



Welcome to 2025 Q1 WMAI Newsletter. Happy Reading...

WMAI AGM

- Election of Officers for 2025 year
- Calendar for 2025

TECHNICAL

- Due Diligence & Value Engineering
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- Cold Roof Venting Requirements - Part A
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REMINDER TO SHOWCASE YOUR TALENT!

We announce the introduction of a new section for this year: **GENERAL INTEREST**

This is where you, our members, get to showcase a job that you are particularly proud of.

It might be an interesting project, an unusual use of membrane, or maybe just a really good-looking job.

IF IT HAS WATERPROOFING, IT QUALIFIES.

Look out for the submission form on the WMAI website.



WMAI AGM, Blenheim

At the end of each year the lucky Ordinary members of the WMAI find a place in the country to conduct the AGM. This year we chose Blenheim; home to 'life member' Brain Greenall and the manufacturing base of Equus Industries Ltd.

Blenheim has endless vineyards, with wine tasting and great food establishments combining to make a truly great place to visit. But before any of these could be enjoyed, the AGM must be attended to.

Election of Officers for the 2025 year:

CHAIR - Chris Withers (Aquatite) continues as Chairman.

VICE CHAIR - Gerry Mekkelholt (Viking) continues as Vice Chairman.

JR VICE CHAIRMAN - Greg Philips (Allco) has been elected as the new Jr Vice Chairman for 2025.

SECRETARY - Anthony Howell (Ardex) for the election as your new Secretary. Anthony replaces Mark Rayner as Secretary.



TREASURER - Mark Rayner (Life Member) and a founding member of the WMAI. Mark has held various roles within the WMAI over the years and has long held the dual roles of Secretary and Treasurer. Mark continues on as Treasurer for 2025 and remains a very passionate and active member.

TECHNICAL CONSULTANT - Brian Greenall (Equus, Life Member) continues in this role.

TECHNICAL WRITER - Rodney Knight (Aquaknight) continues in this role.

The WMAI 2025 Calendar will again be a full one.

Development of Codes of Practice

The **Single Ply CoP** is getting closer to completion, with a draft anticipated to be ready for circulation in the first half of 2025. The next step will be consultation with our Associated Members. If you are interested in giving feedback on the content before publication, we are very interested in your feedback.

This will involve reading the CoP and making a submission to the Ordinary members, who will then discuss the comments. If they are well founded, your suggested changes may form part of this new document.

If you are willing to devote the time to comment, please contact the Vice Chair: vicechair@wmai.org.nz

The **Below Ground Tanking CoP** and the **Reinforced Modified Bitumen Membrane Cop** Subcommittees continue to integrate the commentary of MIBE who, have now completed their review of both CoP's.

Applicator Forums

Rob Roxborough (Equus) and Gerry Mekkelholt will be starting an applicator forum in the early part of 2025 in Auckland and Christchurch. Dates are still to be confirmed. The WMAI is looking to our members for feedback and contributions to the waterproofing industry.

Monthly working meetings

All associate members can attend the monthly meetings. We would require notification of your attendance as space would be required if more than three attended at one time. We are always interested in your views and comments. Check the dates on the [website](#). ■



TECHNICAL

'Due Diligence' and 'Value Engineering' – what do they mean and who is responsible?

BY MALCOM ROSS, DETEC NZ

Due Diligence. It is an interesting concept which is open to interpretation, just like the term 'Quality'. I recently had a discussion with another building professional who declared "it is up to the builder to perform due diligence to ensure the building is watertight" - effectively intending to absolve their business of any liability should the building leak. Seems straight forward enough.

In the realm of waterproofing membrane systems is 'due diligence' looking over the membrane to see if everything looks ok? Is spraying the sheet roof membrane up and down the seams / laps with water for an hour and then looking for leak's underneath 'due diligence'? Using a seem probe? Or obtaining a written statement from the installer stating, 'the works have been completed in a professional manner in accordance with the manufacturers instructions'?

What if an architect specifies Electronic Leak Detection and wants to install a conductive substrate under the cap sheet but the client / developer decide to 'value engineer' it out of the project? When the roof leaks - so who is responsible?

Is it:

1. The client / developer who didn't want to pay for an ELD testing systems' basic requirements?
2. The designer who didn't specify the type of 'due diligence required' or agreed to remove ELD?
3. The installer for not providing a waterproof system - even though they could not test it in the manner they wanted to due to the 'value engineering'?

4. The builder for not protecting the area and making testing a requirement as part of the tender? But the builder will not do more than specified, otherwise they might lose the tender.

When no one knows how the breach occurred - that is when the finger pointing begins and the issues can 'snowball' out of control.

If the designer had at least allowed for ELD in the design to find the surface breaches both upon installation and also into the future, isn't that a good start?

If the client / builder wants to take ELD out as part of a value engineering exercise, then this might initiate a conversation about liability because the waterproofing contractor has been effectively 'hogtied' in limiting their choices to test their work.

Therefore – if the ELD testing has been removed as part of value engineering does that now spread the responsibility to include those that made that decision? This is not legal advice. We are only posing the question and starting the conversation.

As with all our discussions with various builders and applicators - to remain competitive, they only install and test to what the documentation calls for. So then, is it the designer's responsibility?

An interesting problem that we would appreciate hearing your thoughts on.
Happy Waterproofing from the team at Detec New Zealand. ■



TECHNICAL

Recovery Roofs

BY GERRY MEKKELHOLT, VICE CHAIR, WMAI

Over the past decade Recovery roof systems have become a popular solution to the ever-growing problem of how to effectively and economically repair/ upgrade aging metal tray roofs. This system is normally seen on both commercial and residential buildings, especially those that are below the minimum 3° pitch for metal roofing. Typically, the Recovery roof system is installed over either a standing seam or trapezoidal profiled roofs.

So, what is a Recovery Roof and, what are the benefits of this system vs fully replacing an existing metal roof with a new metal roof? What must be considered when thinking about a Recovery Roof system?

A **Recovery Roof** is a system that converts an existing metal roof into a low slope membrane roof.

Firstly, it must be designed and engineered to ensure it meets the New Zealand Building Code and E2/As1 requirements.

Importantly, it must only add minimal weight to the existing roof. These systems typically consist of either PIR or EPS fingers which are laid into the troughs of the metal profile to give a level surface onto which a suitable roof coverboard is fixed directly over the fingers to create a substrate that allows for a waterproofing membrane to be applied. The membranes used here are typically TPO, PVC or KKE single ply membranes (see figure 2).

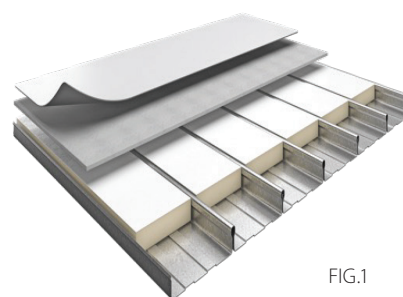


FIG.1

The system is either fully bonded or mechanically fixed, however it can be a combination of both. It is also important to note that the Recovery Roof system is not a Warm Roof and requires roof cavity venting; the same as a conventional cold roof build up. However, it is possible to integrate a Warm Roof into a Recovery Roof system.

As the system is being added to the existing structure and will add extra weight to the roof, there are several important issues that need to be considered. As these roofs are mainly designed as lightweight roofs with a

maximum of weight of 20kg/m², the first thing is to review the existing roof plans and any engineering data to ensure that the structure will safely manage the extra weight that will be applied to the roof without causing any structural issues. These systems can add anywhere between 5kg/m² to 11kg/m² depending on the material buildup. In some cases, there may be a requirement to add extra strengthening to the roof structure.

The actual roof design is also an important consideration:

- Is watershed to external gutters or are there internal gutters
- Does the building have parapets.
- What and how much plant and equipment is housed on the roof. Can the equipment be temporarily removed during the installation process, or completely removed and rehoused elsewhere.
- How much foot traffic the roof will the roof be subjected to and where the main areas will be.

As the existing metal roof effectively becomes to substrate for the Recovery roof, a full and detailed inspection of the metal roof must be made. This will identify any issues such as rust and whether this surface can be treated with rust kill treatments, or more severe, and require sections to be replaced. It is also important to inspect the roof fixings to ensure that these aren't corroded and are still intact.

In the case of standing seam roofs where the roof is secured with a clip lock system these need to be inspected if these is access to the roof cavity. In some instances, the roof may require extra screw fixings to be added.

While the investigation process may appear lengthy it is important to remember that the existing metal roof is going to become the substrate for a new low slope membrane roof that will carry a 20-year warranty. It must be treated as any new substrate would and meet all of the usual requirements.

What are the benefits to installing a Recovery Roof?

There are significant cost savings made in not redesigning and engineering a new metal roof especially if the existing one is less than the minimum 3° pitch now required to meet the building code. This also equates to less construction required.

As the Recovery Roof system is installed directly over the existing roof there is also no need to wrap the building, relocate the business or tenants, or at worst temporarily close or relocate the business, all of which adds significant costs to the project.

The finished system can improve the acoustic performance of the roof.

Also worth considering is the environmental cost savings that can be made. As the existing roof is being repurposed, we are saving on waste disposal charges and not adding to landfills around the country. The components of the Recovery roof system are also supplied to generate minimum waste.

This brings me to what do you with low pitched roofs (generally residential) with raked ceilings with no access to the roof cavity and minimal if any insulation. By simply adding a recovery roof system you are not adding any extra insulation. The solution here is to incorporate a Warm roof into the Recovery roof system (Hybrid), similar to (see figure 2).

With a Hybrid solution the structural considerations are different, as the weight of the system increases due to the added components and thickness of rigid insulation used, so there may be some structural work involved.

A typical Hybrid roof system will include the installation of a vapour barrier directly over the infill fingers. To this, a layer of rigid insulation board (Polyisocyanurate) will be added and depending on what system is used, a roof cover board will be laid over the insulation followed by the waterproofing membrane. These systems can be fully bonded, mechanically fixed or a combination of both.

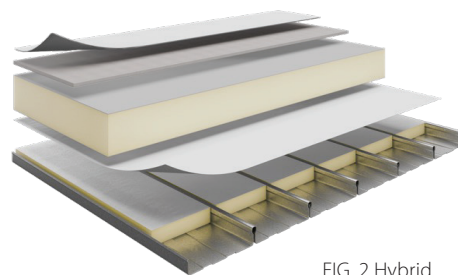


FIG. 2 Hybrid

The benefits of this system are the same as the Recovery roof with the added bonus of increasing the R value of the roof, creating a warmer dryer and healthier environment and assisting in the reduction of heating costs.

In summary whether you are looking at a Recovery roof system, or a combination of Recovery and Warm roof, they offer an excellent alternative solution to replacing an existing low pitch metal roof and can offer significant cost savings. ■



TECHNICAL

Cold Roof Venting requirements - Part A

BY GERRY MEKKELHOLT, VICE CHAIR, WMAI

Often, we are asked how many vents are required on a roof. My next question is: 'Is this a cold roof and, are you asking about venting the cavity below the substrate'?

The answer to this simple question has to be: 'You must consult the designer'.

And here is why:

Cavity ventilation is primarily a calculation of air flow required to stop the formation of condensation under the roof surface, but is also the ability of air flow to dry the structure if condensation was to form and become absorbed into the structure.

Venting is a requirement for the structure that the roof is adhered to and is not a necessity for the membrane, (although entrapped moisture will usually result in bubbles).

Often this then results in a second phone call from the designer asking where this information can be found? You must ask a ventilation expert or a HVAC Engineer. This was an easy way out of a difficult calculation I am not qualified to give.

So, I did some digging to see if I could get some understanding of where to point designers in the right direction. What I found, was there was no definitive direction on this problem and no calculations available.

This was again confirmed by a discussion at the RANZ conference where the panel could not agree on the actual amount of gap required below the roof for the air flow to the vents. Yes, there is a minimum of 20mm cavity required in the Building Code but is this adequate and who has the calculation to confirm this?

More questions:

- If you have a very calm night, do passive vents even work?
- Is the warm air produced from the interior enough to create pressure to passively vent the cavity?
- Do soffit vents work if they are not on the windy side of the building?

Surely, a mechanical vent would be the only real way to obtain the required airflow in the cavity. You can then calculate the amount of air movement. At least the supplier of the vent can give these figures as a starting point for the designer.

We are making our living spaces more airtight and better insulated. This may be saving energy to heat, but we know that unintended consequences can be wet walls and mould growth.

We know we must allow the internal moisture created by our living to escape but do not know the amount of airflow required for this to be effective. Add to this, we must have a certain number of air changes in our living spaces to stay healthy.

This article does not have any answers, only questions.

I am concerned for the designers of cold roofs who are ultimately responsible for the functionality and durability of the building structure.

If the available information is so vague, then how can they come up with a design to is guaranteed to perform?

It can't be expected that a membrane supplier has the information in this scenario. They have no control over the structural design or, understanding of the air flow of the site.



TECHNICAL

Dew Point - Part B

BY GERRY MEKKELHOLT, VICE CHAIR, WMAI

...and because these two subjects are so closely related...

What is 'Dew Point'?

This is the temperature at which the air becomes fully saturated with water vapor and begins to release moisture. The Dew point is the temperature at which moisture will condense on a surface.

Dew point is an absolute measurement, while humidity is a percentage. Hence, the dew point is considered a more accurate way of measuring the moisture content (and comfort) of the air.

For our industry, no coating should be applied unless the substrate surface temperature is a minimum of 5° above Dew point. Temperature must be maintained during curing, or temperature should be steady and falling, **but never rising.**

Air Temperature in Degrees Celsius

Air Temp °C	% Relative Humidity																		
	100	95	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10
43	43	42	41	40	39	38	37	35	34	32	31	29	27	24	22	18	16	11	5
41	41	39	38	37	36	35	34	33	32	29	28	27	24	22	19	17	13	8	3
38	38	37	36	35	34	33	32	30	29	27	26	24	22	19	17	14	11	7	0
35	35	34	33	32	31	30	29	27	26	24	23	21	19	17	15	12	9	4	0
32	32	31	31	29	28	27	26	24	23	22	20	18	17	15	12	9	6	2	0
29	29	28	27	27	26	24	23	22	21	19	18	16	14	12	10	7	3	0	
27	27	26	25	24	23	22	21	19	18	17	15	13	12	10	7	4	2	0	
24	24	23	22	21	20	19	18	17	16	14	13	11	9	7	5	2	0		
21	21	20	19	18	17	16	15	14	13	12	10	8	7	4	3	0			
18	18	17	17	16	15	14	13	12	10	9	7	6	4	2	0				
16	16	14	14	13	12	11	10	9	7	6	5	3	2	0					
13	13	12	11	10	9	8	7	6	4	3	2	1	0						
10	10	9	8	7	7	6	4	3	2	1	0								
7	7	6	6	4	4	3	2	1	0										
4	4	4	3	2	1	0													
2	2	1	0																
0	0																		

Example: Read the air temperature in the left hand column and the humidity at the top of the chart. If the temperature of the storage unit is 75°F (24° C) and the relative humidity is 35%, the intersection of the two shows the dew point of the area to be 45°F (7°C). If the metal coming in is below 45°F (7°C), water will condense on the metal.

EXAMPLE 1: If the air temperature is 24°C and the relative humidity is 35%, the dew point is 7°C.

EXAMPLE 2: If the air temperature is 13°C and the relative humidity is 70%, the dew point is also 7°C. ■

Pushing Design Boundaries: Viking Enviroclad Achieves Distinctive Barrel Vault Roof

This bespoke project with its curved membrane roof was shortlisted for the 2024 Te Kāhui Whaihanga NZ Institute of Architects Local awards in the Public Architecture Category.



In 2016, the old presbytery and office next to St. Patrick's Church were demolished due to the prohibitive costs of seismic compliance. This made it essential for the Catholic Parish of Napier to build a new mission and administration center to continue their outreach and services.

Some years earlier, a distinctive barrel vault roof had been constructed and waterproofed with Viking Enviroclad membrane on an existing building. So, the Mission Centre wanted to replicate the same roof for the new structure. It was at this point that Atkinson Harwood Architects contacted Viking Roofspec for assistance with the new design.

The architect's aim was to ensure the substrate was designed effectively to form the barrel dome structures for a smooth membrane installation, whilst including adequate ventilation in the cavity.

Building consent was received from the Napier City Council, a contract was signed with Atkin Construction to begin, and a Viking Approved Applicator won the tender for the Enviroclad membrane Installation.

Then the fun began...

The initial substrate design comprised of two sheets of 12mm plywood laminated together to the appropriate radius, which was signed off by an engineer. But the installation didn't go to plan. The radius on the first layer was too tight for the 12mm ply which resulted in stress fractures to the plywood face. The decision was made to swap this out for a 9mm first layer, with a 12mm sheet installed on top. Decorative timber ribs running perpendicular to the building, were then formed by laminating layers of plywood together.

Once that challenge was overcome, the licensed installers installed the Enviroclad by dressing the membrane up each rib, making the weld on the flat top of each one, so the visual effect was the appearance of a continuous piece of membrane up and over the barrel.

Minor bubbling under the membrane soon occurred. On inspection, it turned out that the vent strips at the base of the roof had been blocked by other trades. Once unblocked, the venting operated as intended and all bubbles dissipated leaving an impeccable roof.

This project is an example of the specification hitting some construction limitations. Nonetheless all stakeholders

worked coherently to find a practical, compliant resolution. Just knowing when to seek assistance, and doing so before it's too late, can save a project from failure.

Keeping the substrate dry while working in wet, winter months added to the complexity of this installation, yet the Approved Applicators installed the Enviroclad membrane on this barrel roof with results nothing less than perfect. Atkin Construction appreciated the ease with which all stakeholders worked together. They also appreciated the technical assistance when needed from the Viking team.

To top it off, this bespoke project with its curved membrane roof, was shortlisted for the 2024 Te Kāhui Whaihanga NZ Institute of Architects Local awards in the Public Architecture Category. Congratulations to all involved – especially our Approved Applicators! ■



ADVERTORIAL

Marketing Matters - Websites

BY TERRI GASPARICH, TG DESIGN



Welcome to the second article of Marketing Matters.

Reviewing your Website: Key considerations for Trade Professionals.

Your website is more than just an online brochure – it's a powerful marketing tool that can help you attract new customers, build credibility, and grow your business.

Here are some key points to consider when reviewing your website:

1. Is Your Website a Strong Foundation for Your Business?

Your website should act as the central hub for all your marketing efforts, from social media and email campaigns to search engine visibility. Ensure it clearly presents your business, services, and expertise in a way that's easy for potential clients to navigate. Make sure all your other marketing material and channels match it and link to it.

2. Does Your Website Build Trust and Credibility?

First impressions count! A professional, well-designed website reassures customers that they're dealing with a legitimate, reputable business.

Key elements to boost credibility include:

- A clear, professional design
- High-quality images of your work
- Testimonials and Case Studies
- Clear contact information and business details.

3. Is Your Website Converting Visitors into Customers?

A great website doesn't just inform – it encourages action.

Make sure your website has clear **calls-to-action (CTAs)** like:

- **"Request a Quote"** or **"Contact Us"** buttons
- Online booking forms
- Lead magnets (e.g., free guides or checklists)
- Easy-to-find phone numbers, email addresses and peoples names - you'd be surprised how hard these are to find on some websites.

4. Can Customers Find You Online?

If your website isn't optimised for search engines (**SEO**), you could be missing out on potential clients. Trade professionals should ensure their site includes:

- Relevant **keywords** (e.g., "Plumber in Auckland" or "Roofing Services near me")
- Local SEO elements like **Google My Business integration**
- Fast loading times and mobile-friendly design.

5. Are You Leveraging Your Website as a Cost-Effective Marketing Tool?

Compared to traditional advertising, your website can generate leads at a lower cost through:

- **SEO-friendly blog content** (e.g., "How to Maintain Your Home's Guttering")
- **Social media links** driving traffic back to your site
- **Email marketing integration** to keep customers engaged.

6. Are You Tracking and Improving Performance?

If you're not using analytics, you're flying blind. Set up **Google Analytics** to track visitor behaviour, see where traffic is coming from, and improve your website based on real data.

7. Is Your Website Ready to Grow With Your Business?

Your website should evolve as your business grows. Regular updates to services, project showcases, client testimonials, and industry news/blogs will keep your site fresh and relevant.

Next Steps: What to Do Now

- > Check your website for credibility, functionality, and SEO.
- > Ensure clear CTAs encourage visitors to take action.
- > Use analytics to track and refine your online strategy.
- > Keep your content updated and relevant to your audience.

Your website is a 24/7 storefront – make sure it's working hard for your business!

So, thinking about your website – is it working as hard as you are to attract and convert customers?

If you're unsure or know it needs improvement or updating, let's chat about what can be done – it's what I help my clients with.

www.tgdesign.co.nz ■