

Viking Technical Series – Re-Roofing Low Slope Roofs

Viking Roofspec are suppliers of waterproofing membrane systems for roofing, decks and below ground waterproofing. We provide technical support to designers / specifiers for re-roofing low-slope roofs.

Whether you are trying to reduce heat build-up; add insulation; do you want to collect potable water; or maybe change the roof colour?

The building code is pertinent to helping decide whether a whole roof assembly needs to be pulled down and replaced or if the existing roof can be overlaid. It's critical to give the building owner all the relevant facts to consider so that he / she can make an informed decision.

If the need for a re-roof arises:

- The existing is usually 20+ years after original installation
- Usually sloped less than E2/AS1 min.
- Creating falls to E2/AS1 can be problematic

... this potentially may not be a hurdle to achieving a successful re-roof.

If a roof has lasted a minimum of 15 years and is still fit-for-purpose up to that point, then it has fulfilled its obligations under the 'Durability' clause of the Building code.

If a roof, prevents external moisture from entry or resists accumulation of moisture from the outside (ponding), then it has fulfilled its key obligations under the external moisture clause of the Building code.

An existing roof fulfilling these NZBC requirements, *probably* won't need a total replacement. Rules around re-roofing can be down to interpretation - so if you as the architect or the building owner are still a little unsure, then you can visit Schedule 1 of the Building Act which is found on MBIE's website – or you can call the local council to get their position.

<https://www.building.govt.nz/projects-and-consents/planning-a-successful-build/scope-and-design/check-if-you-need-consents/building-consent-exemptions-for-low-risk-work/schedule-1-guidance/schedule-1-exempt-building-work/>

Re-build a roof or overlay the existing?

Make sure you take into consideration the cost – not just in new structural materials, but also in shrink-wrapping and one of the biggest ones is in relocating peoplebut if the decision is to overlay – it must result in the long-term durability of the roof having not been compromised.

If the existing roof does not meet the previously mentioned requirements of the building code – for example, it may have some rotten joists or it may sag badly in areas causing ponding, then it's not compliant and must be replaced. This will be consentable work.

Before an overlay can take place, the existing substrate must be rock-solid and the old membrane - well-bonded to it. Viking Roofspec and its Approved Applicators can report on the condition of the roof and offer some advice before the building owner decides what he or she wants to do.

The roof may have ticked the building code boxes, but if the membrane is starting to detach, it would be irresponsible to install over a loose membrane. In this instance, a removal of the existing membrane and replacement with a comparable material can take place without re-pitching the substrate.

There are several options for overlaying over existing membranes. The first is simply overlaying over the existing. Once the substrate has been checked, your membrane supplier will inform you as to which membranes are compatible to go over the top. The applicator will then install the materials as per the supplier's spec which should be to best-practice.

Membranes and methods best for re-roofing:

Enviroclad FBS: suitable for old bitumen roofs, Enviroclad FBS is standard Enviroclad membrane with a factory applied fleece on its underside. The adhesive used is a specialised 2-part urethane system which beds into the fleece creating the critical bond between the old bitumen and the membrane.

Torch-On Membranes: simply re-prime the old bitumen and torch-apply a new modified bitumen membrane cap sheet on top.

Rhinobond Technology: this overlay method eliminates the need for adhesives, so the installation can take place in adverse weather conditions. The process involves fastening of TPO coated metal washers or plates in a 600mm x 600mm grid on the old roof. Our Enviroclad membrane is then laid over the top of these plates. The Rhinobond induction welder is used to secure the membrane to the plates –without penetrating the membrane.

WarmRoof Overlay: If you're having roof civility ventilation challenges or you wish to add extra insulation to the roof – then the warm roof overlay approach works superbly. This involves installing rigid foam insulation panels (polyiso) on top of an existing flat roof before laying membrane on top. This is a featherweight addition to the roof but adds decades to its life without having to re-build it. This method can be used to cover long run steel roofs – finger foams are installed in the troughs before another complete layer is installed on top –

and then the membrane. To create extra fall, proprietary tapered polyiso foam panels can be utilised.

In summary, pertinent clauses from the code will assist in determining whether a complete roof assembly needs to be re-built or not. This information, plus some substrate investigation will help determine whether to re-roof or overlay. There are several re-roofing options available which won't break the bank, while still maintaining the long term integrity of the building.