

Excel-Coat Epoxy Coatings

Surface Preparation for Epoxy Coatings Applications

GENERAL

- ✓ Surface preparation is the most critical aspect of resinous flooring applications. Thorough preparation maximizes adhesion and long-term integrity of the floor system.

NEW CONCRETE

- ✓ New concrete should have an effective moisture vapor barrier.
- ✓ Concrete must cure for 28 days prior to the application of coatings.
- ✓ Curing compounds should not be used on new concrete pours where a resinous coating system is to be used.
- ✓ New concrete should be prepared by shot-blasting or careful acid etching to provide a 5.0-10.0 mil surface profile.

OLD CONCRETE & PREVIOUSLY COATED CONCRETE

- ✓ Old slabs must be structurally sound and free of contaminants such as dirt, grease, oil, mastics and unsound coatings.
- ✓ Grease must be removed from the floor surface and subsurface.
- ✓ Mastics from carpet and floor tile must be thoroughly removed.
- ✓ Old coatings, except for well-adhered epoxy coatings, must be removed by mechanical grinding or sanding.
- ✓ After removal of the above listed contaminants, concrete must be shot-blasted or acid-etched to provide a 5.0-10.0 mil surface profile.

MOISTURE VAPOR EMISSIONS TESTING

- ✓ All interior concrete floors are subject to possible moisture vapor drive, which may cause coating failure. Prior to application of coatings, calcium chloride testing should be done according to the procedures of ASTM Standard Practice E 1907-97. Test kits are available from Excellent Coatings International epoxy floor coating tolerances do not exceed 3.0 lbs. per 1,000 square feet per 24 hours.

FILLING INTERIOR HOLES, CRACKS AND JOINTS

- ✓ As part of the initial surface preparation for thin film epoxy or polyurethane coatings, cracks and holes should be filled using an epoxy crack repair material or similar type epoxy approved by Excellent Coatings International may be used.
- ✓ Cracks must be routed out, primed and then filled with epoxy crack repair material.
- ✓ Expansion joints are to be honored. For expansion joints, if caulking is required it is appropriate to use an elastomeric polyurethane caulk. Confirm that the expansion joint caulk material is compatible with the Excellent Coatings International floor coating products you are using. Caulking shall be carefully installed after the epoxy coatings have been applied.

SURFACE PREPARATION METHODS

Acid Etching

- ✓ If using conventional liquid acids, the area to be treated and surrounding areas that may be damaged by contact with acid solution must be thoroughly pre-wet with water. Keep substrate surface and surrounding areas wet during the etching process. Never allow the acid solution to dry on the surface.

- ✓ The acid solution is carefully poured onto the pre-wet surface. Be careful not to splash the solution onto adjacent areas and note that acid solution will damage aluminum and painted metal surfaces. Do not get acid solution on concrete areas that are not to be coated.
- ✓ After acid solution is applied, scrub the floor using a floor machine and broom (in the hard-to-get areas). Scrub in both directions, left to right and then up and down.
- ✓ If using Excel-Coat Surface Prep gel apply liberally and let dwell for 15-30 minutes agitate with brush, check for desired etch and reapply as necessary (see Application Guide).
- ✓ Thoroughly rinse area with clean water. Test pH to ensure a neutral pH balance. If necessary, neutralize the surface using a baking soda/water solution.
- ✓ Surface must be thoroughly dry before coatings are applied. This may take several days, depending on the humidity and temperature.
- ✓ Confirm with local water and wastewater management agencies that you are able to use this method of surface preparation in the area where work is to be done. It may not be allowed or they may require that you neutralize effluence before it hits the drainage system. You may be required to contain and dispose of effluence elsewhere. Fines may be issued if local regulations are not abided.

Shot-Blasting

- ✓ Shot-blasting is a preferred method of preparation when time is an issue. Shot-blasting shall be done to achieve a 5.0-10.0 mil surface profile. A steel shot-blasted floor may be primed once all the steel shot has been picked up and the floor is swept and blown clean of residual dust.

PROTECTION

- ✓ Safety glasses, appropriate footwear and respirators should be worn at all times by the mechanics doing the work.
- ✓ **Pilot lights and electrical switches in an enclosed area must be turned OFF before and during the application of solvent-based coatings. The area being coated should have good ventilation to help remove solvents from air.** Once fumes from coatings have completely dissipated, pilot light flame(s) may be re-ignited.