ARDEX PC-T™

Polished Concrete Topping

A blend of Portland cement and other hydraulic cements

Smooth new or existing concrete and certain non-porous surfaces

Install from 3/8” (9 mm) up to 2” (5 cm) neat and up to 5” (13 cm) with aggregate

Walkable in 2-3 hours

Polish in as little as 24 hours

Designed for use with ARDEX Polished Concrete System (APCS)

TESTED IN ACCORDANCE WITH ASTM C 1708

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ARDEX PC-T™
Polished Concrete Topping

Description and Usage

ARDEX PC-T™ Polished Concrete Topping is a self-drying, self-leveling blend of Portland cements and other hydraulic cements for creating polished concrete floors. ARDEX PC-T installs from 3/8" - 2" (9 mm - 5 cm) neat and up to 5" (13 cm) with the addition of aggregate. ARDEX PC-T hardens fast due to its unique self-drying formulation – it can be polished in as little as 24 hours. Use ARDEX PC-T to provide a hard, flat, smooth surface that can be polished. ARDEX PC-T is ideal in areas such as retail stores, schools, warehouses and all interiors where a polished concrete surface is desired.

Colors Available

Light Gray, Gray and White

Substrate Preparation

All substrates must be solid, 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. Acid etching, adhesive removers, solvents and sweeping compounds are not acceptable means for cleaning the substrate. Sanding equipment is not an effective method to remove curing and sealing compounds. For more detailed information on substrate preparation, please refer to the ARDEX Substrate Preparation Technical Data Sheet at www.ardexamericas.com.

If necessary, mechanically clean down to a sound, solid substrate by shot blasting or similar. Overwatered, frozen or otherwise weak concrete surfaces must also be cleaned down to sound, solid concrete by mechanical methods. The concrete surface must have a minimum ICRI Concrete Surface Profile of 3 (CSP #3). Any additional preparation required to achieve this must likewise be mechanical.

Recommended Tools

ARDEX T-1 Mixing Paddle; ARDEX T-10 Mixing Drum; ARDEX T-4 Spreader; ARDEX T-5 Smoother; ARDEX MB-5.0 Measuring Bucket; 1/2" (12 mm) heavy-duty drill (min. 650 rpm) and baseball or soccer shoes with non-metallic cleats

Joints and Moving Cracks

Under no circumstances should ARDEX PC-T be installed over any joints or any moving cracks. All existing expansion joints, isolation joints, construction joints and control joints (saw cuts), as well as all moving cracks, must be honored up through the topping by installing a flexible sealing compound specifically designed for use in moving joints, such as ARDEX ARDISEAL™ RAPID PLUS. Failure to do so may result in cracking and/or disbonding of the topping. Even the slightest amount of movement in a control joint will cause the ARDEX PC-T to show a hairline crack in a pattern reflective of the joint.

ARDEX cannot be responsible for problems that arise from joints, existing cracks or new cracks that may develop after the system has been installed.

Dormant Cracks

Before proceeding with the installation, all dormant cracks greater than 1/32" (0.7 mm) wide must be prefilled with a fully rigid, high-modulus, 100% solids material, such as ARDEX ARDIFIX™. Please note that the repair material must be sand broadcast to refusal while still fresh and allowed to cure fully prior to removing all excess sand and proceeding with the installation.

The filling of dormant cracks as described above is recommended to help prevent the cracks from showing through the topping. However, should movement occur, cracks will reappear.

Priming

The ARDEX Polished Concrete System requires priming with ARDEX EP 2000™ Substrate Preparation Epoxy Primer. Follow the recommendations for substrate preparation above, and apply the ARDEX EP 2000 with sand broadcast, carefully following the instructions in the ARDEX EP 2000 technical data sheet.

When ARDEX PC-T will be installed in an aggregate layer followed by a neat layer, both the underlying concrete and aggregate layer must be primed with ARDEX EP 2000 with sand broadcast (see Thickness of Application below).

Mixing and Application

MANUALLY: ARDEX PC-T is mixed two bags at a time. Mix each 50 lb. (22.7 kg) bag with 5 quarts (4.73 L) of clean water. Pour the water in the mixing drum first, and then add each bag of ARDEX PC-T while mixing with an ARDEX T-1 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 PC-T may also be pumped using ARDEX ARDIFLO™ Automatic Mixing Pumps. Please contact the ARDEX Technical Service Department for details.

ARDEX PC-T has a flow time of 10 minutes at 70°F (21°C). Pour the mix onto the substrate 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 PC-T.

As ARDEX PC-T uses several naturally occurring and mined raw materials, shade and/or color variations are to be expected. Therefore, for projects where more than one pallet of product will be used, it is strongly recommended that bags be blended and mixed together from multiple pallets during the installation process. This procedure will help minimize the effects of shading and color variation. For specific directions, please call the ARDEX Technical Service Department.

Thickness of Application

ARDEX PC-T can be installed from 3/8" (9 mm) up to 2" (5 cm) over large areas neat and up to 5" (13 cm) with the addition of proper aggregate.

For areas with thicknesses greater than 2" (5 cm), mix ARDEX PC-T with washed and well-graded 1/8" to 3/8" (3 to 9 mm) pea gravel. Please note that the aggregate size must not exceed 1/3 the depth of the pour. Mix the ARDEX PC-T 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 - 16 hours, and then prime this layer with ARDEX EP 2000 and sand broadcast, following the instructions in the ARDEX EP 2000 technical data sheet. Allow the primer to dry 16 hours before removing all excess sand and installing the neat coat of ARDEX PC-T.

Polishing

Allow ARDEX PC-T to cure 24 - 72 hours prior to polishing. For instructions regarding the polishing, treatment and sealing of your polished concrete floor, please refer to the Formatted Specification for ARDEX APCS on the ARDEX PC-T product page at www.ardexamericas.com. If a pinhole filler is required, ARDEX SD-M™ Designer Floor Finish™ can be used in accordance with the instructions in its technical data sheet.

Drying time is a function of jobsite temperature and humidity conditions and the installation thickness. Low substrate temperatures and/or high ambient humidity will extend the drying time needed before processing the surface. Adequate ventilation and heat will aid drying. Forced drying can dry the surface of the topping prematurely and is not recommended.

Care and Maintenance of ARDEX Polished Concrete Systems™ (APCS) Finishes

Note: Maintaining ARDEX Polished Concrete Systems (APCS) and adherence to a recommended cleaning schedule will help the floor maintain its mechanically processed finish longer and reduce the absorption of spilled liquids. The use of the penetrating ARDEX PC FINISH™ permits the mechanically processed floor to retain its aesthetic quality.

Immediately remove any liquids from the APCS surface.

Do not place any non-breathable protective covering, rubber matting, rugs or furniture that can prevent proper curing of the ARDEX PC FINISH for 72 hours from the time of its installation.

Failure to adhere to this recommendation can result in a whitening of the applied ARDEX PC FINISH and staining of the APCS surface. Light pedestrian traffic is permitted 24 hours after installation. The installation can receive normal traffic 7 days after completion.

Please note that this recommendation guide is only for ARDEX APCS finishes. For the maintenance of other ARDEX finishes, as well as technical data sheets, technical updates, specifications and safety information, please visit www.ardexamericas.com.

Maintenance

Daily Maintenance and Cleaning: Once the system is fully cured, routinely sweep, dry mop and wash the installation with neutral pH cleaners and water. Spot clean and dry areas of concentrated traffic as needed.

The use of abrasive brushes or pads is not recommended as part of a daily maintenance program. The use of mechanical cleaning devices such as auto scrubbers and swing buffers should be employed as needed. All mechanical cleaning devices must have the ability to remove all residual ponding water and cleaning agents.

Do not use cleaners that are acidic or contain citrus (d-limonene) or butyl compounds. The application of highly acidic cleaners may etch or stain the surface and reduce the floor's ability to resist absorption. Prior to beginning any maintenance, on-site test areas of the selected cleaner should be done to assure compatibility.

Monthly or Quarterly Maintenance and Cleaning: As part of the maintenance of ARDEX APCS surfaces, additional steps are required to assure the aesthetic and performance qualities. Follow the procedures described in the Daily Maintenance and Cleaning section above to initiate the monthly or quarterly maintenance process then burnish or micro-polish with a high-speed burnisher or swing buffer. The pads should be of 3,000 grit abrasion.

As needed due to varying traffic frequency, apply ARDEX PC FINISH in accordance with the technical data sheet and at a rate of 3,000 square feet per gallon (73.5 sq. m per liter). . Allow drying for a minimum of 30 minutes before heat setting with a burnisher.

Semi-Annual or Annual Maintenance and Cleaning: Follow the procedures outlined in the above Daily Maintenance and Cleaning section to initiate the maintenance process, then burnish or micro-polish with a high-speed burnisher or swing buffer. The pads should be of 800 - 1,500 grit abrasion.

Apply ARDEX PC FINISH in accordance with the technical data sheet at a rate of 3,000 sq. ft. per gallon (73.5 sq. m per liter) and allow drying for a minimum of 30 minutes.

Heat set apply the ARDEX PC FINISH in accordance with the technical data sheet and add reflectivity to the areas. Burnish or micro-polish with a high-speed burnisher. The pads should be of 3,000 grit abrasion.

For additional protection, a second coat of ARDEX PC FINISH must be applied as described above.

Important Maintenance Notes

Pads for all mechanical devices should be selected based on the manufacturer's recommendation for each individual equipment piece.

Due to varying traffic frequency, timetables for the above procedures must be adjusted to fit the needs of the space.

Localized traffic patterns may require more frequent application of the above recommendations.

General Guidelines

Protecting the Floor from Construction Trades and Move-In: Please note that the installation of an ARDEX surface should be the last step in the construction process. Other trades should not be working in or around an ARDEX installation without proper protection of the ARDEX surface. Once the floor has fully cured, the newly-installed ARDEX surface should be protected from spills, dirt and debris with a temporary, breathable floor protection such as roll-out fiber board.

Additionally, if the floor will receive excess traffic during a move-in, protection from rolling carts, dollies, racks, gondolas, register wraps, etc. must be planned and implemented. Protection might include placing temporary "roving plywood" on top of the temporary, breathable floor protection such as roll-out fiber board to prevent gouging and indentation of the completed floor installation. Where "roving plywood" is used, it should be removed daily.

Tape: Do not use tape (duct, masking, painters, blue, etc.) in direct contact with ARDEX floors as it can damage the sealed surface upon removal. Spot taping overlapped breathable floor protection such as roll-out fiber board to itself is suitable for this temporary application.

Chair Pads: To avoid marring of the ARDEX wear surface, use felt pads on all areas of chairs and furniture that will come into contact with the floor.

Walk-off Mats: Mats outside doorways and inside entryways will control most of the dirt and debris that would otherwise be tracked inside. Walk-off mats should have sufficient texture to remove dirt from shoes. Non-rubber backed or open-back style mats will allow the floor to breathe.

Moving Furniture and Equipment: Do not drag or slide equipment or furniture over the surface. Where furniture or equipment cannot be lifted and carried or where felt furniture sliders or pads will not be used, a temporary, breathable floor protection such as roll-out fiber board may be placed over the floor. Rubber-wheeled carts or dollies may also be used.

Reapplication of ARDEX PC FINISH: APCS surfaces will require periodic reapplication of ARDEX PC FINISH. Please follow the maintenance instructions provided in the Maintenance section above.

Miscellaneous: Use a plate or other moisture-catching foundation beneath potted plants. Use a breathable pad underneath the plate to prevent trapped moisture from damaging the finish.

After the application has fully cured, use protective matting below office chairs or other recurring, wheeled traffic. The constant abrasion of the wheels will scrape and damage the surface over time.

Cracking

ARDEX PC-T is formulated as a highly durable, nonstructural wear surface. As such, it is important to note that no one can predict with 100% accuracy the appearance of cracking in a nonstructural topping.

While there can be several causes for cracking, it must first be understood that the installation of thin layers of non-structural toppings are not capable of restraining movement in the structural slab, which could lead to reflective cracking. Conditions most likely to lead to crack telegraphing include deflection of a concrete slab; vibration of a concrete slab, such as that due to truck traffic and subways in metropolitan areas; swaying or "racking" of substrates in high rise buildings due to wind; existing cracks in the substrate; control joints or saw-cuts; expansion joints; abutment of dissimilar substrates; embedded metal ductwork and/or small cracks off of the corners of metal inserts, such as electrical boxes or vents in the floor. While priming with ARDEX EP 2000 is the best way to minimize the possibility of reflective cracking, cracks may telegraph up into the surface in any area that exhibits movement. We know of no method to prevent this telegraphing from occurring.

Additionally, certain jobsite conditions can lead to hairline cracking, also known as map cracking or crazing. Hairline cracking, while aesthetically unpleasant, typically does not affect the overall performance of the topping. The most common cause of hairline cracking is overly rapid moisture evaporation from the topping during cure, which tends to happen when ambient humidity in the space is very low and/or air is moved rapidly over the surface of the topping. Hairline cracking also can occur when there is slight substrate movement while the topping cures.

If cracking occurs, we recommend sounding the affected areas to ensure that that the topping is well bonded to the substrate. As long as the topping is well bonded, its overall performance will not be affected. If there is a desire to smooth or mask the appearance of the cracks, please contact the ARDEX Technical Service Department for a recommendation.

Notes

FOR PROFESSIONAL USE ONLY.

ARDEX PC-T wear surfaces are intended for foot traffic, moderate, rubber-wheeled forklift traffic and similar uses. Excessive service conditions, such as steel- or hard plastic-wheeled traffic or dragging heavy metal equipment or loaded pallets with protruding nails over the floor, will cause gouging and indentations. ARDEX PC-T is not recommended for use in commercial kitchens, bathrooms, exterior spaces, heavy commercial projects such as sports arenas and shopping mall common areas, industrial projects with constant fork-lift traffic or any environment with chemical staining agents or potential long-term water exposure. As with any floor covering (wood, soft natural stone, marble, etc.), allowances must be made for scratches or abrasion that occur due to moving or sliding furniture or fixtures over the surface. Keeping the floor surface clean and free of dirt or other contaminants will also help minimize scratching and abrasion due to foot traffic.

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 and sealer. Test for moisture using the relative humidity method in accordance with ASTM F2170. Where substrate moisture is greater than 85% RH, install an appropriate ARDEX MC™ Moisture Control System in accordance with the technical data sheet. For further information, please refer to the ARDEX technical data sheet.

ARDEX Polished Concrete System wear surfaces are not intended to be perfectly homogeneous in appearance. The physical act of spreading and smoothing, along with the sanding process, will result in optical variations in the appearance of the floor even though it is very flat. The aesthetic appearance that is created is subject to possible technical and artistic tolerances. Variations in the overall finished appearance are an intended effect and should be expected.

Always install an adequate number of properly located test areas, including the processing, to determine the suitability and aesthetic value of the products for the intended use.

The finished floor does not achieve its published surface hardness until after 28 days.

While ARDEX Polished Concrete System can be installed over concrete that contains in-floor heating, ARDEX PC-T should not be used to encapsulate any heating system directly. If the concrete substrate has in-floor heating, it should be turned off, and the concrete should be allowed to cool, before installing ARDEX PC-T.

ARDEX primers may need longer drying times with low surface temperatures and/or high ambient humidity. Do not install ARDEX PC-T before the primer has dried thoroughly.

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 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.

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:	5 quarts (4.73 L) of water per 50 lb. (22.7 kg) bag
Coverage:	16.7 sq. ft. per bag at 3/8" (1.6 sq. m at 9 mm) 12.5 sq. ft. per bag at 1/2" (1.1 sq. m at 12 mm)
Flow time:	10 minutes
Compressive Strength (ASTM C109/mod – Air cure only):	6100 psi (427 kg/cm^2) at 28 days
Flexural Strength (ASTM C348):	1200 psi (84 kg/cm^2) at 28 days
Walkable:	2 to 3 hours
Begin Processing:	24 - 72 hours
Colors:	Light Gray, Gray and White
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:	9 months, if unopened
Warranty:	ARDEX, L.P. Standard Limited Warranty applies.

IMPORTANT TECHNICAL UPDATES

Technical update effective December 1, 2016:
Installation Environments for ARDEX Polished Concrete Systems (APCS)

CLICK HERE

Technical update effective September 10, 2015:
APCS Cleaning and Maintenance Procedures

CLICK HERE

Made in the USA

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