ARDEX K 500™
Self-Leveling Concrete Topping

Portland cement-based
Resurface indoor concrete
Walk on in 2-3 hours
Use for interior floors only

ARDEX ENGINEERED CEMENTS
400 Ardex Park Drive
Aliquippa, PA 15001 USA
Tel: 724-203-5000
Toll Free: 888-512-7339
Fax: 724-203-5001
www.ardex.com

ARDEX K 500™
Self-Leveling Concrete Topping

Description

ARDEX K 500™ is a self-leveling, no troweling, Portland cement-based topping for fast track resurfacing, smoothing, or leveling of indoor concrete. Installs from ¼" to 1½" in one operation, and up to 5" with the addition of appropriate aggregate. ARDEX K 500 can be installed indoors over concrete to provide a hard, flat, smooth surface for warehouses, utility rooms, and light manufacturing.

Substrate Preparation

All concrete substrates must be solid, thoroughly clean and free of oil, wax, grease, asphalt, latex compounds, curing and sealing compounds, and any contaminant that might act as a bond breaker. If necessary, mechanically clean the floor down to sound, solid concrete by shot blasting, scarifying or similar. Overwatered, frozen, or otherwise weak concrete surfaces must also be cleaned down to sound, solid concrete by mechanical methods. Acid etching, the use of adhesive removers or solvents, and sweeping compounds are not acceptable means of cleaning the substrate. The use of sanding equipment is not an effective method to remove curing and sealing compounds. Substrates must be dry and properly primed for a successful installation. Substrate 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.

Recommended Tools

ARDEX T-1 Mixing Paddle, ARDEX T-10 Mixing Drum, ARDEX T-4 Spreader, ARDEX T-5 Smoother, ARDEX MB-5.5 Measuring Bucket (5.5 qts. for 55 lb. bag), and a ½" 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 pushbroom. 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 avoid the formation of bubbles and pinholes in the ARDEX K 500. In such cases, 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.

Mixing And Application – Manually

ARDEX K 500 is mixed in 2-bag batches at one time. Mix each 55 lb. bag with 5.5 quarts (5.225 liters) of water. Put the water in the mixing drum first, and then add each bag of ARDEX K 500 while mixing with an ARDEX T-1 Paddle and a ½" heavy-duty drill (min. 650 rpm). Mix thoroughly for approximately 2 minutes to obtain a lump-free mix. Do not overwater! Yellowish foam while mixing, or settling of the sand aggregate while placing, indicates overwatering.

ARDEX K 500 has a flow time of 10 minutes at 70°F (21°C). Pour the liquid mix on 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 K 500. Do not install below 50°F (10°C) surface and air temperature.

When installing ARDEX K 500 in high-stress areas subject to rolling loads such as rubber-wheel forklift traffic or similar usage, the addition of ARDEX E 25™ RESILIENT EMULSION is required to increase the resiliency of the ARDEX K 500. Mix 2 quarts (1.9 liters) of ARDEX E 25 with 5 quarts (4.75 liters) of water for each bag of ARDEX K 500 following the instructions above.

Mixing And Application – Pumping

ARDEX K 500 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 an authorized ARDEX Distributor and is supported by the ARDEX Technical Service Department.

Start the pump at a water setting of 165 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, substrate and ambient temperature, require that the water setting be adjusted during installation to avoid overwatering.

When installing K 500 in high-stress areas subject to rolling loads such as rubber-wheel forklift traffic or similar usage, the addition of ARDEX E 25 is required to increase the resiliency of the ARDEX K 500. Please contact the ARDEX Technical Service Department for pumping instructions.

ARDEX K 500 has a flow time of 10 minutes at 70°F 21°C). Pump the liquid mix on 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 K 500. 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 K 500 can be installed from ¼" to 1½" in one application. ARDEX K 500 can also be tapered to meet existing elevations in places such as thresholds. For pre-leveling and areas to be installed from 1½" to 5" thick, mix ARDEX K 500 with washed and well-graded ⅛"-¼" pea gravel. Mix ARDEX K 500 with water first, and then add 1 part by volume of aggregate, mixing until the aggregate is completely coated. Do not use sand. If aggregate is wet, reduce the amount of water to avoid overwatering.

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 16 hours. 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 finish coat.

Wear Surface

The surface of ARDEX K 500 must always be protected from oil, salt, water, and surface wear by applying a suitable protection system such as a concrete sealer or paint. Ardex recommends the use of ARDEX CG™ *CONCRETE GUARD*™ to seal ARDEX K 500 that will be exposed to normal foot traffic. Sealing with ARDEX CG can proceed after 24 hours under standard conditions of 70°F (21°C) and 50% RH. Low ambient temperatures and/or high humidity can extend this time. Traffic can proceed as soon as the ARDEX CG has dried to Ardex recommendations. For installation instructions for ARDEX CG, please refer to the Ardex Technical Brochure.

For areas to receive heavier traffic, such as restaurants and food courts, sealing should be done using an epoxy coating. As the performance of epoxy flooring systems varies greatly, the installer is responsible for assessing the suitability of these coatings. If a waterborne sealer is to be applied at a thickness not-to-exceed a total of 20 mils, the coating can be applied to the surface of the ARDEX K 500 after 24 hours at 70°F/21°C). When using a solvent-borne or 100% solids epoxy coating applied at a total thickness of 20 mils or less, the ARDEX K 500 must cure for a minimum of 48 hours at 70°F (21°C). When the total application thickness will exceed 20 mils, the ARDEX K 500 must cure a minimum of 7 days at 70°F (21°C) prior to installing the protection layer.

ARDEX K 500 wear surfaces are intended for foot and moderate, rubber-wheeled forklift traffic and similar uses. Excessive service conditions, such as steel or hard plastic-wheeled traffic, dragging heavy metal equipment or loaded pallets with protruding nails over the floor, will cause gouging and indentations. ARDEX K 500 is not a resurfacing topping for heavy-duty manufacturing or industrial floors, or in chemical environments requiring customized industrial toppings.

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 topping. This product is not a vapor barrier and will allow free passage of moisture. **Follow the directives of the sealer manufacturer regarding the maximum allowable substrate moisture content and test the substrate prior to installing ARDEX K 500.** Where substrate moisture exceeds the maximum allowed, Ardex recommends the use of ARDEX MC™ MOISTURE CONTROL SYSTEM. For further information, please refer to the Ardex Technical Brochures.

Always install an adequate number of properly located test areas, to include the finish sealer, to determine the suitability of the product for its intended use. As sealers vary, always contact and rely upon the sealer manufacturer for specific directives such as maximum allowable moisture content, sealer 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 K 500 before primer has dried thoroughly. Do not install ARDEX K 500 below 50°F (10°C) surface and air temperature.

Precautions

ARDEX K 500 contains Portland cement and sand aggregate. Avoid eye and skin contact. Mix in a well ventilated area and avoid breathing powder or dust. KEEP OUT OF REACH OF CHILDREN. Carefully read and follow all cautions and warnings on product label. Physiologically and ecologically friendly when set. 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 Service Department.

Technical Data According To Ardex Quality Standards

All data based on a mixing ratio of 3.75 parts powder to 1 part by volume of water at 70°F (21°C)

Mixing Ratio:	5½ quarts of water per one 55 lb. bag
Coverage:	27.5 sq. ft. per bag at ¼" 13.75 sq. ft. per bag at ½"
Flow Time:	10 minutes at 70°F (21°C)
Initial Set (ASTM C191):	Approx. 30 minutes at 70°F (21°C)
Final Set (ASTM C191):	Approx. 90 minutes at 70°F (21°C)
Compressive Strength (ASTM C109/mod – Air cure only):	5300 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 at 70°F (21°C)
Install Sealer:	Waterborne: 24 hours at 70°F (21°C)
	Solvent-borne or 100% solids epoxy (less than 20 mils): 48 hours at 70°F (21°C)
	High build polymer coating (greater than 20 mils): 7 days at 70°F (21°C)
Packaging:	55 lb./25 kg net weight in paper bags
Storage:	Store in a cool dry area. Do not expose bags to sun.
Shelf Life:	One year
Warranty:	Ardex Engineered Cements Standard Limited Warranty applies.

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 which 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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