

General Installation Instructions



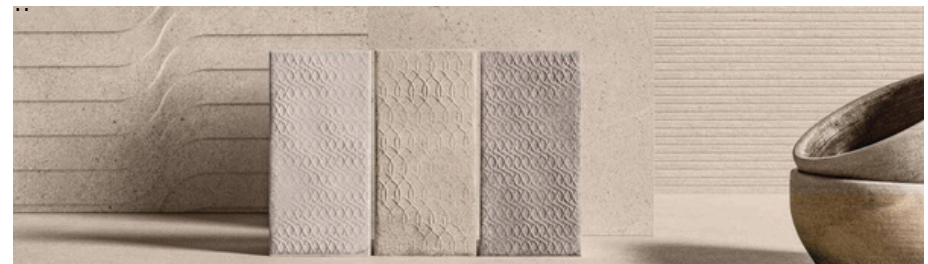
Portobello

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GENERAL INSTALLATION **INSTRUCTIONS**



This manual aims to provide general guidance on Portobello products, such as: receipt, storage, visual inspection, installation check, installation tools, laying, cleaning and maintenance, warranty, pathologies and information on waste disposal.

However, this manual does not exempt the need for the supervision of a professional responsible for the work. Portobello recommends that the project is carried out by an experienced engineer or architect. Request collection of ART or RRT.

Revised: July/24



01. Warranty

All Portobello coatings are produced under strict quality control and comply with ISO 13006. You have purchased an international quality product accepted by all world communities.

To get the most out of your Portobello coating and keep the warranty validated, proper application, use and maintenance are important. If you have any questions about these issues, please contact our Customer Service Department (Portobello SAC: 0800 648 2002), who are ready and able to answer your questions.

If you notice any problems with your coating, do not allow it to be installed and contact us with the receipt details for the product as soon as possible.

Consult the terms of the **General Ceramic Product Warranty**, available on the website, in the downloads area.

www.portobello.com.br

002. Receipt and storage of materials

02.01. Receipt

Before the receipt of materials, it is important to define an appropriate location for the unloading and storing of these products, which must meet the following criteria:

- The location must be dry and have a roof to protect the materials from moisture and bad weather;
- The floor must be flat, level and have sufficient strength to support the weight of the pallets;
- If the storage location is uncovered, it is essential to protect the products with plastic or tarpaulin to prevent damage caused by exposure to the weather;
- The location must be easily accessible to allow for the quick and efficient unloading of products, as well as for the rapid distribution of materials to necessary locations during the work.

Ensure there is a qualified and responsible person to guide you to the storage location and check the products purchased.

Before starting to unload the truck, check that the products described on the receipt are in accordance with what was purchased and unloaded. (Image 01)

Check:

- Product name, size, tone, measurements, quality and manufacture date;

- If the quantity matches what is described on the receipt;
- Integrity of pallets, packaging and products.

If there is any discrepancy, contact the store or sales consultant where the material was purchased, even before receipt.

If the product is damaged/broken, a note should be made on the back of the shipping document with details of the damage.

Attention

Keep the receipt, as the product warranty is only valid upon its presentation.



Image 01: Box tag with product data.

02.02. Storage and handling

Store the products in their own packaging, in ventilated and covered locations, free from water and on wooden platforms so as to not absorb possible moisture from the floor.

Improper storage in a humid location damages the boxes and may result in the product becoming unusable.

Guidance for good storage:

- Whenever possible, try to maintain the original palleting arrangements, for example, if the tiles were delivered in a vertical position, this should be the position adopted for manual stacking; (Image 05)
- Keep the boxes on wooden platforms, in a dry, covered location; (Image 02)
- Separate the boxes by product name, tone and measurements; (Image 03)
- Always keep the box tag with the product name, tone and measurements visible (facing outwards); (Image 03)
- Follow the rules relating to stacking - the mode and maximum numbers.

Guidance for good storage:

- Mixing different batches can cause a variation in tone after laying (checkerboard effect);

- Storing in the open air or on damp soil can cause stains on the pieces due to the paint on the box;
- Improper stacking can cause tiles to break within the box. (Image 04)

For more information on stacking, follow the guidance in the table on this [link](#).



Image 02: Storage in a covered area.



Image 03: Tags shown for identification.



Image 04: Improper stacking.

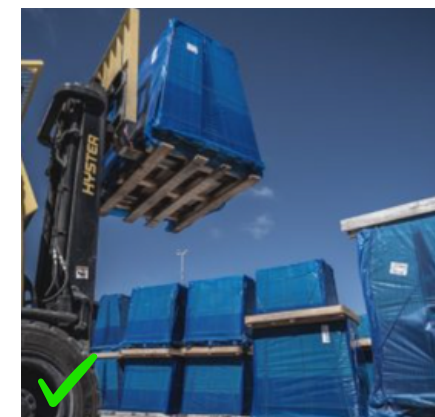


Image 05: Original palleting with UV protective plastic.

Slabs

The handling of Slabs requires special care. They are heavier and more fragile, and can be delivered to the site in 2 ways, with different storage and handling methods.

For more information on stacking, follow the guidance in the table in this [link](#).

Packaging - Wooden Box

For wooden boxes, it is recommended that unloading from the truck and transporting them to the warehouse is carried out by forklift without dismantling the pallets, always horizontally and following the maximum stacking rules as per the table. If this equipment is not available, the boxes can carefully be taken individually, to the storage location, always closed and by four people.

Before beginning to lay, the box should be opened and the pieces moved to the laying location by at least two people. Only one person should lift the tile from the center to a vertical position, this maneuver should never be performed from the ends or by two people, as this can break the tile in half.

After this procedure, two people, one at each end, transport the tile in a vertical position to its destination. Do not turn the tile during the transition, as it may break. (Image 06)

In the laying area, support it in a safe, level location, on a pallet or wooden battens and in a vertical position, following the stacking rules by number of boxes and size. (Image 07)

Use of PPE during the handling and transportation of slabs. This handling can be performed with the aid of equipment, following the guidance mentioned.

If the product is damaged/broken, a note must be made on the back of the shipping document with details of the damage. Improper handling causes the tiles to break, making it impossible to exchange the product.

Attention

The use of suction cups for transportation is not permitted, as there are reports of parts coming loose due to poor quality or the condition of the suction cups, resulting in the breaking the plate.



Image 06: Correct handling of slabs.

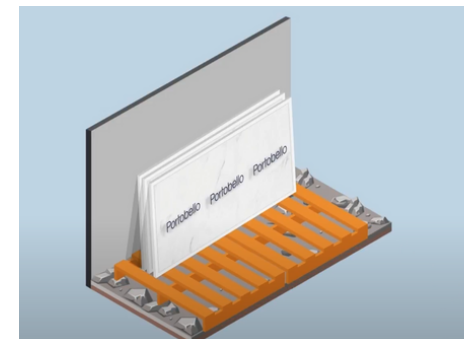


Image 07: After offloading the pallets, store the parts on a level surface, in a vertical position.

Unitized Packaging - Piece by piece

Unloading the unitized pieces into the stockroom must be carried out by at least two people.

Move one piece at a time, vertically. This way you avoid tipping it over and causing damage.

The use of appropriate equipment facilitates transportation.

At the time of installation, follow the same instructions mentioned above.

Hoisting

Some product sizes require hoisting for transportation.

In this activity, the product is lifted from the outside of the building and placed at the destination location through an opening.

There are two types of hoisting - crane and mini crane. The choice is made according to construction needs.

Check with the condominium/construction company about scheduling, access conditions and rules for hoisting, as well as hiring a company specialized in this service and that has accident insurance.

Do not allow tiles to be hoisted with suction cups or if not in its packaging.

02.03 Mortar storage

Bags of bonding mortar and grout should also be stored on a wooden platform, at least 15cm from the floor and with a maximum stack of 10 units, in a ventilated and covered location. (Image 08)

Upon receipt, check for torn bags and the batch expiry date. If there is any discrepancy, please contact the store or sales consultant.

If the product packaging has been damaged - such as tearing - during storage, do not use it. This is because it may lose its chemical and physical characteristics, and may harden.

Do not store bags of bonding mortar and grout directly on the floor or in uncovered areas. (Image 09)



Image 08: Correct product storage.



Image 09: Improper storage.

03. Laying

Portobello recommends that the project is carried out by an experienced engineer or architect. Request collection of ART or RRT.

It is essential to hire specialized installers to perform this type of service. Before choosing a professional, it is essential to evaluate the quality of their previous work.

03.01 Technical standards

The application of ceramic products must be carried out in accordance with the instructions and guidance of the following Brazilian standards:

NBR 13753 – Indoor or outdoor floor coating with ceramic tiles and using bonding mortar - Procedure.

NBR 13754 – Coating of indoor walls with ceramic tiles and the use of bonding mortar - Procedure.

NBR 13755 – Coating of outdoor walls and facades with ceramic tiles and the use of bonding mortar - Procedure.

Additionally, follow the instructions in this manual.

003.02 Specification of materials

03.02.01 Ceramic tiles

The ceramic coating specifications can also be found on the website digital.portobello.com.br, where the requirements of each area are analyzed and compared for assertive choices, which take into account not only the aesthetics of the product, but also the technical characteristics.

Ceramic tiles can be classified as EXTRA and COMMERCIAL. Observe the classification - according to the standards - by the visual characteristics of the ceramic products. (Table 01)

Visual Characteristics Standards

CLASSIFICATION	EVALUATION PARAMETERS
Extra Product (Class A)	There must be no surface defects visible from a distance of 1 meter.
Commercial Product (Class C)	Surface defects visible from a distance of 1 to 3 meters.
Shard (internal classification, not available for sale)	Surface defects visible from more than 3 meters away are considered broken and returned to the manufacturing process.

Table 01

Products classified as Commercial are those that present VISUAL AND DIMENSIONAL DEVIATIONS between the standards established by standard (ABNT – NBR - ISO 13.006) for extra products. (Table 02)

The technical characteristics (physical-chemical) which are: water absorption, scratch resistance, slip resistance, chemical resistance and stain resistance, follow the same standards as the EXTRA product.

Visual characteristics

ASPECT	EXTRA	COMMERCIAL
TONE SHINE	Same pieces in the box. *Considering intentional tone variation. (V1, V2, V3 and V4)	Different pieces in the box.
FLATNESS	Flat Pieces. *Considering the standard, they comply with the tolerance index by size.	A spread index outside the standard can occur. *Larger than expected to be EXTRA.
EDGES	As specified. *As established in each product. (Bold, Ret or Irregular)	It is possible that the pieces have chips.
SQUARE	According to the standard. *Variations expected in the standard may occur.	Some pieces may not conform to the standard. *Variations greater than the extra product.
SIZE	RET - Variations of +/- 0.2mm may occur Recommended laying joint of 1.5 mm. BOLD - The pieces have dimensional variation within the same measurements. Recommended laying joint of 3mm.	RET - The pieces are separated by measurement and have the same amount of variation as the Extra product. Recommended laying joint of 1.5 mm. BOLD - There is no separation of pieces by measurement, that is, the same box may contain pieces with measurements of 4, 5 and 6. Recommended laying joint of 5mm.

Table 02

The following may also occur:

- Flaws in bevel and side finish on ground parts;
- Polishing flaws in the case of polished porcelain tiles;
- Defects in the application of varnish and/or paint that covers the pieces.

When purchasing COMMERCIAL products, you may receive them with different defects. We recommend opening the boxes and separating them by defect for a more harmonious placement.

The guidance below shows recommendations for dealing with different types of defects:

Differences in tone

The recommendation in this case is to open at least 4 boxes, spread the product out, classify by color and lay the colors harmoniously. It is recommended to separate the pieces with the greatest differences and lay them in different areas. If use in different areas is not possible - as there is only a single laying area, try to place pieces with different tones in corners and/or locations where furniture or objects can be used to draw attention away from the coating.

Size difference and not square

It is recommended to classify the square before laying. Rectified Products - RET: use joints when laying of at least 1.5mm. For Non-rectified products - BOLD: use laying joints larger than 5mm.

Flatness (outside the standard)

Fill in with bonding mortar or separate for cuttings.

Chipped edges or Bevel problems

If only some pieces have this defect, use them in less visible locations or separate for cuttings.

Technical assistance is only available for products classified as COMMERCIAL for intrinsic defects (hidden defects that appear when used).

03.02.02. Bonding mortar

The choice of bonding mortar should consider the space where the coating will be applied, the type of laying area (newly laid or overlay), the size and type of coating.

Choosing this item correctly is essential to ensure the durability of the system.

03.02.03. Grouting

There are several types of grout to seal the laying joints on the market, the most common being cementitious, acrylic and epoxy.

Choosing the ideal grout is a decision generally made according to the type of product, joint size, area, exposure to dirt to which the area will be subjected and the deadline for the work.

03.03 Laying techniques

There are two techniques for applying adhered coatings, Simple Bonding and Double Bonding.

In Simple Bonding, the mortar is distributed only on the laying area (subfloor or plaster). This technique can be used on pieces measuring less than 30x30cm or 900cm².

The Double Bonding technique, where the bonding mortar is applied to both the laying area and the back of the tile, ensures better adhesion for products with dimensions equal to or greater than 30x30cm or 900cm² on indoor/outdoor floors and indoor walls. On facades, it is recommended to use the Double Bonding technique for sizes from 20x20 or 400cm². It is the responsibility of the facade designer to indicate the need to use metal inserts or another form of fixing in the project.

For Double Bonding, Portobello recommends that the bonding mortar grooves are parallel, that is, running in the same direction, and dragging the piece is essential for the perfect spreading of the mortar grooves.

03.04 Notched Trowel

The tile size used is the main factor in choosing the notched trowel to be used for laying. (Table 03)

03.05 Bonding Mortar Use

The estimated amount of bonding mortar required will depend on the size of the tile used in the laying, as well as the size of the trowel notches. (Table 03)

Using larger notched trowels than recommended, does not eliminate the need for the use of the Double Bonding technique for the sizes mentioned above, nor does it increase the effectiveness of the tiles' adhesion. A very thick layer of bonding mortar can weaken the laying system and cause cracks, leading to displacement.

For a better understanding of topics 03.04 and 03.05, see the table:

PIECE SIZE	APPROXIMATE AMOUNT REQUIRED	TROWEL USED	BONDING TECHNIQUE
Up to 399cm².	+/- 5Kg/m²	Square 6x6x6mm	Simple bonding
Between 400 and 899cm².	+/- 6Kg/m²	Square 8x8x8mm	Simple bonding *For Facades it is mandatory to use the Double Bonding technique.
Between 900 and 6999cm².	+/- 8Kg/m²	Square 8x8x8mm	Double bonding
Between 7000 and 14399cm².	+/- 9Kg/m²	Square 10x10x10mm	Double bonding
Above 14400cm².	+/- 10Kg/m²	Semicircular r=10mm	Double bonding

⚠ Attention

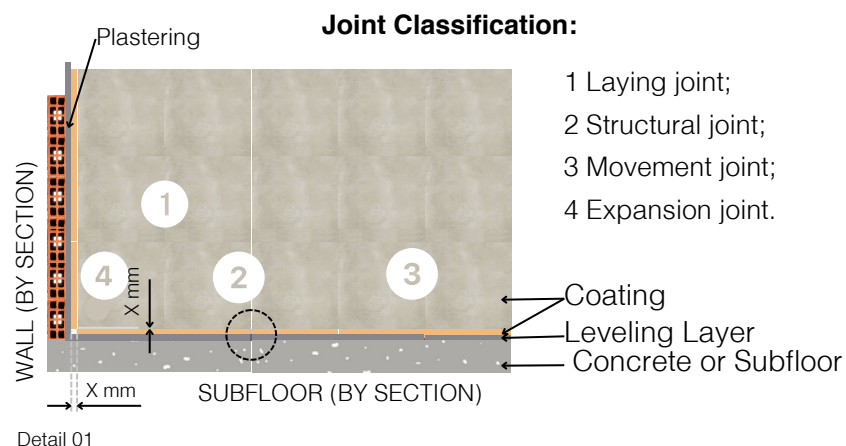
The amount of bonding mortar used may vary depending on the nature of the installation surface.

The calculation per square meter already includes the Double Bonding technique for sizes that require this method.

03.06 Joints

Ceramic coatings are subject to movement due to stresses that buildings are subjected to, temperature fluctuations (hot and cold), humidity and wind.

The joints play a crucial role in relieving these pressures on the coatings, absorbing or reducing their movements. In addition to contributing to aesthetics, the joints provide flexibility to accommodate the pieces. (Detail 01)



Check the details of each type of joint in the next chapters of this manual.

03.06.01 Laying joints

The laying joint is the space between two ceramic tiles. They are used to:

- Fill in for dimensional variations in ceramic pieces, facilitating alignment;
- Meet aesthetic requirements, harmonize the size of the tiles and the dimensions of the area to be coated;
- Facilitate the changing of ceramic tiles if necessary.

It is important to fill these joints with grout to ensure the waterproofing of the construction's laying area and prevent the accumulation of dirt.

The width of the laying joints varies according to the dimensions, type and finish of the edge. (Table 04)

The indication of joint width does not consider deformations caused by thermal variations, floor flexure, wall compression and expansion due to humidity in the ceramic tiles. To account for such deformations, it is necessary to calculate the width of the joint based on the forces to which the coating will be subjected, as well as the flexibility of the laying and grout mortars.

Check the table for Portobello's laying recommendations according to product type.

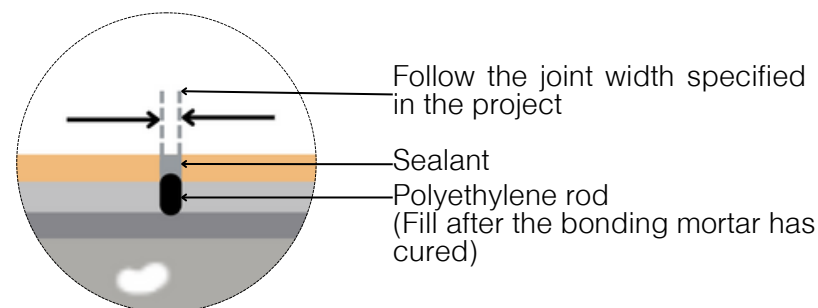
PRODUCT	MINIMUM JOINT WIDTH
RECTIFIED PORCELAIN TILES	1,5mm
BOLD PORCELAIN TILES	3,0mm
BOLD PORCELAIN TILES (Small Sizes)	2,0mm
LOOSE SMALL BRICKS*	0mm 1,5mm 3,0mm *check website or product information
STONEWARE	According to mesh or 2.00mm
MONOPOROUS RECTIFIED	1,0mm
MONOPOROUS BOLD	1,5mm

Table 04

03.06.02 Movement joints

The function of the movement joint is to subdivide the laying area and relieve the tension caused by its movement.

The location and width of the movement joints, must be calculated in advance by the designer (architect or engineer) responsible for the project, analyzing the deformations and the exact locations for their positioning.



Detail 02

This joint must be sealed using flexible material or pre-formed flexible joints, following the guidance of the laying standards. (Details 02)

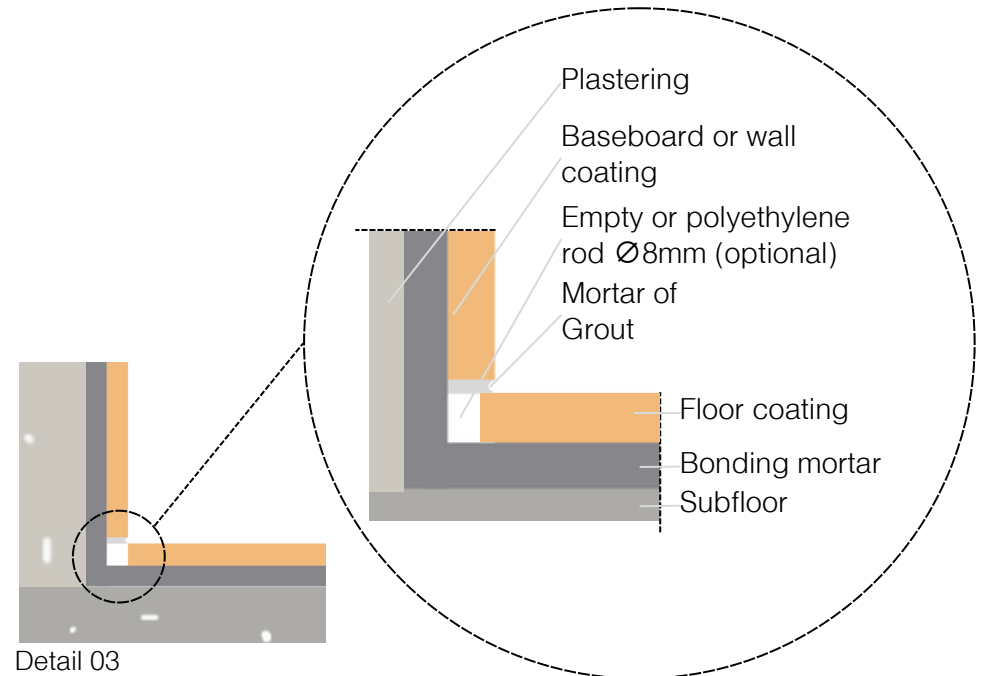
03.06.03 Expansion joints

The purpose of an expansion joint is to relieve the tension caused by the difference in expansion between the coating and the laying area. Check out examples of positioning of expansion joints:

- On indoor walls, around the covered area, at points where the covered area meets floors and ceilings, columns, beams or other coating materials, and in areas where transitions occur between different materials that form the wall;
- On outdoor walls, in vertical corners, at points where the coating surface changes angle, at the junctions of the covered area with floors and ceilings, or with other types of coating materials, and also where there is a change of materials between the concrete structure and the masonry;
- On floors, around the covered area and at meeting points with columns, ceilings, beams and projections, or with other types of coatings.

The indication of joint width does not consider deformations caused by thermal variations, floor flexure, wall compression and expansion due to humidity in the ceramic tiles.

To take such deformations into account, it is necessary to calculate the width of the joint based on the forces to which the coating will be subjected, as well as the flexibility of the laying mortar and the grout mortar. (Detail 03)

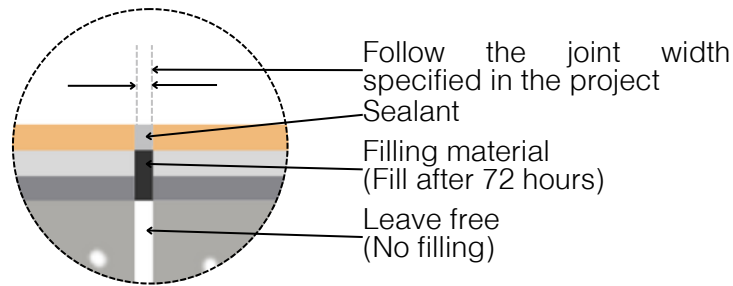


03.06.04 Structural joints

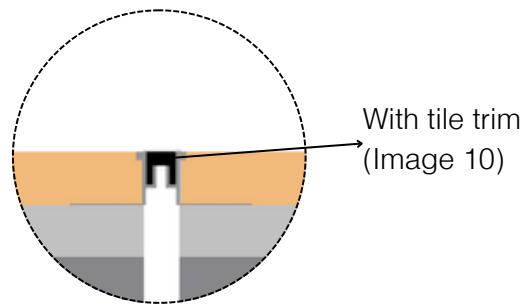
Designed to relieve tension caused by the structure's movement.

They are normally recognized through openings that cross the entire structure, allowing the materials to accompany the expansion of the work.

The space between the concrete or subfloor should be kept clear, without any type of filling, for the thickness of the covering. (Details 04 and 05)



Detail 04



Detail 05



Image 10: Metal tile trim.

03.07 Installation tools

For the best results when laying, it is essential to use quality tools at the time of installation.

Check here for the main tools used at each stage of the work:

Personal protective equipment (PPE):

Helmet, gloves, mask, safety glasses, hearing protection, construction shoes or safety boots.

Cleaning

Bucket, nylon brush, spatula or metal trowel with smooth sides for scraping the subfloor/plaster, plastic tarpaulin, cloth and broom. In the case of overlaying (floor on floor) large areas, it is recommended to use a floor polisher with a nylon brush.

Laying area check:

2mm spacers and 2 meter aluminum ruler.

Preparation of bonding mortar and grout:

Mason's trowel, electric extension, drill (maximum 500 RPM), helical rod for mixing mortar or grout, plastic container also for mixing mortar and a water dispenser.

Piece Cutting:

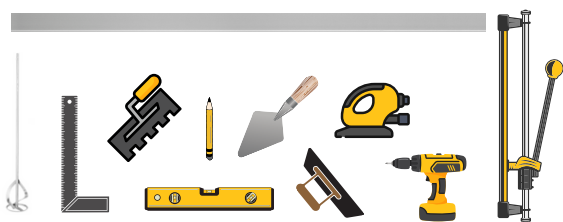
Diamond disc for porcelain tiles, electric marble saw with 13,000 rpm, finishing blades, support table for cutting, aluminum ruler, two or more clamps, manual scorer, diamond hole saw and manual threader.

Laying and Grouting:

Carpenter's pencil, nylon line, level hose, spirit level, laser level, plumb line, 2m long metal ruler, metal set square, meter, wooden trowel with rubber base, notched trowel, mason's trowel, plastic spatula, rubber mallet and laying leveler with a minimum load capacity of 40kg per clip.

Attention

The rubber mallet should only be used to remove the leveler after the mortar has dried. The use of a rubber mallet is not recommended for laying, as the force it applies is not enough to spread the mortar grooves. The dragging of the pieces is sufficient to spread the mortar grooves and eliminate air pockets.



03.08 Before laying

Guidance for laying new subfloor and/or plaster/skimming bases.

03.08.01 Indoor Walls

The process of the application of the ceramic coating should only be started after the following work has been completed:

- Installation of water and sewage pipes, which must be embedded appropriately and tested for watertightness;
- Proper execution of junction boxes and branches of electrical or telephone installations;
- Proper fixing of frames and jambs;
- Finishing the ceiling coating, if applied directly over the concrete layer;

- The laying of ceramic tiles should only begin after plastering/rendering has cured, which is 14 days for mortars WITHOUT lime, and 21 days for mortars WITH lime.

03.08.02 Floors

The laying of the ceramic flooring must not begin until the following work has been completed:

- Plastering and Skimming walls;
- Plastering and Skimming ceiling;
- Frame installation;
- Application of waterproofing, when necessary;
- Laying of floor - embedded pipes;
- Checking existing pipes are watertight..

After the minimum curing period of the laying area or subfloor, the installation of the coating should take place at least 28 days after the completion of the concreting of the laying area, or 14 days after the completion of the subfloor. Before starting the installation of the coating, it is advisable to check for the presence of moisture on the subfloor or laying area. This process can be carried out by covering the subfloor with plastic for a day, then checking to see if there is moisture on the inside of the plastic after that time. If moisture is identified, the ceramic coating should not be laid before eliminating the moisture.

03.08.03 Outdoor walls and facades

The laying of ceramic tiles should only begin after completing the following services:

- Water and sewage pipes properly embedded and tested for watertightness;
- Proper execution of junction boxes and branches of electrical or telephone installations;
- Frames and jambs properly fixed;
- The laying of ceramic tiles should only begin after the skimming/plastering has cured, which is 14 days for mortar WITHOUT lime, and 21 days for mortar WITH lime.

03.08.04 Floors and wall overlaying

Ceramic coatings can potentially be applied over other coatings. This practice is called Overlaying, and can be recommended for floors and walls, except facades, swimming pools and saunas.

Check the premises for assessing the possibility of an overlay.

- Examine whether the existing coating is well adhered to the laying location. This check should be carried out visually and audibly, looking for pieces that have come loose and/or have cracks. "Tapping" the surface of all the pieces with a broom handle, should also be carried out, listening out for a hollow sound;
- If any piece presents any of the symptoms mentioned, it will be necessary to remove the tile, and in these spaces carry out the repairs and level the area with mortar;

- If 50% or more of your area has any of the problems discussed, overlay is not recommended. In this case, the entire coating should be removed and re-laid;
- Check the leveling of the laying area, if necessary, level it out. In this case, wait the time indicated by the supplier to allow the laying of the new coating to be carried out;
- Before laying of the overlay, clean the existing surface using neutral detergent and specific porcelain tile cleaning products, in order to remove all dirt from the existing coating;
- Even if it is the installation of overlay, make expansion joints (the area's perimeter joint);
- Check whether the area has movement joints, if so, respect them. If this is not the case, a study of the positioning should be carried out to execute the joints simultaneously with the installation of the overlay;
- Specify bonding mortar compatible with the product size and that is suitable for use in laying floor on floor. Check with the supplier that the existing laying area is compatible with the fixing mortar. Some types of laying areas compromise adhesion and make overlapping impossible;
- Doors, drains, light boxes and other elements may need to be adjusted in height. Plan for this in the design and check the possibility of alterations before starting the overlay work.

03.08.05 Barbecues and fireplaces

The use of porcelain tiles to cover the outside of barbecues and fireplaces is becoming increasingly common, and for laying safely, it is necessary to follow some rules, which are:

- It is essential to use refractory bricks laid with refractory mortar on the inside of fireplaces and barbecues, as this material will contain the heat; (Image 10)
- Before laying the coating on the outside, it is recommended that the system undergoes three internal firings. This procedure allows the wall to go through the expansion and retraction process three times - which helps to prevent the appearance of cracks after the product has been applied;
- It is possible to use porcelain tiles on the barbecue entrance frame. Porcelain is a resistant and durable material that can be used in a variety of applications, including outdoor areas such as the frame of a barbecue. (Image 11)



Image 10: The laying of a coating on the inside of the barbecue made of porcelain is not recommended, it should be refractory brick.



Image 11: It is recommended to use ceramic coating on the entrance and frame of the barbecue.

- It is recommended to cut the porcelain tiles at the 90° corners exposed to excessive heat. The joints help to distribute the tension better and prevent possible cracks or damage caused by the heat which is concentrated in these corners. This is especially important in areas where there are extreme temperature variations, such as around a barbecue or wood stove, to ensure the durability and integrity of porcelain surfaces or other materials used. (Images 12, 13 and 14)

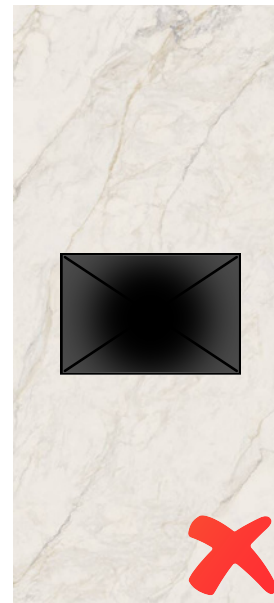


Image 12: Incorrect laying due to lack of joints.

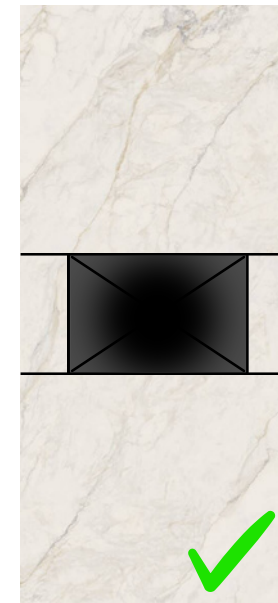


Image 13: One of the correct options for joints for laying.

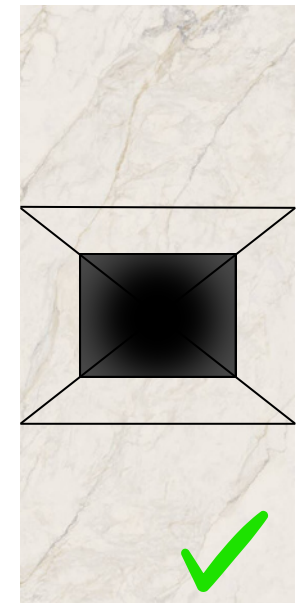


Image 14: One of the correct options for joints for laying.

Attention

It is not recommended to apply ceramic coating to the inside of the barbecue.

- Consult the mortar supplier and check which is most suitable for this location, considering the high temperature and the size of the piece.

Grill-type barbecues and fire pit-type fireplaces can have coating on the countertop and back wall. This is because the heat is not trapped - as the sides are open or made of glass, resulting in a much greater temperature exchange with the surrounding environment. The joints are essential to contain heat expansion. (As per red lines in image 15)



Image 15: Ceramic coating on grill barbecue with joint indications.

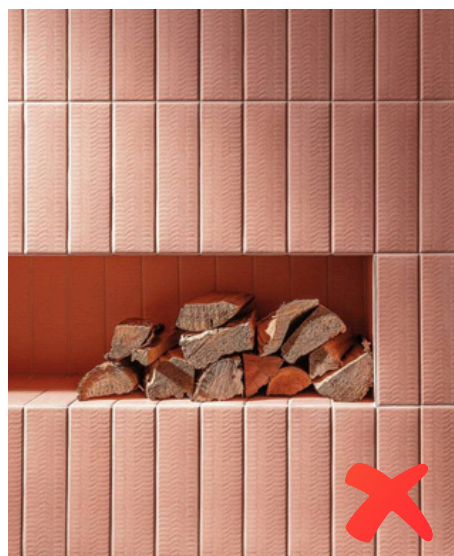


Image 16: It is not recommended to apply ceramic coating to the inside of traditional barbecues and wood-burning fireplaces.

It is not recommended to use porcelain tiles to cover the base and/or inside alcove of a wood-burning fireplace. In this case, only lay the outside part and follow all the guidance provided in this material. (Image 16)



Image 17: Fire pit type fireplace on porcelain furniture.

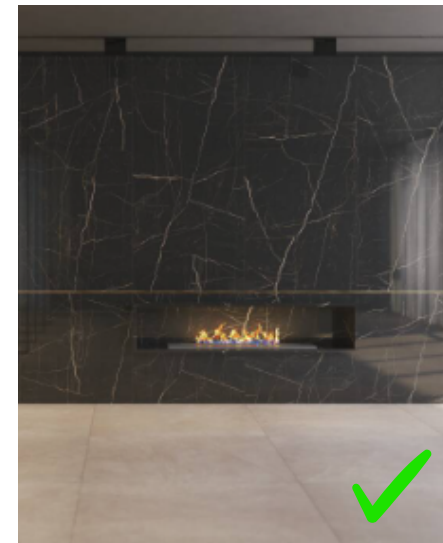


Image 18: Fire pit type fireplace with outside wall and inside alcove coated in porcelain.

Fire pit type fireplaces can be coated both at the base (Image 17) and in the inside alcove (Image 18) but be careful of the distance between the flames and the coating. It is essential that the minimum height of the alcove is 40cm (Image 19) and the sides have a minimum width of 10cm (Image 20).

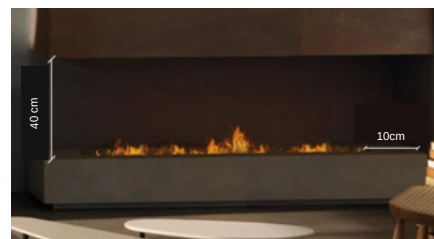


Image 19: Minimum height of the alcove opening is 40cm.



Image 20: Cutout to fit the fireplace at least 10cm from the edges/sides.

03.08.06 Stove - burners directly placed on porcelain tiles

Porcelain tile worktops with cutouts for stove burners are increasingly common and desired by customers. To carry out this type of work, consider:

- It is the customer's responsibility to hire a company with qualified professionals who can guarantee the performance and durability of the worktop;
- Each project should be analyzed, checking the need for reinforcements since the porcelain tiles will be cut, which can weaken the piece;
- Cutting must be carried out using appropriate equipment, ensuring a good finish and no weakening of the piece;
- Use burners that are regulated for individual use/assembly.

Attention

It is not recommended to disassemble the cooktop to reassemble it on porcelain tiles. This type of adaptation does not have Inmetro certification, which would result in the loss of the warranty if this was to happen.

03.09 Checking the laying area

Before starting to apply the ceramic coating, it is essential to examine the conditions of the laying area and/or substrate, considering:

Flatness

The substrate or base for applying the coatings on .

walls and floors should have a maximum variation of 2 millimeters, for both depressions and elevations, checked in all directions with a 2-meter long metal ruler.

Slopes

The laying area intended for floors should meet the following slope values:

- Dry areas: up to 0.5%;
- Humid areas: 0.5% towards a drain or outlet. In these areas it is recommended not to exceed 1.5%.

Surface resistance

The surface on which the coating is applied should be able to withstand the tension associated with the ceramic coating, without becoming fragile.

Adhesion resistance

For ceramic coating on indoor and outdoor walls, the plaster must have a tensile strength of at least 0.3 MPa, in accordance with standard NBR 13749.

Cleaning

The surface where the coating is applied should be free of dirt, such as dust, oil or paint.

03.10 Stagger layout

In porcelain tiles, the brick pattern layout is generally used in ruler format, but some customers wish to make the stagger in other ways. (Image 21)

Observe the rules relating to stagger so that the layout is harmonious and there is no unevenness between the pieces. (Table 05)

Rules for brick pattern layout with Portobello products

TYPES OF LAYING	PIECE WIDTH	MAXIMUM STAGGER	EXAMPLE SIZES (CM)
Without laying leveler	Less than or equal to 35cm	15%	11x120/21x180
	Equal to or greater than 36cm	It is not recommended to stagger without a laying leveler.	
With laying leveler	From 36cm to 60cm	Livre	11x120/21x180
	Greater than 61cm	15%	60x120
	Greater than 61cm	It is not recommended to stagger the pieces when laying them.	

Table 05

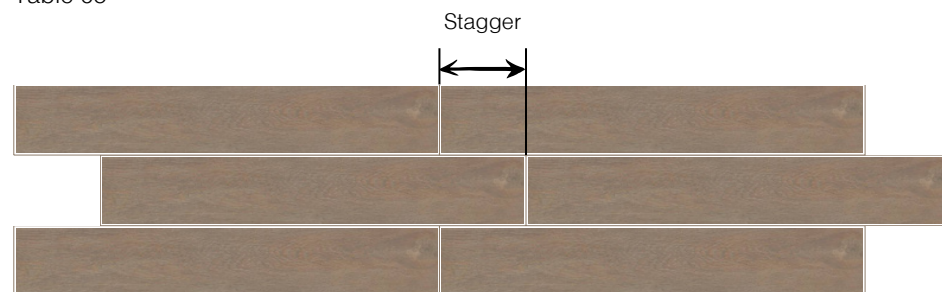


Image 21: The stagger should follow the measurements as per the guidance described in the table, which analyzes the product format and use of the leveler.

⚠ Attention

It is not permitted to stagger/lay the Slabs in a brick pattern, even with the use of levelers.

03.11 Ceramic tile preparation

Before starting to install the ceramic coating, it is important to follow some precautions when separating the ceramic tiles:

- Ensure that coverings of the same tone, size and quality are used in the same space;
- Check that the product coding complies with the specifications;
- Open four or five boxes, spread the pieces out on a surface with uniform lighting and check for any differences in tone between them. If you notice any difference, do not use the tiles and immediately contact your sales consultant or Portobello Customer Service (SAC) 0800 648 2002;
- The tiles must be clean. If necessary, clean the back of the tiles with a stiff, dry brush;
- For finishing areas (around windows, mirrors, doors, wall joins), ceramic tiles should be cut beforehand using a suitable tool;
- Position the tiles with the arrows on the back all facing the same way, this makes it easier to level the tiles when laying them.

03.12 Mixture of bonding and grout mortar

The mixture of bonding and grout mortar should be carried out in a plastic container with specified mixers or a helical rod attached to a low-speed drill (maximum 500 rpm). Higher rotations incorporate air into the mixture, compromising grip.

To mix the laying and grouting mortar, strictly follow the guidance on the packaging regarding the amount of water, mixing time and resting time before use.

Attention

The pot time and open time should be respected to guarantee excellent adherence.

03.13 Laying of ceramic tiles

The products must be applied in accordance with current regulations. To improve technique, follow the steps listed below, numbered from 1 to 12.

1_ Clean the surface that will receive the coating, completely removing any powdery residues, fats, efflorescence, grease, oils, fungi or paint that is present. (Image 22)



Image 22: Cleaning the laying area that will receive the ceramic coating.

2_ Separate the coatings that will be applied and position them so that the arrows or inscription of the country of origin (shown on the tile) are in the same direction. This work will facilitate the application of mortar to the back of the pieces and to lay them. (Images 23 and 24)



Image 23: Arrow in high relief on the reverse of the piece.

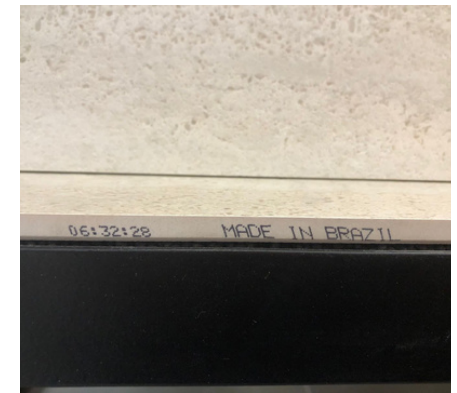


Image 24: Country of origin inscription shown on the tile.

3_ Apply the bonding mortar to the laying area, first with the smooth side of the trowel, leaving a uniform layer and in sufficient quantity to form the mortar grooves. (Image 25)



Image 25: Apply mortar to the laying area with the smooth side of the trowel.

4_ Next, use the notched side of the trowel at an angle of approximately 60° to form the bonding mortar grooves. These should be uniform, without any flaws and the layer must not be too thick. (Image 26)



Image 26: Opening of mortar grooves on the laying area with the toothed side of the trowel.

⚠ Attention

Spread the mortar on a flat surface of no more than 1.5m² or enough to lay a tile, or on pieces with an area greater than 1.5m². Bonding mortars have a short open time; when the mortar grooves are laid over large areas, this time expires and compromises the adhesion of the tile.

5_ In sizes that require double bonding, apply bonding mortar to the back of the tile following steps 3 and 4;



Image 27: Application of mortar to the ceramic coating with the smooth side of the trowel.



Image 28: Opening of mortar grooves in the ceramic coating with the toothed side of the trowel.

6_ Position the coating on the laying area, always with the bonding mortar grooves running parallel (same direction), approximately 5cm from the final position and drag it to the exact location. This procedure will spread the bonding mortar grooves formed with the notched trowel, completely filling the back of the tile and ensuring excellent adhesion. (Image 29)

7_ When dragging the piece, the use of a rubber mallet is optional. You may, if you wish, use vibrating machines to spread the mortar grooves, but they are less effective than using the dragging technique. (Image 30)



Image 29: Open mortar grooves in the same direction.



Image 30: Execution of dragging on the piece.

8_ After positioning the tile in the exact laying location, insert the spacers (cross) or floor leveler clips (Images 31 and 32). The use of floor levelers is recommended for any size and tile and is mandatory for pieces measuring 90x90cm or more.

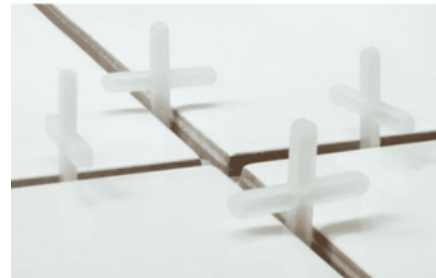


Image 31: Cross spacer.



Image 32: Leveling spacer

⚠ Attention

Do not use floor levelers for pieces with reliefs, as applying force to level the pieces will damage the relief.

Check the correct way to use the levelers in chapter 03.14.

9_ Lay the next tile following the same recommendations as previously described. (Image 33)



Image 33: Execution of dragging on the piece.



Image 34: Use a brush to clean excess mortar from the joints.

10_ Clean the laying joints, removing any excess bonding mortar that may be left. (Image 34)

11_ Insert the wedge into the leveling clip to level the pieces. Check the leveling and proceed with the laying. (Images 35 and 36)



Image 35: Insert the wedge into the clip manually.

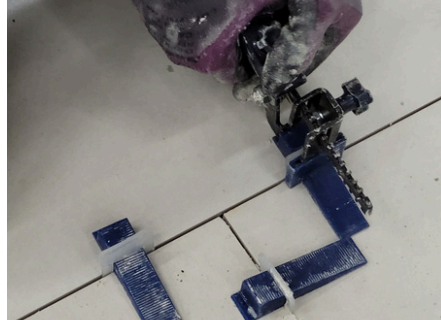


Image 36: Tighten with locking pliers.

12_ It is recommended to randomly remove one in every ten pieces laid to check that the reverse of the tile is filled with bonding mortar. The reverse must be completely filled and the bonding mortar grooves completely spread. If any flaw is identified, the laid pieces should be removed, the bonding mortar should be discarded and the pieces must be re-laid.

03.14 Use of levelers

To ensure the perfect leveling of pieces, especially large sizes, we recommend using Portobello's floor levelers with a load capacity of at least 40kg per clip.

Attention

The use of levelers for pieces with reliefs is not recommended. A cross spacer is ideal to use in this case.

Advantages of using the Leveler:

- Greater productivity in laying;
- Equipment noise reduction;
- Minimizes the effects of curvatures permitted by international regulations;
- Easy to use, no specialized labor required

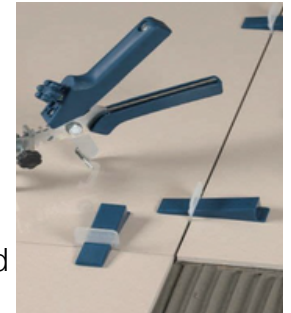


Image 37: Portobello leveling system.

This Portobello leveling system is made up of three elements, which are sold separately:



Image 38
Clips (Transparent)



Image 39
Wedge (Blue)



Image 40
Locking pliers

Leveling clip

Transparent clip that acts as a leveler and also as a 1.5mm spacer. If you need a wider placement joint, use traditional auxiliary spacers of up to 10mm. (Image 38)

Wedges

Blue wedge, reusable, used to give the necessary adjustment to the tiles, leaving them level. If handled correctly, it can be used up to 10 times. (Image 39)

Locking pliers

Used to adjust the pressure of the wedges, pressing them to ensure that the tiles are leveled evenly. (Image 40)

Use of levelers

The clips and wedges are placed approximately 5cm away from the edges of the tile. And at a maximum of 40cm apart from each other. Make the correct calculation for your work according to the table below showing estimated use. (Table 06)

SIZE OF PIECE	USE BY PIECE	USE (UN/M ²)
11x120 20x120	5	25,00
11x180 12x180	7	32,40
20x180 20x200	8	20,00
30x60	4	22,20
30x90	5	18,50
30x120	6	16,70
30x180	7	13,00
45x45	4	19,80
45x90	5	12,30
60x60	6	16,70
60x120	7	9,70
60x180 80x80 90x90	8 4,8 6	7,40
80x160	8	6,30
90x180	8	4,90
100x100	6	6,00
100x300	11	3,70
120x120	8	5,60
120x250 120x260 120x270	11	3,50
160x320	13	2,50

Table 06

Instructions for Use

To use the Portobello leveling system, follow the 4 steps listed below.

1_ After laying the first tile, insert the clips at a distance of approximately 5cm from each edge. The distance between clips must be a maximum of 40cm. (Image 41)



Image 41: Clip spacing patterns in the piece.

2_ Lay the next piece (next to the first) and insert the blue wedge into the gap in the leveler (Image 35). All wedges must be on the same side. (Image 42)

3_ Before laying the next ceramic tile, use the pliers to adjust the pressure equally on all the wedges. The pliers have a pressure adjustment screw, which should be adjusted at the beginning of work. Check that the tiles are aligned. (Image 43)



Image 42: Wedges in the same row must be inserted in the same direction.

4_ After the bonding mortar has cured, remove the wedge by tapping the side of the leveler with a rubber mallet so that it breaks in the correct place. (image 44)

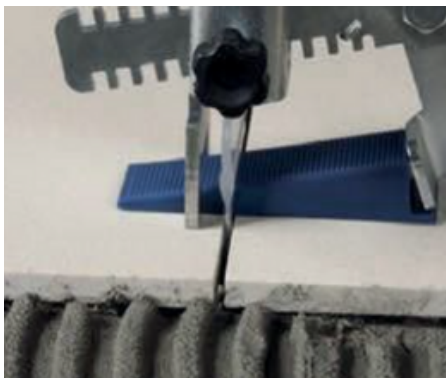


Image 43: Tighten with the locking pliers.



Image 44: Removal of clip and wedge.

03.15 Floor protector

A Portobello Floor Protector is recommended for the preservation of porcelain tiles during construction work, minimizing the risk of wear, debris incrustation, scratches, stains and other damage resulting from services such as painting, plastering, installing cabinets and moving. It is made of kraft paper with high-strength bubble wrap.

- Easy to install, simply unroll over the clean, finished floor;
- 5 times more resistant than the conventional bubble wrap;
- Does not stain the floor like conventional cardboard or cardboard packaging;
- Protects against splashes of paint and other liquids;
- Simple removal, without leaving glue marks.

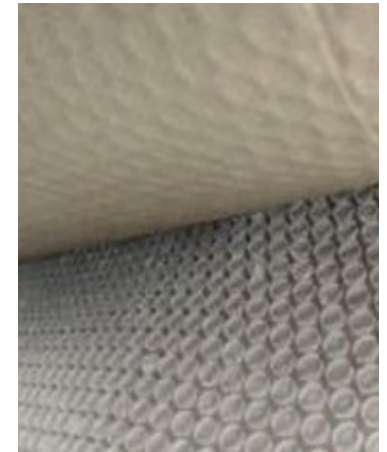


Image 45: Floor protector. Kraft side and plastic bubble wrap.

Instructions for Use

Lay the piece and grout the floor as instructed in this manual. Wait for 7 days after grouting, clean and dry the area.

The plastic bubble wrap side should be facing down and the paper side facing up.

Join the sides of the Portobello Floor Protector along its entire length with adhesive tape, in order to “seal” the entire perimeter of the sheets, preventing dirt and liquids from entering between the protector and the protected floor. (Image 46)



Image 46: Applied floor protector

Tip:

If desired, also leave the sides raised to protect the baseboards.

⚠ Attention

If you notice any holes, tears or detachment of the protective sheets, or if any accidental spillage of liquids (water, paint, solvent, etc.) occurs during the work, remove the protection from the entire affected area immediately, clean the area again and apply a new Portobello Floor Protector. Never use this product in outdoor areas or on humid, damp, or surfaces that can get wet.

04 Cutting

Cutting porcelain tiles is necessary in practically all works. To properly carry out the cutting, closely follow the guidance below:

- Prepare a location to carry out the cutting, which should have an electric, water and sewage point;
- Separate all personal protective equipment before starting to cut. When cutting, it is mandatory to use protective glasses, gloves and shoes;
- Cutting should be carried out on a firm table, in a size that is appropriate for the tiles to be cut. The entirety of the pieces should be supported on the table;
- Do not remove component items from the cutting equipment, such as the base of the marble saw for example. This practice causes the equipment to be used incorrectly, generating more tension at the time of cutting;
- Before cutting, cover the table with cardboard to accommodate the piece better. The use of cardboard avoids issues with tension in the tiles, reducing breakages during cutting. (Use corrugated cardboard or the back of the opened product box.) (Image 47)



Image 47: Cutting table covered with cardboard.

- For pieces larger than 120x120cm and large sizes, include extra layers of cardboard in the central part, ensuring that the cardboard completely follows the curvature of the piece; (Images 48 and 49)
- Mark the pieces that need to be cut and follow the instructions in this manual according to each type of cutting.



Image 48: Covering the cutting table with cardboard.



Image 49: Extra layer of cardboard in the center of the table.

Attention

It is preferable to use a pencil to mark the cuts. Avoid possible stains.

Several factors can influence the final quality of the cut, such as equipment type, accessories, technique used, care and attention to detail.

Portobello's recommendations have been summarized in this material, providing daily practical information for the work, with the aim of obtaining the best results.

04.01 Straight cutting

The straight cut can be made with a manual scorer with a diamond blade, a continuous rail scorer (for slabs) or with a marble saw with a diamond disc suitable for porcelain tiles. Choose the best equipment according to the size of the tile and on-site availability.

With scorer

1_ Position the scorer firmly on the cutting table. Fit the piece into the scorer. If it is not firmly on the base, adjust the tool's side support rods so that the piece is completely stabilized. (Images 50 and 51)



Image 50: Adjust the scorer's side support rods, according to the size of the piece.



Image 51: Fit the piece in the scorer so that it is stable.

2_ Mark the cut at both ends of the piece and if the tool has a laser function, validate the alignment. (Images 52 and 53)



Image 52: Cut marking at the ends.



Image 53: Adjust the diamond blade of the scorer to the marking.

3_ With the marking aligned with the scorer, start the score with the diamond blade to execute the cut, first make a score of approximately 3cm at the end of the piece by pulling the scorer away from it. (Image 54)

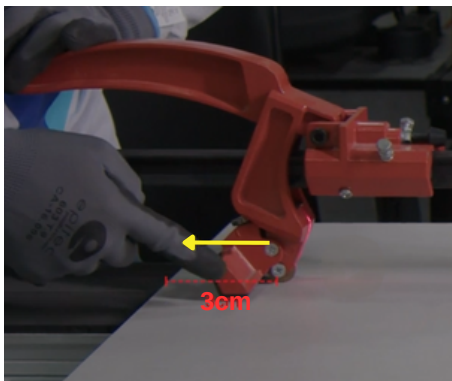


Image 54: First, score a 3cm line with the diamond blade at the end of the piece.



Image 55: Complete the score by pushing the diamond blade from one end to the other.

4-Next, make the score by pushing the diamond blade from one end to the other, completing the line over the entire surface, exerting the same force in order to score the surface layer of the coating. (Image 55)

5-With the score ready, position its foot at the end of the piece, applying pressure so that the tile breaks in the exact place. If the part does not break completely, move the foot to the other end of the piece and carry out the same procedure. (Images 56 and 57)



Image 56: Position the scorer foot at the end of the piece, applying pressure.



Image 57: With the pressure of the foot on the piece, the score will break.

Continuous rail scorer

1_ Position the piece on the table which has already been lined with cardboard and mark the rail fitting, always remembering to consider the additional distance from the diamond blade to the rail. (Images 58, 59 and 60)



Image 58: Moving the piece to the covered cutting table.



Image 59: Marking the rail fitting

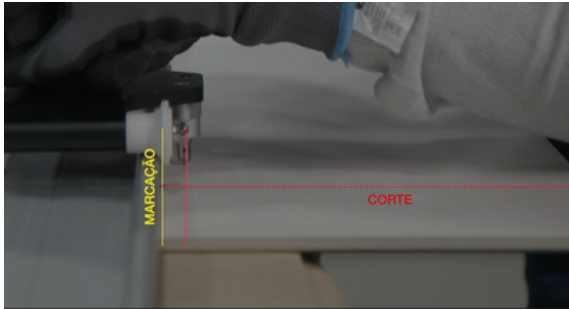


Image 60: One detail to be considered when scoring, is that it is necessary to consider the distance from the diamond scorer to the rail.



Image 61: Fix the rail to the piece with a suction cup.

2_ To do this, mount the aluminum rail and attach the suction cups to it. With the structure assembled, fit it over the scoring that has been made, always using the suction cups to fix and stabilize the rail in the exact position on the piece. (Image 61)

3_ Fit the sliding cutting wheel containing the tungsten/diamond scorer onto the rail. At this point, check that the scorer is in the correct cutting location. Once aligned, move the piece to support the location that will be under pressure from the scoring on one of the rulers on the cutting table. (Images 62 and 63)



Image 62: Fit the wheel onto the rail



Image 63: Check that the scored area fits on the cutting area.

4_ Slide the rail roller from one side to the other, applying the same pressure to score the surface layer of the coating. (Image 64)



Image 64: Slide the diamond scoring wheel over the area of the cut.

5_ After scoring, release the suction cups and remove the rail from its position. (Image 65)



Image 65: Remove the suction cups and the rail.

6_ Position the piece on the countertop with the score in a cantilever position (off the bench) and at this point fix the pliers on each end of the piece over the score. (Image 66)



Image 66: Adjust the cantilevered piece and position the pliers at each end.

7_ At one end, turn the handle of the pliers slowly until the scoring breaks, which should break just before the center of the piece. (Image 67)



Image 67: On one side, turn the handle of the pliers until the score is partially open.

8_ Repeat the same process on the other end of the piece. In the end, there will be a cut at both ends and to finish the cutting, stand in front of the piece and apply pressure to break the rest of the score in the center of the tile. (Images 68 and 69)



Image 68: At the other end of the piece, turn the handle of the pliers to partially open it, and finally apply manual pressure to the center of the piece.



Image 69: After pressing the center of the piece, the scoring breaks completely.

Marble saw with a disc for porcelain tiles

For straight cutting with a marble saw, we recommend using a rail for better alignment.

1_ Mount the aluminum rail and attach the suction cups to it. With the structure assembled, fit it over the score that has been made, always using the suction cups to fix and stabilize the rail in the exact position on the piece. (Images 70 and 71)



Image 70: Marking the rail fitting.



Image 71: Fix the rail with a suction cup to the piece.

2_ Connect the sliding accessory to the marble saw, with the cutting disc already attached. (Image 72)

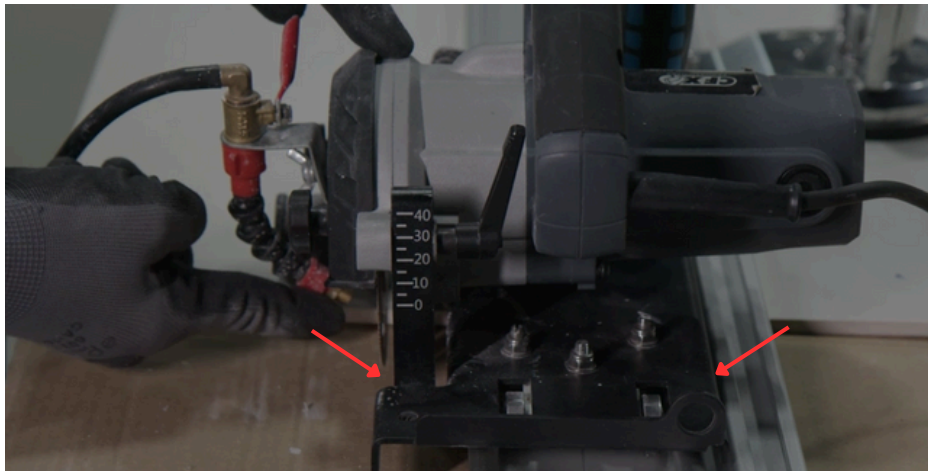


Image 72: Sliding accessory attached to the marble saw.

3_ With the tool ready, fit it onto the rail and check that the disc is in the correct cutting location. (Image 73)



Image 73: Check that the disc is in the cut location.

4_ At this point, adjust the depth of the cut using the lever. There are two techniques to do this (Image 74)

- Adjust the lever to cut the surface layer of the enamel, then return the tool to the end of the piece, adjust the lever again and finish cutting the remaining thickness of the product; (Image 75)
- Make the complete cut through the thickness of the product, in this case, initially adjust the lever with the depth of the cut according to the depth of the product. (Image 76)



Image 74: Adjust the lever according to the cut depth.

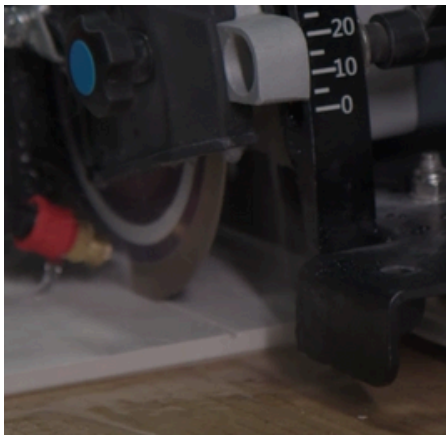


Image 75: Cut only into the surface layer of the varnish.



Image 76: Cut directly through the depth of the product.

5_ For both techniques, the disc must be moved with care. Under no circumstances force the saw to move, this can cause the disc to heat up, damage the tool and even chip the surface of the product. (Image 77)

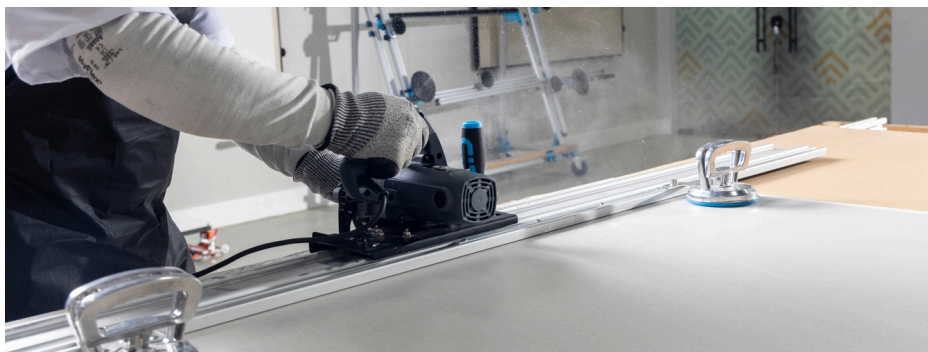


Image 77: Slide the marble saw along the rail, without forcing the disc to advance across the piece.

6_ In the end, you will have a perfect and precise cut regardless of the technique and tool chosen. All these tips provide quality cutting and less loss of product. (Image 78)



Image 78: After sliding the marble saw through the piece, the cut is complete.

04.02 Box cutting - square or rectangular

Cutting around drains and power boxes requires experience and the skill of the professional.

To carry it out, use a marble saw with a disc for a porcelain tile and a drill or grinder with an attached hole saw. The hole saw will be used to release tension from the pieces and ensure that the 90° angle produces rounded corners, minimizing the risk of possible cracks at the 45° angle formed at the corner of the cut.

Attention

We do not recommend geometric cuts inside the tile that are less than 5cm from the edges, as the tile may break due to the tensions created inside it. When this happens in the layout of the space, we suggest changing the layout or the location of the power/drain point so that the cut is in the corner or more towards the center of the tile.

To achieve excellence in cutting boxes, follow the 3 steps below.

1_ Mark the cutting location on the piece. (Image 79)



Image 79: Draw the cut to be made on the piece.

2_ Drill holes using a diamond hole saw at the four 90° intersections of the marking. It is recommended that an 8mm or 10mm hole saw is used. (Images 80 and 81)



Image 80: Holes drilled at each 90° intersection.

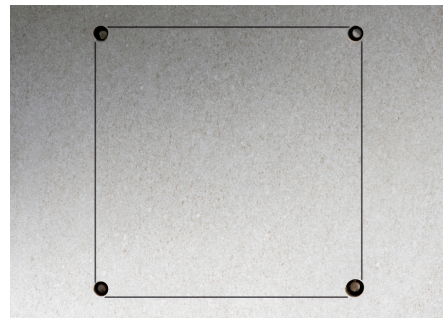


Image 81: A square cut with four holes drilled at 90° intersections.

Tip:

Use a template to help with drilling, this prevents the hole saw from slipping and damaging the surface of the product. This template can be made of porcelain tiles or another resistant material.

3_ After drilling the 4 holes, use the marble saw to make a straight cut from one hole to the other. Always cut carefully in the direction of the piece where there is the largest area. (Images 82 and 83)



Image 82: Finish opening the four holes with the marble saw.

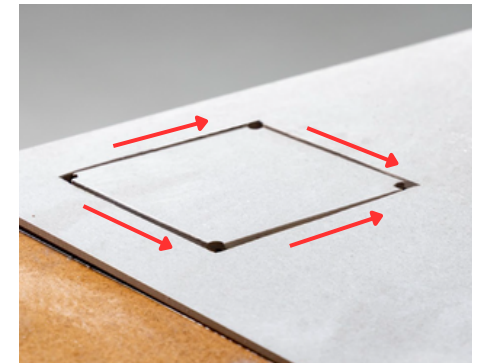


Image 83: The cut should be made in the direction of the largest area of the piece.

04.03 Square or rectangular cutting in the corner of the piece

Also known as a cut to fit a pillar, the square or rectangular cut in the corner of the piece follows a similar procedure to cutting the boxes on the inside of the piece.

To carry it out, use a marble saw with a disc for porcelain tiles and a drill or grinder with a hole saw attached.

The hole saw will be used to release tension from the pieces and ensure that the 90° angle produces rounded corners, minimizing the risk of possible cracks at the 45° angle formed at the corner of the cut.

To carry out the cutting, follow the 4 steps listed below.

1_ Mark the cutting location on the piece. (Image 84)



Image 84: Draw the cut to be made on the piece.

2_ At the 90° intersection of the marking, drill holes using a hole saw. It is recommended that an 8mm or 10mm diamond hole saw is used. (Images 85 and 86)



Image 85: Finish opening the four holes with the marble saw.



Image 86: Finish opening the four holes with the marble saw.

Tip:

Use a template to help with drilling, this prevents the hole saw from slipping and damaging the surface of the product. This template can be made of porcelain tiles or another resistant material.

3_ After drilling all the holes, use the marble saw to make a straight cut from the end of the piece to the hole. Carry out all cutting with care. Always direct the cut in the direction of the largest area of the piece. This way the cut will achieve a better finish. (Images 87 and 88)



Image 87: Finish the cut opening at the hole with the marble saw.

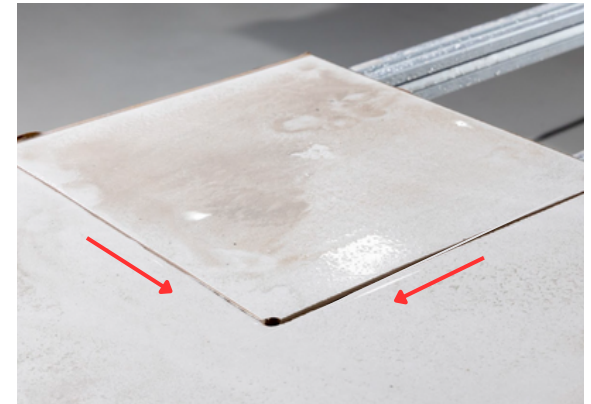


Image 88: The cut should be made in the direction of the largest area of the piece.

04.04 Circular cutting

To make circular cuts, we recommend using a hole saw attached to a drill or grinder with the required diameter.

Follow the 2 steps listed below:

1_ Mark the cutting location on the piece and use the template to place it over the marking. (Images 89 and 90)



Image 89: Circular cut marking.



Image 90: Option to use a template to aid cutting.

2_ Position the hole saw in the exact location and drill a hole all the way through. Remember to cool the hole saw, this will improve the quality of the cut and increase the life of the equipment. (Image 91)



Image 91: Carry out the cutting.

Tip:

Use a template to help with drilling, this prevents the hole saw from slipping and damaging the surface of the product. This template can be made of porcelain tiles or another resistant material.

04.05 45° cutting using a marble saw with a rail

This technique can be carried out on any product size, for this, a firm bench of an appropriate size for the piece to be cut is needed. The cutting must be made on a flat table, so that the piece is completely supported.

To perform the cutting, follow the 10 steps listed below.

1_ Cover the table with cardboard sheets to perfectly accommodate the porcelain tile. The cardboard absorbs the vibration that the equipment generates when cutting the piece, reducing the chance of it breaking. The cardboard covering should follow the central curvature of the piece. If necessary, place sheets in the central part of the table until the piece is completely supported. Under no circumstances should it be left unsupported when cutting. (Image 92)

2-Place the piece on the table that is already covered with cardboard, leaving the edge that will receive the finish at a 45 degree angle in a cantilever position. (Image 93)



Image 92: Covering the cutting table with cardboard.



Image 93: Moving the piece to the covered cutting table.

3-Assemble the aluminum rail and attach the suction cups. With the structure assembled, fit it over the scoring that has been made, always using the suction cups to fix and stabilize the rail in the exact position on the piece. (Image 94)

4_ At this point, connect the sliding accessory to the marble saw, with the disc already attached. Marble saw cuttings can be dry or wet. Depending on your choice, attach a vacuum cleaner if you are cutting dry, or a water hose if you are cutting wet. Water-cooled cutting is always the best option when considering the result and disc durability. (Image 95)



Image 94: Fix the rail to the piece with a suction cup.

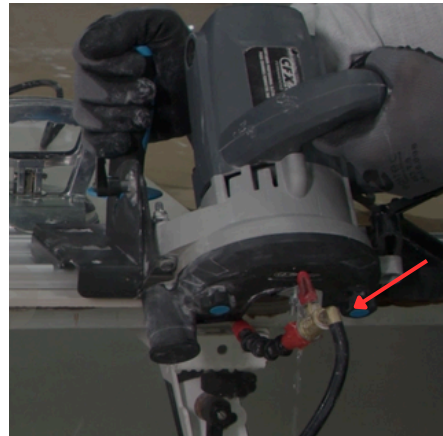


Image 95: Water hose attachment.

5_ With the tool ready for use, fit it onto the rail and adjust the depth of cut on the lever and the angle to 45 degrees. As the cut will be made to finish the 1/2 miter joint. (Image 96)

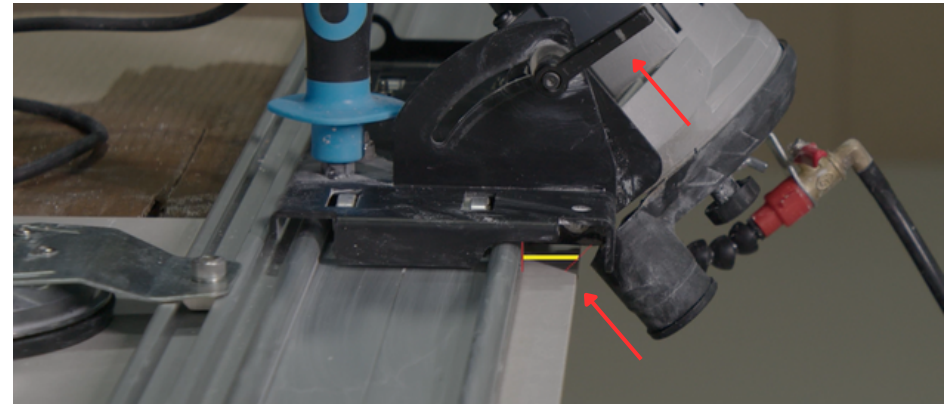


Image 96: Tool on the rail and adjustment of the cutting angle with lever.

6_ Also check that the disc is in the correct cutting location. It must be at the end of the piece, always positioned at 45 degrees, leaving a free edge of 2mm. (Image 97)

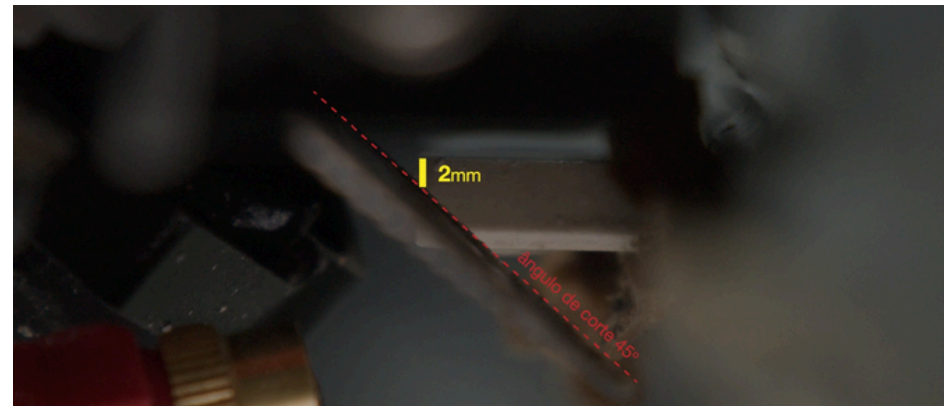


Image 97: Checking disc positioning.

7_ When cutting, move the disc with care. Under no circumstances force the saw to move, this can cause the disc to heat up, damage the tool and even chip the product surface.

8_ After the complete cut, it is necessary to finish the edge by wearing down the 2mm that was left, to a “knife point”. For this, use the grinding tool attached to the 4” ceramic disc, moving in parallel lines from one side to the other of the edge until it is completely worn down. (Images 98 and 99)

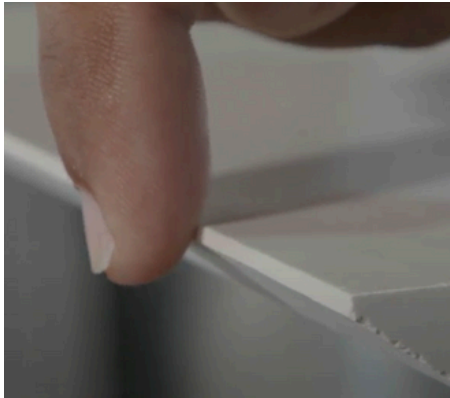


Image 98: The outstanding 2mm not cut by the disc.



Image 99: Finalizing the removal of the outstanding 2mm with a ceramic disc.

9_ If the edge feels rough or even sharp, first use a fine 120 grit sander and then 400 grit sander until it feels pleasant to the touch. (Image 100)



Image 100: Use of diamond sanding pad for fine finishing.



Image 101: Perfect 45° cutting.

10_ By following all the recommended stages of the execution process, the end result is a perfect 45-degree cut with a precise finish which is free of chipped edges. All these tips provide better cutting quality and less product loss. (Image 101)

04.06 Cutting finishing

To finish the cuttings, use appropriate finishing discs, usually made of ceramic, attached to the marble saw. (Image 102)

Move the equipment gently over the cutting, in back and forth movements until you achieve the desired finish. (Image 99)

If the edge feels rough or sharp, follow the instructions in step 9 of chapter 04.05. (Image 100)



Image 102: Attaching the ceramic disc to the grinder.

05 Post-work waste disposal

There is a specific law that establishes guidelines and procedures for the management of construction waste. It defines that it is the responsibility of the generator (individual or legal entity) to provide an environmentally sound destination for construction waste. This resolution establishes waste classifications between Class A, B, C and D, and for each class, establishes a sound destination.

Check the classification of waste from the installation of ceramic coating and its destination. (Table 07)

CLASSIFICATION	WASTE	DESCRIPTION
Class A	Ceramic Coating	Construction waste recycling companies.
	Remaining Mortar and Grout	
Class B	Packaging of grout, mortar and cleaning products	Cardboard, plastic and other related recycling companies.
	Cardboard	
	Plastic	
	Binding tape	
	Levelers	
	Metal support	
	Pallets	
	Portobello Floor Protector	Return the product to manufacturer* or landfill**.

*Manufacturer: Salvabras - Address: Rua Anhanguera, 425 - Osasco/SP.

**Common landfill.

Table 07

Tip:

See if your area has a construction waste management plan. There you can find guidance on how to dispose of waste using public means.

Attention

When hiring a company to collect construction waste, ensure that it has an environmental license to work. This is a document that informs the public whether the company is authorized to carry out the activity.

It may be that a single company disposes of waste from both classes.

06 Cleaning and maintenance

Cleaning carried out by specialized companies is the user's responsibility.

For porcelain tiles in general, do not use acids, stone cleaners, aluminum cleaners, sponges or equipment with steel bristles or any metal.

For polished porcelain tiles, never use the abrasive side of a sponge. Abrasion will cause permanent damage to the coating (scratches and dull marks).

Do not mix cleaning products. Mixing can produce unwanted compounds that permanently damage the coating.



Attention

Lack of or failure to perform maintenance will shorten the life of the coating.

06.01 Post-work cleaning

Post-work cleaning should be carried out with extreme care, as there are abrasive materials that can stick to the surface and scratch and cause permanent damage. The recommendations are:

- 1_ Remove all loose debris with a soft-bristled broom or vacuum cleaner.
- 2_ Using a sponge, soft-bristled broom or cotton cloth, wet the entire surface with clean water.
- 3_ Apply and spread neutral detergent or creamy soap over the entire surface.
- 4_ Scrub the surface with a soft-bristled broom, soft-sided sponge or cotton cloth.
- 5_ Leave the mixture to work for 5 minutes.
- 6_ Rinse the area with clean water and ensure that you completely remove all cleaning products and residue.

- 7_ Finish cleaning with a clean, dry cloth.

If residue/dirt still remains on the area, we suggest using a post-work cleaning product or heavy cleaning product specifically made for porcelain tiles, following the cleaning product manufacturer's guidance for application.

Tip:

To maximize the performance of the cleaning solution, do not allow it to dry on the piece. Cleaning products can form a film on the piece that is difficult to remove and helps to impregnate dirt, so it is important to rinse the area well.

06.02 Cleaning specific dirt

Specific stains require the application of specific cleaning products. (Table 08)

The older the stain, the more difficult it will be to remove and the longer the cleaning product will need to be left for. Therefore, the sooner cleaning is carried out, the easier removal will be.

In the case of specific stains, we recommend that a test is carried out with the cleaning agent on a smaller area, before cleaning the entire stain, to validate its effectiveness.

If the stain lightens, it means it can be removed and it is necessary to repeat the cleaning process a few times until it is completely removed.

DIRT	CLEANING PRODUCTS
Greases, oils and fats	Hot water, detergent and creamy soap
Beverages (coffee, wine, soda, beer and fruit juice)	Bleach, Veja ® active chlorine and creamy soap
Blood	Oxygenated Water
Cement and lime	Acid detergent
Tire marks	Creamy soap
Paint	Thinner and Turpentine
Rust	Creamy soap, rust remover for ceramic coatings
Pen ink	Acetone alcohol
Pencil	Pencil eraser
Crayon	Creamy soap
Red mud	Bleach, Veja ® active chlorine and creamy soap
Soluble salts (white runoff)	Alcohol vinegar and bleach
Ceramic piece protector (paraffin)	Detergent and kerosene

Table 08

All agents should be diluted in water and applied directly to the stain, except for solvents (alcohol vinegar, alcohol, thinner, kerosene, turpentine and acetone) which can be used pure. Follow the cleaning guidance detailed in chapter 06.01.

Stains that always appear in the same place can change the texture or shine of the coating, are indicative of chemical damage and are difficult to remove. See chapter 06.04.

06.03 Daily cleaning

For daily cleaning, we recommend the use of neutral detergent and water, using a cotton cloth and a soft-bristled broom or squeegee. Follow the recommendations:

- 1_ Remove loose debris using a soft-bristled broom or vacuum cleaner.
- 2_ Dilute the neutral detergent in a bucket with clean water.
- 3_ Dampen the cotton cloth in the water and detergent solution.
- 4_ Wipe the cotton cloth over the ceramic coating.
- 5_ Wash the cloth to remove dirt in another bucket of just clean water.
- 6_ Re-wet the cloth in the detergent water from the first bucket.
- 7_ Repeat steps 4, 5 and 6 as needed.
- 8_ Finish cleaning with a clean, dry cotton cloth.

If this maintenance is not sufficient, it is possible to:

- Replace the neutral detergent with creamy soap diluted in warm water.
- Dampen the entire area with the solution for 3 to 5 minutes, leaving the creamy, soapy water to work. Help to clean by scrubbing the area with a soft-bristled broom or sponge.

⚠ Attention

The use of disinfectants, responsible for their famous “smell”, must be diluted in water, according to manufacturer indications. Opt for transparent products.

These products can form a film, altering the surface appearance of the coating (shine) and enabling the impregnation of dirt.

Due to their structure to prevent slipping, outdoor ceramic coatings (outdoor areas) require heavier cleaning and creamy soap and a hard-bristled broom (not steel) can be used.

06.04 Chemical damage

The use of cleaning products not recommended for porcelain tiles can damage the coating.

Do not use cleaning products that contain acids and are indicated for the maintenance of other surfaces, such as stones, metals, clothes, etc.

In the case of contact with non-recommended products, remove them immediately.

If in doubt, do not use the product. Contact Portobello SAC (customer service department) on 0800 648 2002.

Stains that always appear in the same place, change the texture or shine of the coating, are indicative of chemical damage and are difficult to remove. The solution is to replace the damaged pieces. (Image 103)



Image 103: Chemical damage caused by the dripping of a non-recommended product.

07. Glossary

Bonding mortar or adhesive mortar: Material used for ceramic tile laying. It can be mono- or bi- component. depending on how the adhesion-promoting polymer is used, powder or liquid respectively.

Simultaneous placing and grouting: Material used for laying ceramic tiles, which simultaneously fixes the grout finish.

Grouting: The process of filling the placement joints when installing a ceramic coating.

Notched trowel: Trowel made from a steel sheet and wooden handle, with regularly spaced notches, used to spread the laying material over the laying area and form continuous mortar grooves of regular height that facilitate the application of the ceramic piece and avoid material wastage. Notches can be found in square and circular (for floors) forms.

Double bonding: The technique for laying ceramic tiles that consists of spreading two layers of bonding mortar, one on the reverse of the tile and the other on the surface of the coating's laying area, with the aim of maximizing adhesion.

Simple bonding: The technique for laying ceramic tiles that consists of spreading just one layer of bonding mortar on the surface of the coating's laying area.

Laying joint: Regular space between two adjacent ceramic tiles (NBR 13753:1996).

Pot time: This is the time in which the bonding mortar can be used after mixing the water with the powder. This time is normally two hours.

Open time: Time interval during which the bonding mortar applied to the wall remains capable of adhering to the ceramic piece to be applied. This time normally varies from 10 to 30 minutes depending on the type of bonding mortar and the conditions of the space.

Finger test: For a quick assessment to check the open time of the bonding mortar, touch the mortar with your finger to check if it is still capable of adherence.

08. Bibliografia

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