Related Bulletins:
Data Sheet

Master Builders Technologies
Corrosion Control
INSTALLATION PROCEDURE

3.142I

CEILCOTE® 820 COROCRETE®

High grade epoxy novolac, sprayable flooring system

IMPORTANT: READ THIS FIRST

Master Builders does not warrant the performance of this product unless the instructions of this document and other related Master Builders documents are adhered to in all respects.

DESCRIPTION

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

JOB SET-UP

Prior to starting the installation you should:

1. Inventory all materials ordered from Master Builders.
2. Determine surface preparation requirements.
3. Make sure all hand and power tools, equipment 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 procedures and safety requirements.

SURFACE PREPARATION OF 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 failure. Proper surface preparation will remove any weak surface material or contamination that would impair bonding.

FINISHING AND CURING

Discussion - 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 CEILCOTE® COROCRETE® materials can bond to a strong concrete substrate. (Methods for removing the laitance will be described in a later section of this procedure.)

Finishing Methods

The preferred finish is "once over" with a steel trowel or wood float. These methods provide the strongest, most uniform concrete surface. The concrete must be prepared before priming and applying CEILCOTE COROCRETE materials by one of the methods described in a later section of this installation procedure.

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 thoroughly cured 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.

SURFACE PREPARATION

Abrasive Blasting
This is an excellent method. If dust is a problem, wet blasting or self-contained blasting units (Blastrac) may be used. Scarifying can also be used. Any "sensitive" equipment in the area should be removed or protected from the possibility of grit contamination.

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

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 abrasive blasting. 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. Caked deposits must be removed before attempting to prep the surface. 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, abrasive blasting 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. Abrasive blasting as outlined previously is 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.

ENVIRONMENTAL CONDITIONS

For all application steps, the surface temperature, air temperature and material temperature should be between 50°F (10°C) and 110°F (43°C).

Do not apply if the relative humidity is more than 90% or the surface temperature is less than 5 % above the dew point of the air in the work area.

CAUTION: Concrete "gassing" or "breathing" may occur when the surface temperature is rising, due to sunlight or increasing ambient temperatures, This can cause bubbles or holes in the applied topping. When this problem occurs, it is necessary to shade the surface from sunlight and/or apply the material in the cooler evening or night hours to allow the initial cure to take place without air escaping from the concrete.

PACKAGING

CEILCOTE 820 COROCRETE (use CEILCOTE 810 COROCRETE Resin & #12 Hardener)
Available in 2.5 gal. units (Gray and Tile Red)

CEILCOTE S-20 AGGREGATE
50 lb. bags

CEILCOTE 680 PRIMER
Available in 1 and 4 gal units

CEILCOTE T-471 Thinning Solvent
1 and 5 gal available

CEILCOTE 680C (Conductive) PRIMER
Available in 1 and 4 gal units

HANDLING PROPERTIES

CEILCOTE 820 COROCRETE (Use CEILCOTE 810 COROCRETE Resin and CEILCOTE #12 Hardener)	**50°F(10°C)**	**73°F(23°C)**	**90°F (32°C)**
Working Time	100 min	45 min	25 min
Recoat Time	24 hrs	12 hrs	8 hrs
Time to light traffic*	48 hrs	24 hrs	16 hrs

* For concentrated sulfuric acid information, consult Master Builders.

Mixing Ratio 1.6:1 by volume
Coverage 60 to 80 ft^2/2.5 gal unit (7.4 m^2) @ 1/8"
40 to 55 ft^2/2.5 gal unit (5.1 m^2) @ 3/16"

CEILCOTE 680 (concrete) PRIMER	**50°F(10°C)**	**73°F(23°C)**	**90°F (32°C)**
Working Time	2 hrs	45 min	25 min
Recoat Time	9 hrs	5 hrs	3 hrs

Mixing Ratio 3:1 (by volume)
Coverage 150 to 200 ft^2/gal. (3.7 to 4.9 m^2/litre) unthinned
175 to 250 ft^2/gal. (4.3 to 6.1 m^2/litre) thinned with up to 30 oz. of T-471/gal. of resin

CEILCOTE 680C (Conductive) PRIMER
Mixing Ratio 3.5:1 (by volume)
Coverage 125 to 175 ft^2/gal. (2.9 to 4.3 m^2/litre)

MIXING AND APPLICATION

Priming

Not normally required.

On old, dry, porous concrete, a separate coat of CEILCOTE 680 PRIMER shall be used. If the system is to be spark tested use CEILCOTE 680C (Conductive) PRIMER.

When dry priming mix CEILCOTE 680 PRIMER resin with CEILCOTE #9 Hardener at 3:1 ratio (3.5:1 ratio if using Conductive Primer). Stir well. Apply to prepared concrete surfaces, at approximately 2 to 5 wet mils (WFT), using a nylon or natural bristle brush or a paint roller. DO NOT PUDDLE THE PRIMER. Broadcast 20 to 50 mesh (range) sand sparingly into wet primer to enhance grip of the topping. Allow to cure.

DO NOT THIN. CEILCOTE 680 PRIMER without consulting Master Builders, Inc.

Note: If there are areas on the concrete that appear dry (all primer absorbed) reprime those areas before proceeding with the topping system.

Topping

1. Prior to mixing material set up "Swinger Pump" (11:2 Ratio as manufactured by Airtech or equivalent) and wet fluid hose with Part A resin only.
2. Mix components A and B together for at least two minutes to ensure proper blend. For best results, use a mechanical Jiffy type mixer at low speed.
3. Pour contents into a paddle-type mortar mixer (5 horsepower is recommended).
4. Add 2-50 # bags of S-20 Aggregate to the mixture. (Use only 1-1/2 bags for the first mix to allow the mixer to wet-out).
5. After the last bag of aggregate is added, allow to mix until all dry pockets are wet-out and no dust is rising from the mixture.
6. Discharge into sturdy buckets and pour into hopper of "Swinger Pump".
7. Aim nozzle into a bucket and adjust fluid pressure and atomizing air until appropriate pattern is observed.
8. Apply floor to desired thickness in a circular motion. Apply to vertical surfaces at 1/16 inch to 1/8 inch.
9. Finish with trowel or back roll to smooth surface.
10. Allow to cure.
11. Final texture may be controlled by topcoating with CEILCOTE 810 COROCRETE resin and hardener. Coverage will depend on desired texture.

CLEAN UP

Use MEK, T-410 or lacquer thinner

FLASH POINTS

(Pensky Martin Closed Cup)

CEILCOTE 810 COROCRETE	>200°F	(>93°C)
CEILCOTE #12 Hardener	>208°F	(>98°C)
CEILCOTE 680 PRIMER Resin	>204°F	(>95°C)
CEILCOTE 680C (Conductive) Primer Resin	>204°F	(>95°C)
CEILCOTE #9 Hardener	>230°F	(>110°C)
CEILCOTE T-471 Thinning Solvent	>42°F	(>5.5°C)

SAFETY

CEILCOTE COROCRETE components contain epoxy resin, 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 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 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 vapor 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.

FOR INDUSTRIAL AND PROFESSIONAL USE ONLY

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Printed in the USA 696
icoro820.doc
Release 3.142i #2558