



ARDEX MC™ RAPID

One-Coat Moisture Control System For Concrete to Receive ARDEX Underlayments

One coat epoxy resin system

**No sand broadcast required for underlayment applications of
1/4" (6 mm) or less**

Ready to prime in just 4 hours

Solvent-free, alkali resistant

Tenacious bond to substrate

Can be applied to damp concrete

**Reduces vapor emissions to well below maximum acceptable
levels for floor coverings**

For RH readings up to 98%

**Use under all modular commercial and residential floor coverings
such as VCT, vinyl tile and plank, carpet tile, linoleum tile, rubber tile
and wood on interior substrates only**

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ARDEX MC™ RAPID

One-Coat Moisture Control System For Concrete to Receive ARDEX Underlayments

Description and Usage

The ARDEX MC RAPID™ MOISTURE CONTROL SYSTEM is a single-coat, fast-curing, 100% solids epoxy moisture management system formulated to suppress excessive moisture vapor emissions in new or existing concrete prior to installing an ARDEX Underlayment. Use it to treat areas of new concrete that may still be damp or have very high (98% RH) moisture readings. ARDEX MC RAPID is also used over existing concrete where the level of moisture emissions from the slab exceeds the maximum allowed by the manufacturer of the finished floor covering. Designed specifically for fast-track installations, ARDEX MC RAPID can receive an ARDEX Underlayment in as little as 4 hours.

The ARDEX MC RAPID system is based on a reactive epoxy that produces a hard surface and tenaciously bonds to the substrate. Depending on moisture test results, ARDEX MC RAPID is applied at one of two thicknesses. When applied at a thickness of 10 mils (250 microns), ARDEX MC RAPID is suitable for moisture levels up to a maximum of 85% RH (ASTM F2170). When applied at 14 mils (350 microns), ARDEX MC RAPID is suitable for application at moisture levels over 85% and up to 98% RH, and once cured is able to reduce moisture to acceptable levels, even over new concrete that is only 7 days old. No sand broadcast is used for underlayment layers of 1/4" (6 mm) thick or less. For thicker applications, apply a second coat of ARDEX MC RAPID with a sand broadcast, or use the ARDEX MC ULTRA™ MOISTURE CONTROL SYSTEM.

Substrate Preparation

The concrete slab must have an intact and functioning vapor retarder below it in order to use the single coat 10 mil (250 micron) system. If in doubt, use the 14 mil (350 micron) system, or the ARDEX MC PLUS or ARDEX MC ULTRA systems.

All concrete substrates must be structurally sound and solid, and thoroughly clean and free of oil, wax, grease, asphalt, paint, latex compounds, curing and sealing compounds, and any contaminant that could act as a bond breaker. The concrete must have a minimum tensile strength of at least 150 psi for areas to receive normal foot traffic, and 200 psi for areas of heavy commercial traffic when tested in accordance with ASTM C1583. The concrete surface can be damp, but must be free of standing water.

Mechanical preparation of the surface is required to obtain a minimum ICRI concrete surface profile of 3 (CSP 3). Substrate preparation must be by mechanical means, such as shot blasting. Broom sweep and vacuum the prepared

surface. Acid etching, solvents, sweeping compounds, adhesive removers and sanding are not acceptable means of cleaning the substrate.

Prior to beginning the installation, measure the relative humidity within the concrete in accordance with ASTM F2170. The RH shall not exceed 98%.

If the concrete substrate is too uneven to provide a uniform film thickness of the ARDEX MC RAPID (typically CSP 6 or higher), the substrate can be pre-smoothed using ARDEX K 301™ SELF-LEVELING EXTERIOR CONCRETE TOPPING or ARDEX MRP™ MOISTURE RESISTANT PATCH. Please refer to the appropriate ARDEX technical brochure for installation instructions and necessary cure times.

Recommended Tools

Epoxy mixing paddle, low speed drill, short-nap paint roller or notched squeegee (smoother surfaces), long-nap paint roller (more uneven surfaces) and a paintbrush

Dormant Cracks and Saw-Cut Joints

To achieve a continuous moisture barrier, ARDEX recommends the use of a two-part, low viscosity rigid crack and joint filler such as ARDEX ARDIFIX™ to fill small, non-moving cracks and saw-cut joints in existing concrete substrates. Cracks greater than a hairline in width [1/32" (0.79 mm)] and saw-cuts must be filled in strict accordance with the installation instructions provided by the ARDEX Technical Service Department. Once the dormant cracks and saw-cuts have been properly filled, broadcast sand to refusal and allow these areas to cure thoroughly prior to proceeding with the ARDEX MC™ RAPID installation.

Moving Joints and Cracks

All moving joints and cracks must be honored up through the moisture control system, ARDEX Underlayment and floor covering by installing a flexible sealing compound designed specifically for use over moving joints such as or ARDEX ARDISEAL™ RAPID PLUS.

ARDEX cannot be responsible for issues arising from expansion and isolation joints, saw-cuts and new or existing cracks that may develop or widen after the system has been installed.

For questions regarding the appropriateness of specific joint treatment compounds, please contact the ARDEX Technical Service Department at 888-512-7339.

Mixing And Application

Each individual unit of ARDEX MC RAPID comes in a 22 lb (10 kg) unit containing separate, pre-measured quantities of hardener (Part B) and resin (Part A). After opening each container, stir the individual components thoroughly before blending. The hardening agent (Part B) is added to the resin (Part A). Pour all of the hardener into the resin portion and stir thoroughly for a minimum of 3 minutes using a low speed drill and an epoxy mixing paddle. Once mixed, pour some of the epoxy back into the hardener container, stir for 10 seconds, and then pour all of the contents back into the resin container. Mix for an additional 30 seconds before applying.

Apply the freshly mixed ARDEX MC RAPID to the prepared concrete surface in a uniform direction at an application rate of 270 sq. ft. (25 m²) per unit for a 10 mil (250 microns) thick application, or 190 sq. ft. (17.6 m²) per unit for a 14 mil (350 microns) thick application. Use a short-nap paint roller or notched squeegee with back-rolling for smoother surfaces, and a longer nap roller for more uneven substrates. To minimize the potential for pinhole formation, work the ARDEX MC RAPID into the surface with the roller to ensure maximum penetration. ARDEX MC RAPID can also be worked into the surface with a paintbrush for hard to reach areas and corners. Once an area has been completely coated, allow this to dry for a minimum of 4 hours (max. 24 hours). It is not necessary to re-test the substrate for moisture emissions prior to installing the floor covering.

For ARDEX underlayment applications of 1/4" (6 mm) or less, prime the surface of the ARDEX MC RAPID with ARDEX P 82™ ULTRA PRIME. Allow the ARDEX P 82 to dry thoroughly (min 3 hours; max 24 hours) before installing the underlayment.

For underlayment installations greater than 1/4", or if the ARDEX MC RAPID was not worked into the surface sufficiently enough to prevent pinholes, you must apply another coat of ARDEX MC RAPID with a sand broadcast. No ARDEX P 82 is required. Working at a 90° angle to the direction the first coat was applied, apply the ARDEX MC RAPID at a thickness of 10 mils (250 microns). While this coat is still in a fresh state (maximum 20 minutes), broadcast an excess of fine sand (less than 1/50" in grain size or 98.5% passing sieve size #30 or #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 epoxy 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 epoxy at any time. Use approximately 1 lb. of sand per sq. ft. of area. Once the sand broadcast is complete, avoid all traffic over the surface for a minimum of 4 hours.

After 4 hours, broom sweep and vacuum the surface to remove all loose sand. The clean, prepared surface of the sand is the priming system for the ARDEX Underlayment. No additional priming is required. There is no limit to how long the sanded surface can remain before installing the ARDEX Underlayment provided that the surface does not become contaminated. If the underlayment will not be installed immediately, protect this surface from construction traffic, dirt and debris using Masonite or similar. Install the ARDEX Underlayment 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.

Notes

The installation of ARDEX MC RAPID does not require calcium chloride testing of the concrete per ASTM F1869 nor does ASTM permit this test over the top of concrete that has been treated with a moisture remediation system. ARDEX MC RAPID is warranted to reduce emissions to an acceptable level for the entire flooring system regardless of the values obtained by this test.

ARDEX MC RAPID has a working time of approximately 20 minutes at 70°F (21°C). Lower temperatures will lengthen the working time, while higher temperatures will dramatically shorten it. Do not apply ARDEX MC RAPID if the surface temperature is below 50°F (10°C).

Once the ARDEX MC RAPID is thoroughly mixed, use it immediately and without interruption. Due to its high reactivity, this epoxy has a tendency toward 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 to a cool room or outdoors until it sets and cools.

Precautions

RESIN

⚠WARNING! Causes skin and eye irritation. Vapors may cause respiratory irritation. May cause allergic reactions. Avoid contact with eyes, skin and clothing. Avoid breathing vapors or dust. Avoid prolonged contact with skin. Wash thoroughly after handling. Keep container tightly closed. Use only with adequate ventilation. KEEP OUT OF THE REACH OF CHILDREN.

HARDENER

⚠DANGER! Combustible liquid and vapor. Toxic. Corrosive. Causes skin and eye burns. Harmful if inhaled, swallowed or absorbed through the skin. Contains components which may be easily absorbed through the skin. May cause severe irritation to the respiratory tract if vapors are inhaled. May cause allergic reactions. Keep away from heat and flame. Do NOT get into eyes, on skin or on clothing. Do NOT breathe vapor. Do NOT swallow. Wash thoroughly after handling. Clean contaminated clothing before reuse. Keep container tightly closed. Use only with adequate ventilation. KEEP OUT OF THE REACH OF CHILDREN.

Technical Data According to ARDEX Quality Standards

All data based on installation temperatures at 70°F (21°C)

Mixing Ratio: Add entire pre-measured contents of Part B (hardener) into Part A (resin).

Material Requirements on CSP 3 Prepared Concrete:

Maximum 270 sq. ft. (25 m²) per mixed unit for 10 mils (250 microns)
Maximum 190 sq. ft. (17.6 m²) per mixed unit for 14 mils (350 microns)
(Will vary with surface profile)

Permeability (ASTM E96): 0.2 perms

Effect of 14 pH solution (ASTM D1308): No effect

Working Time: 20 minutes

Pot Life: 20 minutes

Walkable: Min. 4 hours

Prime and install underlayment: Min. 4 hours, max. 24 hours

VOC Content: 0 g/L (calculated and reported, SCAQMD 1168)

Packaging: 22 lb/10 kg net weight container

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

Shelf Life: One year unopened

Warranty: ARDEX Engineered Cements Standard Limited Warranty applies. Extended system warranty is available. Please see the ARDEX MOISTURE CONTROL SYSTEMS brochure for terms and conditions. Please note that training by the ARDEX Technical Service Department is required for extended warranty eligibility.

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