

INSTALLATION GUIDELINES FOR MOSAICS

Please take a few moments to read this document. Because this mosaic product is hand made for this particular job, it requires special attention. Every effort has been made at the factory to make the installation as easy as possible. These tips should help you if you have never installed face-taped, hand made mosaics. Pay particular attention to sections B, C, and D.

A. Preparing the Space to Install Mosaics:

1. Set the mosaic on a substrate that is rated to hold natural stone. This will include cement boards, traditional mud beds, etc. Consult a professional builder on this matter before starting the project.
2. There must be at least an inch and one eighth of substrate to support the mosaic. Make sure the final height of the mosaic including substrate and mortar will be the desired height at the completion of the job (normally the same height as the adjacent floor). If you are tiling under installed cabinets, insure there is adequate room to install appliances.
3. Consider where the finished surface of the mosaic should be. Will the mosaic panel be even with some custom moldings or a mosaic rug even with an existing hardwood floor? Whatever the case, this should be planned before nailing in any substrate. To achieve the finished surface desired, it may require building walls out or even recessing the surface on which the mosaic will be installed. There will be an inch and one eighth substrate, perhaps a sixteenth inch of setting material and at least three-eighths for the stone mosaic.
4. Insure the framing is structurally sound and up to code. If a type of cement board is used and the mosaic is larger than one piece of the board, the board may have to be cut in several pieces to fit the space. Tack the substrate up with one and one quarter inch corrosion resistant roofing nails. Fill all the joints with the same mortar used to set the tile. Embed the two-inch wide, fiberglass cementitious backer unit tape in the mortar, and level.
5. Be sure the entire surface is level. Each piece of board should be flush with the next, all cement floated properly, etc.

B. Dry Laying or “Fitting” the Mosaic:

1. First, dry lay the mosaic in the spot being prepared for it to be set in. Templates can be wrong; cabinets moved, walls shifted, etc. This will insure the mosaic is going to fit before it is laid in the mortar. Finding out if the size needs to be adjusted before setting with the mortar affords the opportunity to properly and evenly adjust the mosaic to fit the space or adjust the space to better fit the mosaic. The factory provides “maps” keyed to the marked sections of tile.
2. Client approval must be confirmed once the space and the mosaic are adjusted to work with each other. If the mosaic is unacceptable to the client under the tape, it will not likely be approved after the installation.
3. Once a manageable size has been determined, cut and connect the pieces. Make notes and marks so that each section is identified within the space. A good method is to trace around each piece or section on the floor or wall then number each piece on the space as well as on the mosaic. This gives a reference for where each section should go. This is an important part of dry fitting. Mosaics being made out of possibly several hundred tesserae per square foot are very flexible and can stretch and shrink easily. The pieces must be set back exactly where they were when it was dry fit to avoid having as much as a several inch deviation of the mosaic to its intended space.

C. Setting the Mosaic:

1. Remove the mosaic from its dry lay position and flip each section face down. This is TAPE SIDE DOWN. There may be clear contact paper on the back of the mosaic. It is very important to carefully pull this off the back of every piece. Set the sections aside remembering which piece is where and how they all fit together.
2. Thoroughly clean the surface on which the mosaic will be installed, sweep all debris off the surface, vacuum and wipe it down with a damp sponge. After the surface is completely clean, inspect the surface for any dips or bumps. Make all repairs necessary to make the surface level and smooth.
3. Prepare the mortar. Latex modified thinset is suggested. *Be sure to use white thinset.* Insure that whatever type of mortar used is rated to hold the types of stone that are included in the mosaic. Follow the package instructions to make it ready to be troweled onto the surface.
4. Using no larger than a 1/4" x 1/4" - "V" notched trowel (a 3/16" - "V" notch should be the minimum size used so that differences in tesserae height can be accommodated), trowel out enough mortar to cover the area to set the first few sections. NOTE: Slight differences of up to 1/16" in height are common as the marble is sourced from quarries all over the world and there is no universal standard.. The lines traced around the sections will serve as a guide. When troweling the mortar out be sure that it is spread out evenly. Thick spots will result in mortar bleed up through the grout seams that will then have to be picked out below the surface before grouting. Thin spots will result in tesserae not sticking at all.
5. Carefully place the first two to four sections (tape side up) into place. Using a level surface (such as a block of wood) and a rubber mallet, tap the sections into the setting material, avoiding the outside edges that will abut the next sections. Then press the next sections into the setting material, making sure that they are as close to the first sections as possible. Doing this is extremely important so that the seams don't show. Use the grout space between the tesserae within the section of mosaic as your guide for space between the taped sections. Tap again with your flat level surface (such as a block of wood), this time pressing down on the seams between sections (this avoids "cupping"), but again avoiding the outside abutting edges (except for the edges that are against the outside wall or threshold).
6. Repeat step (5) on the next few sections. After several sections are set to level, closely examine the seams in between each of the sections. If the seams are undetectable after careful examination, the job has been done well. Seams are created by gaps in section placement, uneven (height) pieces along the edge of the seam, and tesserae not lining up within a section, etc. The seams will need to be re-worked between the sections as necessary to make them disappear. Techniques to rework seams include but are not limited to: cutting through the tape with an Xacto or utility knife to adjust sections of tesserae around the seam; extracting and resetting pieces on the seam to blend them in. Repeat steps (4) and (5) until the mosaics are entirely set and seamless, and the installer and the customer are completely satisfied with the installation. Follow the instructions on your mortar package; *do not* let anyone go near it for 24 to 36 hours depending on the type of mortar chosen.

When installing on walls.

Follow the instructions for **C. Setting the Mosaic:** with these added tips -

If your product has arrived in approximate 12"x12" face taped pieces, dry lay it on the floor and square it up to your template. The face tape is forgiving enough that it can be stretched slightly to make it fit. Take the piece, face tape down, and place it across your leg, just above the knee and gently stretch.

With 2” or 3” clear plastic tape, join as many pieces together as you and helper(s) can handle. Make sure that the grout space between the pieces you are joining are the SAME as the grout space between the individual tesserae. When joining the large pieces on the wall, play with it until the grout space looks the same at the seam as it does within the taped piece. Once you have the desired fit on the wall, tape these seams together. This will help reduce or avoid slippage. This will eliminate any unsightly seams in the finished installation and will give the mosaic pattern fluidity and unity of design.

The factory suggests that you use a “one hour” thinset such as Mapei KER Granrapid. Be sure to mix it to a very tacky consistency like mashed potatoes. Gravity is working against you and you must not leave a wall until it sets up firmly. If you can prop something under the tile (if it doesn’t already rest on something) all the better. Small brads or nails are sometime used to hold up tiles. By slitting the tape with an Xacto or utility knife you can make adjustments. You may have to hold it in place until it is set. Vigilance is the key here.

D. Pulling the Tape & Repairing Loose Tesserae:

1. Once the mortar has dried and the tesserae have firmly adhered, the tape must be carefully removed. Begin at any convenient spot and start peeling the tape backward on itself. It is sometimes helpful to use an Xacto or utility knife to get a corner of a piece started and then pull the rest by hand. If many pieces come up with the tape, you have either 1) not allowed enough time for drying or 2) not applied enough thinset underneath.
2. As the tape is pulled off the face of the mosaic, loose tesserae will likely come up. This is normal. When you encounter the spots where there are only a couple of loose pieces, just set them next to the hole they came from and proceed to keep pulling tape. For the larger sections that are loose, (this is not normal) try and cut through the tape around the loose section and extract it all at once to avoid having to piece it together, one tesserae at a time.
3. After pulling all the tape and setting all the loose tesserae next to the spots they need to fill, then thinset the loose tesserae back into place. First, insure that the pieces will fit back in the holes and set flush with the chips around it. The cavity may need to be cleaned out until the chips fit properly. Once a perfect fit is achieved, mix enough thinset to fix the spot. Backbutter the pieces with thinset then set them into place. Repeat this until all the holes are filled. If a rapid setting thinset is used, the mosaic will be ready to grout in 1 to 2 hours. If regular thinset is used, then it will be ready in 24 hours.

E. Grouting the Mosaic:

1. Before grouting, some tesserae will have a slight film on their surfaces and will appear cloudy. This film will disappear after grouting and final cleaning. If your mosaic is a tumbled or honed finish, apply a grout release only to the tops of the tesserae.
2. Grout as usual.
3. Clean the joints with a damp sponge taking care not to remove too much grout. A powder residue will appear. Buff this with a soft dry cloth.
4. If grout dust still remains on the tiles, use water and rinse repeatedly until dust is gone.
5. Occasionally tape residue will be left on the surface of the tiles. If this is the case, use NAPA adhesive remover (available at NAPA auto parts stores) or a similar product and it will dissolve easily.

BACK-BUTTERING

Occasionally tesserae will be of slightly different thicknesses; if glass and marble are mixed, for example. To even what will be the top surface of the mosaic a technique called “back-buttering is used.

Tesserae mosaics are face-mounted on tape. Place tesserae tape side down on flat surface. Spread powder (dry mortar) into grout joints with foam paintbrush. Fill the grout joints, leave no powder on tesserae. Mix dry mortar and acrylic latex additive to proper texture (thick enough to stand up when trowel/spreader is passed through). Use flat side of plastic trowel to carefully back-butter tesserae. Spread a thin layer of mortar to cover tesserae. Let dry for 24 hours.

Mounting:

Prepare mounting surface as needed – it should be stable and free of cracks, waxy or oily films, curing compounds, dust, or any other substance that could act as a potential bond breaker. Mix dry mortar and acrylic latex additive to proper texture (thick enough to stand up when trowel/spreader is passed through). Apply bonding mortar coat to substrate with the flat side of trowel/spreader pressing hard to attain good contact. Comb mortar with the large tooth edge of the trowel/spreader to achieve a uniform coat. Recomb mortar bed with the flat side of trowel to render a flat, ridge free, and uniform application. Spread only as much bonding mortar that will allow for installation of tesserae and tape while bonding mortar is still in a fresh condition and prior to its initial set.

Mount each section with tape side up. Apply bonding mortar to substrate as explained above. Begin mounting slabs in small sections (approximately 4-10 square feet). Firmly press each slab into the setting material, while pressing down on one next to it to avoid “cupping” of edges, checking to make sure there is sufficient coverage with the setting material. Then beat in lightly with rubber grout float or wooden block. Let stand for 24 hours then remove tape. Brush powder out of grout joints with stiff bristle brush. Clean the surface with adhesive cleaner to remove any tape residue. Then seal tesserae with grout release (to prevent grout from penetrating). Allow to dry.

NOTE: Certain marbles may be discolored by grout. These should be sealed or treated with grout release PRIOR to grouting – ALL Tumbled Marble – ALL Honed Marble – ALL Limestones: Fontenay Claire, St. Richard, St. Vincent, Ivory Cream. Any light colors that might be porous: Calcutta Tia, Rosa Portogallo, Thassos, and Celeste.

Suggested Materials

Mapei – KER-102 - Kerabond –
Premium Floor and Wall Dry Set Mortar
Mapei – KER-310 – Keralastic
Flexible Acrylic Latex Additive
Mapei- KER- Granirapid
Premium Rapid-Setting Flexible Mortar System
Mapei – KER-318 - Granirapid Liquid Flexible Admixture
Mapei – KER-800 - Polymer – Modified Wall Tile Grout
Regent Stone Products – Silicone Impregnator (sealer)
NAPA – Universal Adhesive Cleaner
Plastic or metal 1/8” – 3/16” “V” notched trowel/spreader

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