



International Roofing Expo (IRE)

I was fortunate enough to recently attend the IRE held over three days in March. This year the location was Dallas, Texas.

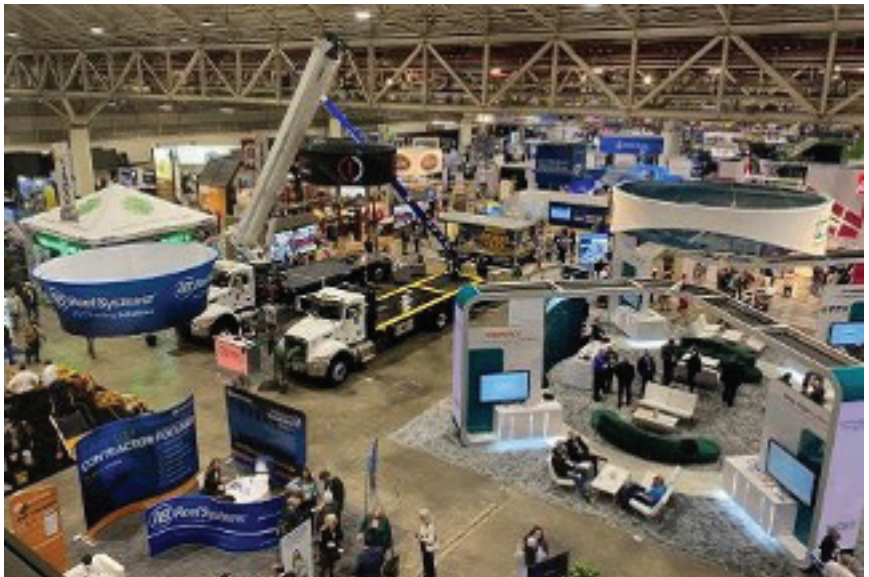
First impressions of Dallas are:

- Big
- Tall
- Clean
- Quiet considering the above
- Lots of big roofs

The Kay Bailey Hutchison Convention Centre in Dallas is unlike the Australasian experiences we are used to, but of course Texas is the home of everything BIG.

So, what was on offer at the IRE?

The day starts with seminars. Lots of options from employing staff, running your business to product



tutorials. Being the waterproofing 'sponge', I found these interesting and beneficial. My main gripe is the number of seminars being held at the same time, so you often missed or had to choose what you participated in. Often seminars were all one-offs, so planning is essential so that you don't miss out.

Then there is the main expo floor; much like the main floor at the home show but of course this is America, so it is much larger. The main players take up the largest spaces, with the biggest, tallest stands. Each exhibitor has plenty of give aways. There is a good supply of free beer and wines to keep you talking.

If you were new to the industry, you would be in awe of the selection of ideas and products that are on display. From the NZ point of view, it was interesting to see the number of insurance companies vying for applicators to sign up to their various schemes. The inspections market is a growing noticeably. America has some rather severe storms that cause plenty of damage, and very large insurance claims. This is where the inspections and reports come into play.

The next IRE 2024 is to be held in Vegas. I have little doubt it will be larger than Texas with plenty of entertainment opportunities to keep you indulged.

Below Grade Tanking/H1 Energy Efficiency update

With the changes to H1 (effective 1 May 2023) now encompassing whole-of-building design, greater attention is being paid to the relationship between below-ground waterproofing and the incorporation of under-slab thermal insulation.

These changes may affect the approach to below grade tanking because there may now be a requirement for insulation of basement walls and floors to achieve the overall building insulation value.

The purpose of below-ground waterproofing is to protect the basic structure of the building and the waterproofing must therefore be placed, wherever possible, in direct contact with the structural elements. The below grade insulation is not considered as being a structural element except in the case pre-insulated elements such as ICF, which may be encountered below grade.

In particular, this can affect the placement of the membrane in relation to the type (technology) of membrane specified. The following points are intended as guidance information for specifiers, main contractors, and installers to ensure that the long-term performance of the tanking membrane is not impaired. This information must be read in conjunction with the Below Grade Tanking (BGT) Code of Practice.

- **INSULATION ATTACHMENT METHOD**

The insulation cannot be mechanically fixed through the tanking membrane, as this will compromise the integrity of the membrane. Consider adhesive attachment or strapping. Consult the membrane supplier.

- **DRAINAGE LAYER PLACEMENT**

The drainage layer will generally be placed on the outer face of the insulation to minimise the exposure of the insulation to ground water with potential loss of performance. However, placement may be influenced by other factors. Consult the membrane supplier.

- **TERMINATION FLASHING**

Both membrane and insulation should be considered when designing/specifying the termination flashing at/above grade. Pay particular attention to this detail in areas with a high-water table considering the low bulk density of insulation boards. Consult the membrane supplier.

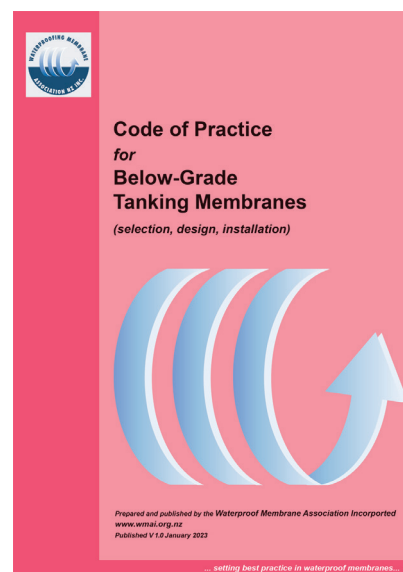
- **BACKFILL**

Backfill must be used carefully balancing drainage requirements with the need to prevent damage to any of the three layers—membrane, insulation, and drainage mat.

- **BASE COURSE COMPACTION**

Be cognizant of the need to prevent damage to the low-density insulation by compression during the compaction of any backfill or basecourse when preparing for paving adjacent to an insulated basement wall.

Always consult the supplier for the specific application of their tanking system, including all three elements of the system.



TRAINING in 2023

The Vikingroofspec Training School has now been running over 6 years. Over this time, over 500 installers have attended and participated.

Upon reflection I feel the installation of membrane has benefited. However, I notice that some fundamentals are being forgotten. I think in most instances it is complacency creeping into our work habits. Testing laps is a very important part of best installation practice. Obviously, we can't go around pulling apart finished laps on site, but you can do some test welds on off-cuts you will be throwing away.

It is often the experienced installers who attend training who discover incorrect lap welds. When seam probed, they can appear to be sealed. With more vigorous probing often the seam has not welded well at all. Often, we cut a section out and find only 5mm of the lap is correctly welded.

Enviroclad/TPO

Common causes of lap failure can be:

- Not cleaned well enough (or at all)
- Welded before the surface sealer has evaporated.
- Not enough heat i.e., Leister is not at the correct temperature
- Welding too fast
- Not applying an even pressure
- Heat not directed in the correct position.



Another common mistake is applying heat, removing the heat, then getting the roller and applying pressure without the Leister still being directed at where your roller is working.

Pulling apart test-laps is an easy way to keep on top of your technique and should be done on a regular basis.

Bituminous Membrane (Torch-on)

Torch-on laps have a different welding technique to TPO. A common cause of lap failure is where applicators will torch the sheet and weld in one go.

This is not the approved technique, as wind and the resultant lack of heat control will often result in inconsistent lap welds. Often the installer uses the big nozzle to seal the edge or attempt to detail tricky penetrations.

The scary explanation is that we only have one nozzle size for everything. I can often open these welds and details easily. It is only laziness and lack of understanding that this occurs.

You are installing on people's roofs who pay good money and can rightfully expect a quality installation.

With training is these errors can be fixed. A positive outcome is when this is pointed out, the installers can change and adapt. Training has then become beneficial to us all.



Code of Practice for Single Ply Membrane.

2023 is the year of the Single Ply Membrane Code of Practice.

The working group are now formulating the different sections. This is a mammoth task, and to 'take off your blinkers' and be made aware of the various systems with their pros and cons is a real education.

Robust discussions will no doubt be had again.

Where Rubber and Bitumen systems were at one time the main systems for early roofing projects, the Single Ply technology has advanced considerably. New Zealand has begun to build up a nice portfolio of Single Ply projects as this category has grown steadily over the past 10 years.

It is important that the membrane industry has this code of practice as a base guide for all stakeholders to reference.

As always, suppliers' advice will still need to be followed. Their systems must be installed to their requirements.

Membrane colours

Looking back on my installation days, white torch-on membrane was the one product I would discourage the client from choosing. Not because it didn't look good when completed. In fact, the jobs when completed were beautiful.

It was from every day after installation, that the roof would look progressively worse. Dirt would build up. The chips became darker as the bitumen discoloured the white. Within 3 months the visual aspect was an eyesore.

White TPO has long been sold in NZ as an option. It was initially given a certification in the USA with a nod as the best colour option, mainly due to the superior reflectability of white. White does not absorb as much heat and in turn the roof surface stays cooler.

On a cold roof the lack of heat being absorbed into the substrate translates to less expansion and contraction of the structure below. This is a good thing.

This tick of approval has not been continued as there is a negative side to white membranes. The reflectivity of the membrane causes the heat to bounce off the roof. This can:

1. Increase the heat above the roof and is therefore a possible contributor to atmospheric warming.
2. Vertical walls above the roof get a double dose of heat and light projected onto the surface.
3. In colder climates the dew point is held longer under the surface of the membrane.

The vapour barrier on a warm roof must be airtight. If not, the moist air will condensate under the membrane causing moisture issues such as bubbles and delamination of the membrane from the substrate.

During very cold snaps the moisture will form ice under the membrane. This can be heard as you walk over the roof- a crunchy sound much like a hard frost on grass.

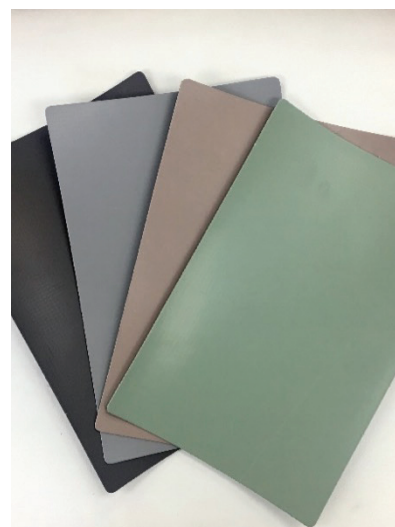
In both of these instances the thermal efficiency drops and becomes worse over time.

Climate zones play an important part in choosing the types of products and the colours. Installing the wrong products and colours for climate zones will affect the lifespan of the membranes and the roof, including the thermal efficiency.

It must be noted that dark colours will also influence the roofing system. Smooth dark roofing products increase the amount of heat the structure must endure. This will cause some building elements to expand and contract more than lighter, reflective, or rough surfaces.

In summary, every roof has different elements that must be considered, and colour adds another dimension that is not as simple as it would seem.

As always, the owner will make decisions based on their own preferences, and the freedom of choice is welcome.





Vikingroofspec is a membrane supplier.

We provide various sheet membranes to the NZ market.

This includes a range of tanking membranes.

As a conscientious supplier we have been heavily involved with the WMAI in the writing of the Below Ground Tanking Code of Practice.

This has taken quite some time to see the document come to fruition.

The BGT will give our Installers, Architects, Homeowners, Council, and our Viking Staff access to information that has been uncertain in this industry. Great guidance for specifiers when picking what products they require for the various tanking situations.

We think the below ground category is often over-looked. It is not as sexy as walls or windows. However, the importance of keeping moisture out of the building makes living conditions so much healthier and more comfortable.

All tanking membranes have limitations. The BGT gives the user a great guide.

To our fellow suppliers who have worked hard to get this awesome document out. We have learnt a lot together and thank you for the debates that have helped shape the BGT (Below Ground Tanking Code of Practice).

This newsletter was brought to you by Gerry Mekkelholt, Esq.