAINTS**

## Joists and grouting

In large, open spaces it is absolutely essential to position the expansion joints at regular intervals; in smaller rooms, on the other hand, it is sufficient to leave a slight space between the tiled surface and the walls around the room, which will be hidden by the skirting board. The tiles must be laid under the supervision of a planner or site manager, who must ensure that the work is carried out in accordance with the standards in force in the respective country.

For the use of epoxy grouting or the addition of resins or similar substances, it is important to properly follow the manufacturer's instructions as the fact such products harden more quickly requires greater attention. We also believe it is important to carry out a cleaning test on a part of the flooring.

Especially for lapped and polished products, we suggest using grouts that match the colour of the tiles (e.g. avoid using black grout with white tiles). It is important to remove any excess grouting immediately and accurately after application while still fresh, using a sponge and plenty of water. A few days after laying, once the joints are completely dry, it is essential to thoroughly clean the tiled surface using buffered acids (see the following chapter: Cleaning "after laying"), in order to completely remove all residual substances.

Some examples of "acid"-based detergents designed specifically for this purpose are:

- **DETERDEK FILA INDUSTRIA CHIMICA** - [www.filachim.com](http://www.filachim.com)
- **DELTA PLUS KERAKOLL** - [www.kerakoll.com](http://www.kerakoll.com)
- **KERANET MAPEI** - [www.mapei.it](http://www.mapei.it)
- **SERVICE ACIDO GEAL** - [www.geal-chim.it](http://www.geal-chim.it)
- **DISYCOTT FABER** - [www.faberchimica.com](http://www.faberchimica.com)
- **BONACLEAN BONASYSTEM** - [www.bonasytemsitalia.it](http://www.bonasytemsitalia.it)

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## **Cleaning "after laying"**

### **Porcelain stoneware**

Properly cleaning the tiles after they have been laid is crucial. If residues of the grouting used is removed inaccurately or too late, it may leave stains that are difficult to remove, and create a film of cement on the floor that can absorb any form of dirt.

It is essential to loosen and eliminate these residues completely using buffered acids diluted in water (always follow the instructions provided on the box), which will then have to be removed quickly by rinsing the entire floor with plenty of clean water.

We advise repeating this washing and rinsing operation several times until any stains or residues are completely removed.

We suggest carrying out a preliminary test on a sample surface of several metres; if the results are good, you can then clean the entire surface. After this, the floor must then be cleaned thoroughly with a basic or alkaline detergent to degrease the surface. This is because acidic detergents may leave a film of grease on the floor that could trap dirt.

### **White body wall coverings**

It is essential to clean the tiles after laying for the purpose of all subsequent maintenance operations: in this way, any residues of grouting as well as the normal dirt created during building works are eliminated, such as mortar, adhesive, paint etc. Once the grouting has properly dried, clean the surface with a neutral detergent, complying strictly with the instructions for use on the box or package.

### **Decorative trims and special inserts with relief patterns and/or precious metals (gold – silver)**

Great attention must be paid during both the cleaning phase and the laying phase; it is vital to avoid the use of abrasive products that might scratch or damage the surface. For the cleaning of surfaces in Ceramiche Keope, we recommend using exclusively a soft cloth with warm water and alcohol.

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## Everyday cleaning

Once the surface has been cleaned “after laying” (see previous chapter), for everyday cleaning we recommend the use of a neutral detergent.

Avoid using widely available detergents containing waxes and polishing additives that can deposit an undesired coating on the flooring. We strictly advise against the use of waxes greasy soaps, fillers and various treatments (water and oil repellent) on the Ceramiche Keope product, as they are not necessary. If the above treatments have been applied they will firstly need to be removed from the flooring using specific products following the manufacturer’s instructions.

In the case of coatings created by soap, lime scale or dirt, you will need an acidic detergent, diluted in water as appropriate (always follow the instructions on the label).

It should be noted that is hydrofluoric acid (HF) and its derivatives may damage the tiles permanently.

For routine cleaning operations we recommend the use of bleach or ammonia, appropriately diluted in water.

For all lapped or polished surfaces, the use of non-abrasive cleaning equipment is necessary to prevent the surface from losing its shine or becoming scratched.

We also recommend leaving the floor to dry properly to prevent stains from forming.

## Extraordinary cleaning

In the case of particular and/or particularly stubborn stains, we recommend using specific detergents as those indicated in "Table 1 - cleaning products". It should furthermore not be forgotten that the removal of any type of stain is easier when the stain is still fresh. It is always important to test the detergents on a small area before applying to the entire surface, particularly in the case of porcelain stoneware with a lapped or polished finish.

**TABLE 1 – CLEANING PRODUCTS**

TYPE OF DIRT	SOLUTION	DETERGENTS/ MANUFACTURER
LIMESCALE CARBON CEMENT CHALK MORTAR PENCIL METAL RESIDUE RUST CEMENT GROUT COLOURED GROUT WALL TEMPERA	ACID SOLUTION	DETERDEK / FILA SERVICE SOLVACID / GEAL CEMENT REMOVER / FABER KERANET / MAPEI DELTA PLUS / KERAKOLL BONACLEAN / BONASYSTEM
BEER COFFEE COKE WINE ICE CREAM TIRE MARKS FAT KETCHUP MAYONNAISE JAM MUSTARD LIPSTICK RUBBER SOLES HAIR DYE URINE VOMIT	ALKALINE SOLUTION	PS87 / FILA DETERFLASH / GEAL ALKALIN CLEANER / FABER AMMONIACA / UNIVERSALE
STAINS FROM SUCTION CUPS TAR CANDLE WAX PROTECTIVE WAX GLUE CHEWING GUM INK ADHESIVE TAPE RESIDUE OILS MARKER PEN RESINS NAIL POLISH CIGARETTE	SOLVENT	FILA SOLV / FILA SOLVENT STRIPPER / FABER ACETONE / UNIVERSALE TRIELINA / UNIVERSALE

For any specific requests contact:

FILA	<a href="http://www.filasolutions.com">www.filasolutions.com</a>
KERAKOLL	<a href="http://www.kerakoll.com">www.kerakoll.com</a>
MAPEI	<a href="http://www.mapei.it">www.mapei.it</a>
GEAL	<a href="http://www.geal-chim.it">www.geal-chim.it</a>
FABER	<a href="http://www.faberchimica.com">www.faberchimica.com</a>
BONASYSTEMS	<a href="http://www.bonasytemsitalia.it">www.bonasytemsitalia.it</a>

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## Dry Laying K2 – 20MM


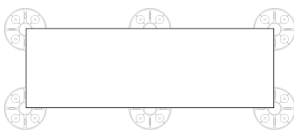

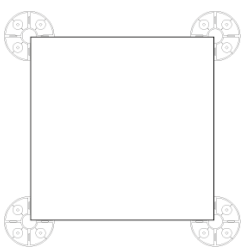
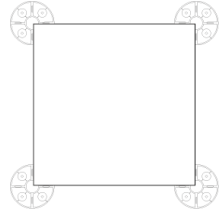
- Outdoor pavings installed unglued above the ground level are subject to the action of the wind, with the risk, in some cases, of becoming airborne. The manufacturer recommends to require the assistance of a qualified professional in order to check the suitability of the installation system above the ground adopted, in accordance with the local laws and regulations and the conditions of use. Failure to do so could result in serious injury or property damage.
- A ceramic slab installed on a raised pedestal system may fracture on impact if a heavy object is dropped onto it from a height, with a risk of injury to anyone standing or walking on such slab. Failure to adhere to the manufacturer's instructions for installation of slabs on raised pedestal systems may result in serious injury.

### **INSTRUCTIONS FOR PROJECT ENGINEERS AND CUSTOMERS**

If the application of the 20 mm slabs foresees the ceramic product used in structural installations, the project engineer and/or customer must carefully assess the project requirements with regard to the technical specifications of the slabs. To prevent the risk of damage or injury, the manufacturer recommends:

- With regard to a raised floor installation a ceramic slab may fracture on impact if a heavy object falls on it from any significant height. Therefore, the manufacturer recommends to check the specific intended use before starting the installation and to follow table for raised installation provided below (page 364). In certain conditions, reinforcing must be applied on the back of the slabs (double fiberglass mesh or galvanized steel sheet) supplied and applied by the manufacturer.
- With reference to any dry installation system of flooring above the ground level, the manufacturer recommends to comply with local regulations and conditions of use with regard to wind-load, loadbearing, seismic events, etc.
- Failure to comply with these recommendations may lead to improper use of the product and could cause serious damage or injury.

**DRY LAYING K2 – 20MM**

SIZE K2 – 20MM	UP TO 2 CM	FROM 2 TO 10 CM*	FROM 10 TO 30 CM*
<b>60x120 (24"x48")</b> <b>45x90 (18"x36")</b> 	<b>6 SUPPORTS</b> 3,4 pc/m <sup>2</sup> – 60x120 6,0 pc/m <sup>2</sup> – 45x90	<b>6 SUPPORTS</b> 3,4 pc/m <sup>2</sup> – 60x120 6,0 pc/m <sup>2</sup> – 45x90 + DOUBLE FIBERGLASS MESH OR GALVANIZED STEEL SHEET	<b>6 SUPPORTS</b> 3,4 pc/m <sup>2</sup> – 60x120 6,0 pc/m <sup>2</sup> – 45x90 + DOUBLE FIBERGLASS MESH OR GALVANIZED STEEL SHEET
<b>40x120 (16"x48")</b> 	<b>6 SUPPORTS</b> 5,5 pc/m <sup>2</sup>	<b>6 SUPPORTS</b> 5,5 pc/m <sup>2</sup> + DOUBLE FIBERGLASS MESH OR GALVANIZED STEEL SHEET	<b>6 SUPPORTS</b> 5,5 pc/m <sup>2</sup> + DOUBLE FIBERGLASS MESH OR GALVANIZED STEEL SHEET
<b>30x120 (12"x48")</b> 	<b>6 SUPPORTS</b> 7 pc/m <sup>2</sup>	<b>6 SUPPORTS</b> 7 pc/m <sup>2</sup> + DOUBLE FIBERGLASS MESH OR GALVANIZED STEEL SHEET	<b>6 SUPPORTS</b> 7 pc/m <sup>2</sup> + DOUBLE FIBERGLASS MESH OR GALVANIZED STEEL SHEET
<b>90x90 (36"x36")</b> <b>75x75 (30"x30")</b> 	<b>4 SUPPORTS</b> 3 pc/m <sup>2</sup>	<b>NOT APPLICABLE</b>	<b>NOT APPLICABLE</b>
<b>60x60 (24"x24")</b> 	<b>4 SUPPORTS</b> 3,4 pc/m <sup>2</sup>	<b>4 SUPPORTS</b> 3,4 pc/m <sup>2</sup>	<b>4 SUPPORTS</b> 3,4 pc/m <sup>2</sup> + DOUBLE FIBERGLASS MESH OR GALVANIZED STEEL SHEET

\* for USA, AUSTRALIA and CANADA: all sizes K2 - 20mm are considered suitable for laying on supports at a maximum height of 2 cm.



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For further information and for technical specifications about the double fiberglass mesh and/or the galvanized steel sheet to be applied on the back of the tile, to contact the Technical Department of Ceramiche Keope.

For further details on the 20 mm product and the installation systems, in particular for recommendations, restrictions of use, and precautions during installation, please refer to the K2 catalogue and to the website keope.com.

**NOTE:**

Ceramiche Keope is responsible only if it supplies the whole system (tile + fiber mesh plus or galvanized sheet). Ceramiche Keope cannot be held responsible for reinforcing systems that has not supplied.

In case of breakage, tile must be replaced immediately.

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**TABLE 2 – VISIBLE DEFECTS**

TYPE OF DEFECT	DESCRIPTION	EXCEPTIONS
<b>CALIBER</b>	Tiles with different dimensions (Width/Length) in the same batch (Caliber), with deviations exceeding the tolerances claimed on the technical specification sheet.	/
<b>PLANARITY</b>	Tiles that are concave or convex (curved at the edges), have raised or lowered corners (warpage) with deviations exceeding the tolerances claimed on the technical specification sheet.	/
<b>ORTHOGONALITY-STRAIGHTNESS</b>	Tiles with edges that are not straight (and not orthogonal ("trapezoid effect")) with deviations exceeding the tolerances claimed in the technical specification sheets.	/
<b>THICKNESS</b>	Tiles with differing thicknesses in the same box with deviations exceeding the tolerances claimed on the technical specification sheet.	/
<b>CRACKS</b>	Tiles with cracks running parallel or orthogonally to the edge, or surface cracks leading to the immediate detachment of bits of the surface coating when the tiles are tapped to level the surface.	/
<b>CHIPPING</b>	Tiles with broken corners and/or edges inside the box.	/
<b>SURFACE DEFECTS</b>	Tiles with (pin) holes, depressions, dimples, puckering, any contamination in the ceramic body; visible signs of brands/trademarks (left by the back of other ceramic tiles) on the surface.	If suction pads leave visible signs for a few seconds in humid conditions, this is not considered a defect of the tile, as such signs are not visible in normal conditions.
<b>DECORATIVE DEFECTS</b>	Tiles with defects in the silk-screen printing, glazing, droplets and lines created during digital printing.	/
<b>COLOUR DEFECTS</b>	Tiles with a tone of colour that differs excessively from the reference piece and/or sample provided to the customer.	/
<b>MIXED TONES</b>	Tiles in the same batch with a colour shading level above the V-Shade stated in the catalogue.	/
<b>LAPPING/POLISHING DEFECTS</b>	Tiles on which the surface presents an excessive number of "pinholes" or appears to "peel" (the colour of the ceramic body resurfaces), that have scratched and/or opaque edges, surface scratches of a semicircular shape, ...	/
<b>CUTTING PROBLEM-FLAKING</b>	Tiles that chip, flake or break when straight cuts or rectangular/round holes are made in the tile.	/

**TABLE 3 – HIDDEN DEFECTS**

TYPE OF DEFECT	DESCRIPTION	EXCEPTIONS
<b>CRACKS-BLISTERING</b>	Tiles which (after laying) present cracks that run parallel or orthogonally to the edge or surface cracks ("blistering").	Great care should be taken when cutting and laying ceramic tiles around edges and other objects, as breakages are often due to the failure to take appropriate precautions.
<b>SUBSEQUENT CRACKLING</b>	Glazed wall tiles on which the phenomenon of crackling starts to appear "subsequently", even several months after laying.	This defect may be due to the ceramic product, but is normally caused by improper laying of the tiles.
<b>FROST DAMAGE</b>	Tiles laid outside that start to show fractures and flaking typical of ceramic tiles, often of the "conchoidal" type.	If tiles laid outdoors become detached from the substrate or raised, or if individual and/or adjacently laid tiles break, this is not due to the ceramic product but to incorrect laying.
<b>INCLINATION TO STAINS</b>	Tiles that trap dirt to an excessive extent and are difficult to clean.	This is probably due to a hidden defect, but it is also necessary to check if this is due to insufficient characteristics of the tile used for the purpose, and/or incorrect maintenance on the part of the end customer.



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