INSTALLATION PROCEDURE
Ceilcote® 140 Lining
Flake Reinforced Trowel Applied Lining

Description
Installation information contained in this procedure is as specific as possible but cannot cover all variations in field conditions. If anticipated conditions do not permit following these guidelines, do not hesitate to call your CEILCOTE Representative.

Materials Required
The materials used for application and installation consist of :

a. Primer – CEILCOTE 380 Primer
380 Primer Resin and #2 Hardener

b. Optional Primer (for high temperature)
– CEILCOTE 370HT Primer
370HT Primer Resin and #2 Hardener

c. Basecoat – CEILCOTE 140 Flakeline
140 Flakeline Resin and #2 Hardener

d. Topcoat – CEILCOTE 140 Flakeline
140 Flakeline Resin and #2 Hardener

e. Smoothing Liquid – Styrene

f. Optional Resin Topcoat – CEILCOTE 140RTC Flakeline
140RTC Flakeline Resin and #2 Hardener

Equipment
For Surface Preparation:
- Abrasive blasting
- Blastrac (Horizontal)
- Scarification or other mechanical means

For Mixing:
- Volume measure for liquid (1qt. or 1 gal.)
- Volume measure for Hardener (cubic centimeters or ounces)
- Measuring bucket (1 gal)
- 5 gal pail if mixing with drill
- Drill motor
- Blade (Jiffy Type) or other suitable types

For Application:
- Plaster or cement finishing trowel (generally 4“ x 12“)
- Paint rollers (short bristle wool, ¼“ nap)
- Clean Pails -3 or 5 gal (minimum 3 required for mixing, cleaning solvent and for styrene)
- Wet film thickness gage
- Surface thermometer
- Spark Tester – 10,000 volt
- Disc sander
- Cleaning rags
- Scoop

Surface Preparation
1. Grit blast the surface to "White Metal" in accordance with Steel Structures Painting Council specification SSPC SP5 or NACE No. 1, using a clean and dry blasting abrasive of such mesh size that will give a 3 mil minimum profile, SSPC 10 or NACE #2 for fumes and dry environments.

2. The air supply for each blasting nozzle should be at least 250 CFM continuous input volume at 100 psi. Separators and traps should be used to assure both a dry abrasive and dry air at the nozzle.
a) Proper blasting hoods and gloves are recommended.

3. Remove dirt, dust and abrasives by vacuuming, air blowing or careful brushing.

4. All metal surfaces must be primed with Ceilcote 380 or 370HT Primer before contamination or rust deterioration can occur. Primer may be sprayed or rolled to yield 1.0 - 4.0 wet mils. Average coverage of CEILCOTE 380 or 370HT Primer is 300 sq. ft. per gal. Catalyze with 2 ½ oz. Hardener No. 2 per gallon of primer.

Application
To ensure safe working, the safety precautions listed on the labels as well as the information provided in the MSDS Sheets must be observed. The individual components must be mixed completely and thoroughly.

- Primer

Mix resin and hardener thoroughly and apply the Primer to the substrate by spray or roller.

Mixing Ratio	By Volume
CEILCOTE 380 Primer	
380 Primer Resin	1 gal
#2 Hardener	2.5 oz
CEILCOTE 140 Flakeline	
140 Flakeline Resin	1 gal
#2 Hardener	2.5 oz
CEILCOTE 140 RTC (optional)	
140 RTC Flakeline	1 gal
#2 Hardener	2.5 oz

*Use 370HT Primer for high temperature applications. See Technical Data Sheet for Ceilcote 370HT Primer.

HANDLING PROPERTIES
All times are approximate

Working Time	380 Primer	140 Flakeline	140 RTC
50°F (10°C)	60 min	140 min	40-50 min
70°F (21°C)	45 min	1 hr	20-30 min
90°F (32°C)	20 min	40 min	15-20 min

INSTALLATION PROCEDURE

Ceilcote® 140 Lining

Flake Reinforced Trowel Applied Lining

Recoat	380 Primer	140 Flakeline
50°F (10°C)	5 hrs	24 hrs
70°F (21°C)	2 hrs	4 hrs
90°F (32°C)	1 hrs	3 hrs

Time to Place in Service	
50°F (10°C)	48 hrs
70°F (21°C)	24 hrs
90°F (32°C)	16 hrs

COVERAGE

CEILCOTE 380 Primer (Steel)	250-300 ft^2/gal (6-7.2m^2/liter)
CEILCOTE 140 Flakeline	12-14 ft^2/gal (.29-.34m^2/liter)
CEILCOTE 140 RTC	200-250 ft^2/gal 4.9-6.1m^2/liter)
FG-1 Dye	2 oz./gal in first coat only
Styrene Smoothing Liquid	1 pt per gal. Of 140 Flakeline material. DO NOT MIX into 140 Flakeline material.
Cleaning Solvent (T-410 or MEK)	150 ft^2/gal of applied material

STORAGE

Containers of Ceilcote 140 Flakeline, resin and hardener, styrene, and cleaning solvent should be kept closed and in a cool place [ambient 70ºF (21ºC)] in summertime. In winter, keep containers between 60ºF (16ºC) and 70ºF (21ºC). Packages must be stored away from flames and direct sunlight

CEILCOTE 380 Primer	6 months
CEILCOTE 140 Flakeline	6 months
CEILCOTE 140 RTC	6 months
FG-1 Dye	9 months
Styrene	9 months

MIXING

1. Using a graduated mixing bucket, scoop out one (1) gallon of CEILCOTE 140 Flakeline resin and place in large bucket. Three (3) of five (5) gallon size is necessary but three (3) is easier to work with. One gallon is the most you should mix at one time.
2. Pour the accurately measured two and a half (2.5) ounces of 2R Hardener into the center of the CEILCOTE 140 Flakeline resin material.
3. Immediately mix thoroughly until the color is uniformly pink. Use a 1/2" electric drill with a paddle or a jiffy type mixer.
4. Remove mixer from bucket and using a long (8 in) margin trowel scrape the sides and bottom of the bucket.
5. Re-mix until color is uniform and there are no white spots remaining (uncatalyzed material).
6. For basecoat add two (2) ounces of FG-1 Dye per Gal. of material and repeat items 3-5 above.
7. Working time is about 50 minutes at 77°F (25°C).

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 5º above the dew point of the air in the working area.
- Dehumidification (DH) air conditioning and/or heating equipment may be necessary to control environmental conditions.

APPLICATION

- CEILCOTE 140 FLAKELINE lining is applied by trowel. Two coats (30-75 mils per coat, target 40) are required to achieve a nominal thickness of 80 mils. Thickness should be checked frequently with a wet film gauge. Dye FG-1 is added to the CEILCOTE 140 Flakeline liquid for the first coat only. This gives the first coat a green color.

- Each coat must be rolled lightly immediately after application, to orient the flakes parallel to the surface and provide a smooth dense lining. Roll with a short nap paint roller dampened only with styrene. An excess of styrene will soften the lining.

- The second coat may be applied after initial hardening of the first coat [4 hours at 70°F (21°C)]. The second coat is applied without dye, making it an off-pink color. The color difference assures complete coverage.
- Check the thickness regularly with a wet film tester or wet film thickness gage. Total thickness of the cured films should be 60-150 mils. Resin coats, if required, are applied in a single coat by spray, roller or brush at approximately 5 dry mils.

INSTALLATION PROCEDURE
Ceilcote® 140 Lining
Flake Reinforced Trowel Applied Lining

CURE TIME
Initial cure is reached in 4 hours at 70°F (21°C). However, CEILCOTE 140 FLAKELINE should not be put into service until final cure is complete. Final cure requires at least 24 hours at 70°F (21°C).

TESTING
1. Assure that there are no soft spots or white streaks which may result from inadequate mixing.

2. Dry film thickness should be checked after the job is complete, using a magnetic Dry Film thickness gauge.

3. When CEILCOTE 140 FLAKELINE is applied for immersion service, check for pinholes by spark testing with a minimum of 10,000 volts.

PATCHING
Using a disc sander or small sandblaster, remove a small area, including the pinhole, back to white metal, then fill with CEILCOTE 140 FLAKELINE and roll out as above.

CLEAN UP
Equipment and tools may be cleaned with T-410, MEK, or lacquer thinner before the CEILCOTE 140 FLAKELINE has hardened. After the CEILCOTE 140 FLAKELINE has hardened, the best way to remove it from tools is with methylene chloride.

SAFETY
Store material in cool, dry area [50°- 90° F (10° - 32° C)], away from direct sunlight, flame or other hazards.

CEILCOTE 140 Flakeline contains vinyl ester resins and MEK peroxide catalyst. The product's components have been formulated to optimize physical characteristics such as filling capacity, abrasion, moisture and chemical resistance while minimizing hazardous physical and health factors encountered during application. A concerted effort is made to be aware of the latest chemical toxicological information and to apply this knowledge in a responsible manner to insure product safety.

During application of CEILCOTE 140 Flakeline materials, always wear gloves and appropriate work clothing to minimize contact. Ventilation is required with special consideration for enclosed or confined areas. Air movement must be designed to insure turnover at all locations in work area and adjacent areas to avoid buildup of heavy vapors. Use caution when handling flammable liquids, eliminate sources of ignition from work area and containers with residues.

Observe safe storage practices by separating resins from hardeners, by keeping solvents in a cool area, free of sources of ignitions.

Product Material Safety Data Sheets are available and should be consulted when handling products. These products are for industrial and professional use only; application directions must be followed.

MAINTENANCE
Periodically inspect the applied material and repair localized areas as needed. Consult your CEILCOTE representative for additional information.

Issue date: 28/09/07

www.ceilcotecc.com
www.international-pc.com

AkzoNobel