

Lightstreams Glass Tile Installation Manual

Lightstreams™ Glass Tile Installation Manual



This manual reviews the recommended best practices for the installation of Lightstreams Hand-Crafted Glass Tile sheets. The product lines include:

- Renaissance Collection II
- Gold Iridescent Collection

For any all-tile spas, pools, fountains, etc. please consult with Lightstreams Glass Tile prior to ordering and installation. Our standard mounting practice is to affix the tile using clear tape. Contact Lightstreams at:

sales@lightstreamsglasstile.com

209-647-2728

Overview

These recommended procedures are provided as a general guideline for the installation of Lightstreams tape-faced and unmounted glass tile for partial or fully submerged applications. Some installations may require a more detailed specification. Only experienced, professional tile installers, who are familiar with these procedures, should perform this work. **Please thoroughly read and understand these instructions before beginning any work.**

Materials Inspection

Lightstreams Tile is known for its unique variations. Variation in surface, color, tone, and shading is normal. It is common to have slight bubbles or depressions in the glass. These surface characteristics are inherent to the cast glass manufacturing process and should be expected. Buyers should inspect each box of tile upon delivery and notify us of any missing or incorrect materials within (7) days of delivery. Lightstreams ships its tile FOB our facility and insures all shipments for 100% of value on the buyer's behalf. Loss due to breakage, missing boxes, etc. should be reported to the freight carrier that delivered your shipment. The buyer is responsible for determining the acceptability of the product prior to installation. Use the "white side" of the cardboard padded between each tape panel of glass and inspect THROUGH THE TAPE SIDE. Inspecting on a background other than white will darken the color.

Preparation

Lightstreams requires that ANSI and TCNA standards are followed for all installations. Proper preparation of the substrate, including waterproofing if applicable, proper tile installation, and use of specified setting materials is the responsibility of the installer. Preparing a pool or other substrate to receive our tile includes critical, industry-required steps, which are detailed in TCNA handbooks.

All surfaces to receive tile should be protected from direct sunlight, excessive heat, rain, and freezing prior to installation and through the tile thin set curing period. They must be sound, smooth, flat, clean and free of any deleterious substance or debris which may prevent or reduce adhesion to the substrate. For all partially or fully submerged tile installations, a waterproof membrane system is required. Thin-set mortar and grout are NOT waterproof. A movement joint, preventative tile fracture system is also required for glass tile installations.

We strongly recommend constructing a test panel of tile prior to the tile installer proceeding with the complete installation to confirm materials and procedures meet expectations.

Prior to starting your Lightstreams installation, be aware that industry recommended minimum cure times are as follows, but installers should use their own judgement as manufacturer recommendations may vary:

- Shotcrete or Gunitite cure time- 28 days
- Primary Waterproofing cure time- 1-7 days depending on product
- Mortar Bed cure time- 7 days
- Secondary Waterproofing (required for glass tile) cure time- 1 day
- Post-grout cure time (before filling pool with water)- 21 days

The mortar bed and waterproofing must reach proper cure time before tile installation can begin. There are several materials manufacturers that produce products that may reduce these cure time requirements. Contact your setting materials manufacturer for more complete details and requirements.

Recommended Thin-set and Grout Products

Experience with these products have shown to perform consistently well with Lightstreams tile. Per ANSI A108.16-3.0 and from our own internal tests and experience – **not all** ANSI A118.4 polymer thin-set mortars are suitable for glass tile installation and some products can discolor over time. Please refer to each manufacturer’s respective product instructions and warranties for further information.

TEC Specialty Products - www.TECSpecialty.com

- THIN-SET - TEC Superflex Mortar – WHITE
- GROUT - TEC AccuColor Plus

Laticrete Products - www.laticrete.com

- THIN-SET - Laticrete Glass Tile Adhesive LITE (GTAL)
- EPOXY THIN-SET - Laticrete Latapoxy 300 – WHITE;
- GROUT - Laticrete Perma Color cementitious grout
- GROUT - Laticrete SpectraLOCK

Litokol High Performance Bldg Products (sold by tiledoctor.com in US) – www.tiledoctor.com/products/

- THIN-SET EPOXY - Litokol Elastic EVO Adhesive
- GROUT - Litokol Starlike EVO

Installation Preparation

1. Verify that pool or spa is ready for tile and that all curing times have been achieved.
2. Confirm that installation environment meets all material specifications for both installation surface and ambient weather conditions.
3. Have proper thin-set mortar and grout for glass tiles on hand.
4. Ensure secondary waterproofing, also known as a crack isolation membrane, has been completed. Secondary waterproofing is typically required for glass tile installations.
5. If this is the first time to use our Lightstreams glass tile or the suggested mortars and/or grouts, we strongly recommend that a test panel be completed as timing of the various steps is critical for a proper job.
6. Once substrate curing has been confirmed, the thin-set mortar can be mixed. Review the product manufacturer’s requirements.

Site Preparation



Transparent glass tile allows direct sunlight to pass through the tile and can significantly raise the temperature of the thin-set during the curing process. All areas to be tiled need to be shielded from wind and sun. Tile should be laid and cured in shade by using tarps, screens, or umbrellas.

Ensure that ambient air temperature at the time of installation does not exceed the mortar manufacturer's limits for a minimum of **72 hours** before and during installation. This is generally 50-90°F, but please note the specific temperature ranges listed by each manufacturer. If installation is to occur when the ambient temperature is outside of this temperature range, then appropriate precautions should be taken to ensure a quality installation. Avoid drying out of the thin-set surface due to wind and heat.

Mortar Preparation



Follow manufacturer's instructions regarding water, mixing, slaking, and environmental conditions. Advanced thin-set mortars designed to be used only as instructed. Slaking simply means letting the mixed mortar sit, untouched, per the manufacturer's instructions. This is a key step that allows the chemical makeup of the mortar to work correctly. Not doing so, and using it immediately after the initial mix, will lead to the mortar getting stiff and quickly unworkable.

It is important to use clean, cool water and mix the thin-set mortar at slow speed if using a drill—ideally at 150 to 200 RPMs, but always less than 300 RPMs. Whipping the mortar at higher speeds will impart bubbles, making the thin-set overly porous.

Allow mortar to stand (slake) per product instructions. The mortar should then be remixed before application. The mortar might occasionally need to be mixed during the process of installation to maintain consistency; do not add additional water.

Movement Joint Installation TCNA Standard Design Requires:

- Flexible neutral cure silicon pool grade sealant between tile waterline and coping or concrete deck
- Maximum 8 ft on-center between joints on areas such as spa overflows and vanishing edges
- All inside corners where there is a change of plane

Final substrate inspection

Thin-set mortar will be applied directly to the substrate. Inspect the substrate for any dirt, grease, cracks or imperfections in the membrane, which might compromise the proper installation of glass tile.

Cutting and Drilling the Tiles

- If your design requires you to cut Lightstreams Glass Tile, it is recommended that to use a wet, continuous diamond blade tile saw and plenty of water. Drilling the tile is best done with a wet diamond core drill bit, ideally under water or with a water feed attachment. For small holes, a glass bit with suitable water cooling will usually work.

Installation steps

1. To initiate the bond coat, use flat side of trowel to firmly and evenly apply thin-set to substrate.
2. To establish the proper depth of the setting bed, use a notch trowel to apply additional thin-set and comb full notches in horizontal direction. Our recommended tool for glass tile is 3/16" x 1/4" V-notch trowel.
3. Working in the opposite (vertical) direction, use the flat side of the trowel to flatten the notches and achieve a smooth, consistent thin-set setting bed approximately 3/32"-1/8" depth. Remember that any gaps, bubbles, lines, etc. will show through translucent tiles.
4. We recommend back-buttering each sheet for any fully submerged and/or any translucent tile installations. Partially submerged tile may be back-buttered to ensure a superior bond to the substrate. To back-butter, apply an even, thin coat of thin-set mortar (approximate 1/16" thick) onto the back of the clear glass tile using flat edge trowel or a paint roller. This will eliminate any gaps or bubbles in the tile set which can affect the bond to substrate. A paint roller will minimize excess and waste material and will also reduce cleanup of the tile face after clear tape removal from the tile. Some thin-set mortars shrink during cure, and voids can form behind the tile. This can create unsightly discoloration and can lead to delamination and mold growth. Back-buttering tiles helps eliminate this problem.
5. Apply tile sheets (or individual tiles) to the thin-set setting bed, clear tape film side out, using light, even pressure. Periodically, check thin-set for skinning (slight drying). If skinning occurs, remove thin-set and reapply.
6. To achieve the flattest possible surface, lightly tap sheets with a wooden beating block and a finish hammer or grout float. To unify sheet transitions, apply the block across the tile sheets to ensure equal depth.
7. Align each sheet or piece of tile with 1/8" grout spacing between taped panels. If a tile is misaligned on front surface tape, use a razor blade to slice tape and adjust tile alignment.

8. After 6-12 hours (timing can be better determined during test panel construction), peel the clear tape from the tile starting at the corner, one section at a time. If this is done too soon, the tile may be pulled away from the thin-set mortar or substrate. Do not do this step before you are ready to remove excess thin-set as it can dry very quickly once exposed to air. A spray of water on the tape or under a corner of the tape will make the tape release more easily.
9. If necessary, remove excess thin-set from the grout joints with a razor knife prior to grouting. You may need to scrub tile surfaces to clean off mortar. ONLY use a nylon vegetable brush, 3M Blue nylon scrub pad, soft sponge, and warm water to clean glass tile faces.
10. The grout application and cleaning process will vary based on the type and brand of grout. Refer to the grout manufacturer's instructions for details. We suggest waiting a minimum of 24 hours before grouting.
11. Allow grout to set-up (firm), and smooth finish with a damp sponge. Avoid scratching glass by keeping grout slurry wet and fluid. After approximately 2 hours, remove grout haze with a lightly damp sponge. Use of white vinegar may help this process; however, it should be applied to a test panel to determine if the vinegar discolors the grout. For final removal of grout haze, polish with a clean, soft cloth.
12. Lightstreams recommends thin-set and grout a minimum of 21 days to cure before submersion in water. Please follow the product manufacturer's requirements.