

VIHARA

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APPLICATIONS

- Interior walls
- Exteriors (including freeze thaw areas)
- Pools (see Submerged Applications on page 3)
- Showers (including steam)
- Light duty floors and countertops

HANDCRAFTED CHARACTERISTICS

Vihara glass tiles are made with the intention that there is variation in color, shade and surface texture from piece to piece. **Surface folds, shallow cracks and minor edge irregularities (including occasional chipped sides/edges) are natural characteristics of Vihara and should be expected.** Once properly installed, the beauty of this handcrafted glass is enhanced by such variation. Samples and photos provided are representative, but may not indicate all variations of these characteristics

INSPECTION

Always inspect your tiles before they are installed, as installation of material constitutes acceptance. We strongly recommend the selection of an experienced tile contractor to blend and set Vihara glass. Natural variation in shade will occur from sheet to sheet. Prior to installation verify that size, color, finish and coverage match the specification and are consistent and acceptable. We recommend a minimum of 10% overage on all orders. Any questions as to acceptability must be resolved before installation. Sonoma Tilemakers is in no way responsible for the installation of our tiles or thereafter. The responsibility for correct installation rests with the end user.

INSTALLATION & MAINTENANCE

PAPER FACING

Please note that Vihara glass tiles are “PAPER FACED” with a water-soluble glue for the ease of installation and for overall appearance. Paper facing is used on Vihara glass because they are transparent or translucent, where mesh backing will not work. All sheets are printed with the words “Mount This Side Out” or “Top Face,” **indicating that the paper must be facing out. DO NOT install the tile with paper embedded into the thin-set.** The paper will be removed after the mosaic has been seated into the thin-set. This is done by wetting the paper, lightly sponging, allow a few minutes for water to soak, and then peel off. Clean well before sealing.

PREPARATION

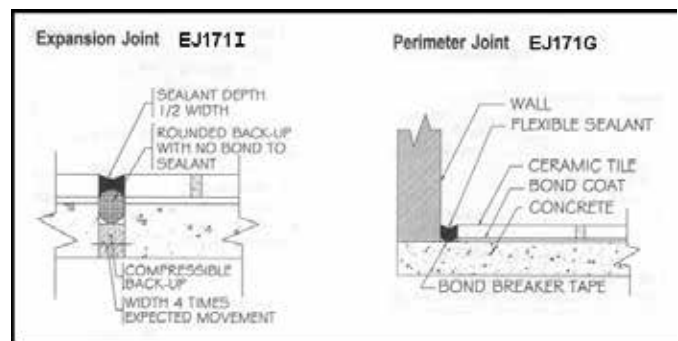
Glass tile must be installed over a properly prepared substrate—a clean, sound, flat surface that is free of cracks, contaminants, sealers, paint or adhesives. This is one of the most important factors in ensuring a good installation as glass tile has translucent and reflective properties that may reveal the presence of inconsistencies in the substrate.

Approved Surfaces for Setting

- Concrete slabs (on grade) cured a minimum of 28 days, free of cracks, curing agents and any signs of laitance.
- Well cured mortar beds (ANSI A108.1B Standards-cured a minimum 7 days).
- Cement Board/backer units (CBU) to ANSI A118.9 Standards (Note: An ANSI A108A-2.1.8 membrane is required behind all CBU installations in wet areas).
- Gypsum board (dry areas only) installed to ASTM C1396 or ASTM C1396M-04 Standards.
- Do not install glass tile directly over Particle Board, Plywood or painted surfaces.

Movement/Expansion Joints: Refer to TCNA - EJ171

A soft joint is required between any change in direction or 90-degree angle and any dissimilar material within the tile installation (tile to tile, tile to metal, tile to wood). Additional movement provisions may be required based on the conditions of the project.



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INSTALLATION & MAINTENANCE

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ADHESIVES-MASTICS

- Organic adhesives (mastic) are considered unacceptable, due to yellowing, lower bond strengths, and the fact that they set or dry by air exposure. Some epoxies may also be unacceptable due to low flexibility, chemical staining, and degradation under UV sunlight exposure.

THIN-SET MORTAR CHOICES

- Choosing the best mortar for the job is important to assure a long-lasting installation. The following (white) Thin-Set Mortars are recommended. (Always consult the manufacturer’s product data sheets for specific installation instructions):

CUSTOM BUILDING PRODUCTS

Glass Tile Premium Thin-Set Mortar

LATICRETE

Glass Tile Adhesive Mortar

MAPEI

Adesilex™ P10 Premium-Grade, Bright White, Thin-Set Mortar with Keraply Mortar Additive

TEC Specialty Products

Super Flex™ Ultra-Premium Thin Set Mortar

We recommend the use of a **bright white thin-set**, which allow the true color of the glass to come through. **The color of the thin-set will affect the final appearance of the glass color.** The most satisfactory results have been achieved in straight-combing the thin-set to the wall, placing the tiles and then “seating” them, by pushing the tiles perpendicular to the combed thin-set, forward then back, rolling the combed thin-set into itself and coating the back of each tile, thus eliminating trowel lines. When first set in place, every effort should be made to smooth the thin-set both vertically and horizontally to minimize trowel lines.

CUTTING

- Vihara can be cut with the use of a high quality wet saw with a diamond blade designed for cutting glass. Pieces can be cut individually or by the sheet using a template. Avoid saturating the paper facing when cutting. If paper gets wet allow it to fully dry before installing. See below for a video link on How to Cut Vihara Sheets. To prevent rough edges, glass tiles must be cut in an extremely slow manner.
- Note:** Cut tile face up.
- Note:** Cutting Liners: we recommend putting masking tape on the cut line to avoid flying chips.

How to Cut Vihara Sheets Video:

Visit sonomatilemakers.com/vihara/#downloads for a video demonstrating how to cut Vihara Sheets.

DRILLING

- Wet drill tile before installation. Drilling from both sides will minimize chipping and cracking.
- Use a diamond core bit at a low speed (250 to 300rpm)
- Constantly wet the tile and drill bit with water during drilling to prevent tile from cracking
- Openings should be 1/8” larger than fixture to avoid stress transfer to the tile

GROUT

Grout color can determine the final aesthetic appearance and should be selected carefully. Be aware that the handmade surface of Vihara glass tile will collect grout during the grouting process. The amount of grout “visible” after installation will depend primarily on the contrast between the grout color and tile color, how well the tiles were cleaned before/after grouting, and viewing distance. Therefore, we recommend choosing a grout color that coordinates with the colors found in the glass itself and continually cleaning excess grout from the surface while work progresses. Thorough cleaning is very important as it is very difficult to remove residue or films once set. 1-3 coats of grout release may be applied to make grout clean-up during installation easier. Allow grout release to set per manufacturer’s instructions.

Grouting may be done after tile is firmly set (we commonly recommend a minimum of 48 hours). Apply grout (sanded or un-sanded) with a rubber float, making sure that grout joints are completely full and free of voids and pits. Continually clean the surface with a clean, damp cloth or tile industry hydrophilic sponges. Allow grout to set until a haze forms on the tile and the grout in the joints sets firm. Use a soft, clean, dry cloth to polish off the haze and remaining grout residue. This step is key to avoid unwanted grout residue and should be done continually as work progresses, while grout is fresh and before it hardens. The final cleaning of grout haze is done approximately 30-45 minutes after initial grout cleanup and tile polishing is done with a clean, dry cotton cheesecloth or terry towel approximately 12 hours after grouting. Allow the grout to cure for a minimum of 7 days before aggressive use or steam cleaning.

It is imperative to follow manufacturer’s instructions for the products. If in doubt, please consult your installer or the dealer from which you purchased the setting materials. We make no representations as to the fitness for purpose of third party Mortars and Grouts.

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SUBMERGED APPLICATIONS

Note: Unless the following instructions are carefully followed, Sonoma Tilemakers does not recommend the use of 1x4 or Ehex for submerged water applications. Only an experienced, professional tile installer who is familiar with the product and procedures should perform the work.

Please note: Many installers are **not** qualified for this type of installation. If guidelines are not followed in your Vihara installation for a submerged application with 1x4 or Ehex, it is likely to fail. Tiles may crack or fall off if not properly installed.

- Pools or water features should be protected from direct sunlight, excessive heat, wind, precipitation and freezing during substrate preparation, installation and curing. Follow guidelines set forth in TCNA P-602.



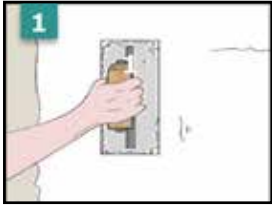
- All surfaces to receive tile shall be sound, smooth, flat, clean and free of dust, oil, grease, paint, tar, wax, curing agents, primers, sealers, adhesive residue, release agents or any other deleterious substances or debris which may prevent or reduce adhesion to the substrate.

- The following cure times are industry specified minimums. However, several materials manufacturers provide products that will reduce these requirements. Contact your setting materials manufacturer for information.
 - Shotcrete cure time: 28 days
 - Mortar bed cure time: 7 days
 - Post Grout (before filling pool with water): 21 days
- Waterproofing/Anti-fracture Membranes: Waterproofing and Anti-fracture provisions are critical to the success of glass tile installation in pools. The acceptable systems available are continuously revised as new technologies become available. Contact the department of your preferred materials manufacturer for current products and application procedures in submerged applications.
- Minimum 95% bond coverage (100% for translucent tile) is required when installation glass tile in submerged environments
- Movement/Expansion Joints: Refer to TCNA – EJ171
 - A soft joint between tile installation and coping is CRITICAL to the success of glass tile installation in pools.
 - A soft joint is required between any change of material within the tile installation (tile-tile, tile-metal, tile-coping).
 - Additional movement provisions may be required based on the conditions of the project.
- After final grout, allow installation to cure 21 days prior to filling the pool (unless materials manufacturer approve otherwise).
- Protect the installation during the cure time.
- Test water chemistry at fill source (tap or hose bib), and once the tank is full to verify water is balanced. Properly balance the water as defined in ANSI/APSP-5 or National Plasterer’s Council’s startup procedure.

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Step-By-Step Mosaic Installation



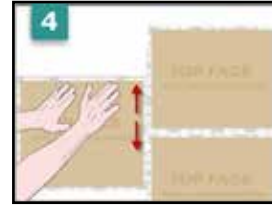
KEY in setting mortar to substrate using flat edge of trowel. Work in areas of 6-10 SQ. FT.



NOTCH: Use correctly sized V-Notch trowel to achieve uniform thickness.



FLATTEN: **Important** - Lightly knock down the tops of the notched thinset with flat edge of trowel until flat and smooth.



Sheets must be installed **PAPER FACING OUT**. Gently seat tile into the thinset, paying attention to sheet lines and directional arrows, if included. **Consider offsetting sheets.**



Using a rubber float lightly tap over tile surface to achieve full bond.

Install Tip: A 3/16" x 1/4" V-notch trowel is recommended for installation. Check periodically during installation to verify proper coverage



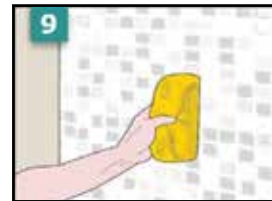
Wait approximately 15-30 minutes before lightly wetting the paper with a damp sponge. It may take several passes to properly saturate. **Do not use excessive water.**



Begin peeling paper off 5-10 minutes after wetting. Begin in one corner and pull close to surface at an angle towards the opposite corner, until paper is free from tile.



Adjust tiles as needed.



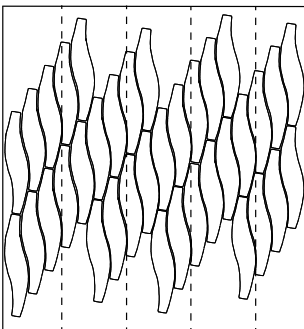
Promptly clean excess setting materials from tile surface with damp sponge.



Follow setting manufacturer's recommended stated cure times prior to grouting.

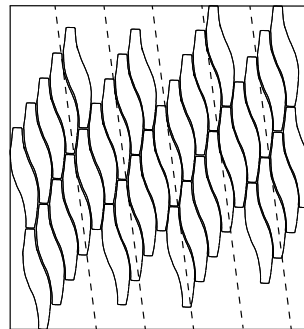
Swish Installation Tips:

Vertical Look:



Lining the side edges of Swish parallel to walls will result in pieces being in line with each other (above and below), note that top and bottom edges of piece will not be perpendicular to the Ceiling/floor.

Angled Look:



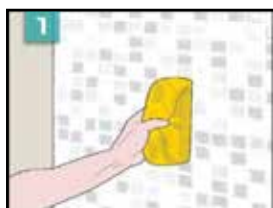
Lining the top and bottom edges of Swish perpendicular to floor/ceiling will result in pieces (above and below) angling away from each other.

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Step-By-Step Mosaic Grouting

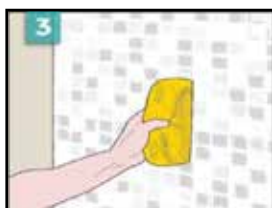
Our artistic glass may contain noticeable surface variations as a result of the manufacturing process. During the grouting process these may become more noticeable if grout residue is left to cure on the surface. A soft bristle brush may be used to remove the excess grout from the surface during the initial cleaning phase. It is critical to remove all excess grout from the surface of the tile before the grout is allowed to fully cure.



1 Pre-wash tile with damp sponge to remove 100% of glue or other residue before grouting.



2 Apply grout with a rubber float making sure joints are free of voids.



3 Use a damp sponge to remove excess grout, leaving only a slight haze residue. Use a soft bristled brush to aid if necessary.



4 Wait 30-40 minutes before polishing off haze residue with a clean microfiber cloth. Perform as work progresses while grout is fresh.



5 Wait 12 hours before performing a 'final polish' to remove any residual haze with a dry terry or microfiber cloth.

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SETTING MATERIALS

<p>ARDEX www.ardexamericas.com</p>	<ul style="list-style-type: none"> • X 77™ MICROTEC® Fiber Reinforced Thin Set Mortar (Dry Areas Only) • X 77™ MICROTEC® Fiber Reinforced Thin Set Mortar with E 90™ Mortar Admix (Wet/Dry Areas) • S 48™ Rapid-Set Mortar (Wet/Dry Areas)
<p>BOSTIK www.bostik-us.com</p>	<ul style="list-style-type: none"> • ReFlex® Ultra-Premium Latex-Modified Thin Set Mortar (Dry Areas Only)
<p>CUSTOM BUILDING PRODUCTS www.custombuildingproducts.com</p>	<ul style="list-style-type: none"> • Glass Tile Premium Thin-Set Mortar (Wet/Dry Areas) • MegaFlex® Crack Prevention Mortar (Wet/Dry) • FlexBond® Premium Crack Prevention Thin-Set Mortar
<p>LATICRETE www.laticrete.com/home.aspx</p>	<ul style="list-style-type: none"> • Glass Tile Adhesive Mortar (Wet/Dry Areas) • 254 Platinum (Wet/Dry Areas)
<p>MAPEI www.mapei.com/US-EN</p>	<ul style="list-style-type: none"> • Adesilex™ P10 Bright White mixed with Keraply Mortar Additive (Wet/Dry Areas)
<p>TEC Specialty Products www.tecspecialty.com</p>	<ul style="list-style-type: none"> • Super Flex™ Ultra-Premium Thin Set Mortar (Wet/Dry Areas)

Acceptable systems for glass tile installation are continuously revised as new technologies become available. While we are providing this basic list, this list should not be considered exclusive or complete. There may be other manufacturers who produce suitable installation products, including products we may not be aware of. It is the installer's responsibility to be knowledgeable about the most current recommended systems.

RESOURCES & INDUSTRY GROUPS

- (NTCA) National Tile Contractors Association www.tile-assn.com
- (TCNA) Tile Council of North America www.tcnatile.com
- (TTMAC) Terrazzo Tile and Marble Assoc. of Canada www.ttmac.com
- (CTIOA) Ceramic Tile Institute of America, Glass Field Reports www.ctioa.org

Sonoma Tilemakers provides product information and information concerning installation procedures and maintenance practices to assist each of its customers in making selection, usage, installation and maintenance decisions. Customer's selection and usage of Sonoma Tilemakers products and the installation procedure and maintenance practice employed by each customer are outside the direction and control of Sonoma Tilemakers and are strictly and completely the choice and responsibility of each customer and their installer. Sonoma Tilemakers does not warrant any product for any specific use, nor any installation procedure or maintenance practice, and expressly disclaims all asserted claims after installation of Sonoma Tilemakers products.