

# CEILCOTE® 301 FLAKELINE®

*Thin-film vinyl ester coating*

## DESCRIPTION:

CEILCOTE® 301 FLAKELINE® coating is a chemically resistant thin film, flake-reinforced vinyl ester coating that exhibits excellent resistance to a wide range of chemicals including acids, alkalis and organic solvents. Overlapping flake fillers provide an effective barrier against permeation resulting in longer service life of the coating and protection of the substrate.

## TYPICAL USES:

- Tanker cars.
- Surfaces exposed to chemical spillage/fumes.
- Chemical process equipment.
- Floors & chemical trenches in process areas.
- Chemical storage and process vessels.
- Secondary containment.

## ADVANTAGES:

- For metal or concrete surfaces.
- Protection against chemical fumes, marine environments, chemical spillage and mild immersion services.
- High solids.
- Overlapping flake-reinforcement extends service life.

## COLORS:

Grey

## PHYSICAL PROPERTIES:

<b>Generic Type</b>	Vinyl ester
<b>Volatile Organic Compounds (VOC)</b> Lab 23 Method of Reg. 8-4-11 of California Code	0.11 lb/gal
<b>Viscosity</b>	950 to 1100 cps
<b>Weight/Gallon</b>	10.1 ± 0.2 lbs
<b>Flash Point</b>	Mixed 89°F (32°C)
<b>Tensile Bond Strength</b> ASTM D-454185	1,500 to 1,700 psi (10 to 12 MPa)
<b>Tensile Strength</b> ASTM D-638	2,500 to 3,000 psi (17 to 20 MPa)
<b>Flexural Strength</b> ASTM D-790	7,500 psi (52 MPa)
<b>Flexural Modulus</b> ASTM D-790	8.9 x 10 <sup>5</sup> psi (610 MPa)
<b>Tensile Elongation</b>	0.50%

## Service Temperature Limits (continuous)

- Immersion/Condensing Fumes 120°F (49°C)
- Dry/Noncondensing Fumes 220°F (104°C)

## Shelf Life

Shelf Life for material is approximately 2 months @ 70°F to 80°F (25°C to 27°C). Above 80°F (27°C) shelf life is considerably reduced.

## MIXING RATIO:

1 gal 301 Resin (Part A) to 2.5 fl. oz #2 Hardener (Part B)

**Thinning:** DO NOT THIN

## COVERAGE:

- Theoretical: 160 ft<sup>2</sup>/gal (3.9 m<sup>2</sup>/litre) at 10 mils DFT
- Actual: 100 to 120 ft<sup>2</sup>/gal (2.4 to 2.9 m<sup>2</sup>/litre) at 10 mils DFT

## HANDLING PROPERTIES:

(Approximate Time)

	50°F (10°C)	73°F (23°C)	90°F (32°C)
Working Time	2 hrs	45 min	20 min
Recoat Time	5 hrs	3 hrs	2 hrs
Cure Time	48 hrs	24 hrs	16 hrs

## PACKAGING:

4 gallon (U.S.) units.

## LIMITATIONS:

Store in cool, dry area [50°F to 90°F (10°C to 30°C)] away from direct sunlight, flame or other hazards. Do not apply CEILCOTE 301 FLAKELINE coating when the surface temperature is below 50°F (10°C).

CEILCOTE 301 FLAKELINE coating 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.

Mix and apply primer per instructions.

## APPLICATION:

### Surface Preparation:

#### Steel:

For immersion or high temperature service a "White Metal" abrasive blast (SSPC #5 or NACE #1) is required with an anchor pattern profile of 3 - 4 mils. For atmospheric service use a "Near White" abrasive blast (SSPC #10 or NACE #2).

#### Concrete:

Abrasive blasting, Blastrac or scarification or remove laitance and surface contaminants is recommended. Concrete must be thoroughly cured, free of oils, curing solutions or mold release agents, dust and must be dry at time of application. Reference ASTM D-4263.

#### Primers:

##### For Steel Surfaces:

CEILCOTE 370 PRIMER

For Concrete Surfaces:

- CEILCOTE 380 PRIMER
- CEILCOTE 380C (Conductive) PRIMER

#### Mixing:

Mechanically premix CEILCOTE 301 FLAKELINE liquid component (i.e., Part A) 2 minutes individually prior to blending with hardener. After initial mixing, add 2.5 fl. oz of #2 Hardener per gallon of CEILCOTE 301 FLAKELINE liquid and mix for three additional minutes to ensure that the hardener is well dispersed. CEILCOTE 301 FLAKELINE coating may be applied by airless or conventional spray, brush or roller.

#### Number of Coats and Thickness:

Each coat requires application of 11 to 13 mils wet film thickness to achieve 8 to 10 mils dry. Two coats are generally required.

#### Airless Spray:

Minimum 28:1 ratio pump with a 3/8 inch ID fluidline. A 60 mesh screen is recommended and Graco Reverse - A - Clean type tip to eliminate possible plugging. Tungsten Carbide tips are recommended with orifice sizes of 0.018 to 0.035 inch. Adjust outboard pressure between 2,000 to 3,000 psi to obtain a suitable spray pattern.

#### Conventional Spray:

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. For larger applications, utilize plural component air assisted airless set-up, as reviewed in our Installation Procedure #2.2I for our CEILCOTE 200 FLAKELINE Series.

#### Brush or Spray:

Generally requires additional applications to obtain the recommended millage. Use short nap rollers and medium stiff natural bristle brushes.

#### CLEAN UP:

Use Ceilcote T-410 Solvent, methyl ethyl ketone or lacquer thinner. DO NOT USE ACETONE.

#### SAFETY:

- CEILCOTE 301 FLAKELINE coating contains polyester 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 coating 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.

For more information, contact your local Master Builders Representative.

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