



CHEM-CRETE PaviX[®] CCC100

Concrete Water & Moisture Protection

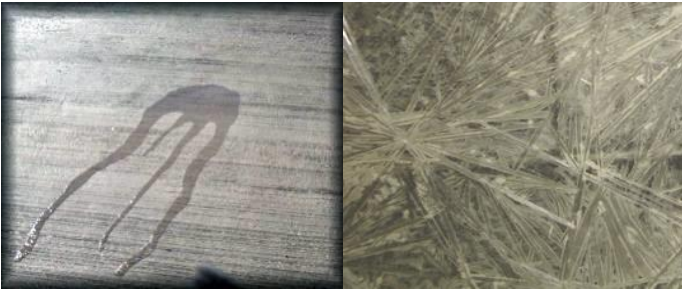
Used for treatment and protection against water and moisture
Associated problems for all concrete and cementitious structures

PRODUCT DESCRIPTION

CHEM-CRETE PAVIX is an environmentally friendly, water-based, penetrating sealer designed to protect concrete against problems associated with temperature and water, such as thermal cracking, freeze/thaw cycles, chloride ion penetration and helps reduce alkali silicate reactions all in a single application.

Chem-Crete PaviX CCC100 uses patented dual crystalline technology that keeps treated concrete reasonably dry, thus helping to eliminate most water and moisture associated problems. The protective properties are a distinctive water repellent and crystallization process of hygroscopic and hydrophilic technology, providing a triple action moisture blocker system.

Chem-Crete PaviX CCC100 contains no VOC's, environmentally safe, non-toxic and is easy to apply. It is ideal for roads, bridges, airports, parking garages and other areas where moisture and freeze/thaw cycles are detrimental to concrete. Chem-Crete PaviX CCC100 will prolong the life span of the concrete and will dramatically reduce maintenance cost.



ADVANTAGES & BENEFITS

- Can be used on fresh poured concrete & existing concrete.
- **100% Green, environmentally safe & non-toxic.**
- Eliminates damage caused by repeated freezing and thawing cycles.
- Prevents concrete scaling.
- Seals and protects cracks up to 1/16th inch (1.5 mm).
- Reduces Alkali Silica Reactions (ASR), and eliminates silicate dusting.
- Can help reduce Calcium Oxychloride reaction due to use of magnesium chlorides
- Reduces and/or eliminates early joint deterioration
- Prevents penetration of chloride ions from de-icing salts.

- Excellent repelling properties that help prevent water, jet fuel and oil from over saturating into the surface.
- Helps concrete stay whiter and brighter
- Resists aggressive chemicals such as acids & caustics.
- Protects reinforcing steel bars against corrosion without any negative effect on existing steel cathodic protection.
- Increases joint sealant adhesion by preventing moisture intrusion through the joint material bond line.
- Can be applied on vertical, horizontal & overhead surfaces
- Provides long lasting internal waterproofing and moisture blocking from positive and negative sides.
- Reduces or eliminates fungal growth.

FIELDS OF APPLICATION

Chem-Crete PaviX CCC100 can be used as a treatment and protection against water and moisture associated problems for all concrete and cementitious structures.

Airport Runways	Airport Taxiways
Aircraft Parking	Bridges
Tunnels	Concrete Roads-Highways
Parking Lots	Buildings
Sea Ports	Walkways

PACKAGING

Product	Packaging
CHEM-CRETE PAVIX CCC100	1 GAL (3.785 LITER) JUG
	5 GAL (18.925 LITER) PAIL
	55 GAL (208 LITER) DRUM

TECHNICAL SPECIFICATIONS

Physical Properties

Specific Gravity	1.1 – 1.2
Viscosity	2.4 centipoises
Freezing Point	28°F (-4°C)
Boiling Point	219°F (104 °C)
Color	Clear
Environmental Hazards	None
Odor	None
Toxicity	None
Fumes	None
Flammability	None

Product Performance: Chem-Crete PaviX CCC100 complies with the following standards:

USA

- ASTM C1202-91 Electrical Indication of Concrete's Ability to Resist Chloride Ion Penetration.
- AASHTO T259-00 Resistance of Concrete to Chloride Ion Penetration.

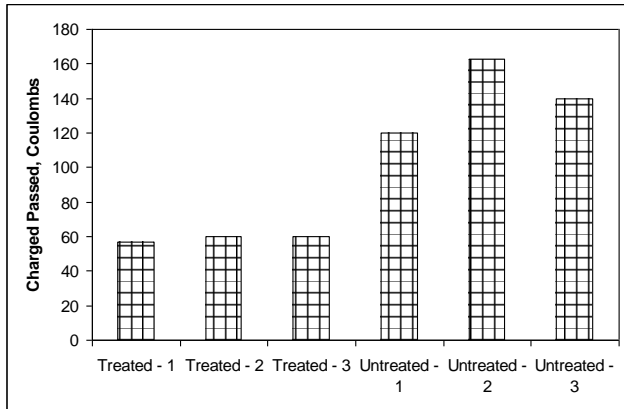


Fig. 1: ASTM C1202-91 & AASHTO T259: Chloride Ion Penetration tests on treated & untreated concrete samples

- AASHTO T260 Sampling and Testing for Chloride Ion in Concrete and Concrete Raw Materials
- AASHTO T277 Electrical Indication of Concrete's Ability to Resist Chloride Ion Penetration
- ASTM C-1567 Determining the Potential Alkali-Silica Reactivity of Combinations of Cementitious Materials and Aggregate (Accelerated Mortar Bar Method)
- ASTM C666-97 Resistance of Concrete to Rapid Freezing & Thawing.

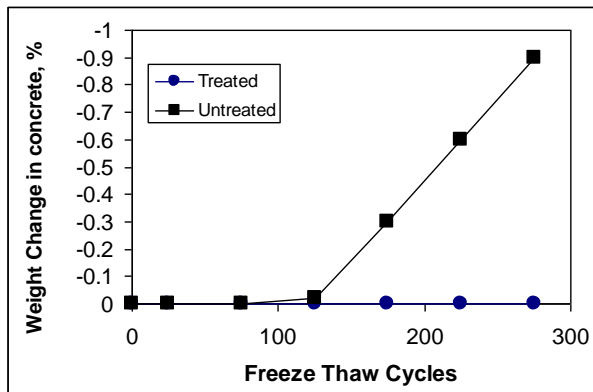


Fig. 2.a: ASTM C666-97: Freezing & Thawing effect on treated & untreated concrete samples

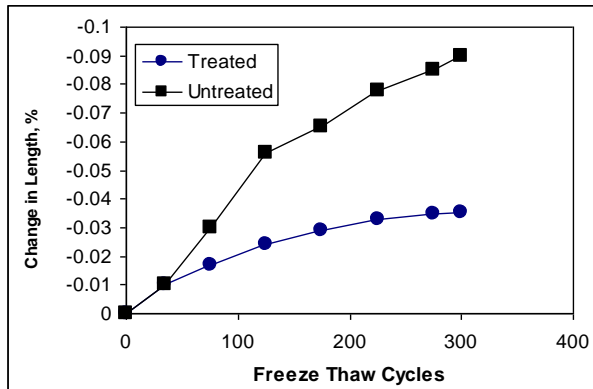


Fig. 2.b: ASTM C666-97: Freezing & Thawing effect on treated & untreated concrete samples

- ASTM C1262-98 Evaluating the Freeze Thaw Durability of Dry-Cast Segmental Retaining Wall Units and Related Concrete Units.
- ASTM C672-98 Scaling Resistance of Concrete Surfaces Exposed to Deicing Chemicals.

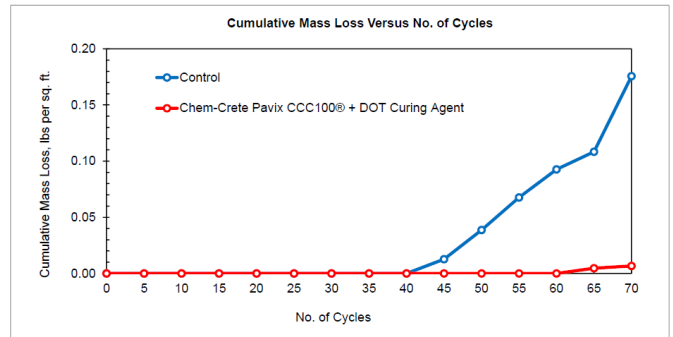


Fig. 3: ASTM C672-98 Scaling Resistance of Concrete Surfaces Exposed to Deicing Chemicals.



- ASTM C156 Standard Test Method for Water Loss [from a Mortar Specimen] Through Liquid Membrane-Forming Curing Compounds for Concrete

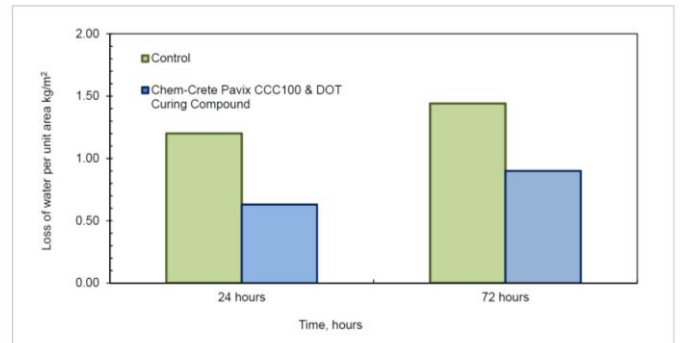


Fig. 4: ASTM C156: Water Loss Through Liquid Membrane-Forming Curing Compounds for Concrete – Fresh Concrete Test

- ASTM C1218 Water-Soluble Chloride in Mortar and Concrete.
- ASTM D6489-99 Determining the Water Absorption of Hardened Concrete Treated with a Water Repelling Coating.
- ASTM C944-99 Abrasion Resistance of Concrete or Mortar Surfaces by the Rotating-Cutter Method.
- ASTM D4541-95 Pull-Off Strength of Coatings Using Portable Adhesion Testers.
- ASTM F609-96 Standard Test Method for Using a Horizontal Pull Slipmeter (HPS).
- ASTM E303-93 Measuring Surface Frictional Properties Using the British Pendulum Tester.
- ASTM C642-97 Density, Absorption, and Voids in Hardened Concrete.

- ASTM C457-98 Microscopical Determination of Parameters of the Air-Void System in Hardened Concrete.
- ASTM C1583: Bond Strength or Tensile Strength of Overlay Materials by Direct Tension
- ASTM D7234: Pull-Off Adhesion Strength of Coatings on Concrete

US Military

- MIL-STD 810G, Method 508.6 Fungal Resistance

Treated Samples:

Samples inoculated before and after Chem-Crete Pavix CCC100 coating was applied to samples were observed to have no visible growth. The 0 rating was confirmed under a microscope at 20X magnification and higher. The samples coated in Chem-Crete Pavix CCC100 was resistance to mold growth. This could be due to factors including reduction in available moisture on the sample surface and lack of an available carbon source to provide nutrients for growth. Temperature and relative humidity in the incubator were conducive to mold growth as can be seen on cloth visibility sample. Generally, mold only need a relative humidity over 60-70% and temperature between 25-32C for ideal growth conditions.

Untreated Control Samples:

The untreated control sample was observed to have trace growth. Traces of growth may be defined as scattered, spars fungus growth such as might develop from a mass of spores in the original inoculums, or extraneous contamination such as fingermarks, insect feces, etc. Growth was not observable with the naked eye but could be seen under 20X magnification or greater

Test Results:

Sample ID	Observed growth	Rating
Chem-Crete Pavix CCC100 – Coating Pre-Inoculation	None	0
Chem-Crete Pavix CCC100 – Coating Pre-Inoculation	None	0
Untreated Control	Traces of Growth	1

Table 1: MIL-STD 810G, Method 508.6 Fungal Resistance - Test Results

Test Criteria:

Amount of Growth	Rating	Comments
None	0	Substrate is devoid of microbial growth
Trace	1	Scattered, sparse or very restricted microbial growth
Light	2	Intermittent infestations or loosely spread microbial colonies on substrate surface. Includes continuous filamentous growth extending over the entire surface, but underlying surfaces are still visible.
Medium	3	Substantial amount of microbial growth. Substrate may exhibit visible structural change.
Heavy	4	Massive Microbial Growth

Table 2: MIL-STD 810G, Method 508.6 Fungal Resistance – Rate Interpretation



BEFORE

AFTER

self cleaning effect of Pavix CCC 100

International Organization for Standardization

- ISO 2812-2:1993 Paints and varnishes -- Determination of resistance to liquids -- Part 2: Water immersion method

Europe

- EN ISO 175(2010) Effect of emersion in liquid chemicals on materials
- BS EN 1504-02 Products and systems for the protection and repair of concrete structures. Definitions, requirements, quality control and evaluation of conformity. Surface protection systems for concrete
- EN ISO 9001

Russia

- GOST 12730.5-84 Concretes. Method for the determination of water tightness
- GOST 10060-95 Concretes. Methods of frost resistance determination
- GOST 12780.1-78 Dressed squirrel skins
- GOST 22690-88 Strength by mechanical methods of nondestructive testing
- GOST 10180-90 Concrete Compression Test
- GOST 12801-98 Materials on the basis of organic binders for road and airfield construction test method
- GOST 18995.1-73 Liquid chemical products. Method for determination of density
- GOST 19007-73 Paintwork materials. Method for determination of drying time and degree

Czech Republic

- CSN 73 2578 Water-tightness of Surface Finishes of Building Materials
- CSN 73 1326 Method B Determination of resistance to de-icing salts

APPLICATION

Use for treatment and protection against water and moisture associated problems for all concrete and cementitious structures.

Freshly Placed Concrete: After the desired finish has been achieved (i.e. broom finish), and the concrete supports foot traffic, apply Chem-Crete PaviX CCC100 within a minimum of 30 minutes up to 8 hours depending upon ambient conditions. Apply at a coverage rate of 150 sq. ft. per gallon in one (1) coat. Do not allow the product to puddle. Make sure surface has no bleed water and is strong enough to support the applicator's weight.

Curing Compound Required: After the Chem-Crete PaviX CCC100 application is dry, or a minimum of 30 minutes, proceed to apply a D.O.T. approved curing compound to continue the concrete's curing process.

Fully Cured or Existing Concrete: Repair and seal joints, cracks and voids greater than 1/16th inch prior to application. Concrete surfaces must be clean and sound prior to application of the product. Proper cleaning will open the surface pores and capillaries to enhance the penetration process. Compressed air can be used to remove dust and loose particles from the surface. Flushing the area to be treated with water can improve the cleaning process, however for heavily contaminated areas; special concrete cleaning agents such as Chem-Crete CONCLEAN CCC060 can be used to remove dirt, grease and oil from those areas.

For large-scale applications, such as airport runways, it is recommended to spray the product using a heavy-duty commercial sprayer.

■ **Coverage:** Apply at an average coverage rate of 150 ft²/gal (3.7 m²/liter) in one coat. Do not attempt additional coatings.

Limitations: Do not apply Chem-Crete PaviX CCC100 in the following cases:

- If temperature falls below 50°F (10°C).
- To areas previously treated with sealing agents unless the sealers are removed by chemical or mechanical means.

STORAGE

Coverage: Apply at an average coverage rate of 150 ft²/gal (3.7 m² / lit) in one coat. Do not attempt additional coatings.

Limitations: Do not apply Chem-Crete PaviX CCC100 in the following cases:

- If temperature falls below 50°F (10°C).
- To areas previously treated with sealing agents unless the sealers are removed by chemical or mechanical means.

SAFETY PRECAUTIONS

As with all construction chemical products, adequate precautions and care must be taken during usage and storage. Avoid direct contact with foodstuff, eyes, skin, and mouth. Any direct contact with skin should be washed thoroughly with clean running water and soap.

Always wear protective goggles and gloves. In case of eye contact, flush for 15 minutes with warm water. If eye irritation persists, seek medical attention. In case of ingestion or swallowing drink 2 glasses of clean water and seek medical attention. Keep out of reach of children.

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 Corp., is not under any circumstances liable to connection with the use of information. As International Chem-Crete 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 if our information is valid in a particular circumstances. Responsibility remains with the architect or engineer, contractor and owner of the design application for 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. AM12417

Manufactured By:



International Chem-Crete Inc.
800 Security Row, Richardson, TX 75081, U.S.A
Tel: (972) 671-6477, Fax: (972) 238-0307
contactus@chem-crete.com www.chem-crete.com

Chem-Crete Europe, s.r.o.
Stanicna 13, 90851 Holic, Slovakia
Tel: +421 34 668 3181 Fax: +421 34 668 3119
www.chem-crete.sk info@chem-crete.sk