TANKING PRESENTATION

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10 FORMAL CPD POINTS

NATIONAL SPECIFIER SUPPORT

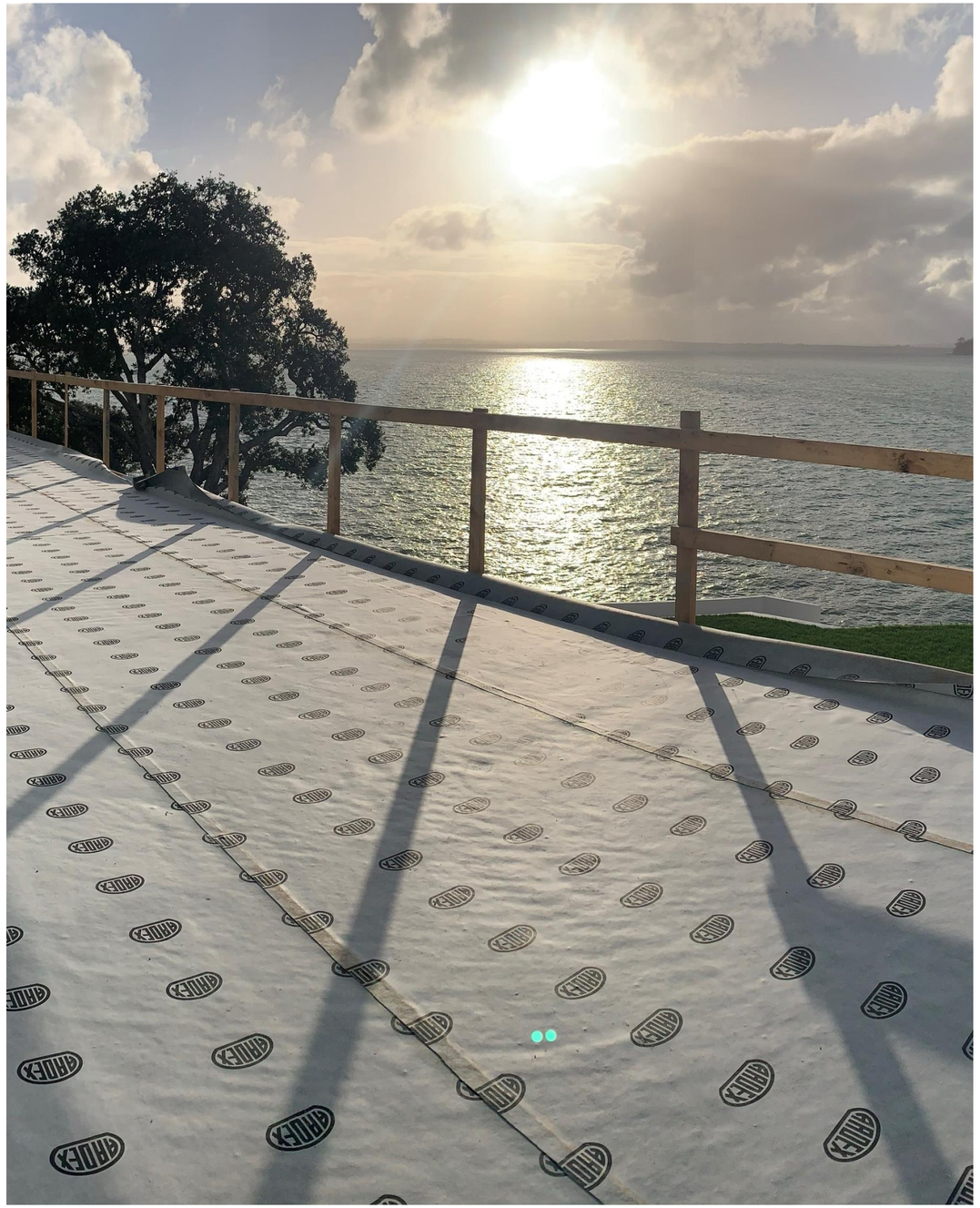
INTRODUCING THE TEAM

Auckland - Dave Stephenson 0275 330 085
Covers Auckland & Northland

Bay of Plenty – Steve Miles 0272 227 825
Covers Auckland, Bay of Plenty & Waikato

Wellington - Anthony Howell 0274 850 490
Covers Wellington & lower North Island

Christchurch – Andrew Smith 0226 573 247
Covers South Island



BRANDS OF ARDEX GROUP

ARDEX TRAINING ACADEMIES

RAISING THE STANDARD - NZ WIDE

ARDEX NZ operate three in-house training academies. Our academies, based in Auckland, Wellington and Christchurch upskill on average more than 1000 installers every year.

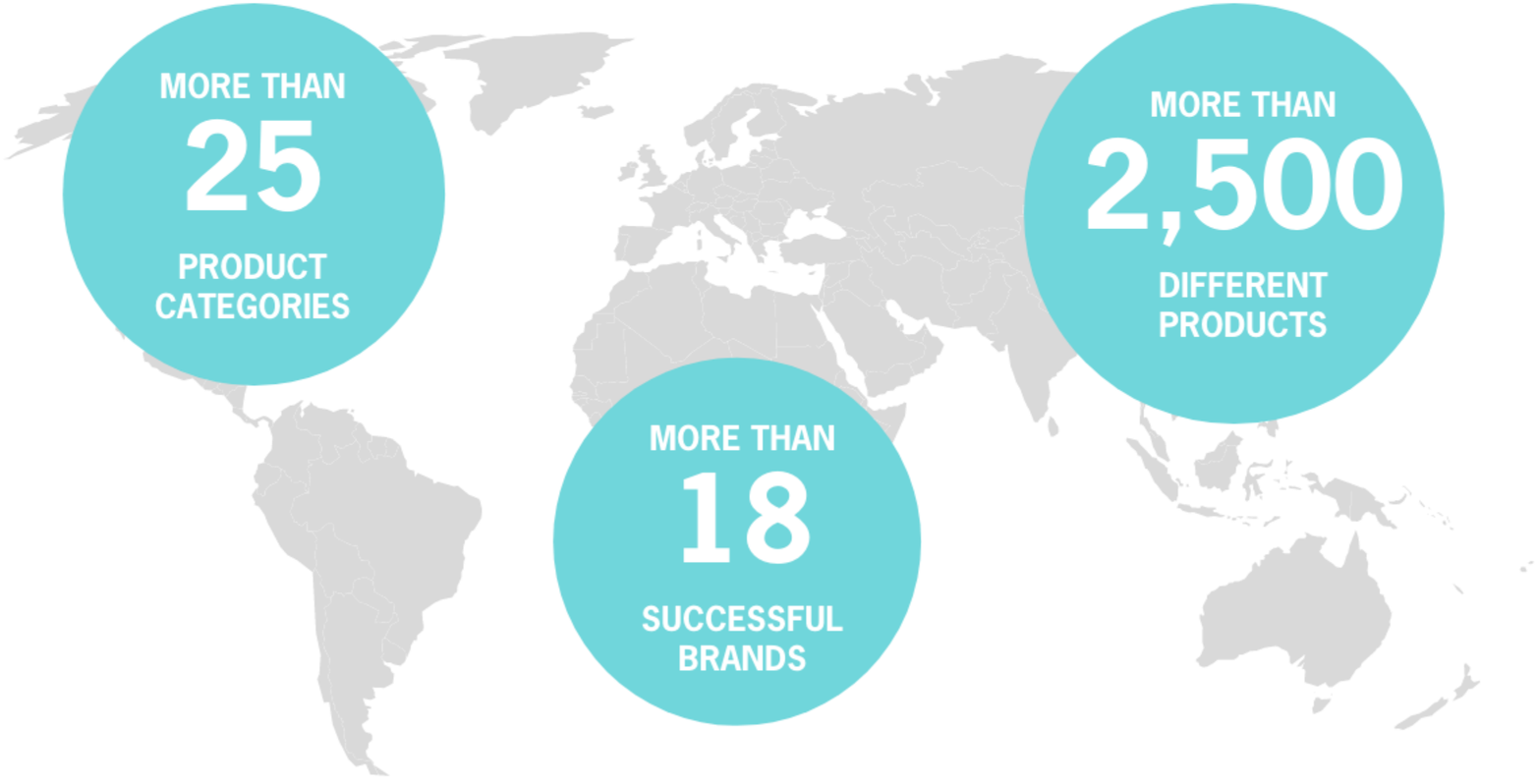
NUMBERS (2019):

- 3 TRAINING ROOMS
- 76 TRAININGS SESSIONS
- APPROX 1015 PARTICIPANTS

AS ONE OF THE WORLDS LEADING BUILDING MATERIAL MANUFACTURERS, THE ARDEX GROUP IS REPRESENTED IN OVER 100 COUNTRIES.

AT A GLANCE:

- 1949 FOUNDED
- 3,000 EMPLOYEES
- $1.2B NZ REVENUE
- 44 PRODUCTION FACILITIES
- 55 SUBSIDIARIES

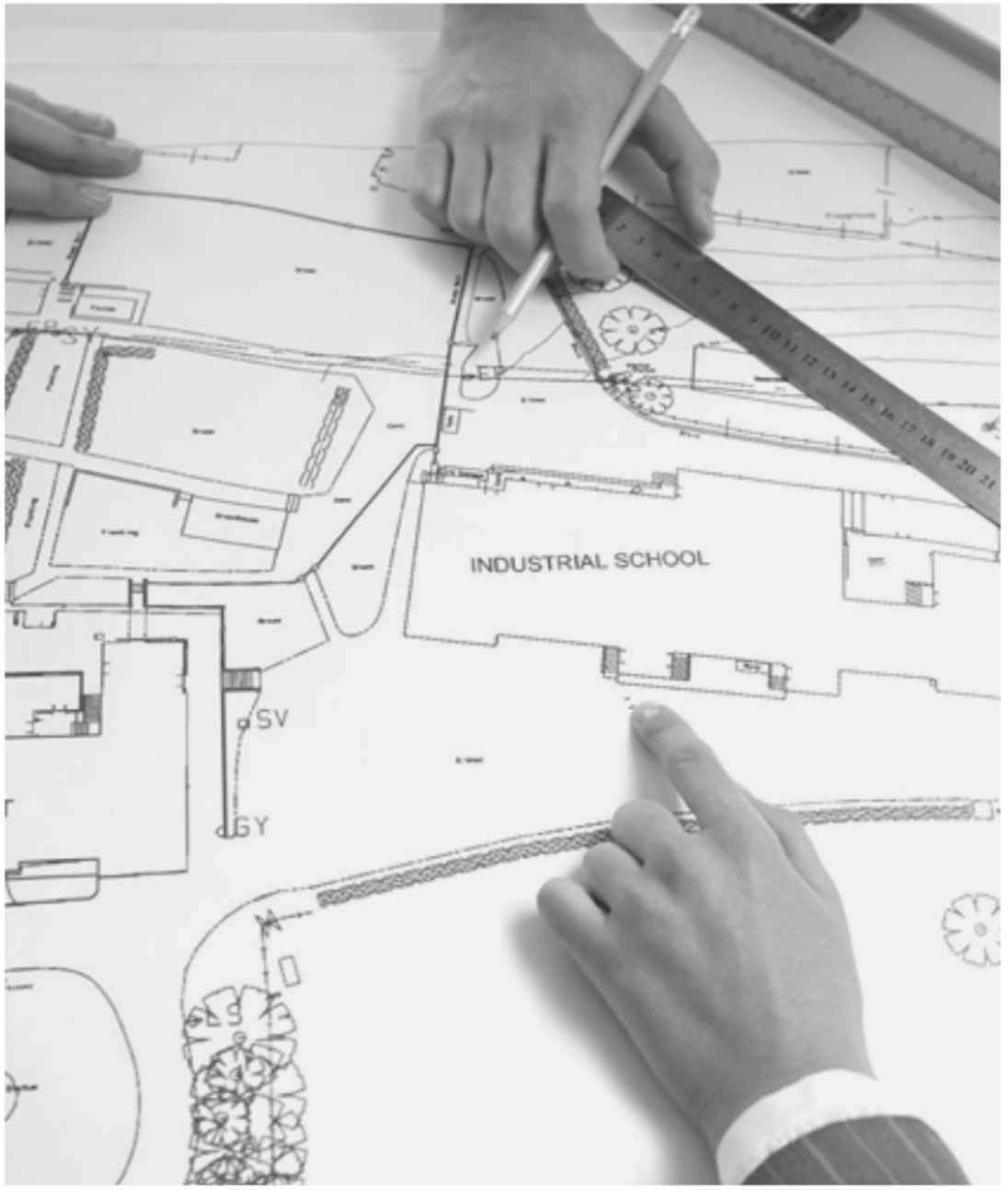


SUSTAINABILITY & ENVIRONMENTAL COMMITMENT

- We are committed to growing our range of products produced in New Zealand and are making further investments in local production.
- ARDEX flooring adhesives achieve an EC1 accreditation resulting in very low emissions during and post application.
- ARDEX powders have been created with low VOC (Volatile Organic Compounds) to ensure limited emissions during and post installation.

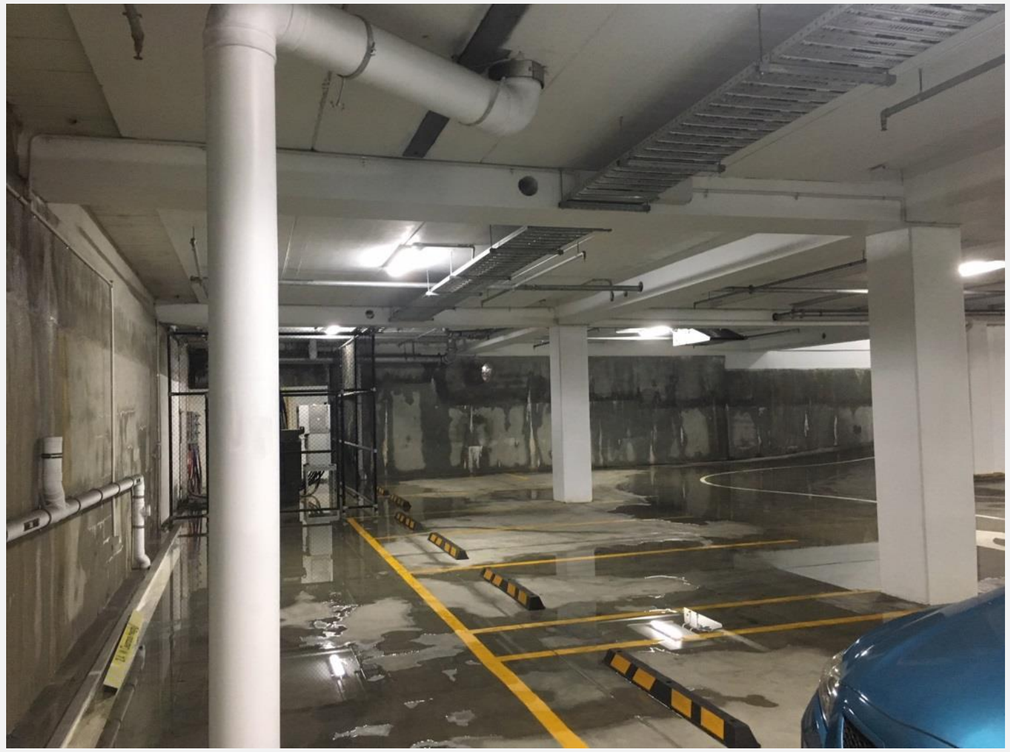
LONG LIFE PRODUCTS MAKING BUILDINGS BETTER

- The extraordinarily long life of all ARDEX products are designed to last the life span of the building.
- High-coverage ARDEX products let you take care of large surface areas with a minimum of material, which cuts down on processing, transport and waste packaging.
- Ultra-fast, easy-to-use ARDEX products allow you to complete projects quickly.



BUNNINGS GREY LYNN

$42M BUILD OPENED JUNE 2017



BELOW GRADE WATERPROOFING

- Below grade waterproofing is one of those areas that goes unseen and often not considered long term- “The old adage out of sight out of mind” Often it is one area that is neglected.
- Lack of foresight can become very costly in terms of remediation as once a building is built, it is very hard to access the tanking component.
- It is critical to select the most appropriate product for the application once all factors have been considered. I.e. a Standard torch on should not be substituted for one specific to tanking applications.
- Cost should not be a determining factor- A little more spent at time of construction can balance out life cycle costs long term.
- A system should be used rather than mixing and matching horizontal DPC’s with Vertical Tanking.

GENERAL GUIDELINES

Weather

Weather plays an important part of any installation and needs to be appreciated and understood. Inclement weather will adversely affect any installation and can cause havoc with drying times of certain products. Rising water tables must also be considered and appropriate action taken to maintain a clean installation.

Preparation

All edges should be radiused and changes in direction, a fillet installed. Most membranes require secondary detailing at critical points.

Most Bituminous membranes are not UV stable and finishing details must be thought of well in advance. Most finishing coatings will not apply to bitumen therefore an effective flashing must be constructed out of materials suitable for the application. I.e. Stainless Steel.

Protection boards should be used prior to backfilling. These must be suitable for the environment and should also have a 50 year durability.

Sub trades

One common issue after the membrane is installed and installer leaves site is a sub trade may drill through the membrane to install a pipe or electrical cable. The installer should be called back to repair correctly rather than rely on silicone.

WATERPROOFING MEMBRANES

Various membrane systems are available they include:

Positive Side

Positive Waterproofing systems are post applied to the surface of the element that is in direct contact with moisture, typically the exterior of the foundation walls.

Negative Side

Negative side waterproofing systems are post applied to the surface of the element opposite the surface exposed to moisture typically the interior of the foundation of the wall.

Blind Side

Blind Side waterproofing products are pre-applied to the area where the concrete element will be placed that is directly exposed to moisture

4 CATEGORIES OF TANKING MEMBRANES

LIQUID APPLIED

Liquid Applied:

These systems include: Urethanes, rubbers, plastics and modified bitumen emulsions.They are either spray or roller applied and generally in cold format and cure by hydration, an exception to this is hot applied polyurea. Some systems are mesh reinforced and generally are reliant on a film build thickness of over 1.2mm.

Things to look out for:

- Is it the right product for the right situation and does it have the required testing ie GEOTHERMAL regions.
- Concrete block walls should be rendered first to minimize risk of cracking along mortar joints.
- What is the expected life span.
- Will is withstand hydrostatic pressure.
- Will the installer apply it to the right film build.
- Does it meet B2- 50 years.
- Detailing of changes in direction and expansion joints are critical.

4 CATEGORIES OF TANKING MEMBRANES

SHEET APPLIED SYSTEMS

Sheet Applied Systems

These systems include: thermoplastics, vulcanised rubbers, rubberised bituminous.

Thickness various from 1mm for sheet rubber to 8mm for double layer torch applied systems.They can be loose hung or fully adhered.

Things to look out for:

- Is it the right product for the right situation and does it have the required testing i.e. GEOTHERMAL, Methane, Radon.
- Must be installed by an approved installed. Seams fully bonded.
- It is always better to have a fully bonded system it reduces the risk for lateral migration should a leak ever occur.
- Does it meet B2- 50 years.
- Detailing of changes in direction and expansion joints are critical.

4 CATEGORIES OF TANKING MEMBRANES

BENTONITE CLAYS

Bentonite Clays

These systems are generally based on sodium bentonite and applied onto a carrier fabric or sheet.
Bentonite clays act as waterproofing by swelling when exposed to moisture thus becoming impervious to the flow of water. The can swell up to 10-15 percent of the original thickness of the product therefore the product must be kept confined in order for it to work.

Things to look out for:

- Is it the right product for the right situation and does it have the required testing ie GEOTHERMAL ,Methane, Radon.
- Must be installed by an approved installed. Sheets correctly overlapped and pinned.
- If not confined it may shrink upon drying creating gaps that can undermine the waterproofing situation.
- It is always better to have a fully bonded system it reduces the risk for lateral migration should a leak ever occur.
- Does it meet B2- 50 years.
- Detailing of changes in direction and expansion joints are critical. Waterstop bars are critical.

4 CATEGORIES OF TANKING MEMBRANES

CEMENTITIOUS SYSTEMS

Cementitious Systems

These systems are based on Portland cement combined with an active waterproofing agent, They can be metallic, crystalline, chemical and acrylic modified.

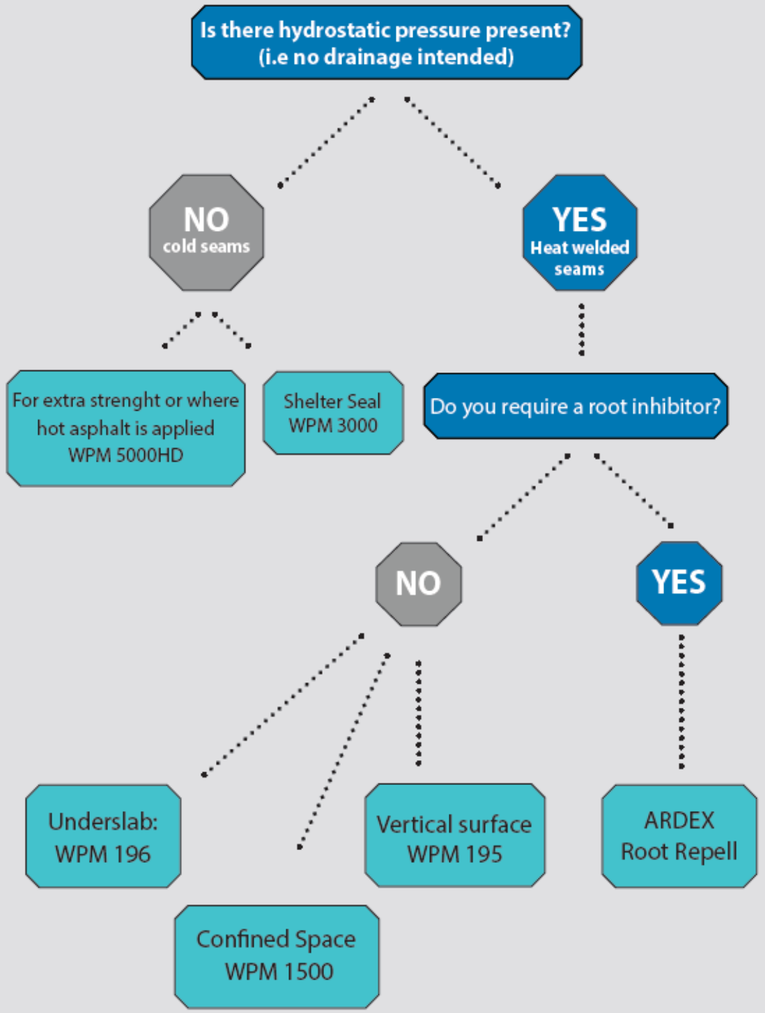
These systems should only be considered as secondary protection (back up) to positive side waterproofing.

Things to look out for:

- Is it the right product for the right situation and does it have the required testing ie GEOTHERMAL ,Methane, Radon.
- Must be installed by an approved installer and applied at the correct film thickness.
- If the structure moves and cracks these will generally follow rendering the waterproofing null and void.
- Does it meet B2- 50 years.
- Detailing of changes in direction and expansion joints are critical.

ARDEX TANKING

Wanna get tanked?



ARDEX WATERPROOFING SYSTEMS

WATERSTOPS

Waterstops should be used in all construction joints in below grade applications.Waterstops will provide a secondary barrier of protection should the passage of water get to these points.

Waterstops are generally based on bentonite or butyl rubber technology and will swell to many times its size restricting the further progress of water.

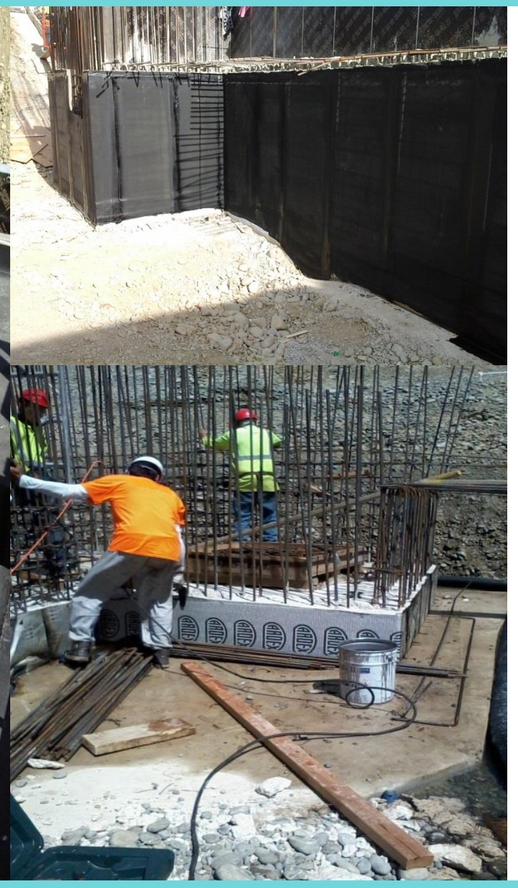
Waterstops need to be carefully considered ensuring the correct product is selected for the application, ie using Standard waterstops in a marine environment may render them useless as the reaction may not occur.

If PVC waterstops are used, it is important to ensure these are welded correctly.

ARDEX WPM 3000X/ARDEX WPM 5000HD

- High flexibility SBS Peel and Stick Membranes
- Non hydrostatic situations
- Resistant to chemical attacks
- Withstand thermal movement
- Methane and Radon gas barrier
- WPM 5000HD Has mesh surface for application of hot asphalt

ARDEX WPM 195 AND WPM 196

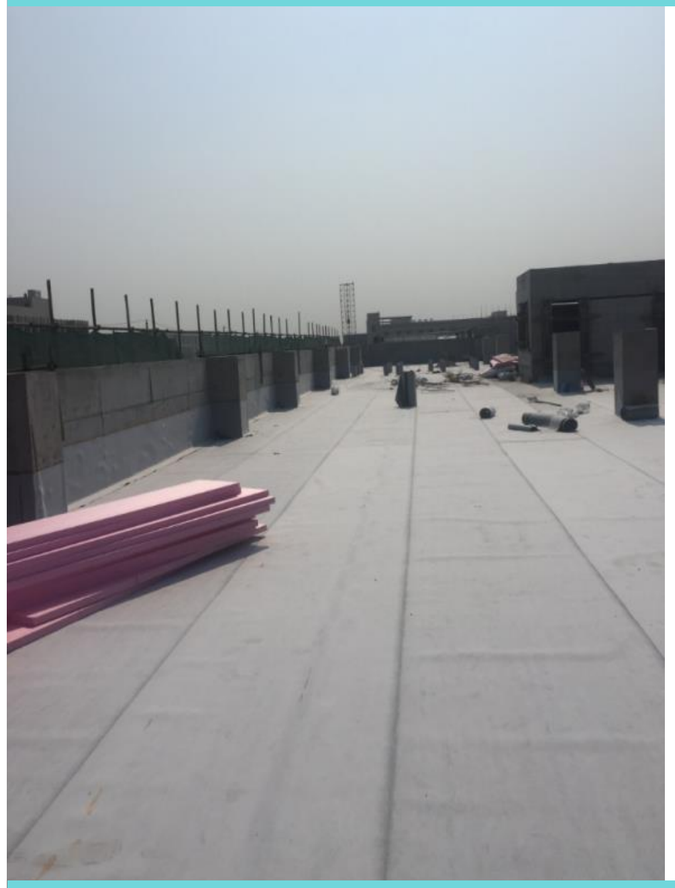


- High flexibility at sub-zero temperature with no physical strains.
- Accommodates structural movements
- Resistant to chemical attacks
- Withstand thermal shocks
- Slate Mineral Chip finish for high adhesion to concrete (WPM 196 only)

ARDEX WPM 1000RR

- 1.0mm Thick Synthetic Sheet
- 100% Recyclable materials are used.
- Resists tearing, flex cracking bubbling and abrasion.
- It is extremely strong, has a long life expectancy and is versatile.
- WPM 1000 RR successfully passed the FLL test for root and rhizomes penetration.

ARDEX WPM 1500



- Tested to be suitable for Geothermal Areas.
- High resistance to chemicals and hydrostatic head. (70m)
- Hydrogen Sulphide, Radon and Methane gas diffusion.
- High elongation with excellent crack bridging capabilities.
- Forms a unique continuous waterproofing membrane.
- Not reliant on confining pressures, hydration or tape seams.
- Welded detailing creates a very strong watertight laps.
- Resists tearing, flex cracking, bubbling and abrasions.
- Versatile vapour barrier.

ARDEX WPM 1955

- Hydrophilic Butyl Waterstops
- Used in conjunction with all ARDEX Tanking products
- Situated at critical joints, junctions and details
- WPM 1955 is for all environments including marine
- Designed to not swell during concrete curing
- Cost effective second line of defence

CRITICAL CONSIDERATIONS

- **Design of structure- Can the tanking be completed in sequence- Footing/Wall Junction**
- **Substrate**
- **Choice of membrane is correct for conditions**
- **Is a gas barrier required**
- **Has the membrane got the correct testing,** ie Hydrogen Sulphide for Rotorua- (Not Sulphuric Acid Solution).
- **Durability- 50 Years minimum**
- **Is there drainage**
- **Hydrostatic pressure**
- **Choice of installer**
- **Manufacturers Warranty**

TECHNICAL ASSISTANCE

ARDEX SUPPORT TOOLS

TECHNICAL SERVICES HOTLINE

ARDEX offer a toll free hotline that gives technical advise for any question or situation.

ARDEX Hotline
0800 2 ARDEX (0800 227 339)

When calling it helps to have the following information handy:

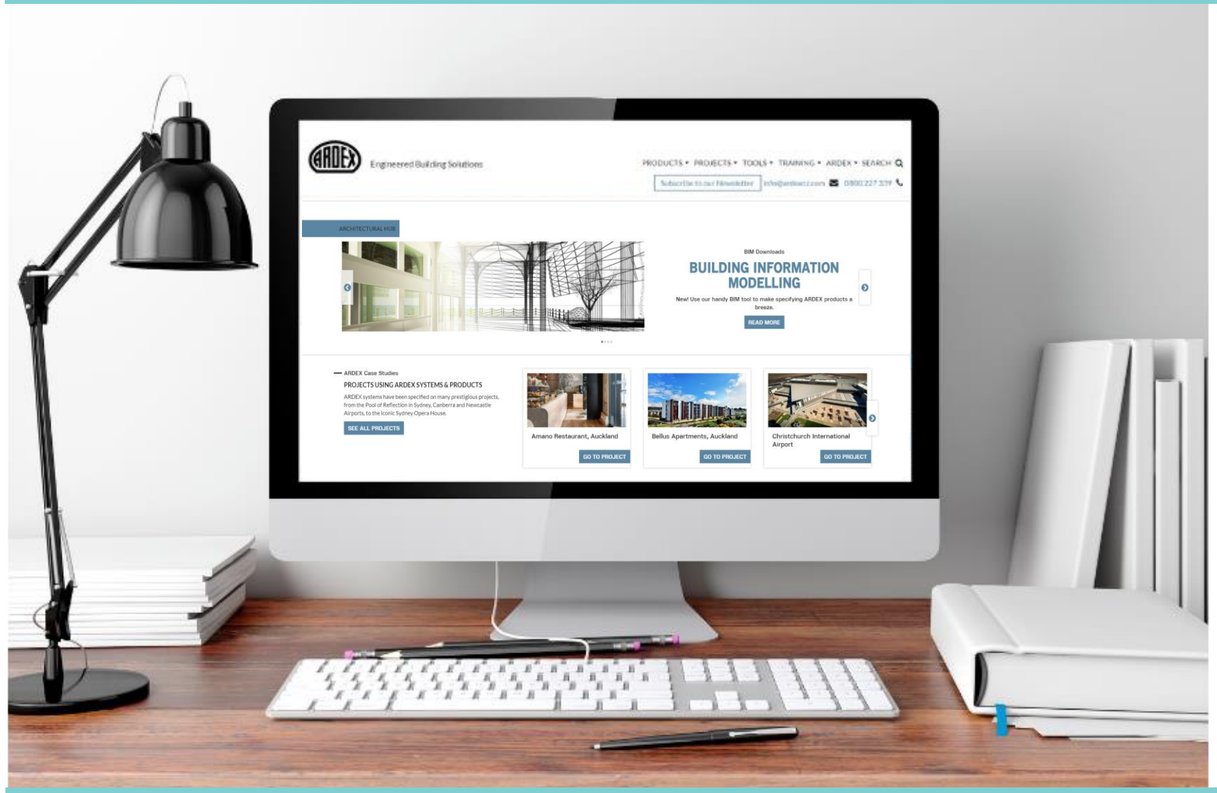
Substrate

Internal or External

Unique Site Information

WEBSITE: WWW.ARDEX.CO.NZ

ARCHITECTUAL SUPPORT HUB

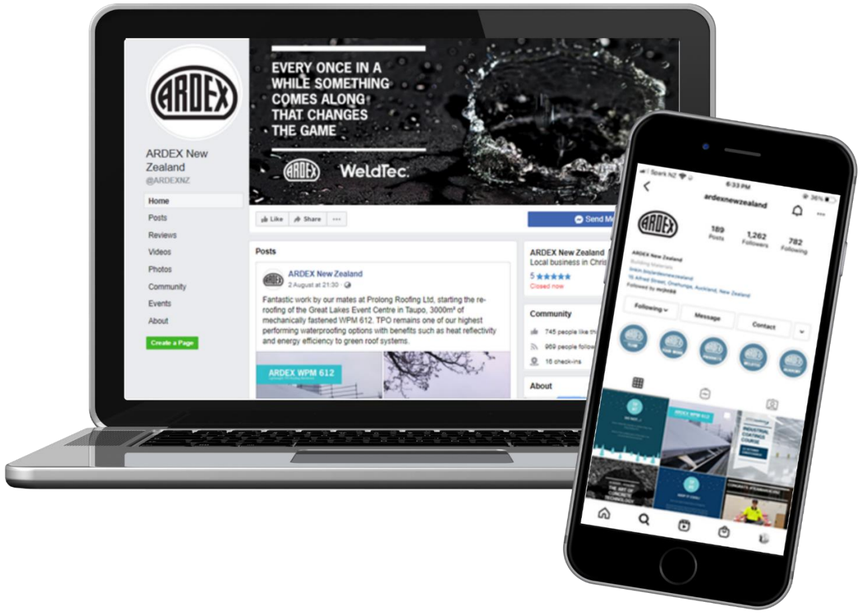


The ARDEX New Zealand website is a great tool for finding all the information you need in the correct selection of ARDEX products and services.

SOCIAL MEDIA

ARDEX SUPPORT TOOLS

FOLLOW US!



Our social media pages will keep you updated about new product updates and what is happening at ARDEX. Our videos on YouTube include product videos as well as how to videos.

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@ardexnewzealand

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Also, keep an eye out in your inbox for our Monthly Newsletter, for key new product info and updates!

THANK YOU

WWW.ARDEX.CO.NZ