

CEILCOTE® CEILCRETE® Series

Reinforced trowel applied polyester/vinyl ester topping/linings

DESCRIPTION:

The CEILCOTE CEILCRETE Lining Series is a time-tested and proven development in chemical-resistant surfacing. It is designed especially for the protection of concrete and steel against the attack of corrosive chemicals. The CEILCOTE CEILCRETE Lining Series is trowel applied, in combination with a heavy-duty reinforcing layer of fiberglass or synthetic cloth.

TYPES:

- CEILCOTE 2500S, AR and B CEILCRETE Series: Resistant to alkali and acid. B type is electrically conductive and non-sparking; and is best for strong alkali environments.
- CEILCOTE 6400S and AR CEILCRETE Series: Excellent resistance to strong oxidizing acid solutions such as nitric, sulfuric, and chromic.
- CEILCOTE 6640S, and AR CEILCRETE Series: Excellent resistance to organic and inorganic acid solutions. Good resistance to aliphatic solvents and to alkalis.
- CEILCOTE 6650S, AR and B CEILCRETE Series: Same resistance to alkalis and acid as 2500; also good for many solvents, chlorinated aromatics and aliphatics.
- CEILCOTE 695S, AR and B CEILCRETE Series: Exceptional resistance to strong acids (concentrated sulfuric) and moderate to high concentrations of alkalis. Also has good resistance to solvents and organics.

NOTES:

- Product Name Abbreviations:
 - S: Designates a silica filled system
 - B: Designates a carbon filled system
 - AR: Designates an abrasion resistant filled system
- Chemical Resistance Information:
For specific chemical resistance data, refer to the CEILCOTE Master Corrosion Resistance Guide or contact Master Builders, Inc. Chemical resistance data on CEILCOTE CEILCRETE Lining Series are developed using ASTM C 267 and ASTM C 868 in addition to actual installation performance history.

TYPICAL USES:

- Tanking lining.
- Trench lining.
- Equipment foundations.
- Tank pads.
- Pump bases.
- Secondary Containment.
- Concrete pipe lining.
- Chimney lining.
- Scrubber lining.
- Floor covering.
- Piers.

ADVANTAGES:

- Exceptional chemical resistance.
- Monolithic/seamless.
- Low coefficient of expansion.
- Superior permeation resistance.
- Strong, durable corrosion barrier.

COLOR:

Gray

PHYSICAL PROPERTIES:

The CEILCOTE CEILCRETE Lining Series types differ somewhat in physical properties but generally meet or exceed the following standards:

Tensile Strength

ASTM C 307-83

2,000 to 2,500 psi (14 to 17 MPa)

Compressive Strength

ASTM C 579-82

11,000 to 13,000 psi (76 to 90 MPa)

Taber Abrasion Factor

CS 17F wheel, 1,000 gm wt., 5,000 revolutions

70 to 100 mg

Coefficient of Expansion

(in/in/°F) range: 70°F to 210°F (21°C to 96°C)

Reinforced, Type H cloth: 12 to 15 x 10⁻⁶/°F (7 to 8x10⁻⁶/°C)

Electrical Properties¹ Megger Reading

3 ft span

0 to 200,000 ohms (500 to 10,000 ohms typical)

¹Refer to carbon filled

Permeance

ASTM E 96

0.0135 @ 125 mils

Service Temperature Limits, Continuous

- Immersion/condensing fumes (concrete): 180°F (82°C)
- Immersion/condensing fumes (steel): 160°F (71°C)
- Dry/noncondensing fumes: 220°F (104°C)
- Splash/spill/rinse (occasional): 250°F (121°C)
- Splash/spill/rinse (frequent): 160°F (71°C)

Flash Points

Pensky-Martens Closed Cup

- CEILCOTE 2500/25 Liquid: 82°F (28°C)
- CEILCOTE 6400/64 Liquid: 79°F (26°C), styrene
- CEILCOTE 6640 Liquid: 79°F (26°C), styrene
- CEILCOTE 6650/74 Liquid: 79°F (26°C), styrene
- CEILCOTE 370 PRIMER Liquid: 73°F (23°C)
- CEILCOTE 380 PRIMER Liquid: 82°F (28°C)
- No.2 Hardener: 162°F (72°C)
- No.3 Hardener: 137°F (58°C)
- Styrene Smoothing Liquid: 90°F (32°C)
- T-410 Solvent: 35°F (2°C)

COVERAGE:

PRODUCT	sq ft/gal
• CEILCOTE 370 PRIMER (for steel)	250 to 300
• CEILCOTE 380 PRIMER (for concrete)	160 to 200
• CEILCOTE 380C PRIMER (for concrete)	120 to 160
• Styrene Smoothing Liquid	200
• CEILCOTE 2500S CEILCRETE	14 to 16
• CEILCOTE 2500B CEILCRETE	12 to 14
• CEILCOTE 2500AR CEILCRETE	14 to 16
• CEILCOTE 6640S CEILCRETE	14 to 16
• CEILCOTE 6640AR CEILCRETE	14 to 16
• CEILCOTE 6650S CEILCRETE	14 to 16
• CEILCOTE 6650B CEILCRETE	12 to 14
• CEILCOTE 6650AR CEILCRETE	14 to 16
• CEILCOTE 695S CEILCRETE Topcoat	41 to 43
• CEILCOTE 695 CEILCRETE Base Coat ^{1*}	23 to 25
• CEILCOTE 695B CEILCRETE Topcoat*	39 to 41
• CEILCOTE 695AR CEILCRETE Topcoat	41 to 43
• CEILCOTE 6400S CEILCRETE Topcoat	14 to 16
• CEILCOTE 6400S CEILCRETE Base Coat	14 to 16
• H Cloth	1.1 x actual square footage
Powders: Sq ft per 50 lb bag	S-1 B-4 S-9AR
• CEILCOTE 2500S CEILCRETE	50
• CEILCOTE 2500B CEILCRETE	62
• CEILCOTE 2500AR CEILCRETE	100
• CEILCOTE 2500AR CEILCRETE Base Coat	
• CEILCOTE 2500AR CEILCRETE Topcoat	106
• CEILCOTE 6400S CEILCRETE	50
• CEILCOTE 6400AR CEILCRETE	84
• CEILCOTE 6640S CEILCRETE	50
• CEILCOTE 6640AR CEILCRETE	100
• CEILCOTE 6640AR CEILCRETE Base coat	
• CEILCOTE 6640AR CEILCRETE Topcoat	84
• CEILCOTE 6650S CEILCRETE	50
• CEILCOTE 6650B CEILCRETE	62
• CEILCOTE 6650AR CEILCRETE	100
• CEILCOTE 6650AR CEILCRETE Base coat	
• CEILCOTE 6650AR CEILCRETE Topcoat	84
• CEILCOTE 695S CEILCRETE	50
• CEILCOTE 695B CEILCRETE	62

• CEILCOTE 695AR CEILCRETE Base Coat	100
• CEILCOTE 695AR CEILCRETE Topcoat	84

¹ Base Coat coverage includes resin for priming and saturating reinforcement
Glass Reinforcement - 1.1 ft²/ft²
Styrene - 200 ft²/gal (4.9 m²/liter)

ORDERING:

1. Calculate the square feet of area to be covered.
2. Refer to chart above for the material required per square foot.
3. Increase the total material required to the nearest quantity of standard packages.
4. Order glass cloth with 10% overage for lapping.
5. Order Styrene Smoothing Liquid for smoothing CEILCOTE CEILCRETE Series and T-410 for cleaning tools.

PACKAGING (approximate weights) & MIXING RATIO:

CEILCOTE 370 PRIMER:
(2 oz #3C hardener/gal resin)
1 gal (8.6 lbs), 5 gal (43 lbs)

CEILCOTE 380/652/695BC Resin:
(2-1/2 oz. #2C hardener/gal. resin)
1 gal (8.75 lbs), 5 gal (44 lbs)

CEILCOTE 2500/25:
(2 oz. #3C hardener/gal. resin)
1 gal (8.5 lbs), 5 gal (42.5 lbs)

CEILCOTE 2500B:
(4 oz #3C hardener/gal resin)
1 gal (8.5 lbs), 5 gal (42.5 lbs)

CEILCOTE 6400/64
(2 oz #3C hardener/gal resin)
5 gal (45 lbs)

CEILCOTE 6640:
(2-1/2oz #2C hardener/ gal resin)
1 gal (9 lbs), 5 gal (45 lbs)

CEILCOTE 6650/74:
(2-1/2 oz #2C hardener/gal resin)
3/4 gal (6.75 lbs), 4 gal (36 lbs), 40 gal (360 lbs)

CEILCOTE 6650B:
(5 oz #2C hardener/gal resin)
3/4 gal (6.75 lbs), 4 gal (36 lbs)

CEILCOTE 695 TC:
(2-1/2 oz #2C hardener/gal resin)
3/4 gal (6.75 lbs), 4 gal (36 lbs)

* (Use CEILCOTE 380/695BC as primer for CEILCOTE 695 CEILCRETE System. Coverage factor is included in coverage for base coat.)

CEILCOTE 695 B TC:

(5 oz #2C hardener/gal resin)
3/4 gal (6.75 lbs), 4 gal (36 lbs)

Type S-1 Powder	50 lb bags
Type S-9AR Powder	50 lb bags
Type B-4 Powder	50 lb bags
Type H Cloth (Standard)	As required by ft ²
Type F Cloth (Heavy Duty)	As required by ft ²
Type O Cloth (Synthetic)	As required by ft ²
Styrene Smoothing Liquid	1 gal (6 lb 5 oz), 5 gal (31 lb 9 oz)

SHELF LIFE:

CEILCOTE CEILCRETE Series liquids, primer liquids, and hardeners should be stored in a cool place, away from flames.

CEILCOTE 2500/25, 6640, 6640/64 Liquid should be used within 6 months of manufacture.

CEILCOTE 6650/74 Liquid should be used within 2 months of manufacture.

Expiration dates are printed on the containers. These dates are based on time from manufacture.

Powders are stable indefinitely at all temperatures if kept dry.

LIMITATIONS:

- 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 working area.
- CEILCOTE 6640 CEILCRETE, CEILCOTE 6650 CEILCRETE base coat must be recoated within seven (7) days when shaded from sunlight. If the lining is applied in direct sunlight (even on cloudy days), it must be recoated within four (4) hours to obtain proper intercoat adhesion.
- Other CEILCOTE CEILCRETE Series base coats should be recoated within two (2) weeks when shaded from sunlight and one (1) week if exposed to direct sunlight, to assure proper adhesion between coats.
- Confirm recoatability by wiping the lining with styrene. If the surface becomes "tacky", adhesion is acceptable. If surface is not softened by styrene, surface must be grit blasted or mechanically abraded to provide a non-glossy, roughened surface.

APPLICATION: (abbreviated)

(Refer to CEILCOTE CEILCRETE Series Installation Procedures 1.2I for complete procedures.)

Concrete Preparation:

Abrasive blasting or scarification to remove laitance and surface contaminants is recommended. Concrete must be thoroughly cured, free of oils, curing solutions, mold release agents or dust and must be dry at time of application. For concrete quality and preparation, please refer to Construction Specification CPT-1, CP-14, CP-17 & CS-10.

Steel Preparation:

Steel must be abrasive blasted to "White Metal" for optimum performance. (Refer to SSPC SP 5-89 or NACE Specification No. 1). A minimum sandblast profile of 3 mils is required. Please refer to Construction Specification CPT-2.

APPLICATION-ABBREVIATED

(Refer to CEILCRETE Installation Procedure)

- The surfaces to be lined should be at a minimum temperature of 50°F (10°C) for proper application.
- Prime surfaces with CEILCOTE 370 primer for steel or CEILCOTE 380 primer for concrete. Allow to cure tack free before proceeding.
- Spread base coat 1/16" (40-80 mils) thick.
- Immediately press the fiberglass cloth into base coat.
- Saturate by brushing or rolling on the saturating liquid until whiteness of glass disappears. Allow to cure.
- Spread 1/16" (40-80 mils) topcoat as evenly as possible, then smooth by brushing with Styrene Smoothing Liquid. Allow to cure. Refer to CEILCOTE CEILCRETE Series Installation Procedures (1.2I) for testing procedures.

CLEAN UP:

Use T-410 Solvent, MEK or lacquer thinner. **DO NOT USE ACETONE SOLVENT.**

SAFETY:

CEILCOTE CEILCRETE Series systems contain polyester resin and styrene monomer. The hardener is an organic peroxide. CEILCOTE CEILCRETE Series system 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 ensure product safety.

During application of the CEILCOTE CEILCRETE Series 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 ensure 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 areas and empty 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 ignition, and by observing the special CEILCOTE warning on RED AND YELLOW labeled products. The CEILCOTE RED label represents amine-type chemicals, and the CEILCOTE 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 Procedure Bulletins are available and should be consulted when handling products. These products are for industrial and professional use. Application directions must be followed.

For additional information, contact your local Master Builders Representative.

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