‘World of ARDEX’

Issue 4

Welcome to the latest issue of the ‘World of ARDEX’.

In this issue we feature another interesting installation using WPM 615 TPO Roofing Membrane. We introduce you to our new, unique large format tile adhesive - X 78. Plus, there’s some information about Arditex NA - the Ardex - no ammonia, universal self levelling, smoothing compound. Also included is a brief overview of the Ardex Australia Guarantee that is among the most attractive in the industry.

We like to hear from our customers - write to us with questions about our products or tell us about your experiences using Ardex - simply mail your questions and stories with your name and telephone details to the Marketing Department at the Australian or New Zealand Head Office and we will send you a $100 gift card when your question/story is published.

The team at Ardex Australia and New Zealand wish you and your families a very happy and safe holiday season. Ardex look forward to working with you during 2011.

Ardex Australia Guarantee

The value of a product warranty or guarantee can vary enormously and its worth measure cannot be judged by the period it operates for, but by what it covers during that period.

At the top of the scale, the Ardex Guarantee or Warranty covers not only the:

- repair or replacement of the product but also;
- the costs of re-installation as well as;
- the costs of replacement of any immediate covering such as tiles.

At the other end of the scale a guarantee or warranty can cover only material replacement costs discounted by the years of service of the defective material.

As any contractor, builder, specifier or final building owner will realise the costs of a floor leveller, waterproof membrane, tile adhesive or grout are a very small percentage of the total costs of any repair job resulting from defective product . A guarantee or warranty that only insures the job for repair and/or replacement product costs, regardless of what period it may be, is next to worthless.

So next time you consider a product guarantee/warranty, look past the term of the warranty and into what it covers. The standard Ardex guarantee for all its manufactured products is Gold and will always give you total peace of mind.

For additional information or to be sent the relevant information to organise a Guarantee please contact your Ardex Representative or State Office.

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www.ardex.com

Project Focus

Location:	**Perth, Western Australia**
Project:	**Elevation Apartments**
Architect:	**Hassell**
Builder:	**BGC Construction**
Tiling Contractor:	**DTM - Direct Tiles Mandurah**
Waterproofing Contractor:	**All Waterproofing Systems**

Project
Elevation Apartments
239 Adelaide Terrace, East Perth

Description
The Elevation Apartments are a prestigious development right in the heart of Perth's Central Business District.

Reaching over 100 metres into the Perth skyline, the Elevation Apartments consist of 138 luxury apartments spanning over 29 levels that offer stunning views from every direction.

North facing apartments offer district and city views whilst South and South West facing apartments overlook the Swan River, Kings Park, South Perth to Applecross with glimpses of the Indian Ocean

Pictured above: The completed Elevation Apartments.

Pictured above: The Elevation Apartment building towers above the Perth skyline.

Challenge
The main challenge faced by the building contractor was that all the balconies were falling towards the apartments instead of away.

To resolve this, Ardex was asked to provide a system recommendation that would correct the falls and waterproof the balconies before the tiling commenced.

Pictured above: Tiled balcony.

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ARDEX K 005 was selected as a screed to create the required falls.

ARDEX K 005 was an important component as it enabled tiling to commence a lot sooner than conventional sand cement screeds.

Following the K 005 screed, WPM 002 was used as the waterproofing membrane, then Abaflex adhesive and FG8 grout.

Internally all the wet area's were installed with WPM 002 waterproofing membrane, X 10 and Abaflex adhesive.

Two layers of WPM 180 shelter-bit torch applied membrane was used on the entire rooftop, pool deck, plant rooms and podium levels prior to being ballasted by a brick paving system.

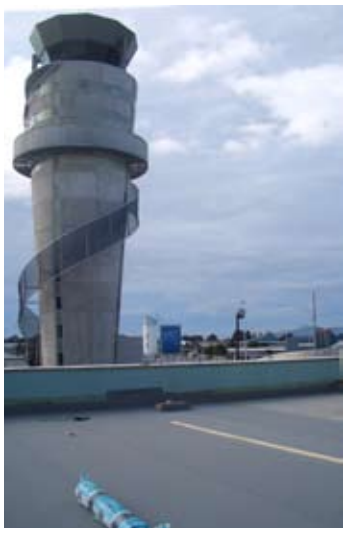
The Elevation Apartments were completed in July 2010 and are destined to become an icon of the Perth City Skyline.

Pictured above: Ground floor entry of the Elevation Apartments.

INTERNATIONAL AIRPORT PROJECT FLYING AHEAD

JPS Roofing Ltd secured the contract for membrane roofing on the Christchurch International Airport Terminal redevelopment. This is the largest building project in the South Island of New Zealand at present. Butynol® 1.5mm Dove Grey has been used on an an area approximately 3000m².

Pictured above: The airport roof required a lot of detailing work.



Pictured above: Some of the temporary roofing with the Airport's new communications tower in the background.

Jason Savage of JPS Roofing Ltd says that their involvement in this project is 90% complete.

Hawkins Construction has requested ARDEX Butynol® on some of the temporary roofing areas also, so this is providing further work for Jason and his team.

The new terminal will offer a first class airport experience, including large passenger lounges, extra seating, improved passenger flows and enhanced retail and cafe areas. With the new carpark building already finished, the terminal is expected to be completed by February - March 2011. The final stages of the redevelopent are likely to be completed by mid 2013.

Pictured below: The completed 3000m² Butynol roof.

CANTERBURY EARTHQUAKE

The 7.1 magnitude earthquake that struck Canterbury in the very early hours of Saturday 4th September is likely to have long term impact for a large number of Cantabrians, including staff at the Ardex New Zealand head office.

While the majority of staff have been fortunate to escape with no major harm to their homes, a few Ardex employees in both the office and the factory have cracked foundations and walls, and are either going to have to rebuild, or go through renovations. Land in the worst affected areas is uneven, cracked and in some cases, still subsiding.

The Earthquake Commission and insurance companies are currently trying to deal with the huge number of claims and many people are still unsure what will happen to their damaged homes.

The earthquake was the same magnitude as the Haiti disaster which caused so much destruction and death. It is a miracle that the Canterbury earthquake caused no loss of life. Many believe that the time of day had a lot to do with this, as well as the fact that a smaller earthquake before the large quake woke alot of people up.

Pictured above: Ardex staff pictured beside a crack in the exterior wall at Ardex Christchurch, proudly wearing their 'I survived 7.1' t-shirts.

Locals can also thank the New Zealand Building Code for ensuring that homes and buildings are built to cope with such events due to the large amount of seismic activity in New Zealand.

Fortunately the Ardex offices and factory escaped the quake with minimal damage. Racking needed to be replaced in the factory and there are a few cracks throughout, however there has been no structural damage.

A lot of work is required to rebuild the damaged areas in the city and while unfortunate, this does provide a much needed boost to the building industry in the region. A number of inner city buildings have been demolished and many more need major reconstruction work done. The Ardex sales team is working with the city's architects to encourage the specification of Ardex products in the rebuild phase. Ardex New Zealand looks forward to being part of the solution for rebuilding Canterbury after New Zealand's largest natural disaster in recent years.

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Products in Review Waterproofing

ARDEX WPM 615 TPO Roofing Membrane

- **Eco Friendly Membrane - Heat reflective and energy efficient roof membrane.**
- **No toxic emissions - No plasticizers or chlorinated ingredients.**
- **Lightweight Membrane - Offering a high variety of installation options for low slope roofing applications.**

ARDEX NEW ROOFING MEMBRANE UPHOLDS COOL ROOF THEORY

A block of residential apartments in St Peters (Sydney) has added weight to a pilot scheme currently underway in New York.

The 'Cool Roofs' initiative, spearheaded by NY Mayor Michael R Bloomberg and former Vice President Al Gore, involves coating the roofs of various city buildings in a reflective white coating to reduce cooling costs, energy usage and greenhouse gas emissions. Their research reveals a cool roof absorbs 80 per cent less heat than traditional dark roofs and can significantly lower indoor temperatures.

The St Peters apartment block, built in 2002, was experiencing a number of minor roof leaks and the body corporate sought a new-generation refurbishment solution that would give longer service than the original waterproofing membrane and deliver acceptable environmental credentials.

An Ardex product, launched in November 2009, was specified for the 500m² flat roof – ARDEX WPM 615 is a white coloured, high performance waterproofing membrane that was originally chosen for its ease and speed of application and exceptional durability.

However, during completion of the job, a resident of one of the top storey penthouse apartments approached the Ardex accredited installer Danrae Building Services

Pictured above: Surface Preparation.

and reported that, since the application of the waterproofing membrane, he had experienced a significant drop in temperature inside his apartment. "On a hot day, the temperature in my apartment has dropped four degrees since the new roofing membrane has been installed. I am no longer using my air conditioner as much – and my three top floor neighbours have reported the same thing," said resident Voytek.

The ARDEX WPM 615 TPO membrane comprises thermoplastic polyolefin combining polypropylene and ethylene propylene rubber. The scrim-reinforced membrane combines the durability of rubber with the heat welding properties of a thermoplastic in a flexible sheet. In addition, the membrane can be affixed with a water-based adhesive.

The white colour of the product creates a heat-reflective index of 70 per cent – and a high proportion of this index is retained for the lifetime of the membrane due to its colour-fast retention properties.

Pictured right: Membrane installed.

In addition, the ARDEX TPO membrane exhibits excellent resistance to the propagation of discolouring bacteria that reduces the heat reflectivity and energy efficiency. This membrane has also been designed to support 'green' roofs – the product has passed the FLL (German Landscape Research, Development and Construction Society) test for root penetration resistance for roof gardens using lightweight and low maintenance sedum vegetation.

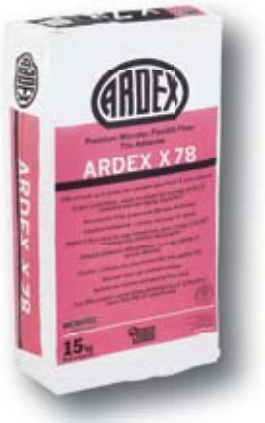
An immediate advantage of the ARDEX WPM 615 product over more conventional waterproofing membranes is its ease of installation.

The fact that the membrane offers single ply protection with fast, hot air welded seams delivers a rapid, safe (no naked flames) installation process.

Environmentally the TPO waterproofing membrane has some impressive advantages – its chlorine-free, non-halogenated and plasticizer-free formulation, in combination with the hot-air welded seaming method, produces no emissions harmful to the environment. The membrane can be easily recycled - and has a lower manufacturing footprint than comparable systems.

ARDEX X 78 NEW UNIQUE Large Format Floor Tile Adhesive

- **Pourable, easier to spread.**
- **Makes your job easier - gives better results.**
- **Unique consistency - easier to achieve full coverage on the tile with non lipping capabilities.**



ARDEX X 78 MICROTEC FLEXIBLE FLOOR TILE ADHESIVE

Ardex is excited to introduce ARDEX X 78 Microtec Flexible Floor Tile Adhesive. ARDEX X 78 is a unique floor tile adhesive that is perfect for large format tiles. The creamy, pourable consistency makes it easier to trowel, ensures solid bedding, reduced lipping and thus resulting in a perfect floor.

ARDEX X 78 feedback indicates that installation of tiles using this adhesive is about 20% to 40% faster and more efficient than regular adhesives, while making the tiler's job less physically difficult.

The pourability and spreadabilty needs to be seen to be believed. A short video 'ARDEX X 78 – How to' can be viewed on the 'ardexaustralia' You Tube channel. At www.YouTube.com *search: ARDEX X78 or ardexaustralia*.

exclusive fibre reinforced technology with special cements and polymers and our innovative global research and development, ARDEX X 78 is a premium adhesive that combines strength, flexibility, double extended open time and is classified as **C2FE(E)S1.**

ARDEX X 78

- Ideal for large format tiles, plus a range of tile types including:
  - fully vitrified and ceramic tiles
  - porcelain
  - concrete stone tiles eg: terrazzo and natural stone
- Water and frost resistant - ideal for wet areas
- Reduced chance of efflorescence due to the addition of special additives
- Flexible – achieves S1 classification (S2 with ARDEX E 90)
- Use over early age concrete/ screeds

- Suitable for internal and external floor tiling
- More secure tiling system with Microtec Technology
- Low VOC content - meets the Green Building Council of Australia Green Star IEQ-13 requirements

ARDEX X 78 is designed for use on level floors, we strongly recommend the use of ARDEX floor levelling compounds such as ARDEX LQ 92 prior to the application of the adhesive to achieve a truly flat surface.

ARDEX X 78 is available now in a 15kg bag.

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Grouting for Good Results

Grouting for Good Results

by Graeme Robb
Ardex Technical Services Advisor

Graeme Robb has been in the tile industry since 1982. Prior to joining Ardex 16 years ago Graeme spent some time with major players such as Beaumont Tiles and Johnston Tiles. Graeme has held a variety of roles and currently works in the Ardex Technical Services Team as a Technical Advisor in the tiling category. In this issue of the 'World of ARDEX' Graeme discusses the causes of inconsistent grout colour.

Inconsistent Grout Colour

Many common grout problems relate to excess moisture which may be inadvertently added during the mixing process, or in an attempt to re-temper the mix, or during the wash-off process. The principal elements of moisture control are the amount of water added to the grout (from all sources) and the rate of water loss by evaporation, or to a lesser extent, by absorption into porous (absorbent) bodied tiles or substrate.

Australian Standard 3958 recommends installation of tiles and grouts when climatic conditions are above 5°C and less than 40°C. Grouting in these conditions allows for a balance between the hydration of the cement in the grout without excessive or rapid moisture loss by evaporation **provided all grout joints are of uniform depth and width**. Consistency of grout colour can be achieved in these conditions. Factors that impact on consistency of colour include; variation in the joint depth and width, the degree of water in each grout mix, the amount of water used to wash-off excess grout after the joints are filled and the dryness of the bed.

Variations in the joint depth and width give rise to variations in the rate of moisture loss between sections of the grouted joints. Deeper sections of the grout will dry slower and therefore be fully hydrated to sections where the grout is thinner and full hydration may not occur. The grout colour will tend to be lighter in the thinner sections due to incomplete hydration as moisture is more easily lost by evaporation. This inconsistency may be minimised by raking all joints to a uniform depth and ensuring all spacers are removed prior to application of the grout.

The amount of water in each batch of the grout can vary markedly and, while excess water makes the grout easier to install, especially in floors where the grout can be made to 'flow' into the joints, it may cause some separation of the colour particles at the surface which are removed in the wash-off. Excess water may also affect the curing/drying process in different sections of the grouted joints. Inconsistency of colour is then possible between the different grout mixes. Sloppy mixes may also tend to seep into any voids left in the adhesive layer creating a depressed surface to the joints. Dry mixes or mixes containing dry lumps of grout powder may have insufficient moisture available for hydration of the cement and the grout will have lighter sections. Mixing the grout in accordance with the manufacturers' instructions will provide a creamy paste that can be forced into the joints where it will cure to a consistent colour.

Grout additives can also be used to improve grout performance. These are polymer emulsions that act as platicizers and will reduce the permeability of the grout mix when used correctly. Using an additive ensures the grout colour is more consistent and the grout is stronger with better adhesion to the tiles. The use of additives is preferable to using excess water and an added benefit is less likelihood of efflorescence occuring. When using grouts containing additives, remove as much of the excess grout from the tile surface as possible during the application process as this will make the cleaning process easier.

A consistently mixed grout is best achieved by adding the powder to the water and using a low speed power mixer to mix until a smooth, creamy paste, free of lumps, is formed. Let the grout rest (slake) for 2-4 minutes and then re-stir for 1-2 minutes. The grout is now ready for application into the joints. The application should forcibly pack the mixed grout into the joints for best results.

Adding more water to reinvigorate a previously mixed grout is not recommended. This is because the hydration process has already commenced and over-watering can lead to inconsistent grout colour and weaken the grout. Simply re-mixing the grout before the pot life has elapsed is the recommended procedure in this instance.

Another source of moisture that can lead to inconsistent grout colour is the bedding system whether it is an adhesive layer that is still wet, or a mortar topping screed or both. Moisture from these sources may rise through the grout unevenly so that patches of darker and lighter grout may occur. For this reason, most manufacturers advise that grouting should commence at least 24 hours after drying of the fixative (ie. adhesive) system. AS3958 recommends at least 12 hours drying of the adhesive before grouting but may depend on the climatic conditions at the time of installation. Cool, humid conditions will slow the drying of the fixative system and grouting should be delayed.

Excessive moisture during the clean up process is another cause of inconsistent grout colour. If the clean up process commences before the grout has had the initial set, some of the grout material may be washed out of the joint, leaving small puddles of water that affect the curing and drying of the grout. Inconsistent grout colour will result. The recommendation is to remove as much grout excess from the tile surfaces as the installation proceeds. Clean up is then left until the grout has had the initial set so that it is resistant to being dragged out of the joints. Use a damp, almost dry sponge with as little water as possible to clean away the grout excess. Grout containing additives may require a little more effort in the cleaning process.

Always ensure that cement-based grout selected for the job is within the shelf life recommended by the manufacturer. Cement may absorb moisture from the atmosphere and become less effective over time. Inconsistent colour and weaker than normal grout may result if grout has passed it's shelf life.

ARDEX ARDITEX NA A product that can make history!

- **Ultimate underlay solution for vinyl and carpet floor coverings.**
- **Universal self levelling, smoothing compound.**
- **Ideal for Timber and Damp concrete floors.**
- **Used as a flood coat for direct bond to timber.**
- **Suitable for Particleboards, Plywood and T&G.**
- **User friendly and easy application.**
- **Low VOC and Ammonia Free.**

ARDEX ARDITEX NA (NO AMMONIA) GLOBAL TECHNOLOGY MADE IN AUSTRALIA FOR LOCAL APPLICATION...

When the engineering and architectural teams of the world's tallest man-made structure ever built were searching for a product that would satisfy the highest level of expectations for flooring preparation; they turned to the Ardex Group to provide them with the product that can do the job and participate in making history.

Burj Khalifa in Dubai is now the worlds highest building at 828m. It was officially opened on 4 January 2010 and it has taken almost 6 years of construction time and a total cost of US$1.5 billion.

Pictured below: Imagine nearly one kilometre above ground level!

The Ardex Group proposed an excellent flooring preparation system which had ARDITEX NA as the main floor leveller. When the project was completed, a total of 90,000 units of ARDITEX NA were used to level an area of 100,000m^2 of this significant landmark.

ARDITEX NA (No Ammonia)

- Ammonia and protein free for sensitive flooring areas
- Excellent adhesion to almost all substrates
- Unaffected by moisture and can be used under an Ardex Damp Proof Membrane
- Excellent flow characteristics
- Can be featheredged to meet existing floor heights
- Apply to 30mm incorporating Ardex aggregates

Pictured above: Burj Khalifa.

Pictured above: ARDITEX NA.

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Products in Review Flooring

ASK THE EXPERTS
ARDEX Technical Services

Ardex is committed to providing the highest level of technical support - from product training to customised system recommendations. Ardex have a dedicated team of technical experts based at our Head Office in Seven Hills to help you at any stage with:

- System recommendations
- Problem investigation

If you need help with anything out of the ordinary, if we don't already have the answer Technical Service will investigate it for you.

The team can be contacted on:

New Zealand:
Toll Free: 08002ARDEX
(0800 227 339)
Email: techinfo@butynol.co.nz

Australia:
Phone: 1800 224 070
Fax: (02) 9838 7817
Email:
techinfo@ardexaustralia.com

Spotlight on ARDEX Technical Datasheets

1. WPM 615

2. X 78

3. Arditex NA

Ardex Data Sheets provide users with invaluable information for correct installation and mixing procedures for each product.

If you would like any Technical Datasheets, they can be found on our website at - www.ardexaustralia.com or alternatively emailed or mailed to you - please contact Lyn Cridland on (Aust) 02 9851 9166 or email: lyn.cridland@ardexaustralia.com

Training & Professional Development

Please call your local Ardex office for information on upcoming Waterproofing, Tiling and Flooring workshops.

SALES OFFICE CONTACTS

Your local sales office can help with any requests for Technical Data Sheets, in addition to stock questions, Material Safety Datasheets and pricing.

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Pictured left: The Ardex Melbourne manufacturing plant. Ardex Australia have manufacturing plants in Sydney, Melbourne, Brisbane, Perth and Adelaide.

PRIVACY STATEMENT

Ardex aims to provide its customers with premium products and services. To achieve this, we aim to make efficient use of the personal information we collect or hold.

In doing so, we also want our customers to have complete confidence that any information collected or held will not be mistreated. Ardex is committed to ensuring all personal information held will remain confidential and have established a Privacy Policy which recognises this. The Privacy Policy can be found on the Ardex Australia website or alternatively phone (02) 9851 9166 and a copy will be mailed to you.

Further to this, Ardex will handle all personal information in accordance with the Privacy Policy Act 1988, National Privacy Principles.

If you do not want to receive further editions of the 'World of ARDEX' please complete your name and address details below and return to the Marketing Department, Ardex Australia, Reply Paid 796, Seven Hills, NSW, 2147 (no postage stamp required if posted in Australia).

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