



CONCRETE SURFACE PREPARATION PROCEDURES PRIOR TO APPLYING STAINS, SHOW COAT & SEALERS

In order to insure good adhesion of Anvil stain, epoxy or sealer to concrete, it is absolutely essential to properly prepare the surface prior to applying.

Concrete surfaces vary greatly in chemical and physical makeup. Many factors influence the finished concrete chemistry including formulations, temperature, additions, hardeners, curing agents, and form releasing agents. Factors influencing the physical quality of the finished concrete include type and strength of concrete used, weather conditions at time of pour, over-trowelling, age of concrete, high pH, spalling, cracking, and efflorescence.

Also as concrete ages, contaminants affect both the physical and chemical condition of the concrete surface. Contaminants affecting the concrete surface include salts, solvents, oils, grease, dirt, and acid rain.

PROBLEMS TO LOOK FOR:

EFFLORESCENCE: White sugary powder caused when water migrates from below the surface of the concrete and evaporates leaving a deposit of salt and debris.

LAITANCE: Powdery concrete dust loosely embedded in the pores of the concrete surface caused by incomplete hydrated cement that floats to the surface. Most stain and sealer failures are caused by not removing this thin film of concrete dust.

MICRO-CRAZING: Fine hairlines network of surface cracks caused by inaccurate blend of cement to aggregate when concrete was poured. Staining or sealing of this thin delaminated film of concrete will almost always result in failure.

CONTAMINANTS: Oils, grease, wax, salts, road grime, mildew, paint and other foreign substances. Other contaminants include form release agents, waterproofing sealers, and curing sprays. All contaminants must be removed before application to insure adhesion. Deep surface penetrating sanding or scarifying in addition to cleaning and etching, may be required.

CONCRETE HARDNERS: Additives that have been either applied to or incorporated into the concrete to aid in the strength of the concrete, can hinder the adhesion of the stain or sealer.

FRESH CONCRETE: Poured concrete should be at least 45 days old and have a pH lower than 10.

PREPARING THE SURFACE:

Garage floors, driveways, patios, pool decks, walkways, and tennis and shuffleboard courts can be the most difficult surfaces you will ever coat, which is why we at Anvil have produced this brochure to help you achieve a satisfactory job.

By following these simple guidelines for proper preparation you will enjoy a long lasting decorative coating system. It is essential that your concrete surface is free of contaminants, and have a proper profile to ensure adequate bonding.

STEP 1 - CLEANING: There are several ways of cleaning your concrete for coating. Here are the most common ways of cleaning:

#1 - Mix 4 oz. of TSP (Tri-sodium phosphate) to one gallon of hot water and scrub contaminated areas with a stiff bristle brush. Rinse with high pressure power washer.

#2 - Mix recommended amount of a nonscented degreaser, such as citrus degreaser, to 1 gallon of water into a steam cleaning unit. Steam clean contaminated areas using full pressure until the areas are clean. Rinse with high pressure power washer.

STEP 2 - PROFILING: Now that we have a clean surface we must profile it for proper uniform bonding of the stain or sealer. Roughen slick steel troweled poured concrete by chemical etching or an abrasive method such as sand sweeping. To etch a concrete surface it should be pre-wet with water before the acid solution is applied. Mix one (1) part muriatic acid into three (3) parts clean water. The mix should be applied with a plastic sprinkler can. After the mix is applied to the surface, bubbling should occur. If bubbling does not occur, or is spotty, then contaminants remain on the surface and STEP 1 should be repeated. If bubbling is consistent, wait ten minutes, then scrub the entire area with a stiff bristle brush. Repeat etching procedure until a uniform "rough" appearance is achieved. A properly etched surface will have the feel of 120 grit sandpaper.

After etching, unwanted acid residue will remain which will interfere with coating adhesion. To neutralize unwanted acid residue on the concrete surface a mild ammonia and water solution (1 part ammonia to 2 parts water) must be applied to the entire area and scrubbed with a stiff bristle brush. Finally, the concrete must have one last thorough rinse with a high pressure power washer to ensure complete removal of all contaminants and acid residue. After cleaning and etching, concrete surfaces should be allowed to dry for 48 hours before coating.

Concrete must be at least 45 days old or efflorescence may occur. Surface must be clean and free of loose chalking paints. Pre-cast concrete must be free of contaminants and form oils must be removed.

NOTE: To ensure against tire pickup it is sometimes necessary to triple etch the concrete. **It is highly recommended that Anvil 1750 Grip-Tite Bonding Primer always be used to achieve maximum adhesion.** Not all concrete can be coated.

Anvil products may not be suitable for use over some finishes such as polyurethane or epoxy coatings. Apply test area and check for adhesion after 48 hours. Improper surface preparation or concrete chemistry is beyond our control.

