



ARDEX LU 100™

Self-Leveling Underlayment

A blend of high strength cements and powdered polymers

Use over concrete, wood, VCT, existing patching and leveling materials and non-water soluble adhesive residue on concrete

Use for interior, above-grade floors only

Install up to 2" (5 cm) neat and up to 5" (12.7 cm) with aggregate

Walkable in 3 hours

Install floor coverings in as little as 2 to 3 days



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ARDEX LU 100™

Self-Leveling Underlayment

Description and Usage

ARDEX LU 100™ Self-Leveling Underlayment is a blend of high strength cements and powdered polymers used to repair existing above-grade floors prior to the installation of new floor coverings. It is recommended for above-grade use over structurally sound concrete; wood; well-bonded VCT; well-bonded patching, leveling or fill materials; and properly prepared non-water-soluble adhesive residue on concrete. Easy to apply, ARDEX LU 100 mixes with water only to a consistency that is pourable or pumpable, seeks its own level and produces a smooth, flat, hard surface. It also hardens quickly, allowing foot traffic in just 3 hours and the installation of floor covering as soon as the underlayment has dried sufficiently for the floor covering selected (approx. 2 to 3 days, depending on temperature, humidity and installation thickness). ARDEX LU 100 can be installed up to 2" (5 cm) thick neat and up to 5" (12.7 cm) thick with aggregate and can be tapered to match existing elevations.

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 Brochure at 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 LU 100 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.

Adhesive Residues on Concrete

ARDEX LU 100 also can be installed over non-water-soluble adhesive residue on concrete only. The adhesive must first be

tested to make certain it is not water-soluble. Water-soluble adhesives must be removed mechanically down to clean concrete. Non-water-soluble adhesives should be prepared to a thin, well-bonded residue using the wet-scraping technique as recommended by the Resilient Floor Covering Institute (www.rfci.com) to remove thick areas and adhesive build-up. If the adhesive is not well-bonded to the concrete or is brittle, powdery or otherwise weak, it must be completely, mechanically removed down to clean, sound, solid concrete.

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 refastened 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 FEATHER FINISH®. 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 LU 100 also can be applied over other clean, sound and solidly bonded non-porous substrates, including terrazzo, burnished concrete, epoxy coating systems, VCT, and ceramic and quarry tile. 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. Floor polish must be stripped from surfaces such as VCT and terrazzo, and these surfaces must then be allowed to dry thoroughly. 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-4 Measuring Bucket (4 quarts / 3.8 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 LU 100 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. 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 LU 100. Make an initial application of ARDEX P 51 diluted with 3 parts water by volume. Let dry thoroughly (1 to 3 hours), and install a second application of ARDEX P 51 mixed 1:1 with water as stated above.

Wood and Non-Water-Soluble Adhesive Residue on Concrete

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, leaving a thin coat of primer. Do not use a push broom. Do not leave any bare spots. Brush off puddles and 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, VCT, ceramic and quarry tile, epoxy coating systems, non-water soluble adhesive residue on concrete and concrete treated with silicate compounds must be primed with ARDEX P 82™ Ultra Prime. 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 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.

Above, On and Below Grade

ARDEX LU 100 is for use above grade but may also be used on or below grade over an ARDEX MC™ Moisture Remediation System. Consult the ARDEX MC technical data sheets for more information.

Joints and Cracks

Under no circumstances should ARDEX LU 100 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 honored up through the underlayment and flooring. As needed, dormant cracks and dormant control joints can be filled with ARDEX FEATHER FINISH® 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 FEATHER FINISH or ARDEX ARDIFIX prior to installing ARDEX LU 100, this filling is not intended to act as a repair method that will eliminate the possibility of joints and cracks telegraphing. ARDEX FEATHER FINISH, ARDEX ARDIFIX and ARDEX LU 100 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 and Application Manually

ARDEX LU 100 is mixed two bags at a time. Mix each 50 lb. (22.7 kg) bag with 4 quarts (3.8 L) of clean water. Pour the water in the mixing drum first, and then add the ARDEX LU 100 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 to 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 LU 100 can be pumped using ARDIFLO™ Automatic Mixing Pumps. 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. ARDEX LU 100 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 LU 100.

Thickness of Installation

Install ARDEX LU 100 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 LU 100 can be installed up to 2" (5 cm) thick neat, and up to 5" (12.7 cm) with the addition of proper aggregate. To match existing elevations, ARDEX LU 100 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 FEATHER FINISH for transitions. For areas with a thickness greater than 2" (5 cm), mix ARDEX LU 100 with washed and well-graded 1/8" to 3/8" (3 to 9.5 mm) pea gravel. Please note that the aggregate size must not exceed 1/3 the depth of the pour. Mix the ARDEX LU 100 with water first, and then add 1 part aggregate by volume, mixing until the aggregate is completely coated. Do not use sand. If the aggregate is wet, reduce the amount of water to avoid overwatering. The addition of aggregate will diminish the workability of the product and may make it necessary to install a neat coat to obtain a smooth surface. Allow the initial application to dry for 12 to 16 hours, and then prime this layer with ARDEX P 51 mixed 1:1 with water. Allow the primer to dry (min. 3 hours, max. 24 hours) before installing the neat coat of ARDEX LU 100.

Wear Surface

ARDEX LU 100 is not to be used as a permanent wear surface, even if coated or sealed. ARDEX LU 100 must be covered by a suitable floor covering material, such as carpet, vinyl flooring, ceramic tile, etc. 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

ARDEX LU 100 is walkable 2 to 3 hours after installation. Floor coverings can be installed after the underlayment has dried thoroughly. Allow the installation to dry a minimum of 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 down over a 2' X 2' area. After 24 hours, lift the barrier material and inspect for surface darkening. A darkened area indicates excessive moisture is still present, and further drying time is required. Repeat the above test at regular intervals until no darkening is observed. Once the installation is deemed dry, prime the entire area with ARDEX P 51 mixed with 3 parts water by volume. Apply the primer as outlined in the Priming section. Allow drying to a clear, thin film (min. 3 hours, max. 24 hours) before applying the thin set mortar or adhesive and floor covering. The application of ARDEX P 51 will help ensure that the adhesive or setting material has sufficient open time prior to placing the floor covering. Drying time is a function of jobsite temperature and humidity conditions, as well as the installation thickness. While a 1/4" (6 mm) thick installation may be dry enough for some types of floor covering after only a few days, additional drying time may be necessary for deeper installations or for the installation of more moisture-sensitive flooring. 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.

Notes

FOR PROFESSIONAL USE ONLY. This product is intended for interior use over dry substrates only. Do not use in areas of constant water exposure or in areas exposed to permanent or intermittent substrate moisture, as this may jeopardize the performance of the underlayment and the floor covering. This product is not a vapor barrier, and it 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 LU 100.** Where substrate moisture exceeds the maximum allowed, ARDEX recommends the use of ARDEX Moisture Control Systems. For further information, please refer to the ARDEX technical data sheets at 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, adhesive selection and intended end use of the product. Not for use over hydronic heating systems. For hydronic heating systems, use ARDEX GS-4. See the technical data sheet for more details. For installations over electrical, in-floor heating systems, please contact 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.

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.

Mixing Ratio:	4 quarts (3.8 L) of water per 50 lb. (22.7 kg) bag
Coverage:	22 sq. ft. per bag at 1/4" (2 sq. m at 6 mm) Coverage will vary depending on the texture of the surface being smoothed.
Flow Time:	10 minutes
Compressive Strength (ASTMC109/mod – Air cure only):	5,000 psi (350 kg/cm ²) at 28 days
Flexural Strength (ASTM C348):	1,000 psi (70 kg/cm ²) at 28 days
Walkable:	2 to 3 hours
Install Flooring:	When confirmed dry via mat testing; estimated 2 - 3 days
VOC:	0
Packaging:	50 lb/22.7 kg net weight
Storage:	Store in a cool, dry area. Do not leave bags exposed to sun.
Shelf Life:	One year, if unopened
Warranty:	ARDEX Engineered Cements Standard Limited Warranty applies. Also eligible for the ARDEX/HENRY SystemOne™ Warranty when used in conjunction with select HENRY® Flooring Adhesives.

Made in the USA.
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Updated 03-10-2015. Supersedes all previous versions. Check www.ardexamericas.com for most recent version and for technical updates, which may supersede the information herein.

Visit www.youtube.com/ARDEX101 to watch ARDEX LU 100™ 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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