ARDEX TL 1000™

Self-Leveling Underlayment

High-performance floor leveling and outstanding value for large and super-format tile installations!

Formulated specifically for fast leveling of floors prior to installing tile or stone

Ideal for large and super-format tile installations

Level and smooth new or existing concrete; cementitious terrazzo; ceramic, quarry or porcelain tiles

Install up to 1 1/4" (3 cm) neat

Can be tapered to meet existing elevations

Walk on in 4 -5 hours

Install most tile or stone* in just 6 hours and most other floor coverings after 24 hours

Easy to mix with just water – no additives required

For interior use only

SystemOne™

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ARDEX TL 1000™

Self-Leveling Underlayment

Description and Usage

ARDEX TL 1000™ is a self-leveling underlayment formulated with a blend of Portland cement, other hydraulic cements and polymers. ARDEX TL 1000 is designed specifically for fast leveling of interior concrete, cementitious terrazzo or ceramic, quarry or porcelain tiles prior to installing flooring – on, above or below grade. It can even be installed over concrete treated with certain curing compounds (see below). Pourable or pumpable when mixed with water, ARDEX TL 1000 seeks its own level and produces a durable, smooth and flat floor surface with minimum labor.

Substrate Preparation (Proper Prep™)

Concrete

All concrete substrates must be solid, structurally sound, thoroughly clean and free of oil, wax, grease, asphalt, latex and gypsum compounds, sealers, certain curing compounds** 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 must also be cleaned down to sound, solid concrete by mechanical methods. Acid etching, adhesive removers, solvents and sweeping compounds are not acceptable means of cleaning the substrate. Sanding is not an effective method to remove contaminants from concrete. Substrates 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.

**Concrete Treated with Curing Compounds

Test areas of ARDEX TL 1000 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.

Cementitious Terrazzo or Ceramic, Quarry or Porcelain Tiles

ARDEX TL 1000 can also be applied over clean, sound and solidly bonded cementitious terrazzo or ceramic, quarry or porcelain tiles. The substrate must be clean, including the complete removal of existing 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.

Final Prep Step: Deep Vacuuming

After mechanical preparation is completed and prior to priming, ensure that all dust and debris is removed from the substrate by vacuuming thoroughly.

Recommended Tools

ARDEX T-1 Mixing Paddle, ARDEX T-10 Mixing Drum, ARDEX T-4 Spreader, ARDEX T-5 Smoother, ARDEX MB-5 Measuring Bucket (5 quarts / 4.75 L per 50 lb. / 22.7 kg bag), a 1/2" heavy-duty drill (min. 650 rpm), ARDEX DUSTFREE or standard "gutter hook" vacuum attachment and cleated athletic shoes with non-metallic spikes.

Joints and Cracks

Under no circumstances should ARDEX TL 1000 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 TL 1000, 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 TL 1000 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.

Priming

Primer Dry Times: ARDEX primers may need longer drying times with low surface temperatures and/or high ambient humidity. Do not install ARDEX TL 1000 before the primer has dried thoroughly.

Test for Absorbency

Substrate absorbency must be verified for proper primer selection. Test several areas by placing a small drop of water on the surface of the substrate. Darkening of the substrate indicates that the substrate is absorbent (porous). If there is no darkening of the substrate after 20 minutes, the substrate is likely non-absorbent (non-porous).

Note that cementitious terrazzo and concrete treated with certain curing compounds can remain non-absorbent, even after shot blasting.

Primer Selection

Substrate	Primer/Priming Method
Standard absorbent concrete Standard absorbent cementitious terrazzo	ARDEX P 51 standard (1:1)
Extremely absorbent concrete Extremely absorbent terrazzo	ARDEX P 51 double priming method
Non-absorbent concrete Non-absorbent terrazzo Ceramic, quarry or porcelain tiles	ARDEX P 82

ARDEX P 51 Standard (1:1)

Mix ARDEX P 51™ Primer with water at a 1:1 ratio by volume. 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).

ARDEX P 51 Double Priming Method

Extremely absorbent concrete may require two applications of ARDEX P 51 to avoid the formation of bubbles and pinholes in the ARDEX TL 1000. In such cases, make an initial application of ARDEX P 51 diluted with 3 parts water. Let dry thoroughly (1 - 3 hours) and install a second application of ARDEX P 51 mixed 1:1 with water as stated above.

ARDEX P 82

Non-porous surfaces must be primed with ARDEX P 82™ Ultra Prime. Follow the mixing instructions in the ARDEX P 82 technical data sheet, and use within 1 hour of mixing. 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. Allow primer to dry to a thin, slightly tacky film (min. 3 hours, max 24 hours).

Mixing

Manually: ARDEX TL 1000 can be mixed 2 bags at a time. Mix each 50 lb. (22.7 kg) bag with 5.0 quarts (4.75 liters) of clean water. Pour the water in the mixing drum first, and then add each bag of ARDEX TL 1000 while mixing with an ARDEX T-1 Paddle and a 1/2" 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 TL 1000 can be pumped using the 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.

Work Practice Control Methods

ARDEX recommends using the ARDEX DUSTFREE™ or a standard "gutter hook" vacuum attachment in combination with a HEPA dust extraction vacuum system when mixing ARDEX TL 1000. Handle the bag with care, and empty the bag slowly to avoid creating a plume of dust. Contact the ARDEX Technical Service Department for more details on ARDEX products and OSHA Engineering and Work Practice Control Methods.

Application

ARDEX TL 1000 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 cleated athletic shoes with non-metallic spikes to avoid leaving marks in the liquid ARDEX TL 1000.

Thickness of Installation

ARDEX TL 1000 must be installed 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 TL 1000 can be installed up to a 1 1/4" (3 cm) thick.

To match existing elevations, ARDEX TL 1000 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.

Wear Surface

ARDEX TL 1000 is not to be used as a permanent wear surface, even if coated or sealed. ARDEX TL 1000 must be covered by a suitable flooring material. 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 TL 1000 is walkable in 4 - 5 hours, and non-moisture-sensitive tile or stone installations can proceed in 6 hours. The cure time required prior to installing other floor coverings will vary with the thickness of the ARDEX TL 1000 installation and the type of flooring being installed. See the chart below for details.

Where mat testing is required, allow the installation to dry a minimum of 24 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. 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 (typically 1 - 3 days).

	Installation thicknesses of 3/8" (9 mm) or less	**Installation thicknesses greater than 3/8" (9 mm)**
Non-moisture-sensitive tile or stone (ceramic, quarry, porcelain):	6 hours	6 hours
Porous-backed carpet:	12 hours	Mat test*
Non-porous-backed carpet, sheet vinyl, vinyl tile, vinyl plank, rubber, linoleum:	24 hours	Mat test*
***All other floor coverings, including moisture-sensitive tile and stone:**	Mat test*	Mat test*

All dry times are calculated at 70°F (21°C). Drying time is a function of jobsite temperature and humidity. 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. Improper use voids warranty.

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 tile or stone floor covering. This product is not a vapor barrier and it will allow free passage of moisture. Follow the directives of the tile or stone floor covering manufacturer regarding the maximum allowable substrate moisture content, and test the substrate prior to installing ARDEX TL 1000. Where substrate moisture exceeds the maximum allowed, ARDEX recommends the use of ARDEX moisture control systems. For further information, please refer to the AREDX technical data sheets at www.ardexamericas.com.

Always install an adequate number of properly located test areas, including the tile or stone floor covering, to determine the suitability of the products for the intended use. As tile and stone floor coverings vary, always contact and rely upon the tile or stone floor covering manufacturer for specific directives, including maximum allowable moisture content, mortar 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 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.ardexardexamericas.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, where applicable, in accordance with ASTM C1708.

Mixing Ratio:	5 qts. (4.75 L) of water per one 50 lb. (22.7 kg) bag
Coverage:	25 sq. ft. per bag at 1/4" (2.3 sq. m at 6 mm)
	Coverage will vary depending on the texture of the surface being smoothed.
Flow Time:	10 minutes
Thickness of installation:	1/4" (6 mm) minimum (average; can be tapered)
	1 1/4" (3 cm) maximum
Compressive Strength (ASTM C109/mod – Air cure only):	4,000 psi (280 kg/cm^2) at 28 days
Flexural Strength (ASTM C348):	1,000 psi (70 kg/cm^2) at 28 days
Walkable:	4-5 hours
Install Flooring:	Non-moisture-sensitive tile or stone: 6 hours
	For all other floor coverings, see Installation of Flooring section above
VOC:	0
Packaging:	50 lb. (22.7 kg) bag
Storage:	Store in a cool, dry area. Do not leave bags exposed to sun.
Shelf life:	1 year, if unopened
Warranty:	ARDEX Americas Standard Limited Warranty applies. Also eligible for the ARDEX SystemOne™ Warranty when used in conjunction with ARDEX tile setting materials.

Made in the USA

Revised 2018-01-09. Published 02-07-2018. Supersedes all previous versions. Check www.ardexamericas.com for most recent version and for technical updates, which may supersede the information herein.

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