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Treating Dusting of Concrete Floors

Procedure code:

371002S

Division:

Concrete

Section:

Concrete Cleaning

Last Modified:

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PART 1---GENERAL

1.01 SUMMARY

- A. This specification explains how to treat dusting of concrete floors. Dusting is a powder that develops at the surface of hardened concrete, and is composed of disintegrated concrete.
- B. The treatment described in this procedure includes mopping with a manufactured liquid treatment (typically a mixture of fluosilicate and water).
 - 1. Fluosilicate makes the concrete surface harder and more impermeable.
 - 2. This treatment also improves the concrete surface for the application of oil base paints and varnishes.
- C. Other treatment options for dealing with dusting of concrete floors include:
 - 1. Removal of the dusting layer down to a hard durable layer if the floor elevation can be modified, or;
 - 2. Removal of the dusting layer down to a hard durable layer and applying a topping coating to bring the floor surface up to the prior level.
- D. Safety Precautions:
 - 1. Do not save unused portions of stain-removal materials.
 - 2. Do not store any chemicals in unmarked containers.
 - 3. Excellent ventilation must be provided wherever any solvent is used. Use respirators with solvent filters.
 - 4. No use of organic solvents indoors should be allowed without substantial air movement. Use only spark-proof fans near operations involving flammable liquids.

5. Provide adequate clothing and protective gear where the chemicals are indicated to be dangerous.

6. Have available antidote and accident treatment chemicals where noted.

E. Read "General Project Guidelines" along with this specification. These guidelines should be reviewed prior to performing this procedure and should be followed, when applicable, along with recommendations from the Regional Historic Preservation Officer (RHPO). The guidelines cover the following sections:

1. Safety Precautions
2. Historic Structures Precautions
3. Submittals
4. Quality Assurance
5. Delivery, Storage and Handling
6. Project/Site Conditions
7. Sequencing and Scheduling
8. General Protection (Surface and Surrounding)

PART 2---PRODUCTS

2.01 MANUFACTURERS

Manufactured concrete chemical products are available such as L&M Seal Hard (made by Laticrete International, Inc.) or approved equal.

2.02 MATERIALS

NOTE: Chemical products are sometimes sold under a common name. This usually means that the substance is not as pure as the same chemical sold under its chemical name. The grade of purity of common name substances, however, is usually adequate for stain removal work, and these products should be purchased when available, as they tend to be less expensive. Common names are indicated below by an asterisk (*).

A. Fluosilicate:

1. Magnesium Fluosilicate:

- a. Other chemical or common names include Magnesium silicofluoride.
- b. Potential Hazards: TOXIC.
- c. Available from construction specialties distributor (often sold under manufacturer's brand name; the chemical name may appear on the label).

2. Zinc Fluosilicate:

- a. Other chemical or common names include Zinc silicofluoride.
- b. Available from construction services distributor (often sold under a manufacturer's brand name; the

chemical name may appear on the label).

B. Clean, potable water.

2.03 EQUIPMENT

A. Garden hose and pneumatic spray nozzle.

B. Stiff bristle brushes (non-metallic).

C. Mopping Tools:

1. Wet mop.

2. Mop bucket.

3. Wringer.

4. Sponge mop and squeegee.

PART 3---EXECUTION

3.01 PREPARATION

Protection: Provide adequate wash solutions (e.g., water, soap and towels) before starting the job.

3.02 ERECTION, INSTALLATION, APPLICATION

NOTE: Do not try more than one treatment on a given area unless the chemicals used from prior treatment have been washed away.

A. Make sure the floor is clean before you begin.

B. Apply an appropriate manufacturer-supplied concrete hardening treatment and follow the manufacturer's guidance on the application.

Or, if a contractor, this prepared treatment is proposed:

C. Mix 1 pound of fluosilicate (a mixture of 20% zinc fluosilicate and 80% magnesium fluosilicate) with 1 gallon of water.

D. Mop the mixture generously on the concrete surface and allow to dry.

E. If additional coats are necessary, mix 2 pounds of fluosilicate (20/80 as in 3.02 C above) in 1 gallon of water and apply as described in 3.02 B above. Two or three coats may be necessary.

F. When the last coat has dried, thoroughly rinse the surface with clean, clear water and scrub with a stiff bristle brush to remove any crystals that have formed.