

Under the weather

In response to industry questions, BRANZ recently launched a research project into corrosion rates in vented roof spaces. Two roof spaces have been built in an unforgiving coastal environment and will be monitored.

OTERANGA BAY on the rough, southwest coast of Wellington is not well known or easy to get to. Accompanied by Transpower staff, it takes about 20 minutes on gravel roads from the last inhabited outskirts of Makara village, dodging goats, cattle and sheep, through fields of elegant-looking wind turbines, before descending into the barren little bay.

This remote bay plays an important role in the electricity infrastructure of New Zealand - it is here that the high voltage direct current (HVDC) cable comes on shore, delivering hydro power from the mainland to centres in the North Island.

Ideal location to test material degradation

The site is also important from a building research point of view. Supported by Transpower, BRANZ has maintained a test facility here for many years. The close proximity to the sea with its heavy salt deposition and the high wind speeds make it ideal for investigating environmental degradation of a range of building materials.

Usually, metallic samples are mounted on exposure racks and left for years to see how



well they can cope with this extremely corrosive environment - classified as zone D according to NZS 3604:2011 *Timber-framed buildings*.

The infrastructure to conduct the latest Building Research Levy-funded project was more involved. The challenge was to construct two nearly identical roof spaces to investigate corrosion in vented and unvented roof spaces.

Eliminating excess roof moisture

Excess moisture in residential roof spaces has been a topic of interest for BRANZ and

the wider industry for several years, and the reasons behind these issues have been summarised in several BRANZ publications.

Essentially, the first response is to minimise moisture from accumulating in the living areas of a building. Minimising indoor moisture sources, such as clothes drying and unflued gas heaters, and using good ventilation practices are key.

Secondly, moisture transfer into the roof space, where it may condense on cold surfaces, needs to be suppressed by an airtight ceiling. ➤