

For manual handling and subsequent laying of the PORSLIM slabs, in order to guarantee the operators' safety and the integrity of the slabs, it is strongly recommended to use a frame with suction cups, available upon request, particularly suitable for large dimension PORSLIM formats (e.g. 120 x 60 in. - 60 x 60 in.) whereas on smaller PORSLIM formats (e.g. 60 x 30 in.) two double suction cups are sufficient.



Instruments required

The instruments for lifting and handling the slabs can be chosen according to the size of the slab and the activities to be performed on the site, in particular:

- Fork lift truck with forks 98" long;
- Frame with suction cups for handling large format slabs;
- Double suction cups for handling slabs with format up to 60 x 30 in.

Processing stages:

- 1) Remove the cover from the cage/pallet;
- 2) Position the frame with suction cups on the slab and make sure that the cups adhere to it perfectly;
- 3) For horizontal handling (on the surface), put the slab into a vertical position and use the wheels applied to the handling frame.



PORSLIM can be easily processed by using some simple tools.

It is recommended to process the slabs on a flat work surface, at least 2 in. longer than the slab from each side or double suction cup. It is recommended to perform the cutting operations with at least two operators. One operator is sufficient for making the holes.



Instruments required

Depending on the type of hole and process to be applied to the slab, it is recommended

to use the following instruments:

- Handling frame with suction cups or double suction cups;
- Drill/Screwdriver;
- Wet diamond core bits (cup wheel cutters);
- Angle grinder with diamond blade.



LINEAR CUTS up to a PORSLIM length of 120 inches

- 1) Mark the portion to be removed at the ends of the slab.
- 2) Position the cutting guide with cutting carriage so that the references on the guide coincide with the lines marked on the slab. Lock the cutting guide with the cutting carriage in place using the suction cups.
- 3) Scoring: To guarantee correct scoring, the pressure and movement of the cutting carriage must be constant along the whole length of the cut.
 - 3.1) Score one end of the slab by 6" pushing the cutting carriage towards the edge of the slab.
 - 3.2) Complete the scoring up to the opposite edge of the slab.
- 4) Cutting off:
 - 4.1) Using the cutting guide move the slab until the scoring line protrudes by about 4 - 6 in. from the work surface.
 - 4.2) Release the cutting guide from the suction cups and move it towards the middle of the slab.
 - 4.3) Start the cutting off process by positioning the cutting pliers in line with the line scored on the slab. Exert progressive pressure until you notice that the cutting off process has begun.
 - 4.4) Go to the opposite side and position the cutting pliers in line with the line scored on the slab. Exert progressive pressure until you notice that the cutting off process has begun.
 - 4.5) To complete the cutting off process, one or more operators must grip the portion to be removed and exert progressive pressure downwards.
- 5) The finishing of the edges on the cut side must be carried out using the special diamond buffer.

L-SHAPED CUTS

For L-shaped cuts (holes for electrical boxes, internal corners) it is recommended to round off the internal angle by making a hole first with suitable wet core bits.

SQUARE CUTS/CUT-OUT

Mark the portion to be removed on the slab.

To limit the possibility of breaking, it is recommended to make a Ø 1/4" hole in line with the point where the two lines marked on the slab meet. With an angle grinder equipped with a diamond blade, follow the marked lines.

RECTANGULAR HOLES

- 1.1 Mark the sides of the portion to be removed on the slab.
- 1.2 Make Ø 1/4" holes in the 4 corners.

Using an angle grinder equipped with a diamond blade join the 4 holes.

ROUND HOLES

- 1) Position the PORSLIM slab on a solid, non-slip surface (e.g. wood or concrete). Spray water onto the area where the hole is to be made.
- 2) Start to make a hole at an angle of 75° - 85° and penetrate into the slab with a depth of about 1-2 mm.
- 3) Keep the drill/screwdriver at a 90° angle and make circular movements with an angle of about 5°-10°.

Do not exert too much pressure. Do not push straight downwards. Make sure there is enough water to wet the cutter.

- 4) Clean up the scraps once the hole has been made.

Laying **PORSLIM** slabs requires similar laying conditions to those required for traditional format slabs. **PORSLIM** requires the adhesive to be applied both on the setting bed and on the back of the slab.

PORSLIM slabs for flooring require the following conditions:

- A flat surface;
- Clean and free from dust, scraps and any lumps of cement;
- The setting bed must be uniform and have already undergone the drying shrinkage process;
- Repair of any cracks;
- Any uneven parts on the surface must be filled with suitable leveling compounds.



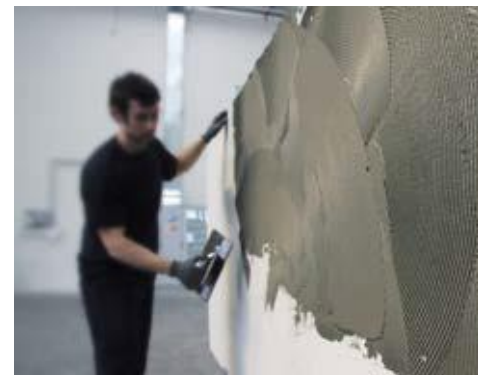
Instruments required

- Mapei[®] cement-based powder adhesive for full spread (or equivalent), class "C2E according to EN12004 and S1 according to EN12002 standards";
- Raimondi[®] slanted ridge notch trowel (or equivalent);
- Frame with suction cups for handling or double suction cups;
- Non-bounce plastic mallet 170 x 370 mm;
- Leveling system: base clip + wedge + pliers.

Processing stages

BONDING TO THE FLOOR

- 1) Ensure that the surface to be covered is solid, flat and free from dust and oil/grease.
- 2) Use the adhesives, described to the left, and mix according to the specifications indicated in the technical data sheet of the chosen adhesive.
- 3) Spread the adhesive onto the surface to be covered with a Raimondi slanted ridge notch trowel across an area of 4 in. more than the dimensions of the slab.
- 4) With the slab in a vertical position on the handling frame, spread the adhesive onto the back of the slab with a Raimondi slanted ridge notch trowel.
- 5) Using the frame with suction cups, bring the slab into a horizontal position and lay it.
- 6) To guarantee uniform bonding of the slab, the special 170 x 370 mm non-bounce plastic mallet must be used. Tap from the middle towards the edges so as to remove any air pockets between the back of the slab, the adhesive and the surface to be tiled.
- 7) Use the leveling system.



LEVELING SYSTEM

The leveling system aims to guarantee perfectly leveled floors simply and quickly, eliminating any unevenness between the slabs. The leveling system is strongly recommended for laying **PORSLIM** slabs.

Instruments required

- Base clip;
- Wedge;
- Adjustable pliers for installing floors/wall tiles.

Application of the leveling system

Positioning the base clip:

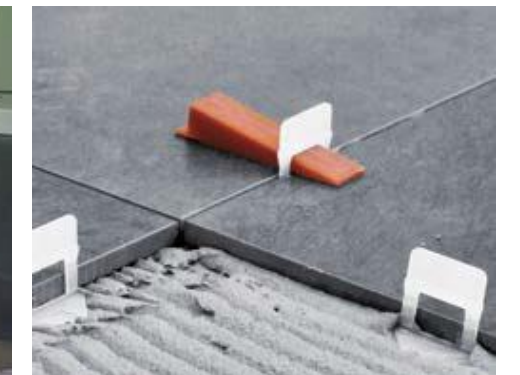
- a) After spreading the adhesive, insert the base clip below the **PORSLIM** slab on the 4 sides.
- b) Depending on the format of the slab, position one or more supports for each side of the slab.
- c) Position the slab.

Inserting the wedge:

- a) Insert the wedge in the slot of the support, taking care not to exceed the breaking point. b) To make inserting the wedge easier, it is recommended to use the adjustable pliers.

Removing the support:

- a) Once the adhesive has dried, the protruding part of the support can be separated from the base clip by tapping with your foot in line with the joint.



PHYSICAL-CHEMICAL PROPERTIES	STANDARD OF TEST	REQUIRED VALUE	VALOR PORSLIM	VALOR PORSLIM	ASTM STANDARD OF TEST	ASTM INDUSTRY STANDARDS	ASTM FMG RESULTS (as tested by Smith Emery laboratory)
Sizes	ISO 10545.2	Length and width Thickness Linearity Wedging Warpage	± 0,6% max ± 5% max ± 0,5% max ± 0,6% max ± 0,5% max	± 0,5 mm ± 3% ± 0,5 mm ± 1 mm ± 0,2%	ASTM C-499	Average facial dimension < 1,5% Wedging ±1% - Warpage ±1% of any edge Range of thickness (inch.) < 0,04%	0,15% 0,014% - 0,33% 0,17%
Water absorption	ISO 10545.3	≤ 0,5%	≥ 0,06% *		ASTM C-373	Tile shall be impervious	< 0,05%
Flexion Resistance	ISO 10545.4	Modulus ≥ 35 N/mm²	53 N/mm²				
Deep Abrasion Resistance	ISO 10545.6	volume ≤ 175 mm³	≥ 142 mm³		ASTM C-501	≥ 100	217
Coefficient of Linear Thermal-Expansion	ISO 10545.8	≤ 9x10⁻⁶ °C⁻¹	6 MK⁻¹		ASTM C-1028		Meets or exceeds requirements (Please ask for individual test reports)
Frost Resistance	ISO 10545.12	Must not produce noticeable alteration to surface	Frost-proof		ASTM C-1026	No sample must show alterations to surface	Resistant
Chemical Resistance	ISO 10545.13	Must not produce noticeable signs of chemical attack	Not attacked		ASTM C-650 ASTM C-648	To 10% HCL Acid - No sample must show visible signs of chemical attack to 10% KOH Alkali 250 PSI or greater	unaffected
Stain Resistance	ISO 10545.14	1 < X < 5	CLASSE 5 - CLASS 5 ** Stains removed by hot running water (without detergent)				
Color Resistance to Light	DIN 51094	Must not produce noticeable color attack	No change in brightness or colour of samples				
Friction Coefficient (slipperiness)	DIN 51130	Test Method Applicable	R9 Pre-polished surface				
Friction Coefficient (slipperiness)	BCRA REF CEC 6/81	Satisfactory friction 0,40 ≤ μ ≤ 0,74	> 0,40 Pre-polished surface				
Fire Resistance	96/603/CE		A1				

* The products having an absorption < 0,5 are classified according to the UNI CEN standards “Fully vitrified tiles” and according to the ASTM standards “Impervious tiles”

** It can vary according to the surface finish

