



ARDEX MCTM MOISTURE CONTROL SYSTEM

**Moisture Control System for Concrete
to Receive ARDEX ENGINEERED CEMENTS**

For new or existing concrete that has moisture levels in excess of the maximum permitted by the manufacturer of the finished floor covering or coating

Reduces moisture from up to 20 lbs or 95% RH to less than 3 lbs overnight

Solvent-free, alkali resistant, low viscosity, two-coat epoxy resin system

Use prior to the installation of ARDEX ENGINEERED CEMENTS over concrete

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ARDEX MC™ MOISTURE CONTROL SYSTEM

Moisture Control System for Concrete to Receive ARDEX ENGINEERED CEMENTS

Usage

The ARDEX MC™ MOISTURE CONTROL SYSTEM is an epoxy-based moisture management system formulated to suppress excessive moisture vapor in new or existing concrete prior to the installation of ARDEX Underlayments and Toppings. It is especially suited to treat areas of new concrete where the construction schedule is such that adequate drying of the concrete is not possible. ARDEX MC is also recommended over existing concrete where the level of moisture emissions from the slab exceeds the maximum permitted by the manufacturer of the finished floor covering or coating to be installed.

Description

The ARDEX MC MOISTURE CONTROL SYSTEM consists of the ARDEX P-MC® MOISTURE CONTROL SYSTEM PRIMER, which is yellow in color and used as the first coat, and the ARDEX S-MC® MOISTURE CONTROL SYSTEM SEALER, which is green in color and serves as the sealer coat to receive a sand broadcast layer. ARDEX MC is a highly reactive epoxy system that produces an extremely hard surface and bonds tenaciously to the substrate. This two-coat system reduces moisture emissions to an acceptable level, even over new concrete that is less than 28 days old, and serves as the priming system for ARDEX ENGINEERED CEMENTS.

Substrate Preparation

All concrete substrates must be structurally sound and solid, surface dry, and thoroughly clean and free of oil, wax, grease, asphalt, paint, latex and gypsum compounds, curing and sealing compounds, and any contaminant that could act as a bond breaker.

Mechanical preparation of the surface is required to obtain an ICRI concrete surface profile of 3 (CSP 3). The prepared surface must then be allowed to breathe a minimum of 24 hours, and must have a tensile strength of at least 200 psi when tested in accordance with ASTM D4541, Method 5. Substrate preparation must be by mechanical means, such as shot blasting, scarifying, grinding, or similar. Acid etching, solvents, sweeping compounds and sanding equipment are not acceptable means of cleaning the substrate.

Prior to installing ARDEX MC, prepare the concrete as described above and measure the moisture emission levels. When using the Calcium Chloride Method (ASTM F1869), the level of moisture emissions from the concrete should not exceed 20 lbs per 1,000 sq. ft. per 24 hours at the time of installation. Alternatively, the relative humidity within the concrete, when tested in

accordance with ASTM F2170, should not exceed 95% RH. In all cases, the surface temperature of the prepared concrete slab must be measured and deemed to be at least 5°F (2.8°C) away from the dew point to avoid condensation on the surface of the concrete as the ARDEX MC cures.

If the concrete substrate is too uneven to provide a uniform film thickness of the ARDEX P-MC and ARDEX S-MC (typically CSP 6 or higher), the substrate can be pre-smoothed using ARDEX S 21™ SMOOTHING COMPOUND FOR INTERIOR AND EXTERIOR CONCRETE AND CONCRETE TO RECEIVE MOISTURE MANAGEMENT SYSTEMS. Please refer to the Ardex Technical Brochure for installation instructions. ARDEX S 21 must be allowed to cure a minimum of 24 hours at 70°F (21°C) prior to the installation of ARDEX P-MC.

Dormant Cracks and Saw-Cut Joints

Ardex recommends the use of a two-part epoxy crack and joint filler such as MM 80, manufactured by Metzger/McGuire. Use the epoxy to fill small, non-moving cracks and saw-cut joints in existing concrete substrates. Cracks greater than a hairline in width (1/32") must be filled with MM 80 or similar, and the epoxy should be applied in strict accordance with the installation instructions provided by the epoxy manufacturer.

The filling of dormant cracks as described above is recommended to create a continuous moisture emissions barrier over the entire surface.

Once the cracks have been properly filled, allow these areas to cure for a minimum of 16 hours before proceeding with the installation of the ARDEX MC primer and sealer.

Moving Joints and Cracks

In no case should expansion joints, isolation joints or moving cracks be filled with this epoxy. All moving joints and cracks must be honored up through the moisture control system, the ARDEX Underlayment or Topping, and the floor covering or coating by installing a flexible sealing compound specifically designed for use over moving joints, such as a silicone or similar.

Ardex cannot be responsible for moisture emissions from expansion and isolation joints, existing cracks, or new cracks that may develop after the system has been installed.

Mixing And Application

ARDEX MC is a two-coat system consisting of ARDEX P-MC primer, which is yellow in color and used as the first coat, and ARDEX S-MC sealer, which is green in color and serves as the sealer coat to receive a sand broadcast layer.

Each individual unit of ARDEX P-MC and ARDEX S-MC contains separate, pre-measured quantities of hardener (Part A) and resin (Part B). The hardening agent (Part A) is added to the resin (Part B). First, separate the two units to relieve any small amount of pressure that may have built up during storage. Reseat the top unit, and use a sharp object to pierce the plastic cap from the top center of the unit all the way through the bottom of the top unit several times. Let the top unit drain completely into the bottom unit. Once empty, remove the top unit and thoroughly mix the two components together using a low-speed drill and mixing paddle.

Apply the first coat of freshly mixed ARDEX P-MC (yellow) to the prepared concrete surface in a uniform direction at an application rate of 200 sq. ft. per unit (~8 mils). Use a short-nap paint roller or notched squeegee for smoother surfaces, and a longer nap roller for more uneven substrates. ARDEX P-MC can also be applied with a paintbrush in hard to reach areas and corners. Allow this coat to dry for a minimum of 6 hours (max. 12 hours) at 70°F (21°C) before applying ARDEX S-MC.

Working at a 90° angle to the direction the first coat was applied, apply the sealer coat of ARDEX S-MC (green) as above at a coverage rate of 150 sq. ft. per unit (~12 mils). While this second coat is still in a fresh state (maximum 30 minutes), broadcast an excess of fine sand (less than 1/50 of an inch in grain size or 98.5% passing sieve size #35) consistently over the entire area. When broadcasting the sand, use a NIOSH approved dust mask in conformance with OSHA requirements regarding the handling of sand. Do not stand or walk on the freshly applied sealer when broadcasting the sand. Once an area has been completely covered with sand, the surface of the sand can be walked on, being careful not to expose the sealer at any time. Use approximately 1 lb of sand per square foot of area. Once the sand broadcast is complete, avoid all traffic over the surface for a minimum of 6 hours.

After 16 hours, broom sweep and vacuum the surface to remove all loose sand. Protect this surface from construction traffic, dirt and debris using Masonite or similar until the ARDEX Underlayment or Topping is installed. The clean, prepared surface of sand is the priming system for the ARDEX Underlayment or Topping. No additional priming is required. There is no limit to

how long the sanded surface can remain before installing the ARDEX Underlayment or Topping provided that the surface does not become contaminated. Install the ARDEX Underlayment or Topping in accordance with the printed instructions found in the corresponding ARDEX Technical Brochure. It is not necessary to re-test the substrate for moisture emissions prior to installing the floor covering or sealer.

Precautions

ARDEX P-MC and ARDEX S-MC each have a working time of approximately 30 minutes at 70°F (21°C). Lower temperatures will lengthen the working time, while higher temperatures will dramatically shorten it. Do not apply ARDEX P-MC or ARDEX S-MC if the temperature is below 50°F (10°C).

Once the ARDEX P-MC or ARDEX S-MC is thoroughly mixed, begin using it immediately and without interruption. Due to their high reactivity, these epoxies tend towards intense heat build-up, especially when left in the original container. If this occurs, do not touch the container. Close the lid loosely and transport the container by the handle into a cool room or outdoors until it sets and cools.

ARDEX P-MC and ARDEX S-MC are irritating to the eyes and skin. Wear protective glasses and gloves during mixing and installation. Ensure that rooms are well ventilated. Carefully read and follow all cautions and warnings on the product label. Avoid any contact with eyes or skin. Repeated exposure can result in sensitization. In case of eye contact, wash thoroughly with water immediately and consult a doctor. Can cause burns if left on skin. Harmful if swallowed. KEEP OUT OF REACH OF CHILDREN. For complete safety information, please refer to the Material Safety Data Sheet or visit our website at www.ardex.com.

Never mix with cement or additives. Do not install below 50°F (10°C) surface temperature.

Technical Data According to Ardex Quality Standards

Mixing Ratio: For both ARDEX P-MC and ARDEX S-MC, add entire pre-measured contents of Part A (hardener) to Part B (resin).

Material Requirements on CSP 3 Prepared Concrete (approx.): P-MC: 200 sq. ft. per mixed unit
S-MC: 150 sq. ft. per mixed unit
Coverage will vary with surface profile

Permeability - ASTM D1653: 0.044 perms

ASTM E96 (Water Method): 0.11 perms

Affect of pH (Immersion in Concentrated KOH with pH of 14): No effect

VOC Content: **P-MC®** - 0 g/L calculated & reported, SCAQMD 1168
S-MC® - 0 g/L calculated & reported, SCAQMD 1168

Working Time: 30 minutes at 70°F (21°C)

Pot Life: 30 minutes at 70°F (21°C)

Walkable: Minimum 6 hours for ARDEX P-MC at 70°F (21°C)

Install ARDEX S-MC Sealer: Minimum 6 hours, maximum 12 hours at 70°F (21°C)

Cure Time Before Installing ARDEX Underlayment or Topping: Minimum 16 hours at 70°F (21°C)

Packaging: 10 lb/4.5 kg net weight container

Storage: Store in a cool dry area. Do not expose containers to sun. Keep from freezing. Keep away from heat.

Shelf Life: One year if unopened

Warranty: Ardex Engineered Cements Standard Limited Warranty applies. To obtain the ARDEX MC MOISTURE CONTROL SYSTEM 10-Year Warranty, review the Pre-Installation Checklist and the terms and conditions of the moisture control warranty information under separate cover.

Limited Warranty

Ardex, L.P. warrants that if this product proves to have manufacturing defects and ARDEX is notified of such within six months from the date ARDEX shipped the product, ARDEX will replace the defective product f.o.b. factory. Such product replacement shall constitute the sole and exclusive remedy for any claim under this warranty. ARDEX does not authorize anyone, including ARDEX Representatives, to make any statements that supersede, modify or supplement the information provided on its printed literature or package labels without written confirmation from the ARDEX Technical Service Department. Any installations proceeding without this confirmation, or misinstallations of the product, will void this warranty. THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED, IMPLIED OR STATUTORY, AND IS STRICTLY LIMITED TO ITS TERMS. ARDEX MAKES NO WARRANTY OF MERCHANTABILITY OR SUITABILITY OF ITS PRODUCTS FOR ANY PARTICULAR PURPOSE. All product demonstrations are placed for illustrative purposes only and do not constitute a warranty of any kind. ARDEX SELLS ITS PRODUCTS UPON THE CONDITION THAT CUSTOMERS SHALL CONDUCT THEIR OWN TESTS TO DETERMINE THE SUITABILITY OF THE PRODUCTS FOR THE CUSTOMERS' INTENDED PURPOSES. UNDER NO CIRCUMSTANCES WILL ARDEX BE LIABLE FOR ECONOMIC, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES OR LOSSES OF ANY KIND WHATSOEVER ARISING OUT OF OR OCCASIONED BY THE SELECTION, USE, INSTALLATION OR REPLACEMENT OF THESE PRODUCTS.

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