ARDEX SD-P® RAPID

Self-Drying, Trowelable Concrete Underlayment

- Provides a smooth surface over a variety of substrates
- Ideal for ramping, patching large areas and screeding
- Fluid consistency for ease of application
- Rapid setting
- Install floor coverings in as little as 60 minutes
- Install neat up to 1” (25.4 mm) and up to 3” (7.6 cm) with aggregate
- Easy to mix with water only
- No primer required over concrete
- Exceptional bond strength
- Interior use only
- Compressive strength of 4,200 psi

systemONE warranty

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ARDEX SD-P® RAPID

Self-Drying, Trowelable Concrete Underlayment

Suitable Substrates

- Concrete (structurally sound)
- Absorbent terrazzo on concrete†
- Properly installed ARDEX moisture control systems on concrete: ARDEX MC™ RAPID
- Other approved, non-porous materials on concrete:†
  - Non-porous (non-absorbent) cementitious terrazzo
  - Ceramic, quarry or porcelain tiles
  - Epoxy Coatings
  - Epoxy terrazzo
  - Concrete treated with certain curing compounds (test area only; for full instructions, see www.ardexamericas.com/properprep)

†Must be sound, solid and well-bonded to underlying, structurally sound substrates.

Please note that a skim coat of a cementitious material applied over a non-porous surface may not create a porous bonding surface for the finish flooring and/or may not protect the finish flooring from migration of existing adhesive. Consult the flooring manufacturer for confirmation of any minimum thickness requirements for cementitious underlayments, as well as for any additional considerations, when installing over potentially non-porous surfaces.

Suitable Applications

- All grade levels
- Dry areas only
- Interior applications only
- Areas to receive a suitable floor covering material, such as carpet, vinyl, ceramic, etc. Do not use as a wear surface. If a permanent wear surface is needed, use ARDEX SD-M or ARDEX SD-T.

Job Conditions

During installation and cure, substrate and ambient temperatures must be a minimum of 50° F / 10° C.

Step 1: Moisture Evaluation and Testing

This product is intended for interior, dry spaces. Hydrostatic pressure, plumbing leaks, flood factors and other sources of water infiltration must be identified and corrected prior to installation. This product is not a vapor barrier and will allow free passage of moisture vapor.

Test concrete in accordance with ASTM F2170. For high-moisture floor coverings and adhesives, this product can be installed over concrete with relative humidity (RH) levels up to 99% provided: Each on-ground slab is built on a vapor retarder, which remains effective and intact, in conformance with ASTM E1745.

All other cases: Moisture control is required if the RH exceeds the most stringent of the following: 1) the limitations imposed by the flooring manufacturer; 2) the limitations imposed by the adhesive manufacturer.

Priming course if moisture control is required: ARDEX MC RAPID

If moisture control is not required, select applications require priming. See section entitled “Priming Method Selection” below.

Priming Method Selection (select applications)

If a moisture control course will not be applied, priming is needed only for select applications as follows:

- ARDEX P 82 ™ Ultra Prime
- ARDEX P 51™ Primer

Substrate (interior, dry applications only)	Porosity	Priming Course
Concrete (structurally sound) Absorbent terrazzo on concrete	Standard absorbent (porous)	ARDEX P 51 (Optional)*
	Non-absorbent (non-porous; burnished)	ARDEX P 82
	Extremely absorbent concrete	ARDEX P 51 "Double prime"
ARDEX MC RAPID and Other approved, non-porous materials on concrete (See section entitled "Suitable Substrates" above)	N/A	ARDEX P 82

*While no primer is required to obtain a solid bond when installing this product over properly prepared concrete, priming with ARDEX P 51 will improve the workability of the product, prevent it from drying out too fast, and help to ensure that any residual dust on the surface of the concrete is bound up so that it will not interfere with the bond.

Step 2: Substrate Preparation (Proper Prep™)

For full details on Proper Prep, reference the following articles at ardexamericas.com/services/properprep:

- Article 1: Preparing Concrete for Bonded ARDEX or HENRY Applications
- Article 1: Preparing Concrete for Bonded ARDEX or HENRY Applications
- Proper Prep Brochure

If necessary, mechanically clean the substrate 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 free of excess moisture and alkali. 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; unapproved curing compounds and sealers; all adhesive residues.

Minimum Preparation

Substrate must be clean; additional prep may be needed, as follows:

Substrate	Minimum Preparation
Substrate to receive ARDEX P 51	Mechanically remove all adhesive residue, sealers, curing compounds, tiles, mortars and epoxy coatings down to clean, sound, solid concrete / terrazzo Substrate must be clean and absorbent (ASTM F3191)
Concrete to receive ARDEX MC RAPID	Mechanically remove all adhesive residue, sealers, curing compounds, tiles, mortars and epoxy coatings down to clean, sound, solid concrete / terrazzo Concrete and terrazzo substrates must be clean and prepared to a minimum CSP 3 / maximum CSP 5 (icri.org)
Other approved, non-porous materials on concrete	Substrate must be clean and not absorbent.

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 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, the moisture control system, the selected primer or any other component of the flooring system be installed over these.

Dormant control joints and Dormant cracks may be pre-filled; however, this filling is not intended to act as a repair method that will eliminate the possibility of telegraphing. Non-structural materials are unable to restrain movement within a concrete slab. Cracks will telegraph in any area that exhibits movement, such as an active crack, an expansion or isolation joint, or an area where dissimilar substrates meet. We know of no method to prevent this telegraphing.

If an ARDEX moisture control system will be installed (see "Moisture Testing" section above): 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: Install Appropriate Moisture Control or Priming Course if / as needed

Products may need longer drying times with low surface temperatures and/or high ambient humidity. Do not proceed with subsequent steps before product has dried thoroughly.

ARDEX MC RAPID Installation *(Priming course if moisture control is required)*

If moisture control is required, install the ARDEX moisture control system in accordance with the appropriate technical data sheet (www.ardexamericas.com/products). See section entitled "Moisture Evaluation and Testing" above.

Priming Course *(If moisture control is not required)*

If moisture control is not required, select applications require priming (See section entitled "Priming Method Selection" above).

Standard absorbent (porous) Concrete: ARDEX P 51 Mixed 1:1 (Optional)*

Dilute primer with water at a rate of 1:1 by volume. Apply evenly with a clean, soft-bristled push broom. Do not use paint rollers, mops or spray equipment. Do not leave bare spots. Brush off puddles and excess primer.

It is critical to ensure that the primer is dry prior to proceeding with the next installation step. To determine if the primer is dry after a minimum of 30 minutes (max. 24 hours), pour water onto the surface of the primer in several areas and rub it with your finger. If the water remains clear, the primer is dry. If the water turns cloudy or milky, additional drying time is needed.

Extremely absorbent concrete: ARDEX P 51 "Double prime"

Make an initial application of primer diluted with 3 parts water by volume. Let the initial application dry thoroughly (1 - 3 hours), and then install a second application of primer mixed 1:1 with water as detailed directly above.

Other approved, non-porous materials on concrete: ARDEX P 82

Follow the mixing instructions on the container, and apply with a short-nap or sponge paint roller, leaving a thin coat of primer. Do not leave any bare spots. Back roll with a dry roller to remove excess primer. ARDEX P 82 should be applied within 1 hour of mixing. Allow to dry to a thin, slightly tacky film (min. 3 hours, max. 24 hours).

Step 5: Mixing and Application

Recommended Tools

ARDEX T-2 Mixing Paddle; Mixing Container; 1/2" (12 mm) heavy-duty drill (min. 650 rpm) • appropriate measuring bucket • wood or magnesium float • Steel trowel

Application Data

Water Ratio:	4 quarts (3.8 L) clean water Per bag 3.5 parts powder: 1 part clean water by volume (small batches)
Approximate Pot life:	60 minutes (70°F / 21°C)
Thickness of Application:	Over substrates primed with ARDEX P 82: 1/4" (6 mm)
	All other cases: 1" (24 mm) Neat 3" (7.6 cm) with aggregate

Manual

Pour the water in the mixing container first, and then add powder while mixing with the mixing paddle and a 1/2" (12 mm) heavy-duty drill (min. 650 rpm). Mix thoroughly for approximately 2 to 3 minutes to obtain a lump-free mix. Do not overwater! Additional water will weaken the compound and lower its strength.

Small batches may be mixed by hand. Use a margin trowel, and mix vigorously. Just prior to application on the substrate, the mixture should be stirred again to ensure a creamy, smooth, lump-free consistency.

As this product is installed in thin applications, the profile of the substrate can affect the flatness and smoothness of the product. The thickness of the application should be calculated based on the surface profile of the substrate and the specified tolerances of the subsequently installed finish surface.

Aggregate Extension (as needed)

Extend the product with aggregate as desired / required (see "Thickness of Application" section above) as follows:

1. Select washed and well-graded pea gravel that is no larger than 1/3 the depth of the intended pour and no smaller than 1/8". Do not use sand.

2. Mix with water first, and then add 1 part by volume of the selected pea gravel, mixing until the aggregate is completely coated.

3. Note that the addition of aggregate will diminish the workability of the product and may make it necessary to install a neat coat.

Prior to installling a neat coat as detailed above, allow the initial application to dry as detailed in "Drying Time" section below.

Application

After mixing, apply the product to the substrate with the flat side of a steel trowel to obtain a solid mechanical bond before applying the desired thickness. Apply sufficient pressure to fill all defects.

Jobsite conditions and temperature may affect pot life. If the material begins to harden within published pot life, retemper with a drill. Do not add more water.

Step 6: Drying Time and Installation of Flooring

All dry times are calculated at 70°F (21°C). Drying time is a function of jobsite temperature and humidity conditions. Low substrate temperatures and/or high ambient humidity will extend the drying time. Adequate ventilation and heat will aid drying. Forced drying can dry the surface of the product prematurely and is not recommended.

Wood flooring and high-performance adhesives (epoxies or urethanes)	16 hours
All other cases	When hardened (Typically 60 minutes)

If the adhesive being used is drying more quickly over the underlayment than over adjacent concrete, prime the underlayment with ARDEX P 51 mixed 1:3 with water. Follow application and curing instructions in the ARDEX P 51 technical data sheet. The use of ARDEX P 51 will even out the open time of the adhesive without affecting flooring bond or long-term performance.

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: www.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. If the installation is not proceeding as expected, contact the ARDEX Technical Service Department before proceeding further.

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.

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.

Technical Data According to Manufacturer Quality Standards

Physical properties are typical values and not specifications. All data based on a partial, in-lab mix. Mixing and Testing completed at 70°F / 21°C.

Coverage:	Per bag At 1/4" (6 mm): 25 sq. ft. (2.3 m^2) Per bag At 1/8" (3 mm): 50 sq. ft. (4.6 m^2) Dependent on surface profile, density and porosity.
Drying Time:	See section entitled "Drying Time and Installation of Flooring" above.
Compressive Strength (ASTM C109/mod – Air cure only):	4,200 psi (29 MPa; 294.0 kg/cm^2) at 28 days
Flexural Strength (ASTM C348):	1,000 psi (7 MPa; 70 kg/cm^2) at 28 days
VOC:	0
Packaging:	40 lb. (18 kg) bag
Storage:	Store in a cool, dry area. Do not leave units exposed to sun. Protect unused material by removing air from bag and sealing tightly..
Shelf Life:	9 months, if unopened and properly stored
Warranty:	ARDEX L.P. Standard Limited Warranty applies. Also eligible for ARDEX SystemOne™ Warranty When used as a system. For full warranty details: ardexamericas.com/services/warranties.

Made in the USA.

 Content updated 2023-10-02. Supersedes all previous versions. Latest version available at:

www.ardexamericas.com.

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

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