



Product: CMW 8000

Crystal Matrix Water-Resistance is a water based product containing two polymorphic crystalline base materials. One of these materials reacts with specific components in cured concrete while the other acts as a companion to the reactive material, that is, it induces structural growth in combination with the reactive base crystalline liquid. Together these crystal materials penetrate concrete in the presence of moisture and find, follow and fill voids and capillaries within the structure of the concrete. CMW is an active product that literally "grows" it's crystalline material throughout the internal structure of concrete blocking the movement of moisture, moisture vapor and densifying the concrete while increasing strength. CMW is used to treat concrete slabs, concrete block and any concrete structure.

Permanent Treatment

Once concrete has been treated with CMW, the product is always present within the concrete. The product continues to migrate and fill any available capillaries, voids, etc.

CMW Performance & Protection

The crystal blend reacts with hydroxides (Portlandites) and tri-calcium silicate components within the pore matrix structure of the concrete. This reaction creates a calcium-silicate hydrophilic particle grain that will block penetrating liquids (water, gas or oil) and substantially hinder or eliminate the passage of liquids through the concrete structure.

Hydrostatic Pressure & Coatings

This crystal growth action will provide hydrostatic head pressure resistance and reduces/eliminates vapor pressure assisting as an adhesive promoter and protecting surface applied coatings such as deck coatings, urethane coatings, epoxy coatings and vinyl floor, coatings from the effects of capillary moisture or vapor pressure under the coatings. The product is a clear, low viscosity liquid that penetrates properly prepared concrete and concrete masonry building materials.



A simple spray application of CMW

Polyurea Spray & Epoxy Floor Coatings - Pinhole Reduction

CMW is an excellent choice for reducing the effects of "outgassing" of concrete structures that are to be coated with Polyurea fast set spray materials or other coatings. The CMW treated surface assists the bonding of the ASTC primer, Penprime, for polyurea applications.

Using CMW and ASTC's Penprime helps eliminate polyurea pinholes and overuse of polyurea to correct the effects of pinholes.

Control Joints can also be protected, hardened and rendered vapor resistant with the use of CMW.



Advantages

CMW reduces pinholes in polyurea coating applications due to concrete out-gassing

Provides moisture vapor resistance/protection for epoxy, urethane and Polyurea/Aspartic floors, other floor coverings

Reduces hairline cracks during concrete curing & assists in providing a uniform cure on new concrete via chemical reaction

Provides a moisture vapor barrier and an efficient pore blocker within the concrete structure

Retards rebar corrosion

Neutralizes alkali during the product reaction while delivering or *purging* (see picture above) it to the surface for removal

Reduces the effects of Freeze-Thaw cycles on concrete

CMW can be used in joints to stop water pressure from damaging joint materials.

CMW does not change the exterior of the concrete in appearance

Application

Mix the product before using. Do not apply below 40 degrees F. For new concrete; apply CMW immediately following the finishing operation or as soon as the surface may be walked on. Make sure the concrete is properly prepared.

~Apply a "Mist Coat" of clean water to the surface to break the surface tension.

~Next, apply CMW to the surface at the suggested application rate. Do not allow the product to dry before the second coat is applied.

~Apply the second coat 90 degrees to the first coat application. When the CMW begins to absorb into the surface, broom or squeegee the product to the areas that are absorbing more product.

After the CMW application is completed;

~Apply a mist of clean water over the surface about 20 to 30 minutes after the last CMW application.

~Wait another 20 to 30 minutes and apply another coat of clean water mist over the surface.

~As the product is absorbed, about 30 minutes, and before the surface can dry, flush the surface with clean potable water and squeegee the surface until no water stands on the surface. Excess product and water is removed to avoid leaving a crust when the product dries. Vacuum excess water/product as needed.

Allow a minimum of 24 to 48 hours dry time prior to the applications of surface coatings. **Dry time will be dependent on temperature and humidity. Always check the concrete for dryness before making any application.



Efflorescence, salts being "purged" out of the slab by the action of the CMW

Old Concrete: The application is basically the same with minor changes, call ASTC for additional information.

Coverage:

Rough concrete finish: 50 to 100 square feet per gallon. Smooth steel trowel concrete finish: 100 to 200 square feet per gallon. In some applications the application rate may be as high as 200 square feet per gallon. Application rates are determined by the porosity of the concrete surface.

Problem Areas:

Areas of high vapor pressure may require multiple applications of CMW, i.e., two coats at 50, 100 to 150 square feet per gallon or more. Weeping hairline cracks and surface sweating may require 3 to 5 coats of additional product to produce the desired effect. CMW will not stop running water, use hydraulic cement, and then apply CMW.

Technical Data

Bonding	ASTM C3359	28%	increase
Weathering	ASTM G-23		no effect
Freeze Thaw	ASTM C-666		no effect
Curing	ASTM C-309		no effect
Hardness CS-17	Wheel, 1000g.		1000 revolutions
Hardening	ASTM C-42	20% increase @ 14 days	
Specific Gravity			1.06
Boiling Point			214°F