

# CEILCOTE® F/T COROCRETE®

## *Epoxy fill / topping*

Supersedes COROCRETE F & COROCRETE T Installation  
Procedures - 4-10.1 & 4-10.2

Installation procedures contained in this bulletin are as specific as possible, but cannot cover all variations in field conditions. Therefore, supervisors experienced in installing Master Builders materials may sometimes deviate slightly from the published procedures. This is done to give a better installation by using the most up-to-date methods to fit specific field and service conditions.

### EQUIPMENT LIST:

Prior to starting the installation you should:

1. Inventory all materials ordered from Master Builders Technologies.
2. Determine surface preparation requirements (i.e., sandblast, scarify, acid etch, etc.)
3. Make sure all hand and power tools, equipment, water supply (if etching), and electrical source are readily available.
4. Select and set-up an appropriate mixing area clearly designated and at least 50 feet away from heat, sparks, open flames, welding, etc.
5. Brief all personnel involved with the installation on application procedures and SAFETY requirements.

### SURFACE PREPARATION ON CONCRETE FLOORS:

#### Purpose

Performance of monolithic flooring is dependent upon a good bond to a strong concrete substrate. Lack of bond due to a weak surface may cause premature failure. Proper surface preparation will remove any weak surface material or contamination that would impair bonding.

#### Finishing and Curing

During the finishing operation water-rich cement rises to the surface. When this cement dries, it leaves a weak and powdery film called "laitance". This film must be removed so the COROCRETE materials can bond to a strong concrete substrate. (Methods for removing the laitance will be described in a later section of this bulletin.)

Finishing Methods - The preferred finish is "once over" with a steel trowel or wood float. These methods provide the strongest, most uniform concrete surface. Screed and broom finishing are not as desirable since they may leave an irregular surface; often too weak for suitable surfacing.

be prepared before priming and applying CEILCOTE COROCRETE materials by one of the methods described in a later section of this bulletin.

#### Surface Curing and Hardening Treatments

**DO NOT USE** these unless they are compatible with the surfacing; they may reduce adhesion of the surfacing and may require subsequent mechanical removal.

#### Concrete Cure Time

Concrete should be 28 days old before applying polymer fill or topping.

The major problem with curing concrete is the water content, therefore a thorough moisture test must be done on the substrate. This can be checked by ASTM D-4263, which calls for taping an 18" x 18" square of polyethylene or other clear film to the floor. If condensation appears on the underside of the film or if the concrete becomes visibly damp within 8 hours, the concrete is not dry enough to place the CEILCOTE COROCRETE materials.

### PROJECT PREPARATION:

FLASH POINTS: (Pensky-Martens Closed Cup)

|                                | (°F) | (°C) | D.O.T.<br>Classification |
|--------------------------------|------|------|--------------------------|
| COROCRETE F/T<br>Primer Liquid | 200  | 93   | Resin Solution           |
| COROCRETE F/T<br>Liquid        | 200  | 93   | Resin Solution           |
| Hardener No.4C                 | 191  | 88   | Corrosive                |
| T-410 Solvent                  | 52   | 11   | Flammable                |
| T-430 Solvent                  | 110  | 43   | Combustible              |

### APPLICATION SEQUENCE:

#### Sand or Grit Blasting

This is an excellent method, particularly if drying conditions are poor for the acid etch method or if the laitance is too thick to be removed by etching. If dust is a problem, wet blasting or self-contained blasting units (Blastrac) may be used. Any "sensitive" equipment in the area should be removed or protected from the possibility of grit contamination.

**Application Sequence, continued**

**NOTE: Old Concrete** - if concrete is in doubtful condition or heavily contaminated, contact Master Builders for specific instructions before proceeding.

**CAUTION:** WEAR GOGGLES AND PROTECTIVE CLOTHING. DO NOT BREATHE VAPORS OF CONCENTRATED ACID. PROTECT STAINLESS STEEL EQUIPMENT. SOME STEELS MAY RUST FROM VAPORS OF HYDROCHLORIC ACID. ELECTRICAL CONTROLS CAN ALSO BE CORRODED.

**Old Concrete - Moderately contaminated surfaces**

Surfaces which are contaminated with a normal amount of dirt or traffic soil, other than grease and oil, can be satisfactorily cleaned by directly applying a solution of one part muriatic acid to two parts water. If the surface is contaminated with oil, a detergent wash is necessary prior to mechanical treatment. Strong, low foaming detergents such as Johnson's Wax Company J-Shop 600 or Texo's Texo 227 should be used. The detergent should be scrubbed vigorously into the surface with a brush or power scrubber. The surface should then be flushed with clean water before beginning further treatment.

**Heavily contaminated surfaces**

Occasionally, an excessive heavy cake of oil, grease, grime, asphalt, earth or mortar droppings may be encountered. Such contaminants will prevent the acid from performing its function properly. Caked deposits must be removed before attempting to etch the surface with acid. Greasy oily deposits should be removed by thoroughly scrubbing with one or two applications of a heavy-duty detergent into the surface. Of course, thick caked oily deposits are best removed by scraping before the detergent treatment. Animal fats and vegetable oils should be removed by scrubbing with a soap solution such as Johnson's Wax company Break-Up to saponify them.

Other deposits may be removed mechanically by grinding, wire brushing, sandblasting and scraping.

**Laitance**

The laitance which may be present on freshly placed concrete surfaces and sometimes on older surfaces must be removed to ensure a satisfactory bond. Sand blasting or acid etching as outlined previously are recommended for this purpose.

**Curing membranes, oil and silicone treated surfaces**

In some cases surfaces may be encountered which have been pretreated with curing membranes, oils, silicones, etc. Such treatments are too numerous to be discussed here. Generally, however, it will be necessary to remove such materials as completely as possible. When in doubt, it would be good practice to try a small area using one or more of the recommended cleaning methods.

**NOTE:** All surface preparation shall be completed before proceeding with the following instructions.

**MIXING & APPLICATION OF PRIMER:**

Add CEILCOTE F/T COROCRETE Primer Hardener to CEILCOTE F/T COROCRETE Primer Resin. Stir Well. Apply to treated concrete surfaces using a nylon or natural brush or a paint roller. Do not puddle the primer. Do not allow the primer to harden. If the primer hardens (tack free) before application of the CEILCOTE F/T COROCRETE fill or topping, re-apply the primer.

**Mixing Ratio**

4:1 by volume

**NOTE:** Due to the limited working time of the primer, it is recommended that the primer be mixed in batch sizes no larger than 1 gallon. To avoid waste, one quart batches should be used initially until rate of application is determined.

CEILCOTE F/T COROCRETE fill and topping is designed to be installed at a thickness range of 3/8" to 6" in a single application.

**MIXING & APPLICATION OF COROCRETE F/T FILL AND TOPPING:**

1. Add CEILCOTE F/T COROCRETE Hardener to CEILCOTE F/T COROCRETE Resin.
2. Stir well.
3. Pour contents into a paddle-type mortar mixer (5 horsepower is recommended).
4. For CEILCOTE F/T COROCRETE topping: Add 4 to 50 lb bags of COROCRETE F/T Aggregate to the mixture. (Use only 3 1/2 bags for the first mix to allow the mixer to wet-out). **For COROCRETE F/T Fill:** Add 5 to 50 lb bags of CEILCOTE F/T COROCRETE aggregate to the mixture. (Use only 4-1/2 bags for the first mix to allow the mixture to wet-out).
5. After the last bag of aggregate is added, allow to mix at least an additional 30 to 60 seconds or until all dry pockets are wet-out and no dust is rising from the mixture.
6. Discharge into a sturdy wheelbarrow.
7. Apply mixture to the freshly wet-primed surface.
8. Trowel to desired thickness using a good quality cement finishing trowel.

**Working Time**

1 hour at 77 degrees F

**Cure Time**

8 to 12 hours before foot traffic. Allow 24 hours before exposing to potential chemical service or heavy traffic; longer at cooler temperatures.

**NOTE:** Allow no less than and no more than 16 to 72 hours at 77 degrees F before application of additional products on the CEILCOTE F/T COROCRETE material. If the CEILCOTE F/T COROCRETE is cured longer than 72 hours, brush blasting or coarse sanding may be required prior to application of materials. Consult Master Builders Technologies for specific information.

**NOTE:** FOR APPLICATION OF POLYESTER OR VINYL ESTER PRODUCTS ON THE CEILCOTE F/T COROCRETE, CONSULT MASTER BUILDERS TECHNOLOGIES FOR SPECIFIC RECOMMENDATION. Minimum application temperature is 50 degrees F for optimum property development. Shade from direct sunlight until material has set. For lower application temperature, contact Master Builders Technologies for recommendation.

**PACKAGING:**

COROCRETE F/T is packaged in pre-measured units.

Units consist of either:

|                     |   |          |
|---------------------|---|----------|
| Topping Application | 4 Bags  | 50# Bags |
| Fill Application    | 5 Bags  | 50#Bags  |
| F/T Resin           | 3.5 gal.  |          |
| F/T Hardener        | .5 gal.   |          |
| Topping             | 80 ft <sup>2</sup> / 4 bags of Corocrete                          |          |
| F/T Aggregate Fill  | 1.85 ft <sup>3</sup> / 5 bags of CEILCOTE F/T COROCRETE Aggregate |          |

COROCRETE fill or topping requires a wet prime application of CEILCOTE F/T COROCRETE Primer just prior to placement. CEILCOTE F/T COROCRETE Primer is available in units.

| COROCRETE F/T Primer | COROCRETE F/T Primer - Part A | COROCRETE F/T Primer - Part B |
|----------------------|-------------------------------|-------------------------------|
| 1 Gallon Unit        | 6 lbs. 1 oz.                  | 1 lb. 7 oz.                   |
| 5 Gallon Unit        | 32 lbs. 6 oz.                 | 7 lbs. 10 oz.                 |

**Working Time**

40 minutes at 77 degrees F.

**COVERAGE:**

Approximately 175 to 200 ft<sup>2</sup> per mixed gallon

**NOTE:** On old, dry, porous concrete, 680 Primer shall be used in lieu of CEILCOTE F/T COROCRETE Primer. A weak bond of the CEILCOTE F/T COROCRETE material to the concrete will result if too much of the wet prime is absorbed into very dry porous concrete surfaces. Dry-priming with CEILCOTE F/T COROCRETE Primer is not recommended.

**CLEAN UP:**

Clean all hand tools and power mixer with T-410, MEK or lacquer thinner.

**CAUTION:** Most cleaners of this type are flammable; handle carefully around electric tools.

**SAFETY:**

COROCRETE components contain epoxy resin and solvents catalyzed by an aliphatic polyamine. Observe the following health, physical, and storage precautionary measures before using products.

**HEALTH PROTECTION INFORMATION:**

Wear gloves, eye protection, and appropriate work clothing as required to avoid contact with components. The hardeners contain polyamines which can seriously burn eyes and skin. Hardener fumes may result in skin rash, dermatitis or other allergic reactions. Ventilation is required with special consideration for enclosed or confined areas. Air movement must be designed to ensure turnover at all locations in work and adjacent areas to avoid buildup of heavy vapors. Chemical hazards with vapor concentration above Permissible Exposure Limits (PEL) requires the use of an organic vapor cartridge respirator or a self-contained breathing apparatus.

**PHYSICAL HAZARDS**

CEILCOTE F/T COROCRETE components and solvents are combustible or flammable, refer to Flash Points on products. When using flammable or combustible components; heat, sparks and flames or any source of ignition must be kept at least 50 feet from working area. Use grounded nonsparking tools in work area. When applying CEILCOTE F/T COROCRETE materials to enclosed area, use two men (one on the outside) for safety. Continued ventilation is required until material has cured, to minimize concentrating solvent vapors and avoid reaching potential explosive limits. Empty containers with residues may ignite from source of ignition explosively.

**STORAGE SAFETY**

Observe safe storage practices by separating resins from hardeners, by keeping solvents and hardeners in a cool area free of sources of ignition, and by observing a special warning on RED and YELLOW labeled products. The RED label represents amine type chemicals, and the YELLOW label represents organic peroxide type chemicals which should not be stored adjacent or mixed together because of possible violent reaction between them.

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