ARDEX LU 100™
Self-Leveling Flooring Underlayment

Smooth new or existing concrete

Install from 1/4" to any thickness

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

Walk on in 3 hours

Install floor covering in 2 to 3 days

Use for interior floors only

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ARDEX LU 100™
Self-Leveling Flooring Underlayment

Description and Usage

ARDEX LU 100™ 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. Easy to mix and apply. When mixed with water, ARDEX LU 100 is pourable or pumpable, seeks its own level and produces a smooth, flat, hard surface. Hardens quickly without shrinking, cracking or spalling. Installs to any thickness, and can be tapered to match existing elevations. Recommended for use over structurally sound concrete, well-bonded VCT, and existing patching, leveling or fill materials where complete removal is not an option, as well as over non-water soluble adhesive residues on concrete. Walk on in 3 hours and install floor covering as soon as the underlayment has dried sufficiently for the floor covering selected, generally 2 to 3 days. The drying time is a function of temperature, humidity and the thickness at which the material is applied.

Substrate Preparation

All existing substrates must be solid and free of oil, wax, grease, wax-based curing and sealing compounds, and any contaminant that might act as a bond breaker. To remove contamination, mechanically clean the floor down to a sound, solid surface by shot blasting, scarifying or similar. Sanding, acid etching, adhesive removers, solvents and sweeping compounds are not acceptable means of cleaning the substrate. All surfaces must be dry and properly primed for a successful installation. Substrate and air temperatures must be a minimum of 50°F (10°C) for the installation of ARDEX products. For further information, please refer to the ARDEX Substrate Preparation Brochure.

Where non-water soluble adhesive residue is present on concrete, thick accumulations, powdery, brittle or otherwise weak adhesive layers must be removed, but only with extreme caution. Use the wet-scraping method as outlined in the Resilient Floor Covering Institute's "Recommended Work Procedures for Resilient Floor Coverings" to remove thick areas and build-ups of adhesive, and any areas that are weak and not well bonded to the substrate. (A reproduction of the procedures is available from the ARDEX Technical Service Department.) The remaining residue should appear like a stain on the concrete and should be transparent. Wet-mop the floor to remove all debris and loose material.

Weak and powdery patching and fill materials should have all loose areas removed. Only install ARDEX LU 100 over existing materials that are sound and well bonded.

Recommended Tools

ARDEX T-1 Mixing Paddle, ARDEX T-10 Mixing Drum, ARDEX T-4 Spreader, ARDEX T-5 Smoother, ARDEX MB-4.0 Measuring Bucket (4 qts. per 50 lb. bag), and a 1/2" heavy-duty drill (min. 650 rpm).

Priming

Standard absorbent concrete must be primed with ARDEX P 51™ PRIMER diluted 1:1 with water. Apply evenly with a soft 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).

Concrete with non-water soluble adhesive residue must be primed with undiluted ARDEX P 51, applied as described above.

Extremely absorbent concrete requires two applications of ARDEX P 51. Make an initial application of ARDEX P 51 diluted with 3 parts by volume of water. Let dry thoroughly (1 to 3 hours) and install a second application of ARDEX P 51 mixed 1:1 with water as stated above.

Non-porous substrates, burnished concrete and VCT (vinyl composition tile) 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. Brush off puddles and excess primer. Allow primer to dry to a thin, slightly tacky film (min. 3 hours, max. 24 hours). Please note that the surface of the VCT must be stripped of floor polish and any contaminant, and must then be allowed to dry thoroughly. Loose tiles must also be removed.

Above, On and Below Grade

ARDEX LU 100 is for use above grade, but may also be used on or below grade over an epoxy moisture remediation system such as the ARDEX MC™ MOISTURE CONTROL SYSTEM. If no sand broadcast layer is present, use ARDEX P 82 to prime the surface of the moisture remediation system.

Mixing and Application–Manually

ARDEX LU 100 is mixed 2 bags at a time. Mix each 50 lb bag with 4 quarts (3.8 liters) of clean water. Put the water in the mixing drum first, then add each bag of ARDEX LU 100 while mixing with an ARDEX T-1 Paddle and a 1/2" heavy-duty drill (min. 650 rpm). Mix thoroughly for approximately 3 to 4 minutes to obtain a lump-free mix. Do not overwater! Phase separation while placing indicates overwatering.

ARDEX LU 100 has a flow time of 10 minutes at 70°F (21°C). Pour the liquid mix onto the floor and spread with the ARDEX T-4 Spreader. Immediately smooth the material with the ARDEX T-5 Smoother. Wear baseball or soccer shoes with non-metallic cleats to avoid leaving marks in the liquid ARDEX LU 100. Do not install below 50°F (10°C) surface and air temperature.

Mixing and Application – Pumping

ARDEX LU 100 can be pumped using the ARDEX Levelcraft™ Automatic Mixing Pump. The Levelcraft Pump provides for high productivity and a smooth, consistent installation. The pump may be rented from any ARDEX Distributor and is supported by the ARDEX Technical Service Department.

Start the pump at a water setting of 130 gallons per hour, and then adjust to the minimum water reading that allows self-leveling properties. Do not overwater! Check the consistency of the product on the floor to ensure a uniform distribution of the sand aggregate at both the top surface and bottom of the pour. Conditions during the installation, such as variations in water, powder, and substrate and ambient temperature require that the water setting be adjusted during installation to avoid over watering.

ARDEX LU 100 has a flow time of 10 minutes at 70°F (21°C). Pump the liquid mix onto the floor and spread with the ARDEX T-4 Spreader. Immediately smooth the material with the ARDEX T-5 Smoother. Wear baseball or soccer shoes with non-metallic cleats to avoid leaving marks in the liquid ARDEX LU 100. Do not install below 50°F (10°C) surface and air temperature. Contact the ARDEX Technical Service Department for complete pump installation instructions.

Thickness of Application

ARDEX LU 100 must be installed at a minimum thickness of 1/8" over the highest point in the floor, which typically results in an average thickness of 1/4" over the entire floor. ARDEX LU 100 can be installed up to 2" over large areas in one pour, and up to 5" with the addition of proper aggregate. ARDEX LU 100 can also be tapered to match existing elevations.

For areas thicker than 2", mix ARDEX LU 100 with washed and well-graded 1/8"-1/4" pea gravel. Mix ARDEX LU 100 with water first, and then add 1 part by volume of aggregate, mixing until the aggregate is completely coated. Do not use sand. If the aggregate is wet, reduce the amount of water to avoid over watering.

The addition of aggregate will diminish the workability of the product and make it necessary to install a finish coat to obtain a smooth surface. Allow the initial application to dry for 12 to 16 hours. Prime this layer with ARDEX P 51 mixed 1:1 with water as stated above. Allow the primer to dry (min. 3 hours, max. 24 hours) before installing the finish coat.

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 retail or office areas requiring a wear surface, use ARDEX SD-T® SELF-DRYING, SELF-LEVELING CONCRETE TOPPING or ARDEX K 500™ SELF-LEVELING CONCRETE TOPPING.

Installation of Flooring

Floor covering material can be installed after the underlayment has dried thoroughly. Drying time will be a function of jobsite temperature and humidity conditions, as well as the installation thickness. While a 1/4" 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. Provide continuous ventilation and adequate electrical or natural gas heat to remove moisture from the ARDEX LU 100.

After allowing a minimum of 48 hours of drying time after placement, test for dryness by placing 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 by volume of water as stated above. 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 has sufficient open time prior to placing the floor covering.

Notes

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.

Always install an adequate number of properly located test areas, including the finish flooring, to determine the suitability of the product for the intended use. As floor coverings vary, always contact and rely upon the floor covering manufacturer for specific directives, such as adhesive selection and intended end use of the product.

Low substrate temperatures and/or high ambient humidity require longer drying times for ARDEX primers. Do not install ARDEX LU 100 before the primer has dried thoroughly.

Precautions

Carefully read and follow all cautions and warnings on product label. Never mix with cement or additives other than Ardex approved products. Observe the basic rules of concrete work. Do not install below 50°F (10°C) surface and air temperature. Install quickly if substrate is warm, and follow hot weather instructions available from the ARDEX Technical Department.

Technical Data According To Ardex Quality Standards

All data based on a mixing ratio of 4 parts powder to 1 part water by volume at 70°F (21°C).

Water Ratio:	4 quarts per bag
Coverage (Approx.):	22 sq. ft. per bag at 1/4" 11 sq. ft. per bag at 1/2"
Flow Time:	Approx. 10 minutes
Initial Set (ASTM C191):	Approx. 30 minutes
Final Set (ASTM C191):	Approx. 60 minutes
Compressive Strength (ASTMC109/ mod – Air cure only):	4100 psi at 28 days
Flexural Strength (ASTM C348):	1000 psi at 28 days
Flammability (ASTM E84):	Flame Spread -0- Fuel Contribution -0- Smoke Development -0-
Walkable:	3 hours
Install Floor Covering:	Minimum 2 to 3 days
Packaging:	50 lb/22.7 kg net weight
Storage:	Store in a cool dry area. Do not expose bags to sun.
Shelf Life:	One year if unopened
Warranty:	Ardex Engineered Cements Standard Limited Warranty applies.

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LIMITED WARRANTY

Ardex, L.P. warrants that if this product proves to have manufacturing defects and ARDEX is notified of such within six months from the date ARDEX shipped the product, ARDEX will replace the defective product f.o.b. factory. Such product replacement shall constitute the sole and exclusive remedy for any claim under this warranty. ARDEX does not authorize anyone, including ARDEX Representatives, to make any statements that supersede, modify or supplement the information provided on its printed literature or package labels without written confirmation from the ARDEX Technical Service Department. Any installations proceeding without this confirmation, or misinstallations of the product, will void this warranty. THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED, IMPLIED, OR STATUTORY, AND IS STRICTLY LIMITED TO ITS TERMS. ARDEX MAKES NO WARRANTY OF MERCHANTABILITY OR SUITABILITY OF ITS PRODUCTS FOR ANY PARTICULAR PURPOSE. All product demonstrations are placed for illustrative purposes only and do not constitute a warranty of any kind. ARDEX SELLS ITS PRODUCTS UPON THE CONDITION THAT CUSTOMERS SHALL CONDUCT THEIR OWN TESTS TO DETERMINE THE SUITABILITY OF THE PRODUCTS FOR THE CUSTOMERS' INTENDED PURPOSES. UNDER NO CIRCUMSTANCES WILL ARDEX BE LIABLE FOR ECONOMIC, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES OR LOSSES OF ANY KIND WHATSOEVER ARISING OUT OF OR OCCASIONED BY THE SELECTION, USE, INSTALLATION, OR REPLACEMENT OF THESE PRODUCTS.

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