CEILCOTE® 2000 FLAKELINE®

Epoxy novolac coating

Master Builders Technologies

DESCRIPTION:

The CEILCOTE® 2000 FLAKELINE® coating is a revolutionary high-performance coating system that is designed to provide maximum resistance to 98% Sulfuric Acid and other aggressive chemicals. Based on novolac epoxy technology, CEILCOTE 2000 FLAKELINE coating is a unique combination of increased epoxy functionality and polyamine adduct hardener. This results in a high crosslink density and provides superior resistance to a wide range of chemicals. The coating is reinforced with overlapping inert flake fillers which create an effective permeation barrier to many corrosives and extend its service life.

TYPICAL USES:

The CEILCOTE 2000 FLAKELINE coating is ideally suited for coating areas subjected to immersion, fumes, splash and spillage of acids, caustics and solvents. Through its unique properties, the coating is designed for both steel and concrete applications, including:

- Chemical storage & process vessels.
- Floor & chemical trenches in process areas.
- Secondary containment areas.
- Truck loading & unloading areas.
- Pedestels of chemical pumps.
- Surfaces exposed to chemical spillage/fumes.
- Chemical process equipment.

ADVANTAGES:

- Superior resistance to 98% sulfuric acid
- Superior resistance to oleum
- Improved thermal compatibility with steel & concrete substrates.
- Ease of application.
- Low permeation rate.
- Solvent free/100% solids.

COLORS:

Available in Gray and Red.

PHYSICAL PROPERTIES:

Generic Type
Epoxy novolac

Volatile Organic Compounds (VOC)
0 lbs/gallon (0 grams/litre)

Viscosity (77°F or 25°C)
9,000 to 11,000 cps

Density
11.6 +/- 0.2 lbs/gallon (1.39 kg/litre)

Compressive Strength
ASTM D-695 9,600 psi (62 MPa)

Tensile Strength
ASTM D-638 3,400 psi (23 MPa)

Flexural Strength
ASTM D-790 5,600 psi (39 MPa)

Coefficient of Linear Expansion
ASTM C-531 18.7×10^{-6} in/in/F (33.7×10^{-6} cm/cm/C)

Shrinkage
ASTM C-531 0.00201 in/in (cm/cm)

Flash Point

Tag Closed Cup

- Liquid 210°F (98°C)
- Hardener 208°F (97°C)

Pensky-Martins Closed Cup

CEILCOTE 680 Primer/Saturant

- Liquid 204°F (95°C)
- Hardener 228°F (108°C)
- T471 Solvent 43°F (6°C)

Service Temperature Limits (Continuous)
- Immersion/Condensing Fumes 120°F (49°C)
- Atmospheric/Noncondensing Fumes 250°F (121°C)

Abrasion Resistance
Tabor Coefficient, CS17 Wheel, 1000 gm, 1000 cycles
210 to 220 mg

Shelf Life
Shelf life for material is one year minimum, if kept tightly sealed.

HANDLING PROPERTIES:

Approximate Time

Pot Life (1 pint or 471 ml)

160 minutes	@	50°F (10°C)
70 minutes	@	60°F (16°C)
25 minutes	@	75°F (24°C)
20 minutes	@	90°F (32°C)
20 minutes	@	100°F (38°C)

COVERAGE:

30 to 35 ft^2/gallon (0.73 m^2/liter)
@ 35 mils thickness (two coats)

680 Primer/Saturant:
150 to 200 ft^2/gallon (3.7 to 4.9 m^2/liter), depending on the concrete texture

MIXING RATIO:

4:1 by Volume Resin (Part A) to Hardener (Part B).

PACKAGING:

Available in 1 and 4 gallon U.S. units (3.79 & 15.14 litres).

LIMITATIONS:

- Do not apply CEILCOTE 2000 FLAKELINE coating when the surface temperature is below 50°F (10°C).
- CEILCOTE 2000 FLAKELINE coating should be recoated within 4 to 48 hours to assure proper adhesion of topcoat to basecoat. For longer exposure, confirm recoatability by wiping the coating with toluene. If the surface becomes “tacky”, adhesion is acceptable. If not softened by toluene, surface must be gritblasted or mechanically abraded to provide a non-glossy, rough surface.

APPLICATION: (abbreviated)

Surface Preparation:

Steel:

For immersion or high temperature service a “White Metal” sandblast (SSPC #5-89 or NACE #1) is required with a minimum anchor pattern profile of 3 mils (.08 mm). For atmospheric service use a “Near White” sandblast (SSPC #10-89 or NACE #2).

Concrete:

Gritblasting or scarification to 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. Use plastic sheet test method to ensure concrete is moisture free (ASTM D-4263). If moisture is detected, re-test until dry.

Primers:

For Steel Surfaces: • CEILCOTE 680 PRIMER

For Concrete Surfaces: • CEILCOTE 680 PRIMER

• CEILCOTE 680C (Conductive) PRIMER

Mixing:

Each component should be premixed because of settling that may occur during shipping and storage. If using plural component spray equipment, do not mix components A and B together. If using standard airless or conventional spray equipment, pour component B into component A while mixing slowly with a mechanical jiffy type of mixer. Stir well at a low speed until a uniform color is achieved. In hot weather, it may be necessary to place the pail of mixed material in a container of ice to extend the working time.

Placement:

- CEILCOTE P-680 PRIMER can be easily applied by spray or roller.
- CEILCOTE 2000 FLAKELINE is normally applied by plural component spray equipment, trowel, squeegee or roller.
- CEILCOTE 2000 FLAKELINE is applied in two coats of 15 to 25 mils each to achieve a 35 (target) mil dry film thickness. The coating may be sparktested as 4,000 volts to insure absence of pinholes.
- **CAUTION:** Amine blush is possible. Precautions should be taken to ensure there is no amine blush present before application of second coat. If present wash with water and let dry.
- To achieve a durable non-skid finish in traffic areas, broadcast sharp inert grit aggregate fillers into next-to-last coat while it is still tacky. Various types of grit are used to achieve different texture, thickness and toughness. For specific finish characteristics required, please consult Master Builders, Inc.

CLEAN UP:

Use T-410, MEK, or toluene.

SAFETY:

- Store in cool, dry area [50°F to 90°F (10°C to 32°C)] away from direct sunlight, flame or other hazards.
- CEILCOTE 2000 FLAKELINE contains epoxy resins and a polyamine 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 2000 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 (MSDS) 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 needed. Consult your Master Builders, Inc. representative for additional information.

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