

CEILCOTE® 301 FLAKELINE® SERIES

Light duty coatings

IMPORTANT: READ THIS FIRST

Master Builders warrants the performance of this product if and only if the instructions of this document and other related Master Builders documents are adhered to in all respects.

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 Master Builders Representative.

SURFACE PREPARATION:

Steel:

1. For immersion or direct spillage abrasive blast to "White Metal" in accordance with SSPC #5 or NACE #1 Specifications. For atmospheric service (fumes and weathering) a SSPC #10 or NACE #2 "Near White Metal" abrasive blast is suitable if the environment is not highly corrosive. Surface profile should be 2.0 to 4.0 mils as measured by the Keane-Tator Visual Comparator.
The prepared surface must be free of all oils, grease, or other contaminants and must be dry.
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.
 - b) Blotter tests should be performed to ensure lines are free of oil and water.
3. Remove dirt, dust and abrasives by vacuuming or careful brushing.
4. CEILCOTE 370 PRIMER should be applied to prevent rusting if CEILCOTE 301 FLAKELINE base coat cannot be applied within 8 hours and before rusting occurs. Average coverage is 300 ft²/gal (7.3 m²/litre) CEILCOTE 370 PRIMER is catalyzed with 2 oz per gal of #3C Hardener.

Striping:

A preliminary coat may be desirable for edges and welds prior to the first coat of application. This generally brushed or roller applied onto the primed surface. Proper environmental conditions or installation procedures should be followed. If edges or welds are very rough, multiple coats may be necessary, sometimes requiring glass mat.

New Concrete:

New concrete must be thoroughly cured. All form oils, curing solutions and laitance must be completely removed by Blastrac or grit blasting. Prepared surfaces must be clean, dry and firm. Use plastic sheet test method to ensure concrete is moisture free. If moisture is detected, re-test until dry.

Existing Concrete:

Previously coated or heavily contaminated surfaces should be sandblasted to provide a clean, dense surface. New or uncontaminated surfaces must be prepared by abrasive blasting, blastrac or scarification. All concrete surfaces must be primed with CEILCOTE 380 PRIMER or CEILCOTE 380C (Conductive) PRIMER.

All oils, grease, dirt, old coatings, or chemical contaminants must be removed by surface preparation. Contaminated concrete may require multiple detergent and/or solvent cleaning and abrasive blasting, or in some instances may be unsuitable for coating. Consult Master Builders for more options or alternatives.

All fins or projections should be struck flush, all holes, pits, voids, and cracks must be filled. Fill voids with a vinyl ester mortar made by mixing 1 gal. of catalyzed CEILCOTE 380 PRIMER and adding approximately 7 to 9 lbs. of CEILCOTE S-11 Powder to make a thick paste. Adjust working thickness by adding more or less powder. Fill voids, allow to cure hard (4 to 8 hrs) and refill shrinkage cracks if necessary. Allow to cure 8 hours before priming.

CAUTION: Concrete "gassing" or "breathing" may occur when the surface temperature is rising due to sunlight or increasing ambient temperature. This can cause bubbles or holes in the applied floor, lining or coating. When this problem occurs it is necessary to shade the surface from sunlight and/or apply the material in the cooler evening or at night so that initial cure can take place without air escaping from the concrete. Consult Master Builders for more detailed recommendation.

Environmental Conditions:

For all application steps, the surface temperature, air temperature and material temperature should be between 50 and 110 degrees F (10 and 43 degrees 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 working area.

APPLICATION:

Thickness

Apply in two coats at 11 to 13 mils WFT
Apply one coat to achieve 8 to 10 mils DFT

Minimum recommended dry film thickness for a standard non-immersion 2 coat application of CEILCOTE 301 FLAKELINE is 16 mils. Average coverage of CEILCOTE 301 FLAKELINE is 120 to 130 ft²/gal (2.9 to 3.2 m²/litre) per coat (approx. 8 to 10 dry mils). Since field application conditions vary, sufficient additional material should be ordered to allow for normal installation losses and to cover rough, pitted or complex surfaces.

APPLICATION, continued:**Flash Point:**

Resin and hardener mixed 89°F (32°C)
(Pensky-Martens Closed Cup Tester, ASTM D93-66)

Mixing:

- Pot life (Working Time)
 - **CEILCOTE 370 PRIMER:**
2 oz./gal No. 3C Hardener
@ 73°F (23°C) 45 min. ± 10 min.
 - **CEILCOTE 380 PRIMER:**
2-1/2 oz./gal No. 2C Hardener
@ 73°F (23°C) 45 min. ± 5 min.
 - **CEILCOTE 301 FLAKELINE:**
2.5 oz./gal. No. 2C or 2R Hardener
@ 50°F (10°C) 120 min.
@ 73°F (23°C) 45 min. ± 5 min.
@ 90°F (32°C) 20 min. ± 5 min.
- Mix only quantities of material that can be applied within the pot life limitation.
- Use powered agitation (drill & whip) to assure complete mixing of the catalyst.
- Measure hardener accurately in a measuring cup or graduated cylinder.
- DO NOT THIN - standard paint thinners and solvents will seriously damage CEILCOTE 301 FLAKELINE.

Cure Time:

@ 50°F (10°C) 48 hrs.
@ 73°F (23°C) 24 hrs.
@ 90°F (32°C) 16 hrs.

CEILCOTE 370 PRIMER and CEILCOTE 380 PRIMER must cure approximately 2 to 4 hrs. @ 77°F (25°C) before overcoating with FLAKELINE. Premature application of CEILCOTE 301 FLAKELINE over uncured PRIMER may cause sagging.

Recoating:

@ 50°F (10°C) 5 hrs.
@ 73°F (23°C) 3 hrs.
@ 90°F (32°C) 2 hrs.

CEILCOTE 301 FLAKELINE must be recoated within seven (7) days when shaded from sunlight. If the coating is applied in sunlight (even on cloudy days), it must be recoated within four (4) hours to obtain proper intercoat adhesion. Confirm recoatability by wiping with styrene solvent. If surface becomes "tacky", adhesion is acceptable. If not softened by solvent, surface must be gritblasted or mechanically abraded to provide a non-glossy, roughened surface.

Spray Application:

CEILCOTE 301 FLAKELINE can be applied by conventional air atomizing and airless spray methods.

Air Spray Method:

Use Binks 18 or 62 Spray Gun, 66 Spray tip and needle with 63 PM, 63 PB or 63 PK aircap or other manufacturer's equivalent. Use pressure pot with 3/8 inch fluid line (maximum 30 feet length) or 1/2 inch ID fluid line when spraying at heights or where 50 feet hose length is required. For high volume or long distance applications, a 4:1 or 8:1 ratio pump can be used to provide material to the spray gun. Adjust fluid pressure to provide adequate material to spray gun and use a minimum atomization pressure to break up and flow out with minimum overspray.

Airless Spray Method:

Minimum 28:1 ratio pump with a 3/8 inch ID fluidline. A 30 mesh screen is recommended and Graco Reverse - A - Clean type tip to eliminate possible plugging. Tungsten Carbide tips are recommended with orifice sizes of 0.029 - 0.035 inch.

Operating Pressures:

For airless spray, 2000 to 3000 psi should be the minimum fluid pressure. As the spray tip orifice size is increased, the fluid pressure must also be increased to maintain a proper spray pattern. For air spray, set atomizing air pressure at 50 to 70 psi and then adjust fluid pressure to provide enough material for a proper spray pattern.

Note: For batch mixing special precautions should be implemented for short working times. Flushing out lines should be done in a timely and frequent manner.

Spray Equipment Maintenance:

- All equipment should be regularly cleaned to assure extended service life. Use T-410, MEK or MIBK to flush fluid hose, gun and pump. **DO NOT USE ACETONE.**
- Regulators and all movable parts should be inspected frequently and spare parts available.

For additional information on equipment, consult Installation Procedure for CEILCOTE 200 FLAKELINE® Series.

Brush and Roller Application:

- Apply base coat and topcoat with a clean, medium length, natural bristle brush or short nap roller. The topcoat can be applied after initial base coat hardening [about 2 hrs. @ 70°F (21°C)].
- Work the CEILCOTE 301 FLAKELINE into all crevices, corners, and surface irregularities.
- Check the thickness regularly with a wet film tester. Three coats may be necessary to obtain recommended film thickness.

CAUTION: CEILCOTE 301 FLAKELINE IS A LIMITED POT LIFE (WORKING TIME) MATERIAL. SPRAY EQUIPMENT MUST BE SOLVENT FLUSHED AND CLEANED IMMEDIATELY AFTER USE TO PREVENT MATERIAL FROM CURING IN THE PUMP (OR PRESSURE POT), FEED HOSE AND SPRAY GUN. IF SPRAYING IS TO BE CONTINUOUS, SEVERAL BATCHES MAY BE SAFELY SPRAYED WITHOUT INTERMEDIATE SOLVENT FLUSHING PROVIDING THAT THE POT LIFE OF ANY SINGLE BATCH IS NOT EXCEEDED.

Testing:

When CEILCOTE 301 FLAKELINE is applied for immersion service, check for pinholes with a DC spark tester at 2000 volts.

Patching:

Remove a small area around each affected area back to "White Metal", using a disk sander or small grinder. Then, recoat per above application, overlapping onto good material (approximately 1").

CLEAN UP:

Rollers, brushes, and spray equipment may be cleaned with T-410, MEK or MIBK. After the CEILCOTE 301 FLAKELINE has hardened, the best way to remove it from tools is with methylene chloride. This should be done as soon as possible.

SAFETY:

- CEILCOTE 301 FLAKELINE contains vinyl ester resins, styrene monomer and inert flake fillers. The hardener is an organic peroxide. The product's components have been formulated to optimize physical lining characteristics 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 301 FLAKELINE materials always wear gloves and appropriate work clothing to minimize contact. Ventilation is required with special consideration for enclosed or confined area. 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 and hardeners in a cool area free of sources of ignitions, 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 the possible violent reaction between them.
- Product Material Safety Data Sheets (MSDS) and Installation Procedures are available and should be consulted when handling products. These products are for industrial and professional use only; application directions must be followed.

NOTE:

DOT diamond labels are not color coded as per the above warning.

For industrial use and professional application only.
Not for sale to the general public.

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