

PREPARATION OF CONCRETE FLOORS

The preparation of concrete surfaces is just as important as the surface preparation of steel. Regardless whether one chooses latex, alkyd, epoxy or urethane, preparation is critical to insure long life and avoid lifting, bleeding or peeling.

New or Uncoated Concrete Floors: Step one, is to allow the concrete to cure thoroughly prior to coating. "Cured" is defined as concrete poured and aged at a temperature of 75° F. for at least 30 days.

Concrete must be free from moisture as much as possible (concrete will generally contain 15-18% moisture). Vapor pressures, temperature and humidity differentials and hydrostatic pressure can cause a premature coating failure if not detected and corrected. If there is any doubt about the floor being dry enough, conduct a sample test by placing a rubber mat on the floor and check 24-48 hours later for moisture condensation on the back of the mat or a darkening of the concrete due to moisture. If condensation is found, the concrete is too damp to coat and the source of moisture must be located and corrected. If only additional drying is necessary, allow two weeks before re-testing.

Very dense, non-porous, smooth troweled or chemically treated concrete will probably require acid etching. The need for this can be determined by pouring a small amount of water onto the concrete floor. If the surface soaks up the water somewhat like a blotter, it is porous enough for coating. If water does not absorb into the concrete, etching is a must.

Acid Etching Requires the Following:

1. Sweep or blow down surface to remove loose dirt.
2. Wet surface with clean water.
3. Etch with a 10% solution of Muriatic Acid at a rate of 1 gallon of acid solution per 75 square feet. Wear safety glasses and protective gloves.
4. Scrub with stiff brush.
5. Allow sufficient time for scrubbing until bubbling stops.
6. If no bubbling occurs, surface is contaminated with grease, oil or concrete treatment. Remove contaminant, then proceed with etching.
7. Flush surface 2 or 3 times with water to totally remove acid solution.
8. Surface should have a texture similar to medium grit sandpaper.
9. Allow surface to dry and remove dust before painting re-test for moisture.
10. Finish with preferred coating. Air, material and surface temperature must be 60° F. 24 hours prior to, during and 24 hours after coating application.

Brush blasting, sweep blasting or power tool cleaning are other acceptable methods in lieu of acid etching.

