

## Floor Preparation for Aquaflex – New Construction vs. Renovation Grind • Diamabrush • Sand... Nothing is Universal

The only universal part of floor preparation is ASTM F710 which in an abbreviated statement:

*All concrete surfaces must be prepared prior to adhesive application per ASTM F710 consisting flat, dry porous and free of dust, dirt, wax, cut-back, paint, grease, oil, curing agents, mold, bond breakers, residual alkaline salts, densifiers, hardeners or any other foreign material that would inhibit bond. Use only mechanical methods to clean existing sub-floor. Fill cracks, holes, and depressions using only materials designed for this intended purpose. Never use adhesive to fill cracks, holes, expansion joints, saw cuts, etc.*

The ASTM F710 specification is referenced within all flooring specifications from architects, every flooring manufacturer, every flooring adhesive manufacturer, every subfloor preparation manufacturer, etc.

ASTM F710 is the industry benchmark for subfloor preparation. This standard was developed and written by the industry for the industry.

The decision to how to proceed is not universal. It's not a one size fits all. The decision must be based on scope of work. The flooring contractor and installation team must make the decision as to how to proceed.

### New Construction

Power troweled concrete in new construction in many cases creates a virtual non-porous surface and increases the surface tension/hardness.

- Conduct a porosity test...simple no magic here. All you need is a water source
- Place droplets of water about the size of a quarter on the concrete surface
- If the water droplets do not absorb into the concrete in a short period of time – 30 seconds, there is a porosity issue
- Conduct additional tests throughout the space intended for floor covering installation
- Options are, try sanding the area with a floor sanding disk (80grit, 60grit, 20grit, etc.), check porosity, if porosity remains an issue more aggressive action may be necessary
- Consider CSP-1 grind or Diamabrush (with shroud + dust control) may be the next action
- This is standard ASTM F710...



Virtually NO Porosity

Modest Porosity

Optimum Porosity

Top: Porosity @ CSP-1 / Bottom: Before Prep

### Renovation

There may be a variety of decisions which must be considered in renovation work, the action plan would be the same - ASTM F710.

In many cases there is no way to predict what the scope of work will include to prepare the concrete until the removal process has begun. And to complicate matters – one area may not be an indicator for the entire space.

There is no universal benchmark – each project dictates its own action plan based on scope of work.

When defining the scope of work and Aquaflex is the high moisture solution...it is important to have the ability to trowel onto the concrete or prepared concrete with Aquaflex Waterproof Concrete Repair products.

*Keep in mind...this is a high moisture problem.*

## Pre-Walk Conditions

Few pics providing examples of the conditions in pre-walk. Many areas were much more severe.



Included are examples of severe concrete subfloor preparation at Barber Hill ISD, which is an Aquaflex application. However, the many factors contributing to the scope of work are interchangeable.



**Pic A (on left)** - Shows signs of efflorescence, cutback bleed through the existing floor prep. The decision is whether to leave the existing floor prep – the danger, how well will it stay bonded to the concrete? In excessive high moisture replacement – how well will it perform long term?

**Pic B (on right)** - Areas where existing floor prep has released during demo, leaving behind spotty areas that may appear to be well bonded? Does the existing remain and float out? When is the existing going to eventually release?



**Pic C (on left)** - Evidence of cutback bleed through existing floor prep and old adhesive residue.

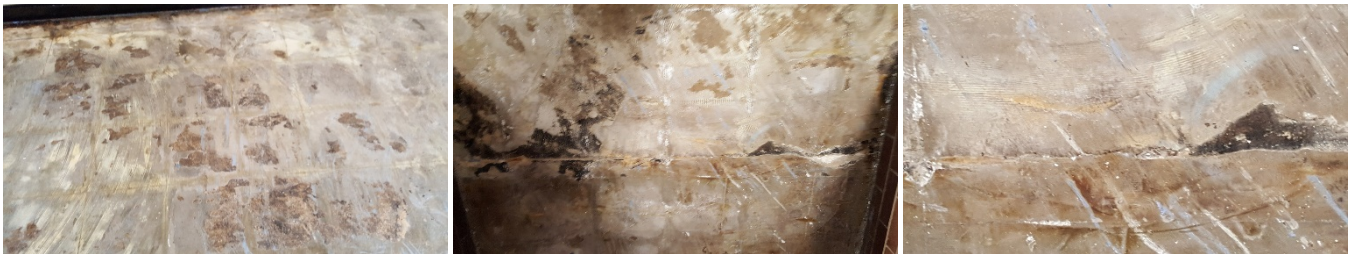
**Pic D (center)** - Evidence of old adhesive residue, efflorescence in surface crack, existing floor prep.

**Pic E (left)** - Sever case of effloresce, cutback bleed through and remaining old floor prep



**Pic F (left) Pic G (center) Pic H (center)** - Obvious cutback residue in various severity with evidence of high moisture

**Pic I (right)** - Severe cutback residue and evidence of high moisture on the surface

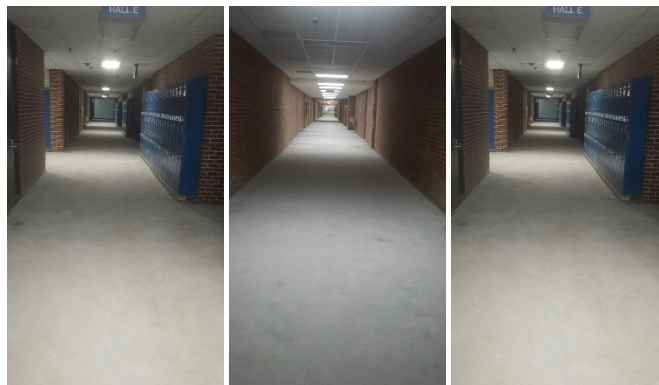


**Pic J (left), Pic K (center), Pic L (right)** - Same evidence described in previous pics, however Pic K has appearance of existing floor prep being secure with exception of the chipped out area. Pic L (right) close up reveals released/chipped out area, heavy cutback residue under existing floor prep. Will this area perform long term?

Below are additional miscellaneous pics...



For this project the only feasible process to prepare the concrete per ASTM F710 was to use a planetary grinder w/ 25grit diamond bits. See below the prepared concrete prior to installation of VCT and Aquaflex.



The options to prepare concrete per ASTM F710 and achieve porosity are many, but is not universal. There are many types of equipment and processes...

*Bead Blasting is NOT recommended for Aquaflex projects.*

Types of equipment, but not limited to as follows and are dependent on available equipment, size and scope of work, etc.:



Example of floor grinders w/ shrouds + dust control



Floor sanding machine w/ shroud + dust control



For use w/ floor sanding equipment options can be floor sanding disks (sandpaper), Diamabrush Floor Prep Plus, Diamabrush Coating Removal Tools, example of the 25grit replaceable diamond coated pads for Diamabrush.



For perimeter, stationary objects, etc. Diamabrush Hand Grinder attachment, use w/ shroud + dust control.

There are many options, but no one system is “the universal” system for concrete preparation for Aquaflex applications. However, ASTM F710 preparation and achieving porosity is the key to success.