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# ARDEX MC™ RAPID

## One-Coat Moisture Control System for Concrete to Receive ARDEX Products

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One-coat, 100% solids moisture management system

Highly reactive epoxy resin; produces an extremely hard surface

For RH readings up to 100% in new or existing concrete

Excellent coverage

Fast setting - Proceed in as little as 4 hours

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

Reduces moisture vapor emissions to acceptable levels for floor coverings

Solvent free, alkali resistant

ASTM E96 - 0.06 perms

Tenacious bond to substrate

Use under all standard commercial and residential floor coverings on interior substrates only

Use under all ARDEX interior toppings (sand broadcast method only)

Meets or exceeds the requirements of ASTM F3010-18

Especially suited for healthcare and other fast-track concrete projects

# ARDEX MC™ RAPID

## One-Coat Moisture Control System for Concrete to Receive ARDEX Products

### Suitable Substrates

- Concrete (structurally sound)
- Absorbent terrazzo on concrete†

†Must be sound, solid and well-bonded to underlying, structurally sound substrates. Metallic terrazzo strips must be mechanically removed.

### Suitable Applications

- Moisture control for:
  - ARDEX underlayments with floor coverings
  - Certain directly applied floor coverings
  - ARDEX toppings with sealers or coatings
  - Polished ARDEX toppings
- Fast-track, sand-broadcasted epoxy priming
- ARDEX Concrete Management System™ (ACMS™) for new concrete in certain flooring applications (contact the ARDEX Technical Service Department for recommendations)
- Secondary Top-Down Waterproofing (not for roofing systems).

### Jobsite Conditions

During installation and cure, substrate and ambient temperatures must be a minimum of 50° F / 10° C. If installing over an in-floor heating system, turn the heating system off 48 hours before, during and at least 48 hours after completion of the installation.

Concrete relative humidity levels (RH; ASTM F2170) may be as high as 100%. Very high RH could be indicative of external water infiltration from inadequate drainage, leaks, broken pipes, etc. Verify that all external sources of water are controlled sufficiently prior to installation.

The concrete surface temperature must be at least 5°F (3°C) higher than the dew point, and rising, for the given temperature and humidity in the space to prevent condensation.

The concrete surface must be dry during installation and cure. As needed, verify concrete surface dryness by mat testing (ASTM D4263) for a minimum of 4 hours.

### Step 1: Substrate Preparation (Proper Prep™)

For full details on Proper Prep, reference the following articles at [ardexamericas.com/services/properprep](http://ardexamericas.com/services/properprep):

- [Article 1: Preparing Concrete for Bonded ARDEX or HENRY Applications](#)
- [Proper Prep Brochure](#)

Concrete and terrazzo substrates must be clean and prepared to a minimum CSP 3 / maximum CSP 5 (icri.org).

Mechanically clean substrate, if necessary, by shot blasting or similar means. Do not use acid etching, adhesive removers, solvents or sweeping compounds, as these are bond breakers. Sanding is not an effective method to remove contaminants from concrete.

Substrate must be dry and alkali free. All substrates must be sound, solid and thoroughly clean of all bond-breaking contaminants, including but not limited to: overwatered or otherwise loose or weak material; dirt, dust, wax, grease, paints and oils; all curing compounds and sealers; and all adhesive residues.

Following preparation, thoroughly vacuum to remove all excess dirt and debris.

Handle and dispose of asbestos and other hazardous materials in accordance with prevailing regulations, which supersede the recommendations in this document.

### Step 2 (If / as needed): Pre-Smoothing, Trench Repairs and Other Repairs

For concrete surface profiles too rough to receive a uniform film thickness (above CSP #5): Contact the ARDEX Technical Service Department before proceeding further.

Where full-depth slab or trench repair is needed, ARDEX TRM™ Transportation Repair Mortar Fast-Setting, Horizontal Concrete Repair Mortar can be used in accordance with the technical data sheet at [www.ardexamericas.com](http://www.ardexamericas.com). The surface of the ARDEX TRM must be a minimum CSP #3, which can be achieved by roughing in or by mechanical preparation, such as shot blasting. Thoroughly sweep and vacuum prior to proceeding with the next installation step.

### Step 3: Treating Joints and Cracks

All moving joints, including expansion joints and isolation joints, as well as all moving cracks, must be honored up through the entire flooring system, including the finishing course. Under no circumstances should this product or any other component of the flooring system be installed over these.

For topping applications, dormant joints must also be honored.

All dormant joints and dormant cracks greater than a hairline (1/32"/ 0.8 mm) that will not be honored must be pre-filled with ARDEX ARDIFIX™ Low Viscosity Rigid Polyurethane Crack and Joint Repair and sand broadcasted to refusal in strict accordance with the technical data sheet.

### Step 4: Mixing and Application

#### Recommended Tools

CSP 3 - 4: Notched squeegee or Short-nap roller 3/8"

CSP 5: Long-nap paint roller

Low speed drill; epoxy mixing paddle; paintbrush

#### Mixing

**CAUTION!** Once the product is mixed thoroughly, immediately pour the entire contents of the container onto the prepared concrete surface. Due to its high reactivity, this epoxy has a tendency toward intense heat buildup when in mass, such as 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.

For blending, the hardening agent (Part B) is added to the resin (Part A). After opening each container, mix the resin (Part A) thoroughly before blending. Pour all of the hardener into the resin portion, and then mix thoroughly for a minimum of 3 minutes using a low speed drill and an epoxy mixing paddle. Once mixed, pour some of the material back into the hardener container, mix for 30 seconds, and then pour all of the contents back into the resin container. This step ensures that no hardener residue remains unreacted. Mix for an additional 30 seconds before applying.

#### Application

Once the product is mixed thoroughly, immediately pour the entire contents of the container onto the prepared concrete surface. Do not place container upside down on concrete surface. Working time is approximately 20 minutes at 70°F (21°C). Lower temperatures will lengthen the working time, while higher temperatures will shorten it dramatically.

Required installation thickness and method are dependent on application; see Application Selection Table below.

Apply the freshly mixed epoxy at the minimum thickness specified in the Application Selection Table below. 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 product into the surface with the roller to ensure maximum penetration. Apply with a paintbrush in hard-to-reach areas, edges and corners. Coat the area completely prior to proceeding.

### **Sand Broadcasting (If / as needed)**

See Application Selection Table below to determine if sand broadcasting is needed. Dependent on jobsite conditions, epoxy will stay wet / fresh for approximately 20 minutes (70°F / 21°C). Lower temperatures will lengthen this time, while higher temperatures will shorten it dramatically. Sand broadcast must proceed immediately while epoxy is fresh. Sand must be clean, dry and fine (approximately 1/40" - 1/50" in grain size or sieve size #30 or #35). Broadcast consistently over the entire area wearing a NIOSH-approved dust mask in conformance with OSHA requirements regarding the handling of sand (crystalline silica). Use approximately 1 lb. of sand per sq. ft. of area. Do not stand or walk on the freshly applied epoxy when broadcasting the sand. Once an area has been covered completely with sand, the surface of the sand can be walked on, so long as care is taken not to expose or disturb the epoxy. Once the sand broadcast is complete, avoid traffic until set.

### **Minimum Set Time (70°F / 21°C)**

4 hours

### **Sand Cleanup (Where Applicable)**

Once set, remove all excess sand as follows:

Do not sweep. Using a rubber squeegee, consolidate excess sand into piles, and shovel the piles of sand into barrels designated for that use. The collected sand should be filtered through a screen to remove debris and allow the sand to be used on future projects.

Vacuum remaining sand using a heavy-duty, bucket-style (Shop-Vac-style) vacuum and HEPA dust extraction vacuum system.

The clean, prepared surface of the 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 open before installing the ARDEX underlayment or topping provided that the surface does not become contaminated. If the underlayment or topping will not be installed immediately, protect the surface from construction traffic, dirt and debris using Masonite or similar.

Note: It is not necessary to retest the substrate for moisture emissions prior to proceeding with the next installation step:

- Calcium chloride testing (ASTM F1869) is not permitted by ASTM over the top of concrete that has been treated with a moisture control system.
- Relative humidity testing (ASTM F2170) requires drilling down into the concrete substrate, which would effectively delete the moisture control course in the test area, rendering it obsolete.

### **Maximum Set Time Prior to Priming or Directly Applying ARDEX K 60 (No Sand Broadcast)**

20 hours. Temperatures warmer than 70°F will cause faster curing, thus reducing the maximum set time.

### **Priming (If / as needed)**

Where required (see Application Selection Table below), prime with either ARDEX P 82 or ARDEX P 4 in accordance with the respective technical data sheet. Allow this course to cure as detailed in the technical data sheet.

### **Step 5 (If / as needed): Secondary Top-Down Waterproofing**

For secondary top-down waterproofing, a second coat is required over the initial, sand-broadcasted coat. After the initial coat has set as directed above and all excess sand is removed as detailed above, apply a second coat at a 90° angle to the first. Due to the textured sand surface of the first coat, the coverage rate of the second coat will be diminished (approximately 150 sq. ft. / 14 m<sup>2</sup> Per Unit ). Immediately broadcast sand into the fresh epoxy as detailed above.

Once the second coat has set as directed above, remove all excess sand as detailed above, and proceed with the ARDEX underlayment or topping installation.

Please note the following regarding secondary top-down waterproofing:

- This application is not to be used as any part of a roofing system.
- ARDEX cannot be held responsible for water passing through any existing or new cracks or joints.
- The application of top-down waterproofing does not affect the water resistance of subsequently installed ARDEX underlyments or toppings. Always observe the suitable application environments for the selected underlayment or topping.

### **Underlayment / Topping Installation (If / as needed)**

See Application Selection Table below.. Where applicable, install the ARDEX product in accordance with the instructions found in the corresponding ARDEX technical data sheet prior to proceeding with the next installation step.

### **Direct application of Finish floor covering (If / as needed)**

The surface of the coated concrete must be flat and smooth enough for the installation of the floor covering, and the adhesive must be approved for use over non-porous surfaces, including moisture control systems; otherwise, an ARDEX underlayment must be installed.

Where applicable (see Application Selection Table below), follow flooring and adhesive manufacturer recommendations to install flooring, taking care not to puncture or otherwise damage the moisture control layer. It must also be ensured that there is no absorption of liquids, including water or other solvents, from the adhesive into the coated concrete.

Follow the adhesive manufacturer's recommendations for installation over a non-porous coating system, which may require smaller notched trowels and/or longer open times. When installing pressure sensitive adhesives directly over a moisture control system, it may be necessary to allow a longer cure time than indicated by the manufacturer. An extended curing time will allow the adhesive to fully dry and prevent the adhesive's moisture from becoming trapped under the flooring.

## Application Selection Table

Application	Finish Surface	ARDEX Underlayment or Topping	Priming or Sand Broadcasting	Minimum ARDEX MC RAPID Thickness of Application	Approximate ARDEX MC RAPID Application Per Unit**	Maximum ARDEX Underlayment or Topping Thickness of Application
Moisture Control	Sealed, coated or polished ARDEX wear surface	ARDEX Topping	Sand Broadcasting	14 mils / 350 microns - Single coat	170 - 190 sq. ft. (16 - 18 m <sup>2</sup> )	Follow the instructions in the respective technical data sheet for selected ARDEX Topping
	Finish floor covering	Direct application of ARDEX K 60	None (Direct application of ARDEX K 60)	10 mils / 250 microns - Single coat	250 - 270 sq. ft. (23 - 25 m <sup>2</sup> )	1/4" (6 mm)
		Other ARDEX Underlayment	Sand Broadcasting	14 mils / 350 microns - Single coat	170 - 190 sq. ft. (16 - 18 m <sup>2</sup> )	Follow the instructions in the respective technical data sheet for selected ARDEX Underlayment
			ARDEX P 82	10 mils / 250 microns - Single coat	250 - 270 sq. ft. (23 - 25 m <sup>2</sup> )	1/4" or 1/2" (6 mm or 12 mm), depending on selected ARDEX underlayment; Follow the instructions in the respective technical data sheet.
			ARDEX P 4	10 mils / 250 microns - Single coat	250 - 270 sq. ft. (23 - 25 m <sup>2</sup> )	1/4" (6 mm)
None (Direct application of Finish floor covering)	None (Direct application of Finish floor covering)	10 mils / 250 microns - Single coat	250 - 270 sq. ft. (23 - 25 m <sup>2</sup> )	N/A (Direct application of Finish floor covering)		
Fast-track, sand-broadcasted epoxy priming	All above-mentioned finish surfaces	All	Sand Broadcasting	10 mils / 250 microns - Single coat	250 - 270 sq. ft. (23 - 25 m <sup>2</sup> )	Follow the instructions in the respective technical data sheet for selected ARDEX Topping or Underlayment
Secondary Top-Down Waterproofing	All above-mentioned finish surfaces	All	Sand Broadcasting	10 mils / 250 microns - double coat with sand broadcast between coats	250 - 270 sq. ft. (23 - 25 m <sup>2</sup> ) First coat; 150 sq. ft. / 14 m <sup>2</sup> Second coat	Follow the instructions in the respective technical data sheet for selected ARDEX Topping or Underlayment

\*\*Dependent on surface profile, density and porosity.

## Notes

Intended for use by professional contractors who are trained in the application of this product and/or similar products. Not sold by ARDEX through home improvement centers. For information on ARDEX Academy trainings, visit [ardexamericas.com](http://ardexamericas.com). Never mix with cement or additives outside of our written recommendations. In accordance with industry standards, and to determine the suitability of the products for the intended use, always install an adequate number of properly located test areas including the finish flooring. As floor coverings vary, always contact and rely upon the floor covering manufacturer for specific directives, such as maximum allowable moisture content, adhesive selection and intended end use of the product.

Observe the basic rules of concrete work, including the minimum surface and air temperatures detailed above. Install quickly if the substrate is warm, and follow the warm weather installation guidelines available on our website. If the installation is not proceeding as expected: Contact the ARDEX Technical Service Department before proceeding further. Dispose of packaging and residue in accordance with prevailing regulations. Do not flush material down drains. Do not reuse packaging.

## Precautions

Carefully read and follow all precautions and warnings on the product label. For complete safety information, please refer to the Safety Data Sheet (SDS) available at:

[www.ardexamericas.com](http://www.ardexamericas.com).

## Technical Data According to Manufacturer Quality Standards

Physical properties are typical values and not specifications. Mixing and Testing completed at 70°F / 21°C.

<b>Mixing Ratio:</b>	Add entire pre-measured contents of Part B (Hardener) into Part A (Resin).
<b>Coverage:</b>	See section entitled "Application Selection Table" above.
<b>Permeability:</b>	0.06 perms
<b>Effect of 14 pH Solution (ASTM D1308):</b>	None
<b>Pot life:</b>	Fast-setting material prone to heat buildup; after mixing, immediately pour onto the substrate and apply.
<b>Working Time:</b>	20 minutes
<b>Minimum Set Time / Walkable:</b>	4 hours
<b>VOC:</b>	19.9 g/L, A+B, ASTM D2369
<b>Packaging:</b>	1.65 gal. (6.25 L) unit
<b>Storage:</b>	Store in a cool, dry area. Do not leave units exposed to sun. Keep from freezing. Keep away from heat.
<b>Shelf Life:</b>	12 months, if unopened and properly stored
<b>Warranty:</b>	ARDEX Standard Limited Warranty applies. For full warranty details: <a href="http://ardexamericas.com/services/warranties">ardexamericas.com/services/warranties</a> .  Extended system warranty is available. Please note that training by the ARDEX Technical Service Department as well as the submittal and approval of an ARDEX MC™ Pre-Installation Checklist is required for extended warranty eligibility. Please contact the ARDEX Technical Service Department for details.

Made in the USA

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Visit [www.youtube.com/ARDEX101](http://www.youtube.com/ARDEX101) to watch ARDEX product demonstration videos. For recommended installation tools, visit DTA USA at [www.dtausagroup.com](http://www.dtausagroup.com). For easy-to-use ARDEX Product Calculators and Product Information On the Go, download the ARDEX App.



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