



ARDEX PC-T

Polished Concrete Topping

Cement-Based, Self-Levelling Compound for Creating Polished Concrete Floors

A blend of Portland cement and other hydraulic cements

Can be applied from 10mm up to 50mm without aggregate

Can be applied up to 130mm with aggregate

Walkable in 2 - 3 hours

Polish in as little as 24 hours

Designed for use with ARDEX Polished Concrete Systems

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ARDEX PC-T

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DESCRIPTION

ARDEX PC-T is a polished concrete topping that is a self-drying, self-levelling blend of Portland cements and other hydraulic cements for creating polished concrete floors. ARDEX PC-T installs from 10mm to 50mm without aggregate, and up to 130mm 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. ARDEX PC-T is ideal in areas such as retail stores, schools, airports, lobbies and all interiors where a polished concrete surface is desired.

SUBSTRATE PREPARATION

All substrates must be solid, thoroughly cleaned and free of oil, wax, grease, asphalt, latex and gypsum compounds, curing compounds, sealers and any contaminant that might act as a bond breaker. Mechanically prepare the floor down to sound, solid concrete by shot blasting, grinding or similar. Over-watered, frozen or otherwise weak concrete surfaces must also be mechanically prepared down to sound, solid concrete. 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.

The substrate surface must have a minimum ICRI Concrete Surface Profile of 3 (CSP #3). Any additional preparation required to achieve this must also be mechanical.

Substrate and ambient temperatures must be a minimum of 10°C for the installation of ARDEX products.

For more detailed information on substrate preparation, please visit www.ardex.co.nz, or call our technical hotline 0800 227 339.

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 any moving cracks, must be continued through the topping by installing a flexible sealing compound specifically designed for use in moving joints such as ARDEX RA 54. Failure to do so may result in cracking and/or debonding 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 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 0.7mm wide must be prefilled with a fully rigid, high-modulus, 100% solids material, such as ARDEX RA 56. Please note that the repair material must be sand broadcast while still fresh and allowed to

cure fully prior to removing all excess sand.

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

ARDEX Polished Concrete System requires priming with ARDEX MC Rapid - One-Coat Moisture Control System. Follow the general recommendations for substrate preparation above, and apply the ARDEX MC Rapid with sand broadcast, carefully following the instructions within the ARDEX MC Rapid Datasheet.

MIXING AND APPLICATION

MANUALLY: ARDEX PC-T is mixed two bags at a time. Mix each 22.7kg bag with 4.7L of clean water. Pour the water in the mixing drum first, and then add each bag of ARDEX PC-T slowly while mixing with an ARDEX Electric Mixer. 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 PC-T may also be pumped using ARDEX Approved Mixing Pumps. However, please contact ARDEX Technical Services for details.

ARDEX PC-T has a flow time of 10 minutes at 21°C. Pour the mix onto the floor and spread. Immediately smooth the material with flat hand trowel. Wear non-metallic, cleated shoes when applying 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 other colour 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 to minimise the effects of shading and colour variation. For specific directions, please contact ARDEX Technical Services.

THICKNESS OF APPLICATION

ARDEX PC-T can be installed from 10mm up to 50mm over large areas without aggregate, and up to 130mm with the addition of suitable aggregate. ARDEX PC-T can also be tapered to meet existing elevations.

For areas with thicknesses greater than 50mm, mix ARDEX PC-T with washed and well-graded 3mm - 8mm 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. If a plain polished

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finish is required on top of an aggregate mix, allow the initial aggregate application to dry for 12-16 hours, and then prime this layer with ARDEX MC Rapid and sand broadcast, following the instructions in the ARDEX MC Rapid technical brochure. Allow the primer to dry 16 hours before removing all excess sand and installing the plain coat of ARDEX PC-T.

POLISHING AND MAINTENANCE

For instructions regarding the polishing, treatment and sealing of your polished concrete floor please refer to the Guide Specification for ARDEX Polished Concrete Systems on the category page on www.ardex.co.nz. If a pinhole filler is required, ARDEX SD-M Polished Concrete Micro-Topping can be used in accordance with the instructions within its datasheet.

Allow ARDEX PC-T to cure 24 - 72 hours prior to polishing. Drying time is a function of jobsite temperature and humidity conditions, as well as 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.

Once installed, any finished floor surface requires routine cleaning and maintenance. Adherence to a regular cleaning and maintenance schedule will help the floor hold its gloss longer and greatly reduce absorbency. The treated concrete floor can easily be maintained by following the procedures detailed within the ARDEX Polished Concrete Systems - Care and Maintenance document on www.ardex.co.nz.

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, dragging heavy metal equipment, or loaded pallets with protruding nails over the floor, will cause gouging and indentations. ARDEX PC-T is not a resurfacing topping for heavy-duty manufacturing or industrial floors, or for chemical environments requiring customised industrial toppings. 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 to minimise scratching and abrasion due to foot traffic.

CRACKING

Whilst ARDEX PC-T is a highly durable wear surface it is non-structural and is subject to problems that occur with the subfloor. 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. Areas most likely to telegraph include those with deflection of a concrete slab, vibration of a concrete slab in metropolitan areas due to truck traffic and subways, high rise buildings

that sway or "rack" in the wind, existing cracks in the floor, control joints or saw-cuts, expansion joints and small cracks off of the corners of metal inserts such as electrical boxes or vents in the floor. While priming with ARDEX MC Rapid is the best way to minimize the possibility of surface reflective cracking - such as plastic shrinkage cracks - 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 excessively rapid moisture evaporation from the topping during cure, which tends to happen when ambient humidity in the space is very low and/or air rapidly moves over the surface of the topping. Hairline cracking can also occur when there is even slight movement or deflection in the existing substrate.

If cracking occurs, we recommend sounding the affected areas to ensure that the topping is well-bonded to the substrate. If the topping is well-bonded, its overall performance will not be affected.

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 jeopardise the performance of the topping and sealer. Test for moisture using the relative humidity method in accordance with NZ/AS 1884:2013. Where substrate moisture is greater than 75% RH, install ARDEX MC Rapid in accordance with datasheet.

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 of the floor 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 achieves its published mechanical properties after 28 days.

While an 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 allowed to cool before installing ARDEX PC-T.

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Low substrate temperatures and/or high ambient humidity require longer drying times for ARDEX primers. 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 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.

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.ardex.co.nz.

TECHNICAL DATA

All data based on a mixing ratio of 4 parts powder to 1 part water by volume at 21°C. Physical properties are typical values and not specifications.

Mixing Ratio:	4.7L of water per 22.7kg bag
Coverage (/bag):	1.6m ² at 10mm 1.2m ² at 12mm
Flow Time:	10 minutes
Initial Set:	Approx. 10 minutes
Final Set:	Approx. 45 minutes
Compressive Strength:	42 N/mm ² at 28 days
Flexural Strength:	8.3N/mm ² at 28 days
Walkable:	2 to 3 hours
Begin Processing:	24 - 72 hours
Colours:	Light Grey, Grey and White
VOC Content:	0
Packaging:	22.7kg net weight
Storage:	Store in a cool, dry area. Do not leave bags exposed to sun or UV
Shelf Life:	6 months, if unopened

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DISCLAIMER

The technical details, recommendations and other information contained in this data sheet are given in good faith and represent the best of our knowledge and experience at the time of printing. It is your responsibility to ensure that our products are used and handled correctly and in accordance with any applicable New Zealand & Australian Standards, our instructions and recommendations and only for the uses they are intended. We also reserve the right to update information without prior notice to you to reflect our ongoing research and development program. Country specific recommendations, depending on local standards, codes of practice, building regulations or industry guidelines, may effect specific installation recommendations. The supply of our products and services is also subject to certain terms, warranties and exclusions, which may have already been disclosed to you in prior dealings or are otherwise available to you on request. You should make yourself familiar with them.

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