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# ARDEX

# Liquid BackerBoard<sup>®</sup>

## Self-Leveling Underlayment for Interior Wood and Concrete Subfloors

The ultimate flat surface for all tiling installations, especially for large-format tile!

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Smooths subfloors prior to the installation of tile, stone and wood flooring

Does not require lath mesh or additive

Walkable in 2 - 3 hours

Install tile and stone flooring in as little as 6 hours

Easy to mix - just add water

Installs up to 1 1/4" (3.1 cm) thick

Excellent coverage: 65 square feet at 1/8"

Ideal for encapsulating electrical in-floor heating

Portland cement based

Use as a convenient, fast and easy prefill option over ARDEX UI 740<sup>™</sup> FLEXBONE<sup>®</sup> and other approved uncoupling membranes



**SystemOne**<sup>™</sup>

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# ARDEX Liquid BackerBoard®

## Self-Leveling Underlayment for Interior Wood and Concrete Subfloors

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### Description and Usage

ARDEX Liquid BackerBoard® Self-Leveling Underlayment for Interior Wood and Concrete Subfloors is a pourable blend of Portland cement and other hydraulic cements that replaces traditional backerboards for a faster, easier, seamless installation of tile and stone over wooden subfloors, concrete, terrazzo, ceramic tile and epoxy, eliminating the need to cut, fit, glue and fasten. ARDEX Liquid BackerBoard DOES NOT REQUIRE LATH MESH, even when used to smooth and level wood subfloors. Tile and stone can be installed in as little as 6 hours. ARDEX Liquid BackerBoard is also suitable for the installation of engineered wood plank and laminate floor coverings and for encapsulating in-floor electrical heating systems

### Substrate Preparation

For each of the substrates listed below, acid etching, adhesive removers, solvents and sweeping compounds are not acceptable means for cleaning the substrate. Substrate and ambient temperatures must be a minimum of 50°F (10°C) for the installation of ARDEX products. Substrates must be dry during installation and cure. For more detailed information on substrate preparation, please refer to the ARDEX Substrate Preparation Technical Data Sheet at [www.ardexamericas.com](http://www.ardexamericas.com).

**Concrete:** All concrete substrates must be solid, structurally sound, thoroughly clean and free of oil, wax, grease, asphalt, latex and gypsum compounds, curing compounds\*, sealers and any contaminant that might act as a bond breaker. If necessary, mechanically clean down to sound, solid concrete by shot blasting or similar. Overwatered, frozen or otherwise weak concrete surfaces also must be cleaned down to sound, solid concrete by mechanical methods. Sanding equipment is not an effective method to remove contaminants from concrete.

**\*Note on Curing Compounds:** Test areas of ARDEX Liquid BackerBoard can be installed and evaluated over concrete slabs that have been treated with either silicate or acrylic resin curing compounds. These compounds must be installed in strict accordance with the compound manufacturer's written recommendations. If a silicate type has been used, all residual salts must be removed. For instructions on priming concrete with acceptable curing compounds, please refer to the Priming section of this technical data sheet.

Please be advised, however, that there are a number of curing compounds sold today that are wax- or petroleum-based emulsions. These are permanent bond breakers that must be removed completely prior to patching or leveling. Dissipating compounds must also be removed completely by mechanical means prior to installing any ARDEX material.

It is imperative to be able to determine the type of curing compound that was used before proceeding. Any curing compound that cannot be identified should be completely, mechanically removed.

**Wood:** The wood subfloor either must be solid hardwood flooring; a minimum of 3/4" (19 mm) tongue-and-groove, APA-rated Type 1, exterior exposure plywood; or an approved OSB equivalent. The wood subfloor must be constructed according to prevailing building codes and must be solid and securely fixed to provide a rigid base free of undue flex. Any boards exhibiting movement must be properly fastened to create a sound, solid subfloor. The surface of the wood must be clean and free of oil, grease, wax, dirt, varnish, shellac and any contaminant that might act as a bond breaker. If necessary, sand down to bare wood. A commercial drum sander can be used to sand large areas. Do not use solvents, strippers or cleaners. Vacuum all dust and debris. Open joints should be filled with ARDEX TL PATCH™ Tile Leveler Underlayment Patch and Skimcoat. It is the responsibility of the installation contractor to ensure that the wood subfloor is thoroughly clean and properly anchored prior to the installation of any ARDEX material.

### Other Non-Porous Substrates

ARDEX Liquid BackerBoard also can be applied over other clean, sound and solidly bonded non-porous substrates, including terrazzo, burnished concrete, epoxy coating systems, and ceramic, quarry and porcelain tiles. The substrate must be clean, including the complete removal of existing waxes and sealers, dust, dirt, debris and any other contaminant that may act as a bond breaker. Where necessary, substrate preparation must be by mechanical means, such as shot blasting.

**Note on Asbestos-Containing Materials:** Please note that when removing existing flooring, any asbestos-containing materials should be handled and disposed of in accordance with applicable federal, state and local regulations.

### Recommended Tools

ARDEX T-1 Mixing Paddle, ARDEX T-10 Mixing Drum, ARDEX T-4 Spreader, ARDEX T-5 Smoother, ARDEX MB-6 Measuring Bucket (6 quarts / 5.7 L per 50 lb. / 22.7 kg bag), a 1/2" (12 mm) heavy-duty drill (min. 650 rpm) and baseball or soccer shoes with non-metallic cleats

### Priming

**Note:** ARDEX primers may need longer drying times with low surface temperatures and/or high ambient humidity. Do not install ARDEX Liquid BackerBoard before the primer has dried thoroughly.

**Absorbent Concrete:** Standard absorbent concrete must be primed with ARDEX P 51™ Primer diluted 1:1 with water. Apply evenly with a soft bristled push broom. Do not use paint rollers, mops or spray equipment. Do not leave any bare spots. Brush off puddles and excess primer.

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Allow primer to dry to a clear, thin film (min. 3 hours, max. 24 hours). Allow primer to dry to a clear, thin film (min. 3 hours, max. 24 hours).

Extremely absorbent concrete may require two applications of ARDEX P 51 to minimize the potential for pinholes forming in the ARDEX Liquid BackerBoard. Make an initial application of ARDEX P 51 diluted with 3 parts water by volume. Let dry thoroughly (1 - 3 hours), and install a second application of ARDEX P 51 mixed 1:1 with water as stated above.

## Wood

Wood subfloors require priming with ARDEX P 51 at full strength (do not dilute). Apply directly to the prepared wood with a short-nap or sponge paint roller or push broom, leaving a thin coat of primer. Do not leave any bare spots. Back roll with a dry roller to remove excess primer. Allow primer to dry to a clear, thin film (min. 3 hours, max. 24 hours).

**Other Non-Porous:** Non-porous substrates such as burnished concrete, terrazzo, ceramic, quarry and porcelain tiles, epoxy coating systems and concrete treated with silicate compounds must be primed with ARDEX P 82. Follow the mixing instructions in the ARDEX P 82 technical data sheet, 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 primer to dry to a thin, slightly tacky film (min. 3 hours, max. 24 hours).

**Note:** If a suitable acrylic curing compound is used, test the surface for porosity. If the concrete is porous, prime with ARDEX P 51. If it is non-porous, prime with ARDEX P 82.

## Joints and Cracks

Under no circumstances should ARDEX Liquid BackerBoard be installed over any moving joints or moving cracks. All existing expansion joints, isolation joints and construction joints, as well as all moving cracks, must be honed up through the underlayment and flooring.

As needed, dormant cracks and dormant control joints can be filled with ARDEX TL PATCH or ARDEX ARDIFIX™, following the instructions in each product's technical data sheet. Please note that if ARDEX ARDIFIX is used, it must be sand-broadcasted to refusal.

However, please be advised that while dormant control joints and dormant cracks in the slab may be filled with ARDEX TL PATCH or ARDEX ARDIFIX prior to installing ARDEX Liquid BackerBoard, this filling is not intended to act as a repair method that will eliminate the possibility of joints and cracks telegraphing. ARDEX TL PATCH, ARDEX ARDIFIX and ARDEX Liquid BackerBoard are non-structural materials and are, therefore, unable to restrain movement

within a concrete slab. This means that while some dormant joints and dormant cracks may not telegraph through the ARDEX materials and up into the finish flooring, 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 from occurring.

## Mixing

**Manually:** ARDEX Liquid BackerBoard is mixed two bags at a time. Mix each 50 lb. (22.7 kg) bag with 6 quarts (5.7 L) of clean water. Pour the water in the mixing drum first, and then add the ARDEX Liquid BackerBoard while mixing with an ARDEX T-1 Mixing paddle and a 1/2" (12 mm) heavy-duty drill (min. 650 rpm). Mix thoroughly for approximately 2 - 3 minutes to obtain a lump-free mix. **Do not overwater!** Yellowish foam while mixing, or settling of the sand aggregate while placing, indicates overwatering.

## Pumping

ARDEX Liquid BackerBoard can be pumped using ARDEX ARDIFLO™ Automatic Mixing Pumps. ARDEX ARDIFLO Pumps provide high productivity and smooth, consistent installations. Pumps may be rented from an authorized ARDEX Distributor. Contact the ARDEX Technical Service Department for complete pump operation instructions.

## Application

ARDEX Liquid BackerBoard has a flow time of 10 minutes at 70°F (21°C). Pour the mix onto the floor and spread with the ARDEX T-4 Spreader. Immediately smooth the material with the ARDEX T-5 Smoother. Work in a continuous manner during the entire self-leveling installation. Wear baseball or soccer shoes with non-metallic cleats to avoid leaving marks in the liquid ARDEX Liquid BackerBoard.

## For Use as an Uncoupling Membrane Prefilling Material

ARDEX Liquid BackerBoard can be used as a high-flow, easy-to-apply prefilling material for ARDEX UI 740™ FLEXBONE® Uncoupling Membrane as well as other approved bonded uncoupling membranes and uncoupling heat systems. For a list of approved systems, please contact the ARDEX Technical Service Department.

Install the ARDEX UI 740 FLEXBONE or other approved bonded uncoupling membrane in accordance with the manufacturer's technical data sheet, taking care to note the setting material's cure time. No priming is required prior to the installation of ARDEX Liquid BackerBoard.

Mix ARDEX Liquid BackerBoard in full units and per the technical data sheet. Work a skim coat of the mixed material into the surface of the uncoupling membrane with an ARDEX T-5 Smoother or a flat trowel. All voids and cavities below the uncoupling membrane surface must be completely filled. If a thicker layer of ARDEX Liquid BackerBoard is desired, an ARDEX T-4 Spreader can be used to evenly place the material above the surface of the uncoupling membrane up

to a maximum thickness of 3/16" past the surface. When installing ARDEX Liquid BackerBoard as a prefill material over ARDEX UI 740 FLEXBONE, the coverage ranges between approximately 70 - 100 sq. ft. per bag.

Allow the ARDEX Liquid BackerBoard to dry for a minimum of 6 hours prior to the installation of ceramic, porcelain and non-moisture-sensitive tile and stone or a minimum of 24 hours prior to the installation of moisture-sensitive tile and stone (70°F / 21°C).

### Thickness of Installation

Install at a minimum thickness of 1/8" (3 mm) over the highest point in the floor, which typically results in an average thickness of 1/4" (6 mm) or more over the entire floor. ARDEX Liquid BackerBoard can be installed up to 1 1/4" (3.1 cm) thick.

To match existing elevations, ARDEX Liquid BackerBoard can be tapered to as thin an application as the sand in the material will allow. If a true featheredge is needed, ARDEX recommends using ARDEX TL PATCH for transitions.

### Wear Surface

ARDEX Liquid BackerBoard is not to be used as a permanent wear surface, even if coated or sealed. ARDEX Liquid BackerBoard must be covered by a suitable floor covering material, such as tile and stone flooring, engineered wood plank or laminate flooring. For resurfacing and leveling indoor concrete floors in warehouses, storage areas, hallways or other areas where a wear surface is required, use ARDEX SD-T® Self-Drying, Self-Leveling Concrete Topping.

### Installation of Flooring and Waterproofing

ARDEX Liquid BackerBoard is walkable 2 - 3 hours after installation. The cure time required prior to installing flooring will vary with the thickness of the ARDEX Liquid BackerBoard installation and the type of flooring being installed. See the chart below for details. All dry times are calculated at 70°F (21°C). Drying time is a function of jobsite temperature and humidity conditions, as well as the installation thickness. 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 underlayment prematurely and is not recommended.

	Installation thicknesses of 1/2" (12.7 mm) or less	Installation thicknesses greater than 1/2" (12.7 mm)
Moisture-insensitive tile (ceramic, quarry, porcelain):	6 hours	Mat test*
Moisture-sensitive stone, laminate and wood:	Mat test*	Mat test*
ARDEX 8+9:	6 hours	6 hours

\*Where mat testing is required, allow the installation to dry 48 hours prior to mat testing in accordance with ASTM D4263. To do this, place a piece of heavy plastic or a smooth, rubber mat over a 2' x 2' area. Wait 24 hours, and then lift and inspect for surface darkening. Surface darkening indicates that further drying is needed. Repeat the test as necessary until no surface darkening is observed (estimated 3 - 4 days).

### Installation of Wood

Please note that for the installation of wood flooring, laminate flooring and moisture-sensitive stone, as well as for all installations of ARDEX Liquid BackerBoard that exceed 1/2" in thickness, we recommend that dryness be confirmed via mat testing prior to the flooring being installed. Mat testing should commence in conformance with ASTM D4263 once the ARDEX Liquid BackerBoard has been installed and allowed to cure for a minimum of 48 hours.

### Notes

FOR PROFESSIONAL USE ONLY.

ARDEX Liquid BackerBoard can be used in areas exposed to intermittent topical moisture, such as bathrooms or kitchens. However, do not use in areas of constant water exposure or in areas exposed to permanent substrate moisture, as this may jeopardize the performance of the underlayment and the floor covering. For installations in intermittent wet areas, ARDEX recommends waterproofing the ARDEX Liquid BackerBoard with ARDEX 8+9™ Rapid Waterproofing and Crack Isolation Compound. ARDEX 8+9 can be installed once the ARDEX Liquid BackerBoard has cured 6 hours. This product is not a vapor barrier and will allow free passage of moisture. **Follow the directives of the floor covering manufacturer regarding the maximum allowable substrate moisture content, and test the substrate prior to installing ARDEX Liquid BackerBoard.** Where substrate moisture exceeds the maximum allowed, ARDEX recommends the use of ARDEX MC™ Moisture Control Systems. For further information, please refer to the ARDEX technical data sheets at [www.ardexamericas.com](http://www.ardexamericas.com).

Always install an adequate number of properly located test areas, including the finish flooring, to determine the suitability of the products for the intended use. As floor coverings vary, always contact and rely upon the floor covering manufacturer for specific directives, including maximum allowable moisture content, setting material selection and intended end use of the product.

For installations over electrical, in-floor heating systems, please contact the ARDEX Technical Service Department.

Never mix with cement or additives. Observe the basic rules of concrete and tile work. Do not install below 50°F (10°C) surface and air temperatures. Install quickly if the substrate is warm, and follow warm weather instructions available from the ARDEX Technical Service Department.

Dispose of packaging and residue in accordance with federal, state and local waste disposal regulations. Do not flush material down drains.

### 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 ARDEX 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 and in accordance with ASTM C1708, where applicable.

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<b>Mixing Ratio:</b>	6 quarts (5.7 liters) of water per 50 lb (22.7 kg) bag
<b>Coverage:</b>	32.5 sq. ft. per bag at 1/4" (3 sq. m at 6 mm) 65 sq. ft. per bag at 1/8" (6 sq. m at 3 mm) Coverage will vary depending on the texture of the surface being smoothed.
<b>Flow Time:</b>	10 minutes
<b>Compressive Strength (ASTM C109/mod – Air cure only):</b>	3,000 psi (210 kg/cm <sup>2</sup> ) at 28 days
<b>ASTM C627 rating (Robinson-Type Floor Tester):</b>	Classified as extra heavy
<b>Flexural Strength (ASTM C348):</b>	700 psi (49 kg/cm <sup>2</sup> ) at 28 days
<b>Walkable:</b>	2 - 3 hours
<b>Install Flooring and Waterproofing:</b>	See Installation of Flooring and Waterproofing section above
<b>VOC:</b>	0
<b>Packaging:</b>	50 lb. (22.7 kg) bag
<b>Storage:</b>	Store in a cool, dry area. Do not leave bags exposed to sun
<b>Shelf life:</b>	1 year, if unopened
<b>Warranty:</b>	ARDEX Engineered Cements Standard Limited Warranty applies. Also eligible for the ARDEX SystemOne™ Warranty when used in conjunction with select ARDEX setting materials and grouts.

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Published 03-01-2018 Supersedes all previous versions. Check [www.ardexamericas.com](http://www.ardexamericas.com) for most recent version and for technical updates, which may supersede the information herein.

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Visit [www.youtube.com/ARDEX101](http://www.youtube.com/ARDEX101) to watch ARDEX Liquid BackerBoard product demonstration video. For easy-to-use ARDEX Product Calculators and Product Information On the Go, download the ARDEX App at the iTunes Store or Google Play.



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