INTERNATIONAL CHEM-CRETE CORPORATION

CHEM-SHIELD
CCC-800

FOR NEW CONSTRUCTION OR UPGRADING
EXISTING STRUCTURES
INTERIOR /EXTERIOR
Concrete • Stucco • Concrete Block
Brick • Plaster • Masonite • Wood
Plywood • Sheetrock • Steel
Galvanized Metal

DESCRIPTION

CHEM-SHIELD CCC-800 is a heavy duty, thick film finish for the aesthetic enhancement and protection of exterior and interior surfaces. It is applied to metal, plaster, stucco, concrete, concrete block and many other surfaces.

The finish provides a uniform texture, which minimizes surface defects without altering architectural features of the structure. The CHEM-SHIELD CCC-800 film about twenty times as thick as ordinary paint, bridges pores and cracks with a waterproof shield while allowing the surface to breathe.

The tough, flexible CHEM-SHIELD CCC-800 film provides, in addition to a beautiful appearance, fungicidal, fire retardant, mildew resistance and insulating values not available in any other building material concept.

CHEM-SHIELD CCC-800's base vehicle, POLYPRENE, a durable and waterproof synthetic elastomer-polyester resin, combined with long life pigments, accounts for its continued beautiful appearance and protection capability. Please do not confuse with emulsion and other water thinned coatings. CHEM-SHIELD CCC-800 contains no vinyl or acrylic. CHEM-SHIELD CCC-800, and only CHEM-SHIELD CCC-800, contains POLYPRENE, polyester elastomer.

Since CHEM-SHIELD CCC-800 is applied in a single coat, this makes it a reasonable choice over other surfacing methods.

One of the most unusual characteristics of CHEM-SHIELD CCC-800 is its outstanding adhesion to nearly all substrates. It might be said that CHEM-SHIELD is literally welded to the substrate.

Contains no lead or mercury compounds for fungicidal and mildew resistance, but yet is completely resistant.

Has an effective anti-pinholing substance with a low friction coefficient, conferring wear and stain resistance, but contains no silicones to affect recoatability.

UNLIMITED USES

CHEM-SHIELD CCC-800 is an exellent surfacing material offering an economy in construction and enhances aesthetic value. Available in standard, and custom colors as well as different textures.

CHEM-SHIELD CCC-800 can be applied to practically all sound coatable surfaces, steel, wood, concrete, stucco, plaster, transite, glass, concrete, galvanized metal, masonite, brick, sheet rock, wall board, rigid plastic sheeting, over previous coated or painted surfaces.

Guaranteed for 10 years against cracking, chipping and peeling.

CHEM-SHIELD CCC-800 is an excellent surfacing material for concrete, where it saves money by reducing necessary rubbing and finishing handwork. The thick film masks form marks and other defects, and it has remarkable waterproofing and stain resistant capability. It is ideal for bridges, precast buildings, and all mass concrete structures.

Old or new metal buildings will benefit from a CHEM-SHIELD CCC-800 application, changing their appearance to look like concrete. Added to the obvious appearance advantages are insulating, sound proofing, and corrosion resistance values, which increase the worth, utility, and life expectancy of the structure.

When applied to stucco and concrete block surfaces, the unusual capability of CHEM-SHIELD CCC-800 for bridging and waterproofing hairline cracks makes it the material of choice. In addition, the thickness and texture conceal any patching necessary to fill large cracks.

CHEM-SHIELD CCC-800 is a very useful material for bringing a color and textural coherance to a single building, which is the result of one or more additions to the original structure or to a complex of individual buildings on a manufacturing site, shopping center, campus or other grouping. Textural uniformity may be maintained and color variety employed to sustain interest.

Inexpensive decorative panels, columns, channels, raised designs can be formed with plywood and finished with CHEM-SHIELD CCC-800 to replace expensive concrete and stucco.

The architect and builder has, in effect a very durable, aesthetically valuable new building material with use limited only to the individual's imagination.

PHYSICAL PROPERTIES

- **COVERAGE:** CHEM-SHIELD CCC-800 will cover 50 (+/-5) square feet per gallon, depending upon the characteristics of surfaces receiving the application and other factors.
- **DRYING TIME:** CHEM-SHIELD CCC-800 will dry to the touch in 4 to 8 hours, and to a reasonable hardness overnight. Full set is reached in 3 to 4 weeks.
- **FLEXIBILITY:** Applied at the rate of 50 square feet per gallon to 16 gauge galvanized steel sheet, the film will not crack when bent to a 1/4 inch radius.
- **WEIGHT:** Approximately 8.5 pounds/gallon.
- **PENETRATION:** CHEM-SHIELD CCC-800 penetrates up to 1/4" into the structure, depending on the characteristics of surfaces receiving the application and other factors.
- **WEIGHT OF APPLIED COATING:** CHEM-SHIELD CCC-800 film weighs approximately 0.177 pounds per square foot fully dry based on 50 square feet per gallon application.

- **CORROSION:** Effectively stops corrosion on concrete or metal even in salty climates.
- **THICKNESS:** When applied at the rate of one gallon per 50 square feet, the CHEM-SHIELD CCC-800 film will be 22-26 mils in thickness.
- **COLOR RETENTION:** CHEM-SHIELD CCC-800 rates as excellent in color and durability, even in sulphide contaminated and marine environments.
- **ADHESION:** The finished CHEM-SHIELD CCC-800 film is extremely tough and flexible. Its adhesion life is unexcelled.
- **WATER RESISTANCE:** The polyprene elastomer-polyester resin base of CHEM-SHIELD CCC-800 gives it an excellent resistance to water.
- **MOISTURE VAPOR PERMEABILITY:** A very low 0.35 grams per 100 square inches per 24 hours is CHEM-SHIELD CCC-800's record against vapor diffusion.
- **COMBUSTION AND IGNITION POINT:** There is no indicated fire, burning, or ignition point. The material will not support combustion.
- **EXPOSURE AND DURABILITY:** CHEM-SHIELD CCC-800 has demonstrated through weatherometer test to have a life expectancy of over 20 years.
- **ULTRAVIOLET RADIATION:** CHEM-SHIELD CCC-800 blocks out 90% of the sun's ultraviolet rays.

GUARANTEE

CHEM-SHIELD CCC-800 is guaranteed by INTERNATIONAL CHEM-CRETE CORPORATION against chipping, cracking, or peeling for 10 years if cause of failure is determined to be the fault of formulation or raw materials, when material is applied according to our specifications. This guarantee absorbs the cost of material to make repairs. No claims will be honored for adjustments or repairs unless INTERNATIONAL CHEM-CRETE has been notified in writing and is given the opportunity to inspect and analyze the cause of failure before repairs are made.

INSTALLATION

In general, experience has indicated that the most satisfactory method of applying CHEM-SHIELD CCC-800 is by spray application. However, under certain conditions, roller application may be used.

The application of CHEM-SHIELD CCC-800 is not difficult. In fact, one of the great advantages of CHEM-SHIELD CCC-800 is the ease of application. It only takes an understanding of the equipment and following of simple instructions to obtain a very satisfactory job. Our distributors are well versed in application and will be glad to demonstrate simple techniques and instructions. Usually an hour's instruction is all that is necessary.

RECOMMENDED EQUIPMENT FOR APPLICATION

The following are recommended only as a starting poiint for applications. Sized and equipment would be determined by area and volume of material to be applied. The mention of equipment names does not imply endorsement. For the sake of simplicity, only one or two equipment manufacturers are listed to serve as a guideline.

MATERIAL PUMPS

There are two types of pumps generally used, comnly known as AIR and AIRLESS. AIR pumps have two lines (material and air) feeding the gun. The material and air are internally mixed in the gun and atomized. AIRLESS has a single material supply to the gun. The material is atomized by forcing it through a small orifice tip at high pressure. For both types of pumps, a single riser tube type pump, rather than a multi-riser is recommended. Both types should be equipped with a surge control. This eliminates an uneven flow of material and adds efficiency and economy.

Example: Air - Grayco 9 - 1 President

Airless - Grayco 30 - 1 Bulldog

Other equipment requirements are shown as the following examples:

For use with Air Pumps:

SPRAY GUN: Binks 7E1 3/4" Air, Internal Mix.
HOSE: Air Supply 1/2" ID, Material Supply 3/4" ID, 800 lb. working pressure

Recommended operating pressure 25 PSI on pump, 40 PSI on gun.

For use with Airless Pumps:

SPRAY GUN: Grayco Hydromastic with .047 Tip.
HOSE: 3/4" 3000 PSI Working Pressure

The above are recommended only as a starting point for application. Pressure will vary due to temperature of material, operator, experience, etc. One basic rule to follow is to **KEEP EQUIPMENT CLEAN.** Clean up after each use with naphtha, diesel, or kerosene, all are readily available and inexpensive.

AIR SUPPLY

For both air and airless, an air compressor is necessary. Size should be sufficient to give an ample air supply, a range of 45 to 85 CFM is usually sufficient. Compressors are available for rent, economically in most areas.

OTHER EQUIPMENT

Another type of application is a hopper gun. This is economical equipment and should be considered when large production is not a factor.

Example: Texture Hopper Gun, 1-3301-M-5

ROLLER APLICATION

It is possible to apply CHEM-SHIELD by roller. The material has to be thinned approximately 3 gallons of Naphtha to 55 gallons of CHEM-SHIELD CCC-800; two coats must be used (WARNING: DO NOT OVER THIN). Roller application cannot be expected to give the same appearance as spray.

SPECIFICATIONS FOR INSTALLATION

CONCRETE

NEW STRUCTURE AND PRECAST. Grind off form marks, loose particles and fill minor cracks and holes with epoxy grout or polymer modified patch material for vertical applications. (4 days curing period required with adhesive grout.) Apply CHEM-SHIELD CCC-800 at a rate of 50 square feet per gallon.

OLD CONCRETE. Should be wire brushed or washed with good water pressure, allow to dry thoroughly. Cracks over 1/16" wide should be veed out to a solid surface. Hair cracks shall be raked out, other imperfections corrected, always removing old concrete to good sound concrete is reached. As with new concrete, patch as above. Areas that show cracks because of movement shall receive a thin covering of approved patching compound. a 3-1/8" wide glass membrane 20-20 mesh shall then be brushed firmly into base coat, so that patching compound permeates and impregnates the membrane, after which an outer coating should be applied and feather-edged so as to completely cover and not allow fabric to show. If the concrete has been painted, it shall be sand blasted. Apply CHEM-SHIELD CCC-800 at a rate of 50 square feet per gallon.

CONCRETE BLOCK AND POROUS BRICK

NEW : All mortar shall be allowed to cure thoroughly and cleaned.

OLD: All imperfections shall be corrected, and surface prepared according to this specification.

Apply CHEM-SHIELD CCC-800 by the following methods. Thin CHEM-SHIELD CCC-800 with 3 gallons naphtha to 55 gallon drum. Apply to entire surface with horizontal passes, over lap 1/2 of spray pattern, complete an entire wall, spray again using vertical passes with same spray pattern.

Alternate: Thin CHEM-SHIELD CCC-800 as above. Use long nap lambs wool roller. Apply at a rate of 100 square feet per gallon. Allow CHEM- SHIELD CCC-800 to cure and recoat with CHEM-SHIELD CCC--800 at a rate of 100 square feet per gallon. THIS METHOD WILL NOT CONCEAL MORTAR JOINTS.

PLASTER AND STUCCO

NEW SURFACE: Surface to thoroughly cure at least 21 days. Apply CHEM-SHIELD CCC-800 at the rate of 50 square feet per gallon.

OLD SURFACE: Follow the same specification as OLD CONCRETE. All areas where plaster or stucco is loose, broken, shattered, or decomposed shall be removed to a solid surface. Extreme care should be exercised to remove loose surface to window sill level. In the event the finish coat of stucco or plaster is soft and peels off during sandblasting, a new finish coat should be applied and allowed to cure for 21 days before application of CHEM-SHIELD CCC-800. Previously painted surface shall receive surface preparation as outlined in GENERAL SURFACE PREPARATION. Apply CHEM-SHIELD CCC-800 at the rate of 50 square feet per gallon.

STEEL

NEW SURFACE: If untreated for rust, a rust inhibitive primer such as CHEM-GUARD Zinc must be used before CHEM-SHIELD CCC-800 is applied. After 3 days, apply CHEM-SHIELD CCC-800 at a rate of 50 square feet per gallon.

OLD SURFACE: Should be prepared under specification for GENERAL SURFACE PREPARATION.

GALVANIZED METAL

NEW SURFACE: Shall be washed and etched with mild acetic acid. Apply one coat CHEM-SHIELD at the rate of 50 square feet per gallon.

OLD SURFACE: If previously coated with paint, it shall be prepared under specification for GENERAL SURFACE PREPARATION, then apply one coat of CHEM-SHIELD CCC-800 at the rate of 50 square feet per gallon. Uncoated surface after weathering 6 months shall receive one coat CHEM-SHIELD CCC-800 at the rate of 50 square feet per gallon.

ALUMINUM

NEW SURFACE: Wash with naphtha taking care to remove all of the oil film. Apply one coat CHEM-SHIELD CCC-800 at the rate of 50 square feet per gallon.

OLD SURFACE: Should be prepared under the specification for GENERAL SURFACE PREPARATION. Apply 1 coat CHEM-SHIELD CCC-800 at the rate of 50 square feet per gallon.

BRICK

NEW SURFACE: Mortar shall be cured at least 28 days before application of CHEM-SHIELD CCC-800. Apply one coat CHEM-SHIELD CCC-800 at the rate of 50 square feet per gallon.

OLD SURFACE: If previously coated with paint, prepare surface under GENERAL SURFACE PREPARATION.

WOOD, SIDING, TRIM, MASONITE, PLYWOOD

NEW SURFACE: Wood siding and trim should be nailed on 6 inch center at perimeter, 12 inch centers on intermediate studs, caulk joints. Apply approved glue over joints. Imbed strips of fiberglass tape over joints and wrap corners. Let dry thoroughly. Bed joints with CHEM-SHIELD CCC-800 to remove tape lines. Apply one coat CHEM-SHIELD CCC-800 at the rate of 50 square feet per gallon.

OLD SURFACE: Should be prepared under the specifications for GENERAL SURFACE PREPARATION.

NOT RECOMMENDED ON WOOD SURFACES WHICH HAVE DETERIORATED, CRACKED EXTENSIVELY, OR SOFTENED CONSIDERABLY, DUE TO AGE AND WEAR.

SHEETROCK

NEW SURFACE: Tape and bed, allow to dry completely. Apply CHEM-SHIELD CCC-800 at the rate of 50 plus feet per gallon. Good hiding and texture may be attained at higher rate than 50 square feet per gallon.

OLD SURFACE: Repair all cracks, replace needed surface, bed out repairs, and apply as above.

GENERAL SURFACE PREPARATION

SANDBLASTING: Wet or dry, wet sandblasting is preferred in areas where dirt concentration is a problem. All surface to dry completely before application of CHEM-SHIELD CCC-800. It is not necessary to remove all paint or other coatings, only loose, oxidized, or deteriorated must be removed. Surface will probably appear mottled with some old material still evident. This process opens pores in the surface and reveals hidden defects that may be properly repaired.

WIRE BRUSHING, SCRAPING: Can effect a proper preparation when material is extremely loose and peeling. Do not brush or scrape will bonded material until it becomes glossy. Air driven scrapers are recommended.

MASKING: All areas not to be coated with CHEM-SHIELD CCC-800 shall be securely masked with proper size masking tape and masking paper.

COLOR CHART

Available in standard as well as custom lead free, fume resistant, permanent colors.

The ordinary precaution of completing a wall or surface with material available should be practiced. Slight variance may occur from batch to batch due to raw material deviation, etc.

Special colors to match paint manufacturers' colors are available in 55 gallon drum quantities.

SPECIFICATIONS

SCOPE AND CLASSIFICATION

1. Material to be used shall be CHEM-SHIELD CCC-800 as manufactured by International Chem-Crete Corporation, 800 Security Row, Richardson, Texas.

2. Shall comply with the following standards:

    A. Flexibility - The coating system when applied to a tin plate at a spreading rate of 50 square feet per gallon shall bend without breaking the film to a radius of 180 degrees over a 1/4" mandrel.

    B. Accelerated Weathering - Material shall be subjected to a 5000 hours exposure test in an Atlas Twin-Arc Weatherometer, DLTS-X at an operating temperature of 145°F. Said test to be made at twenty minute cycles consisting of seventeen minutes of light and three minutes of water spray plus light. At the end of said exposure test by an accredited testing company, the exposed sample must not show chipping, flaking or peeling.

    C. Fungus Growth Resistance - Material to be used must pass a fungus resistance test as described by Specification TT-P-29B with a minimum incubation period of 21 days, where no growth has been indicated.

    D, Freeze-Thaw Cycle Test - Material to be used must have passed a freeze/thaw cycle test of a minimum of fifth freeze/thaw cycles. Each freeze/thaw cycle shall consist of one hour at a temperature of -15°F. and then one hour at room temperature. The material must not show any deleterious effects after the completion of the fifty freeze/thaw cycles. This test shall have been by an accredited testing laboratory and acceptable to the contracting officer.

3. SURFACE PREPARATION

Surfaces to be coated shall be free from efflorescence, flaking coatings, rust, mill scale, dirt, oil and other foreign substances. Coatings shall be applied only to surfaces that are free of surface moisture as determined by light and touch. Surfaces that are not to receive CHEM-SHIELD CCC-800 are to be shielded and masked.

4. APPLICATION

As per manufacturer's instructions for type of surface to be coated.

5. COLOR

Shall be as specified and selected form CHEM-SHIELD CCC-800's color charts.

6. COVERAGE

CHEM-SHIELD CCC-800 is to be applied at a rate of 50 sq. ft./gallon. This will give a thickness of 22 to 24 mil.

SUMMARY OF TECHNICAL DATA
CHEM-SHIELD CCC-800

Specific Gravity	1.019
Applied Weight	0.177 lbs/sf/dry @ 50 SF/gal.
Applied Thickness	22-24 mils @ 50 SF/gal.
Coverage Per Gallon	50 Square Feet (Fed. Spec. TT-C-555B)
Drying Time	8 to 12 Hours/Dry To Touch 21-28 Day/Full Set
Flexibility	No Cracking (Applied @ 50 Sq. Ft./Gal. on 16 Ga. Gal. Stl. & Bent 180° over a 1/4" Mandrel.)
Consistency	10 min./min./100 Revolutions (Krebs Stormer Viscosimeter)
Color	As selected
Color Retention	Normal Environment: Excellent
Color Retention	Marine and Sulfide Environment: Excellent
Adhesion	Super (ASTM-D903)
Resistance to Hydrostatic Head	Excellent (150 ft./Water)
Moisture Vapor Permeability	0.35 grams/100 sq. in./24 hour ASTM- E96
Accelerated Weathering	No Effect. (Atlas Twin Arc Weathometer 7500 hours/min @145°F.
Fungus Growth Resistance	No Growth (Fed Test TT-P-29J Meth. 141)
Freeze-Thaw Cycle	No Effect (-15F/1 Hr/78F/1Hr/50Cycles) ASTM- C666
Fire Retardance	No Flame 100°F. Flame on Edges only 145°F. (Stops immediatley upon removal from heat)
Corrosion Resistance	ASTM- D543 on Chem-Shield CCC-800 Not Pigmented
Salt Spray Resistance	5% Solution - 600 hrs. min. FED STD TEST 141a
Corrosion Resistance	
Sulphuric Acid - 10%	Slightly dull, no rusting ASTM-D543 Procedure 1
Sulfurous Acid - 5%	Slightly dull, no rusting
Nitric Acid - 5%	Slightly dull, no rusting
Acetic Acid - 5%	Slightly dull, no rusting
Chromic Acid - 5%	Slightly dull, no rusting
Calcium Chloride - 10%	No effect 500 hours
Hot Water	Slightly Dull (160°F. 72 hours)
Environmental Hazards	None

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