

Description

The CEILCOTE® 505M FDA Coroline is a 1/8" nominal thickness epoxy lining containing graded silica filler and reinforced with one layer of heavy glass fabric. It is an established, proven chemical-resistant epoxy lining, designed for use as either a lining for metal or concrete surfaces or as a corrosion resistant floor topping. It is widely used in areas of dilute acid and high caustic environments and complies with requirements of the Food and Drug Administration (FDA).

Typical Uses

- Tank lining
- Trench lining
- Process Equipment
- Applications requiring FDA compliance

Advantages

- Excellent chemical resistance
- Monolithic / seamless
- Low coefficient of expansion
- Superior permeation resistance
- FDA compliant
- Strong, durable corrosion barrier

Chemical Resistance

Maximum resistance to organic chemicals, dilute mineral acids and strong caustics. For specific chemical resistance data, refer to the CEILCOTE Corrosion Resistance Guide or contact Ceilcote.

Substrate

Refer to Ceilcote concrete specification CPT-1 for concrete requirements and CPT-2 for steel.

Surface Preparation

Metal - Steel must be abrasive blasted to "White Metal" for optimum performance. (Refer to SSPC SP 5 (Sa3 (ISO 8501-1:2007)) or NACE Specification No. 1). A minimum abrasive blast profile of 4 mils (100 microns) is required. Please refer to Construction Specification CPT-2.

Concrete - Abrasive blasting or scarification to remove laitance and surface contaminants is recommended. Concrete must be thoroughly cured, free of oils, curing solutions and mold release agents, dust and must be dry at time of application. Use ASTM D 4263 (plastic sheet test method) to ensure concrete is moisture free. If moisture is detected, re-test until dry. Alternately test per ASTM 1869 for maximum 3 lbs/24hrs, 1000 sq ft. For concrete quality and preparation, please refer to Construction Specification CPT-1, CP-14, CP-17 & CS-10.

Application

The surfaces to be lined should be at a minimum temperature of 50°F (10°C) for proper application.

Primers:**For Steel Surfaces:**

CEILCOTE 680 PRIMER

For Concrete:

CEILCOTE 680 PRIMER

CEILCOTE 680C (Conductive) PRIMER

(use where spark testing of concrete is required)

Mix and apply primer per instructions. Prime surfaces and allow to cure tack free before proceeding.

Placement:

1. Be certain the cured primer is clean and dust free.
2. Mechanically premix CEILCOTE 505M FDA Coroline components individually (i.e. Part A, Part B) prior to blending together. After initial mixing, add 22 ounces (650ml) CEILCOTE 4A Hardener to 1 gallon (3.79 liter) of CEILCOTE 505M FDA Coroline Resin and mix for 3 to 5 additional minutes.
3. In small amounts, add and mix appropriate powder with resin. More or less powder may be added as required. Use within 15 minutes after adding hardener.
4. Using a trowel, apply 60 - 80 mils (1500-2000 microns) of basecoat.
5. Press the reinforcing cloth into the basecoat, leaving no wrinkles or hollows. Lap each strip about 1" over preceding strips. Press the cloth carefully into all corners. When the cloth is being placed overhead, allow the basecoat to get a little firm, not hard, before saturating cloth.
6. Saturating should be done before the basecoat has hardened. Mix the Resin and Hardener.
7. Apply the saturant with a brush or roller until all cloth is translucent. Let cure.
8. Examine the cured saturating coat before recoating. If it appears damp or has a film on it, wash it with water and allow surface to dry.
9. Mechanically premix CEILCOTE 505M FDA Coroline components individually (i.e. Part A, Part B) prior to blending together. After initial mixing, add Ceilcote #4A Hardener to CEILCOTE 505M FDA Coroline Resin and mix for three to five additional minutes.
10. In small amounts, add and mix appropriate powder with resin. More or less powder may be added as required. Use within 15 minutes after adding hardener.
11. Trowel on 60 mils (1500 microns) of topcoat. Smooth by dampening clean, soft brush with T-420 and brushing lightly to remove trowel marks. If extra smooth surface is desired, allow topcoat to become a little firm before brushing.
12. Allow system to cure approximately (72 hrs) before placing in service. Longer curing is needed at cooler temperature. Consult CEILCOTE for more information.



Mixing Ratio	By Volume
680 Primer Resin	3
#9 Hardener	1
505M FDA Coroline Resin	5.8
#4A Hardener	1

Handling Properties

Working Time	680 Primer	505M FDA Coroline
50°F (10° C)	90 min	2 hrs
70°F (21° C)	40 min	50 min
90°F (32° C)	20 min	25 min

Recoat	680 Primer	505M FDA Coroline
50°F (10° C)	9 hrs	9 hrs
70°F (21° C)	5 hrs	5 hrs
90°F (32° C)	3 hrs	3 hrs

Time to Place in Service	
50°F (10° C)	48 hrs
70°F (21° C)	24 hrs
90°F (32° C)	12 hrs

Coverage

CEILCOTE 680 Primer

Concrete	150-200 ft ² /gallon (3.7-4.9 m ² /liter)
Steel	250-325 ft ² /gallon (6.1-7.9 m ² /liter)

With the addition of Ceilcote C#1

140-160 ft²/gallon (3.4-3.9 m²/liter)

CEILCOTE 505M FDA Coroline

16-18 ft²/gallon (0.39-0.43 m²/liter)

Type S-1 Powder	50 ft ² /bag
Type S-9AR Powder	50 lb (22.65kg) bags
Type S-10AR Powder	50 lb (22.65kg) bags
H Cloth / 1 ½ oz Mat	1.1 sq ft/ sq ft
T-420 Smoothing Liquid	200 ft ² /gallon (5.0 m ² /liter)

Packaging

The following standard packages are available

CEILCOTE 680 Primer 1, 4 & 40 gal units (3.79, 15.14, 151.4 liter units)

CEILCOTE 505M FDA Coroline 1 & 5 gal units (3.79, 18.92 liter unit)

H Cloth / 1 ½ oz Mat per sq ft

T-420 Smoothing Liquid 1 & 5 gal (3.79, 18.92 liter units)

Type S-1 Powder 50 lb (22.65kg) bags

Storage

Store material in a cool, dry and covered location [50°- 90° F (10° - 32° C)], away from fire hazards and direct sunlight. Minimum shelf life at 70°F (21° C) for each component is indicated below:

CEILCOTE 680 Primer	18 months
CEILCOTE 505M FDA Coroline	18 months
S-1, S-9AR, S-10AR	Indefinite, if kept dry
H Cloth / 1 ½ oz Mat	Indefinite
T-420 Smoothing Liquid	2 years

Higher temperature will shorten the shelf life of these products. All liquid products are to be stored in a frost-free place.

Safety

CEILCOTE 505M FDA Coroline contains epoxy resins and polyamine, adduct catalyst. The product's components have been formulated to optimize physical characteristics such as strength 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 ensure product safety.

During application of CEILCOTE 505M FDA Coroline 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 liquid, 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 ignition.

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.


Technical and Physical Data

	Test standard	Unit	Value
Generic Type			Modified epoxy
Flexural Modulus of Elasticity	ASTM D790-02		195,000
Compressive Strength	ASTM C306	Psi (Mpa)	14,300
Tensile Strength	ASTM C307-99	Psi (Mpa)	2,700
Moisture Permeability	ASTM E96 Proc. E	perm inch	0.0018
Taber Abrasion Factor	CS 17F wheel, 1,000 gm wt., 1,000 revolutions D4060-90	mg	27
Hardness, Barcol	D2583-95		74
Coefficient of Expansion	C 531-00 70°F-210°F	In/in°F	9.3 x 10 ⁻⁶
Flammability	ASTM D635-98	In/min.	0.5

Important Note

The information in this data sheet is not intended to be exhaustive; any person using the product for any purpose other than that specifically recommended in this data sheet without first obtaining written confirmation from us as to the suitability of the product for the intended purpose does so at their own risk. All advice given or statements made about the product (whether in this data sheet or otherwise) is correct to the best of our knowledge but we have no control over the quality or the condition of the substrate or the many factors affecting the use and application of the product. Therefore, unless we specifically agree in writing to do so, we do not accept any liability at all for the performance of the product or for (subject to law) any loss or damage arising out of the use of the product. WE HEREBY DISCLAIM ANY WARRANTIES OR REPRESENTATIONS, EXPRESS OR IMPLIED, BY OPERATION OF LAW OR OTHERWISE, INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. All products supplied and technical advice given are subject to our Conditions of Sale. You should request a copy of this document and review it carefully. The information contained in this data sheet is liable to modification from time to time in the light of experience and our policy of continuous development. It is the user's responsibility to check with their local International Paint representative that this data sheet is current prior to using the product.

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