CHEM-CRETE E430

Non-Toxic, High Build, Solvent-Free Epoxy Coating (The Water Tank Coating System)

PRODUCT DESCRIPTION

CHEM-CRETE E430 is a two-component, ready-to-use, and high-build solvent-free epoxy coating system.

CHEM-CRETE E430 is a decorative, waterproofing and protective high build epoxy coating specially formulated to meet the 'in service' protection of concrete and steel. It has high chemical resistance characteristics.

CHEM-CRETE E430 is safe to be used for potable water applications like waterproofing of water tanks.

FIELDS OF APPLICATION

For the internal protection of concrete or metal tanks in the following fields:

- ☐ Food and beverage processing plants
- ☐ Potable water storage tanks and reservoir
- ☐ Canning and bottling factories
- ☐ Chemical factories, tanning and paper plants
- ☐ Water and sewage treatment plants
- ☐ Desalination plants
- ☐ Oil refineries and power stations
- ☐ Protective coatings for storage silos, equipment, machinery and live stock housing
- ☐ Hospitals, laboratories, and abattoirs

PRODUCT FEATURES

- ☐ Ready to use work pack that ensures correct mixing and ease of application
- ☐ Non-toxic, suitable for potable water applications
- ☐ Hygienic and will not support growth of bacteria
- ☐ Solvent-free therefore safe to apply in confined spaces like small rooms and tanks.
- ☐ High build coating
- ☐ Waterproof protective coating
- ☐ High chemical resistance
- ☐ Easily applied by brush, roller or spray technique
- ☐ Excellent adhesion to concrete and steel
- ☐ Moisture insensitive.

PACKAGING

Product	Packaging
CHEM-CRETE E430	1 Gallon (3.785 Liters) Unit Part A: 0.75 Gal Can, Part B: 0.25 Gal Can
	5 Gallon (18.925 Liters) Unit Part A: 4 Gal Pail, Part B: 1 Gal Can
	25 Gallon (94.625 Liters) Unit Part A: Four 5 Gal Pails, Part B: One 5 Gal Pail

TECHNICAL DATA

Technical Data for Unmixed Parts

Property @ 25°C (77°F)	Resin Part A	Hardener Part B	Test Method
Solids	100 %	100 %	-
Color*	White or Blue*	Clear - Amber	-
Density, Lb/Gal (Kg/L)	< 13.65 (1.636)	< 8.12 (0.973)	ASTM D1475
Viscosity, cP	3600	455	Brookfield
Mixing Ratio A : B	4 : 1 By Volume		-
Shelf Life	2 years	2 years	-

* Refer to epoxy coatings and floorings color chart for standard colors. Custom colors are available upon request. Contact International Chem-Crete for more information.

Technical Data for Mixed Parts

Property (Mixed A & B)	Value @ 25°C (77°C)	Test Method
Mixed Density, Lb/Gal (kg/L)	< 12.363 (1.48)	ASTM D1475
Mixed Viscosity (Clear), cP	2400	Brookfield
Gel Time @ 60 grams, minute	65	ASTM D2471
Pot Life @ 1 Quart (1 Liter), minute	38	-
Shore Hardness @ 3 Days, D	80	ASTM D2240
Compressive Strength @ 7 Days, Psi (MPa)	6389 (44.05)	ASTM D695
Bond Strength to concrete	Concrete Failure	ASTM D4541, Method C
Water Absorption 24 hrs, %	< 0.10	ASTM D570
Elongation (Average), %	7.5	ASTM D522, Method A
Maximum Recoat Interval, hour	24 - 36	-
Final Cure, day	7	-

Chemical Resistance: Tests are performed according to ASTM D543 – Practice A (Immersion test for 7 days at 77°F/25°C). The fully cured product is resistant to:

- ☐ Water (Distilled, Tap, chlorinated, sewage, sea)
- ☐ Sulfuric acid 50%wt
- ☐ Citric Acid 30% wt
- ☐ Caustic Soda 50%wt
- ☐ Hydrochloric Acid 15%wt
- ☐ Diesel
- ☐ Hydraulic Oil

Refer to manufacturer for resistance of other reagents.

Color Stability: CHEM-CRETE E430 may change color or yellows on exposure to certain chemicals, environment and sunlight (UV rays). This yellowing does not affect the chemical resistance or other properties of the coating. CHEM-CRETE E430 is recommended for internal use.

APPLICATION

Limitations:

Minimum substrate temperature	41°F (5°C)
Maximum permissible moisture content of concrete substrate	5 %
Minimum temperature of product for mixing	50°F (10°C)
Minimum temperature for curing	41°F (5°C)
Maximum temperature exposure for prolonged period	149°F (65°C)

Coverage: 1 Gallon of CHEM-CRETE E430 will yield 20 mils (500 microns) when applied at 80 ft^2 / Gallon (1.96 m^2 / Liter).

Surface Preparation:

Concrete Substrate: New concrete substrate should be 28 days old and must be a minimum of 3625 Psi (25 N/mm^2) compressive strength concrete. The Ensure concrete is free from excessive laitance, grease, oil, releasing agents, curing compounds, etc. The concrete should be sound and dry. Moisture content of the concrete substrate should be less than 5%. Any damages in the substrates such as honeycombs, bleeding, segregation, and structural cracks should be repaired using appropriate repair methods prior to coating. Pinholes, blow holes, small voids in concrete surfaces must be filled with epoxy based pinhole filler paste made of CHEM-CRETE E430 with fumed silica powder to achieve a neat smooth uniform finish.

Steel: The base metal should be free from rust, scales grease, oil, and any other impurities, which impairs the strong adhesion of coating. Corroded steel should be shot blasted to Swedish Standard SA 2½ achieving bright metal surface. Where shot blasting is impractical, pre-treatment may be carried out using needle guns, tap hammers, rotary wire brushes fitted to grinder or drill, mechanical grinding, etc. Cleaning with solvent is advisable to ensure surface is free from grease or oil. The coating work should be carried out immediately or at maximum 2 hours after pre-treatment of steel surfaces.

Product Preparation: Store product at 70°F (21°C) during application and for at least 2 days prior to use. Low temperature will increase the viscosity of the product causing poor coverage and retarded cure. Also CHEM-CRETE E430 should be protected from extremes of temperatures which may cause in consistent workability, finish and cure times of the mixed material.

Use of Water Moisture and Vapor Blocker: Application of moisture blockers like CHEM-CRETE SOFIX CCC100 and CHEM-CRETE SOFIX CCC700 prior to application of CHEM-CRETE E430 onto concrete surfaces is recommended. The use of these moisture blockers will extend the service life of the coating by eliminating moisture and vapor associated problems like; coating degradation, coating de-bonding and blistering. Water moisture transmission through concrete floors where CHEM-CRTEE E430 will be applied should be less than 5 Lbs per 1000 ft^2 per 24 Hours based on ASTM F1869 (Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride), in case transmission rate equals or greater than 5 Lbs per 1000 ft^2 per 24 Hours, such moisture blockers should be sued. Refer to these products' data sheets for more information about how to use these products.

Mixing: CHEM-CRETE E430 is supplied it two pre-weighed parts resin and hardener. No additions or omissions are required. Stir each part separately. Pour part B (hardener) into the container of part A (resin). Mix both parts using slow speed hand drill fitted with a mixing paddle attachment. Carefully scrape the sides and bottom of the pail during mixing. Blend for 3 minutes until achieving a uniform color and consistency. Mixed epoxy must be processed within the pot life. Mixed epoxy will cure much faster in hot weather. Large batches of mixed epoxy will cure much faster than small batches. Always keep the mixing time the same for all batches to ensure a uniform consistency when the product is applied.

Application:

First Coat: Apply the mixture onto the pre-treated substrate using a good quality roller or brush being careful to leave no pinholes or breaks into the coating. With rough concrete surfaces, work the coating well into the surface using a stiff nylon bristle brush. Spread the mixture uniformly at an average coverage of approximately 200 ft^2 / Gal (5 m^2 / liter). This will yield a first coat with 200 microns dry film thickness (DFT).

Second Coat: Prior to the application of finishing coat, examine the surface for defect signs like pin holes, etc. Where pinholes are evident, these should be smoothened using Epoxy based pinhole filler. Apply the second coat in a different color to ensure a complete coverage, which allows an optical control of the application.

The second coat should be applied between 12-36 hours after the application of the previous coat, the higher the ambient temperature then the shorter the re-coating interval period. Should there be any delay in applying the second coat than the specified re-coating interval period, then the previous coat must be thoroughly abraded to give an adequate mechanical key.

Apply the second coat using good quality roller or brush being careful to cover the complete area without breaks in the coating. Spread the mixture uniformly at an average coverage of approximately 200 ft^2 / Gal (5 m^2 / liter). This will yield a second coat with 200 microns dry film thickness (DFT). Total coating thickness is 400 microns dry film thickness (DFT).

Repairs of Old Coating or Over coating: Where areas need to be over-coated due to damage in the previous old coating, etc. it is important that the areas to be treated are well abraded using a stiff rotary wire brushes or coarse sand (emery) papers to give an adequate mechanical key. All unsound, loosely adhered coating should be stripped-off and proceed with over-coating as for new work.

Curing: Protect the freshly applied coating from rain, dew, dust, etc. for 12 hours. Aggressive chemicals should not be filled in until after full cure of 7 days at 77°F (25°C).

CLEANING

Remove uncured CHEM-CRETE E430 from tools and equipment with suitable solvents such as Xylene, Toluene or CHEM-CRETE BLENDED SOLVENT immediately after use. Cured material may only be removed mechanically.

STORAGE

The product can be stored for minimum of twelve months at temperature from 50°F to 95°F (10°C to 35°C) in the unopened original packaging. Protect from direct sunlight.

SAFETY PRECAUTIONS

After hardening thoroughly, CHEM-CRETE E430 is physiologically harmless. Keep the resin and hardener away from the eyes mouth and skin. Do not breathe in the vapors. The uncured mixture can cause irritation of the skin. For best protection, wear rubber or plastic gloves. In case of contamination, wipe away resin or hardener immediately from the skin using paper towels and then wash with soap and water or hand cleaning detergent. Empty resin and hardener cans must be disposed according to local city code or regulations. Under no circumstances empty cans should be used to store food or drink even if they have been thoroughly cleaned. Follow all cautionary direction as printed on container's labels.

TECHNICAL ASSISTANCE

Please contact International Chem-Crete Corporation for Technical Personnel.

WARRANTY

LIMITED WARRANTY: International Chem-Crete Inc. warrants that, at the time and place we make shipment, our materials will be of good quality and will conform to our published specifications in force on the date of acceptance of the order.

DISCLAIMER: The information contained herein is included for illustrative purposes only and, to the best of our knowledge, is accurate and reliable. International Chem-Crete Inc. is not under any circumstances liable to connection with the use of information. As International Chem-Crete Inc. has no control over the use to which others may put its products, it is recommended that the products be tested to determine the suitability for specific applications and/or our information is valid in particular circumstances. Responsibility remains with the architect or engineer, contractor and owner of the design, application and proper installation of each product. Specifier and user shall determine the suitability of the product for specific application and assume all responsibility in connection therewith. AM260311

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