SMITH'S DAMP CONCRETE PRIMER™

Green Concrete Application Specification

PART 0. PREREQUISITE

Surface preparation of green or cured cement shall be overseen by an architect or structural engineer, who shall ensure and certify that the actual specified steps are executed.

Smith's Clear Penetrating Epoxy Sealer has been found to help concrete resist Freeze-Thaw damage. Its use for that purpose is covered by a different specification. Further information on Freeze-Thaw resistance is here.

PART 1. GENERAL

Chemical adhesion in the long term to green concrete is not possible since the cement molecules rearrange themselves in their natural behavior of effecting long-term cure of concrete, which is known to take many years. However, the silica and aggregate components are chemically stable in the long term, and adhesion to them may be obtained with appropriate chemistry, if the overlying film of calcium aluminosilicate (cement) is removed.

Acceptable methods of removing the very thin cementitious surface of green concrete, exposing the silica and other permanent components of the mixture, may be used. These include a light wash with muriatic acid (e.g., 5% concentration) or wet or dry light abrasive blasting, or scouring with a coarse Scotchbrite(R) pad or other as approved by the Architect.

It follows that a product recognized as effective in obtaining chemical adhesion to mineral surfaces may be used to establish a chemical adhesive bond, once the overlying cement is removed. Such products may be waterborne (preferred) or solventborne, if VOC-Compliant with local regulations. The various chemical adhesion mechanisms may include any which the approved product vendor may elect to use in their formulation and are not limited by this specification. Similarly, the organic or inorganic structure of the primer is not intended to be limited by this specification, save that the product have a proven history of promoting adhesion between damp or dry green, partially-cured or fully-cured cementitious surfaces and a two-component epoxy-based subsequently-applied product such as a two-component epoxy paint.

PART 2. QUALIFIED PRODUCTS

5% aqueous muriatic acid solution or abrasive surface-preparation materials

Smith's Damp Concrete Primer

PART 3. EXECUTION

Preparation:

A) Ensure all foreign material including concrete coatings designed to inhibit water evaporation during cure, are removed.

B) Rinse surface with a stiff bristle broom and the acid solution. Observation of a light foaming is sufficient to ensure exposure of the silica grains. A deep etch is unnecessary and counterproductive as it can loosen the silica grains from their cementitious matrix.

C) Rinse with clean water and a stiff bristle broom. Gather excess water to drainage points or remove with a wet-or-dry vacuum. The surface at this point may not have any free (standing) water, but may have the dark color characteristic of damp concrete. The temperature shall be between 40 F and 85 F. The atmospheric humidity may be between ten and ninety percent, but rain or condensation shall not be allowed on the surface from start to finish.

Before any further work is done, the surface shall be inspected by the architect or their representative. By inspection, tests or measurements satisfactory to the architect or structural engineer, it shall be determined that the surface is properly prepared. Only after such validation may execution continue.

Application:

The act of application of the primer, using the Smith & Co. products and technology, may only be done or supervised by a person who has studied the Smith & Co. literature and demonstrated an ability to apply the Smith & Co. products correctly. Such a person must be continuously present on the job, from start to finish.

The work area must be protected from rain, snow or condensation from the beginning of any surface-preparation work until final painting.

Apply Smith's Damp Concrete Primer according to manufacturer's instructions.

PART 4. MANUFACTURERS

Smith & Co. Restoration Products, inc., Richmond, CA
phone: 1-800-234-0330 fax: 1-510-232-9921
email: support@smithandcompany.org
web: www.smithandcompany.org