THE NURSING HOME WAS THRILLED WITH THE WATERPROOF, ENERGY-EFFICIENT, PRISTINE ROOF FINISH.

"I'D LIKE AN 'APEEL – RHINO – WARM ROOF' COMBO PLEASE!"

CHALLENGE – PART ONE:

A LARGE NURSING HOME IN CENTRAL AUCKLAND HAD THOUSANDS OF SQUARE METRES OF METAL TRAY ROOFING WITH MINIMAL PITCH; A FEW AREAS OF WHICH WERE IN A STATE OF DISREPAIR AND LEAKING.

These roofs needed to be sorted, but firstly, there were a few challenges:

Budget – the Trust Board didn't have the income for the metal roof to be removed nor for carpenters to build a support structure to re-pitch a new one at the three degrees required for metal roofs. This would also affect existing window placements as well. Such work would be deemed as 'Restricted Building Works'; all of which would require applying for a building consent.

Practicality – removal of a roof requires the relocation of people (called 'churn') which is inconvenient and expensive at the best of times, let alone when those people are elderly patients. Roof removal also requires the erection of shrink-wrapped scaffolding which adds to the above-mentioned costs.

Noise – projects like this can be noisy, which is the last thing people in the twilight of their lives need to be subjected to.

Solution – Part One:

One of Viking Roofspec's Approved Applicators recommended that a Warm Roof overlay be installed on top of the existing roof. A Warm Roof is an insulation system (rigid panels) installed on top of a roof substrate with a membrane installed on top of it. The proposed solution would render several advantages:

The existing metal tray roof would remain in place, so the building would remain covered and therefore no building inhabitants would need to be relocated.

No Restricted Building Works would be required for re-pitching the roof to three degrees, (seeing it had surpassed its minimum 15 year durability as required by the Building Code), so no windows would need to be replaced and no shrink-wrapped scaffold would be necessary.

Polyiso insulation would not only provide a flat surface for the membrane to be installed on, but it would render an R-value of R-3.0 which would make the building more energy efficient and comfortable for the patients. An additional bonus would be the fact that the insulation would reinforce the spanning strength of the existing metal roof as well.

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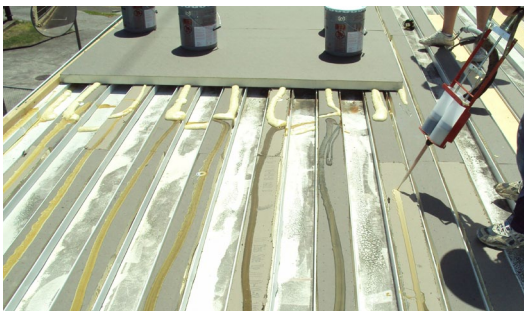

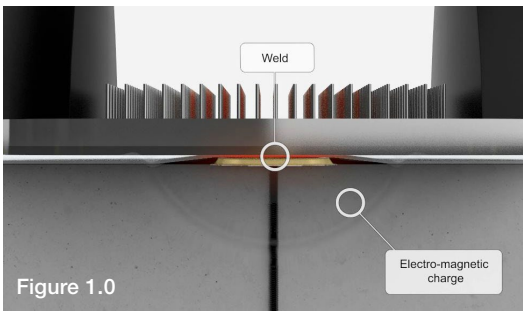

Figure 1.0

Before film removal

After film removal

CHALLENGE – PART TWO: THE BUILDINGS HAVE A NUMBER OF EXTRACTOR FANS, SO THE FUMES FROM AN ADHESIVE SYSTEM COULD FIND THEIR WAY INTO A BUILDING AND AFFECT THE PATIENTS AND STAFF.
A NUMBER OF OTHER TRADES (PLUMBING AND GLAZING) WOULD BE FOLLOWING THE ROOFING PROJECT, SO THERE WOULD BE A DANGER OF THE MEMBRANE SURFACE BEING DAMAGED (THE INSTALLER'S HANDY WORK BEING UNDONE).

Solution – Part Two:

Fumes! - To eliminate the use of potent adhesives, the RhinoBond system was commissioned. In short, RhinoBond is a method of mechanically-fastening a TPO membrane to the surface on which it will be installed (in this case, the Kingspan polyiso insulation layer), without penetrating the membrane. This is done with 75mm diameter TPO-coated Rhino-washers (plates), which are screwed through the insulation to the substrate in a grid pattern (600mm x 600mm) on top of which a roll of Enviroclad TPO membrane is then loose-laid. A RhinoBond induction machine is then positioned on top of the membrane above each plate, where it transmits an electromagnetic 'charge' though the membrane surface. This activates the polymers, thus fusing the TPO-coated plates to the underside of the membrane (see figure 1.0).

This state-of-the art system not only prevented any membrane penetration, but it maximised wind uplift resistance and most importantly for this customer, negated the use of potent adhesives.

Other bloody trades! - With plumbers and glazers performing their work in behind the membrane installation team, it was important that the membrane remained protected and clean. To avoid gouging or puncturing from ladders and/or dropped chisels, hammers or knives etc, a geotextile protection course was loose-laid in strategic areas. But to avoid soiling of the whole roof; mostly from dirty boots which would then require solvent cleaning the whole area, Viking specified the use of Enviroclad 'APEEL'...Enviroclad APEEL is normal Enviroclad TPO membrane, but with a factory-applied protection film. This layer is left on – beyond the roofing installation for the duration of the building works until all trades have left. It is then simply peeled off, leaving a pristine membrane surface. The APEEL system was also developed so that a RhinoBond induction machine could still make a successful electromagnetic transmission through its film.

Result:

The Nursing Home Trust Board members were thrilled with the fact that they ended up with a low slope roof that was:

- Waterproof
- Energy-efficient though the Viking Warm Roof which uses Kingspan Polyiso board
- Solvent-free through the use of the RhinoBond mechanical fastening system
- Pristinely-finished thanks to the Enviroclad 'APEEL' TPO membrane with its protective film...
- Backed by warranties of substance.
- And all of the above had been achieved with minimal noise and disruption and most importantly, without the expensive and painful process of having to apply for consent and relocate its precious elderly inhabitants respectively.

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