



# AQUA TILE

## INSTALLATION GUIDE - ULP

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The following guide is designed to provide a **ULP** (Unified Labor Practice) to contractors on the proper installation of Aqua Tile on concrete/cementitious substrates. Please review each step carefully to ensure long term installation success.

# EQUIPMENT & SUPPLIES

## 1) SURFACE PREP EQUIPMENT

- Grinders (5 & 7 in) angle grinders w/ shrouds
  - Diamond cup wheels and PCD's for each size grinder
- Walk-behind Planetary grinder (suggested but not required)
  - Bond Tooling for appropriate substrate (16/18 grit typ.)
- Extension cords & Adapters
- Generator (if needed)
- Leveling materials & application tools
  - Schonox PL (or equivalent)
  - Primer
  - Mixing buckets, trowels, and chip brushes (for primer)
  - ½" drill w/ mixing paddle
- HEPA Vac & hoses
- Back-pack blower or leaf blower
- Brooms and dust pans
- Garbage Bags/Cans
- Duct Tape (attach vac hoses to grinder shrouds)

## 2) ADHESIVE EQUIPMENT

- 3" Cut brushes and 9" Paint Rollers with 1/4" nap
- Paint roller handles
- Paint trays
- Cut in bucket
- 5 gal. stir stick
- Rags
- Plastic
- Acetone

## 3) TILE INSTALLATION EQUIPMENT

- Chalk line (blue or black color)
- Pencil and Sharpie marker
- 5 in 1 Tool
- Hammer
- Straight edge (recommend 4')
- Utility Knife
  - Straight and 3/8 hook blades
- Compass/Divider
- Acetone
- Rags
- Hand roller/ J Roller (Heavy Duty extendable)
- Tape measure (25' min.)

## 4) PPE EQUIPMENT – STANDARD PER OSHA REQUIREMENTS

- Follow all OSHA PPE requirements for silica and OSHA 10 certification

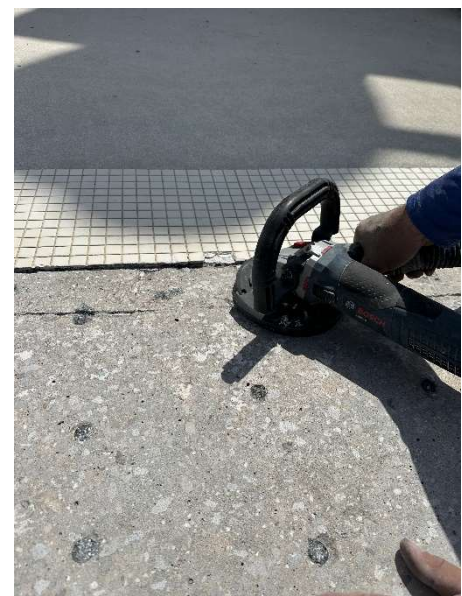
# STEP 1-AQUA TILE SURFACE PREP

## Prep Overview

- Purpose: To provide guidelines to ensure a successful and adequate preparation of a cementitious/concrete substrate for an Aqua Tile surface installation project.

## Step 1: Grinding Concrete (reference tools section)

- Grinding must always be done with HEPA Vacs and proper dust PPE to reduce and minimize silica dust exposure.
- Grinding should be done using 7in and 5in angle grinders with shrouds attached to HEPA Vacs. For Larger projects, a walk behind Prep Master planetary grinder is strongly recommended.
  - ALL hand grinders should have a diamond cup wheel and be hooked up to individual vacs
    - For removal of coatings, a PCD cup wheel may be required.
  - Walk behind Planetary grinder should have the proper bond tooling based upon the substate conditions (hard vs. soft). Typically bond tooling will range from 20 to 40 grit.
- Grind to the Substrate/Concrete, aiming for what is called “Salt and Pepper” profile (see picture below). The objective is to create a profiled “scratched” surface therefore increasing the bondable surface area for the adhesive to grip onto. Properly profiling the surface will also remove any potential contaminants on the surface that would compromise bonding (example: dirt, coatings, mineral deposits).
- All surfaces receiving Aqua Tile are required to be properly ground. Edge work will require an open shroud to ensure all surfaces are ground.

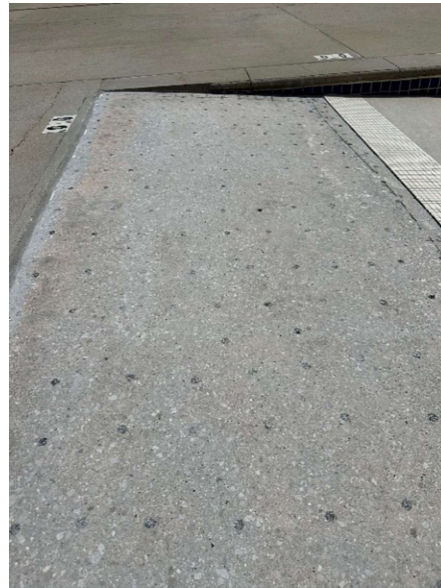


## Step 2: Post Grinding/Patch Work

- Once Grinding is near complete, identify any potential areas that need to be patched/repaired. This may include:
  - Sizable cracks or expansion joints (greater than ¼")
  - Finish heights of spray features, floor drains and outer perimeter edge that are greater or less than ¼" above the substrate.
    - **NOTE:** Target heights should be ¼" for all adjacent features.
    - All repairs and/or leveling & ramping should be done using a cement-based universal repair mortar designed for interior AND exterior areas. (suggested products are Schonox PL and Ardex MRF). Follow manufacturer instructions for the use of repair patching for primer use, thickness, etc.
    - If features are too low, use an angle grinder to remove substrate until desired reveal height is achieved.
    - Slight re-grinding of the ramped or patched areas should be done to ensure seamless transitions.



Fixture too high; ramping required



Properly ground "salt & pepper"

## Step 3: Surface Cleaning & Final Preparation

- Upon completion of grinding, sweep, Vac and/or blow off all dust from the substrate. The goal is zero dust remaining on the glueing surface.
- Dry substrate – Ensure the substrate is 100% dry prior to adhesive application because moisture will prevent proper bonding of the adhesive.

## STEP 2-ADHESIVE APPLICATION

### Adhesive Overview

- Purpose: To provide guidelines for proper application of approved adhesive for the installation of Aqua Tile

### Approved Adhesives

- Type: Commercial grade Contact Adhesive
  - Powerhold 500
  - Parabond M-250



### Warning

- Adhesive is Highly Flammable
- Produces Strong Fumes – workplace needs to be well ventilated
- Surfaces must be dry and dust free prior to applying the adhesive.



# Adhesive Application

## \*Disclaimer\*

- Conditions will vary and change and will require onsite adjustment accordingly. Average coverage is 70 SF +/- per gallon of 2 surface application.
- Read manufacturer installation instructions on the adhesive before installing

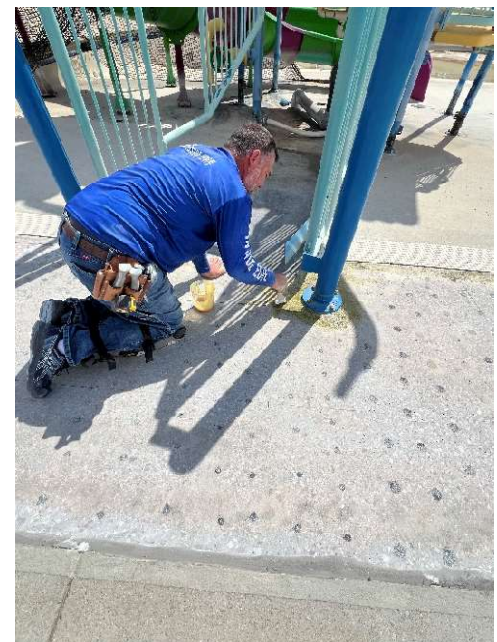
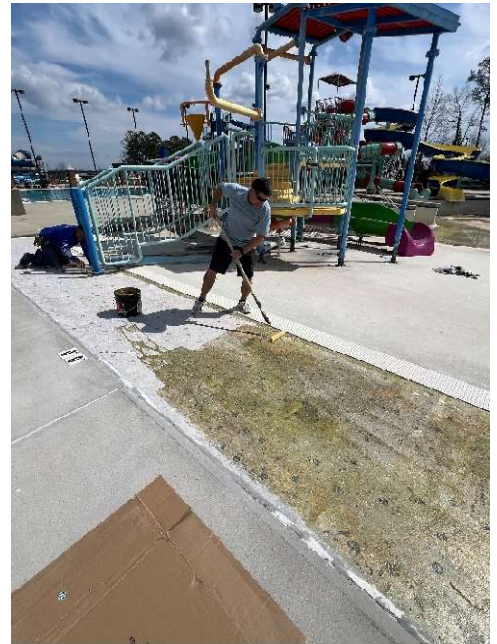
## Prepping the Adhesive

- Store pails on top of protective covering to prevent the can from causing a rust ring on the surface
- Adhesive should be stored in a conditioned environment to prevent freezing and overheating; see manufacturer recommendations for temp. application and storage.
- Before starting, flip unopened adhesive cans upside down to allow solvents that settled on the bottom to begin to remix
- Mix adhesive by shaking the cans for at least a minute each; after shaking, open the adhesive and mix using a stir stick or paddle

## Applying the Adhesive

- Slowly pour adhesive into roller pans and cut in buckets as needed
- Apply only as much as can be installed within the open time of the adhesive. This open time will vary depending on the environmental conditions of the specific jobsite. Typically, open times avg. between 30-45 mins.
- Use brushes to cut in next to walls, fixtures etc.
- Use a roller & nap for large areas, dipping into the bucket
- Ensure there is 100% coverage on both the substrate **AND** the back of the tiles.  
If not 100% covered, there will be a failure
- Coat each surface with a consistent pattern being careful not to create areas of pooling or thickened blobs. These areas will not flash at the same time and can lead to inconsistent bonding and fail.

**KEEP UNUSED ADHESIVE COVERED TO PREVENT UNWANTED FLASHOFF**



**\*\*Apply to the floor only an area that can be installed within the open working time.**



**\*\*Apply to the back of the tiles with 100% coverage\*\***



- Floor is ready to receive tiles when:
  - Adhesive does not transfer or feel tacky, it is ready for installation.
  - Adhesive working time can vary depending on ambient conditions
  - Factors that can affect working time:
    - Temps - both ambient air & substrate temps can affect adhesive performance. Typically 60 degrees or warmer is recommended.
    - High Humidity and moisture can slow down and potentially stop the flash time of the adhesive. This is most common at sunrise and sunset when air temps are cooler.

## Cleanup of the Adhesive

- Use Acetone and a rag to clean up any residual adhesive from the tiles
  - DO NOT pour out acetone directly on tiles. Too much could affect the long term bonding.
- Pour all unused adhesive back into the pails and seal with original lid.
- For paint trays and plastic cut buckets, the adhesive can be left to cure overnight and peeled off at the start of each day.
  - Roller naps and brushes should be changed periodically to maintain optimal application coverage.

## STEP 3-AQUA TILE INSTALLATION

## Installation Overview

- Purpose: To provide guidelines to ensure a proper and successful Aqua Tile install. Assumes proper surface prep and cleaning have been completed prior to start of tile installation.

## Installation Guide

### Step 1 - Layout

Determine the best grid orientation and layout for your parallel and stagger directions. The parallel rows should be perpendicular to primary entrances and/or longest sight lines. Mark your parallel grid lines every 2'-0" using a chalk line (blue chalk recommended). This will ensure maintaining straight rows during the installation process. The 12" off-set stagger can be established with the first tile being placed at the 12" off-set position. Use a tape measure to ensure each tile edge is being placed at the correct 12" off-set position as each row is set.

**NOTE: Review & follow design layout if applicable.**

### Step 2 - Apply Adhesive

Apply Adhesive as described in section above. Once the adhesive has properly flashed off (no transfer of wet adhesive upon touch), you are ready to start setting the tiles.

### Step 3 – Setting Tiles

Install your first tile at your predetermined location following your marked grid lines. Start by tacking the first corner along the grid line. Place the opposite corner along the parallel grid at the 24" mark to ensure proper placement. Tack the other 2 corners at their correct positions BEFORE adhering the remaining edges and center of the tile. Once placed, press down the remaining surface of the tile to ensure an initial bond. Continue with this same application process ensuring that the edges of each tile are set tight against each other to ensure no gaps.

- Contact adhesive is an instant grab; once the two surfaces touch, you will not be able to adjust the position of the tile. If installed incorrectly, the tile will need to be removed and most likely replaced with new adhesive and a new tile.





## Step 4 – Rolling and Back Knifing

To ensure proper bonding and long term adhesion, all tiles are required to have 30-50 psi of pressure applied by using a j-roller or vinyl roller.

- Tiles should be rolled within 30 mins of being installed to maximize the bond of the contact adhesive.
- Rolling the tiles should eliminate any remaining air pockets as well as ensure 100% of the surface areas are bonded together.
- When rolling the tile double check all seams for lippage. If needed, use the dull side of a utility knife blade to break any glue bonds between tiles to ensure the seams are flush to each other.



## Step 5 – Final Cleanup

- Remove any residual adhesive from the tiles using acetone and a clean cloth.
- Apply acetone to the cloth first and then apply to the tiles. Do not pour acetone directly onto the tiles and risk saturating the glued substrate at the seams and edges as this will interfere with adhesive bonding.

## Common Installation Mistakes

The following are common mistakes that can lead to delamination and bonding failure.

- Insufficient surface prep:
  - Comprehensive grinding
  - Incomplete coating removal
  - Thorough cleaning and removal of dust etc.
- Moisture Interference:
  - Damp substrate during adhesive application
  - Green concrete (not fully cured for 28 days min.)
- Adhesive Application:
  - Open time (too wet or too dry at time of tile placement)
  - Full coverage (100% of surfaces to be bonded)
  - Proper Pressure (rolling of tiles after placement)
  - Temperature (surface and ambient air outside of spec.)
- Improper Substrate Patching
  - Wrong materials for application
  - Incorrect material mixture (water content etc.)

## Questions?

For further questions contact us at

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