
Manufacturer recommendations for installation of large format tiles

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STEP 1

SURFACE PREPARATION (WALL & FLOOR)

• SURFACE PREPARATION (WALL)

The substrate must be flat, without cracks and solid and must have finished the usual hygrometric shrinkage.

Flatness differences must be previously smoothed by suitable levelling products. Cracks or splits must be de-dusted and sealed with suitable materials. Large format tiles can also be installed on existing wall coatings: before the application, make sure the existing coating is solid, stable, anchored on the wall and without loose parts.

The substrate must be flat. Flatness differences must be smoothed by suitable levelling products. Before the application, clean the existing wall coating with a solution of water and sodium hydroxide, then rinse carefully. If a chemical cleaning cannot be made, a mechanical abrasion is recommended. Depending on the substrate to be coated, it may be necessary to use a primer to improve bonding on the tile may be installed over most structurally sound substrates, if they are clean, smooth, dry and free of wax, soap scum and grease.

Respect the structural joints and arrange fractioning joints close to the stringcourse bands, corners and edges and approximately

every 20-25 m² of surface. Joints must be sealed with suitable materials available on the market.

Substrate, as possibly recommended by the manufacturer of the used adhesive. Joints of min. 1 mm are recommended, depending on the size of the slab and on the dimensions of the wall to be coated.

Before grouting the joints respect the time indicated by the adhesive manufacturer: epoxy resin or cement based products can be used. The latter ensure a better evenness and color fastness in time.

• SURFACE PREPARATION (FLOOR)

Tile may be installed over most structurally sound substrates, if they are clean, smooth, dry and free of wax, soap scum and grease.

Any damaged, loose or uneven areas must be repaired, patched and leveled.

Remove any moldings, trim, appliances, etc., which could interfere with installation. (Ensure the substrate / bedding layer (thickness not to exceed 20-25mm) to be in line & level.

STEP 2

APPLYING ADHESIVE (FOR WALL & FLOOR)

• APPLYING ADHESIVE (FOR WALL)

It is important to use a deformable or highly deformable adhesive able to suit the coating natural expansion movement, thus balancing the tensions generated on the substrate.

On crumbled or very absorbing renders it may be necessary to use a professional water-based concentrated insulating product (PRIMER), according to the indications given by the chosen adhesive manufacturer.

Apply the adhesive in full bed with back-buttering both on the substrate and on the slab, caring to cover corners and edges, too. The quantity of used adhesive must be directly proportional to the slab dimensions and to the substrates features.

The operator shall choose the squeegees to be used: generally smooth or 3-mm toothed squeegees are to be used on the slab and 6-9-mm sloped toothed squeegees are to be used on the substrate. It is important that the quantity of adhesive ensures an application without air gaps between slab and substrate.

Apply the adhesive gradually only on the surface involved in the application of a slab, to avoid surface film that could jeopardize bonding. The application of large format tiles indoors, can be made with a single spreading on the substrate with a 6-mm toothed squeegee; this must anyway be checked according to the substrate.

Complete the operation beating the surface by suitable rubber coated squeegees to ensure a perfect bonding and to remove possible air gaps.



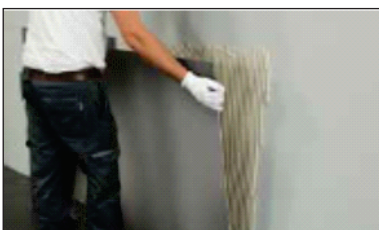
Check the flatness of the wall to be coated.



Application of the adhesive on the slab back side



Application on the adhesive on the wall



Application of the slab



Application with spacer



Grouting

• APPLYING ADHESIVE (FOR WALL)

Select the right adhesive for the substrate you're using. Carefully read and follow all instructions and precautions on the adhesive or mortar package. Mix only enough to be used within 30 minutes.

In case of laying with adhesive, apply adhesive paste on firm and uniform sub-base of well leveled, properly compacted and adequately cured PCC surface with a notched trowel avoiding excess water in paste. Simultaneously apply a thin layer of adhesive paste on back of tile better bonding.

Keep approx. 10 mm wide gap below skirting to take care of product's thermal expansion. Provide suitable backer Rod of bigger size (say 12-155mm dia) in said gap of 10mm width

below skirting so that it is tightly fitted.

Keep 3-5 mm wide expansion joint after every 3mtrs on both sides (i.e. along length & breadth).

Using the type of trowel recommended on the adhesive package spread a 1/4" coat on the surface of one grid area, using the flat side of the trowel. Do not cover guidelines.

Next, use the notched side of trowel to comb adhesive into standing ridges by holding trowel at a 45-degree angle.

Then remove excess adhesive, leaving a uniform, ridged setting bed. Don't spread a larger area than can be set in 15 minutes



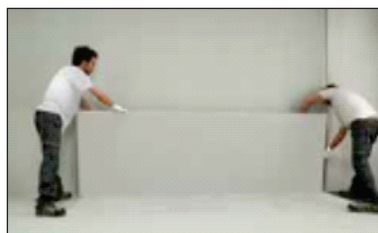
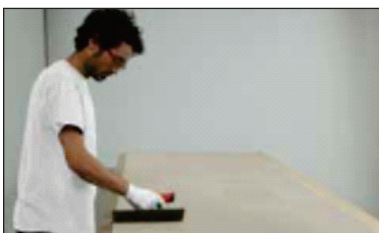
Check for the flatness of the screed or of the existing floor flatness



Differences can be smoothed by self-levelling products.



The choice of the squeegee to be used depends on the finishing and flatness of the substrate and is directly proportional to the slab dimensions



Apply the adhesive with the back-buttering method in full bed, first on the slab back side and then on the substrate, caring to cover corners and edges, too, and avoid air gaps between substrate and slab. Lay the slab carefully on the long side and, keeping it slightly slopped, lower and apply it and make it adhere on the substrate.



Fit the spacers to create the wished joint.



Beat on the surface using a rubber coated squeegee caring to eliminate gaps and air bubbles.

STEP 3

CUTTING TILE

Carefully measure tiles to be cut and mark with a pencil or felt-tip pen.

Make straight or diagonal cuts with a tile cutter, curved cuts with a nipper (chipping away small pieces for best results) and full-length curved cuts with a rod saw.

Sharp-cut edges may be smoothed with a carborundum stone.

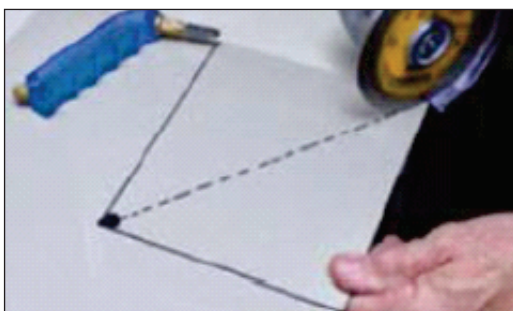
Use diamond rimmed hole saws in various diameters. **DO NOT USE HAMMER DRILLS.** Moderate pressure and speed are enough to minimize bit-walk at start of drilling process.

Water will cool the tile and provide lubrication to the drill bit. For large radius or curved cuts a diamond grit jig saw blade provides good results.

It is recommended for electrical box cuts, before using a right angle grinder for the straight cuts, that four pilot holes should be drilled in each corner, these holes will help relieve surface tension and vibration where the straight cuts intersect.

Cutting must be from the tile panel face to the back, fully supporting the underside of the tile panel on a flat surface. This process will greatly reduce stress and avoid cracking. For smaller cuts and corner cuts the use of a simple high quality glass cutter.

In addition manual tile cutters and right angle grinders with a proper dry cut porcelain blade are also effective.



STEP 4

SETTING TILE (FOR WALL & FLOOR)

• SETTING TILE (FOR WALL)

When installing multiple tile panels, lippage control straps and caps are required to minimize lippage between tile panel edges. The lippage control systems are designed only to fine tune lippage between tile edges, the main alignment of tile edges should be accomplished through proper mortar application and embedding techniques.

After the first tile panel has been installed and the mortar has been spread for the second tile panel, place the straps uniformly along the edge of the first tile panel (two inches from the corner and approximately every 10 inches along the length).

DO NOT move the strap once in place, as this will create a void under the tile. DO NOT apply the lippage control cap at this time.

Once the second tile panel is in place and the same embedding procedure described above is accomplished insert the appropriate grout spacer and lippage control cap and then cinch down the lippage control caps tightly to bring adjoining tile edges into alignment.

Using a high-speed sander with pad, work along the edges of the tile panel and between each of the lippage control straps and caps, some additional tightening of the Caps may be necessary.

The combined use of a vibrating sander and cap tightening effectively increases mortar coverage along the vulnerable edge of the tile panel while at the same time minimizing edge lippage.

2mm to 3mm grout joint size is recommended.

• SETTING TILE (FOR FLOOR)

Variation of shades is an inherent characteristic of ceramic tile – mix tiles from several cartons as you set, for a blended effect.

Begin installing tiles in the center of the room, one grid at a time. Finish each grid before moving to the next.

Start with the first tile in the corner of the grid and work outward.

Set tiles one at a time using a slight twisting motion. Don't slide tiles into place.

Insert tile spacers as each tile is set, or leave equal joints between tiles. 2mm to 3mm grout joint size is recommended. The edges of the porcelain tiles are not eased or beveled, making them susceptible to damage from heavy rolling loads and impact. Full and flush movement joints and grout joints should be specified to minimize edge impact.

Fit perimeter tiles in each grid last, leaving 1/4" gap between tile and wall.

Any rectangle porcelain should never be set in a running bond pattern, rather no more than a 1/3 overlap; the joint should be widened to 3/16" and use of a large unit porcelain mortar should be employed.

To ensure the tile is completely bounded and that all the air has come out, go over the surface with the vibro-plate or tap the surface by hand with a special anti-bounce float made from rubber

When grid is completely installed, tap in all tiles with a rubber mallet to ensure a good bond and level plane.

Remove excess adhesive from joints with a putty knife and from tile with a damp sponge.

Do not walk on tiles until they are set (usually in 24 hours).

STEP 5

GROUTING JOINTS

Generally, you should wait about 24 hours before grouting (refer to the adhesive package for specifics).

Carefully read and follow all instructions and precautions on the grout package. Make only enough to use in about 30 minutes.

Remove tile spacers and spread grout on the tile surface, forcing down into joints with a rubber grout float or squeegee. Tilt the float at a 45-degree angle.

Remove excess grout from surface immediately with the edge of float. Tilt it at a 90-degree angle and scrape it diagonally across tiles.

Wait 15-20 minutes for grout to set slightly, then use a damp sponge to clean grout residue from surface and smooth the grout joints. Rinse sponge frequently and change water as needed.

Let dry until grout is hard and haze forms on tile surface, then polish with a soft cloth. Rinse again with sponge and clean water if necessary.

Wait 72 hours for heavy use.

Don't apply sealers or polishes for three weeks, and then only in accordance with manufacturer's recommendations.