

# building a greener new zealand



# Ardex - serious about building green



Head Office and plant of Ardex NZ Ltd, Lane Street, Woolston, Christchurch

A major refurbishment programme at the Ardex Christchurch plant has created a healthier, environmentally friendly workplace in which Butynol waterproofing membrane is manufactured.

Ardex is committed to creating a sustainable future and is constantly looking for new ways to reduce its environmental impact through reduction in energy use, waste and creating products with reduced environmental impact.

Innovations have included the establishment of a collection system for Butynol off-cuts from roofing projects for reprocessing into other products such as horse float matting and safety matting.



One of the range of Ardex products which utilises recycled rubber from car tyres in place of sand



Some Ardex products utilise rubber recycled from used tyres in place of sand reducing the number of tyres going into the landfill.

Ardex has made major inroads into reducing the VOC (volatile organic compounds) content of its products and has developed a range of solvent-free resilient floor covering adhesives. There are three types of vinyl adhesive, two carpet adhesives, a linoleum and heavy duty epoxy and an adhesive for outdoor artificial grass..

A training session in progress at the Ardex purpose built National training facility in Christchurch



Ardex K 12 levelling and smoothing compound has also been shown in independent tests to have low VOCs and meets the Green Building Council of Australia IEQ11 and IEQ13 requirements which can assist in achieving green building status.



Ardex K 12 is an advanced cement and polymer based compound formulated for experienced commercial contractors to smooth and level large commercial and retail areas.

Being actively aware that skilled applicators ensure the best outcomes in waterproofing projects Ardex has installed a purpose-built training facility at its Christchurch factory. It is New Zealand's only privately funded training programme for the roofing industry. The Ardex employed trainer is the only fully qualified ITO Industry Trainer in New Zealand.

# Low VOCs give Ardex Butynol the edge in building green

A reduction of volatile organic compounds (VOC) has been achieved in the Ardex Butynol roofing system manufactured in New Zealand which has been independently tested in Australia.

The Ardex Butynol roofing system comprises Butynol synthetic rubber membrane sheet, Ardex seam tape, Ardex seam primer and Ardex adhesives.

The installed Butynol system has low VOCs which meet the Green Building Council of Australia IEQ11 and IEQ13 requirements and can assist in achieving green building status.

Ardex Butynol membrane roofing has a proven long-service life of up to 35 years and is BRANZ appraised as having a serviceable life of at least 20 years.



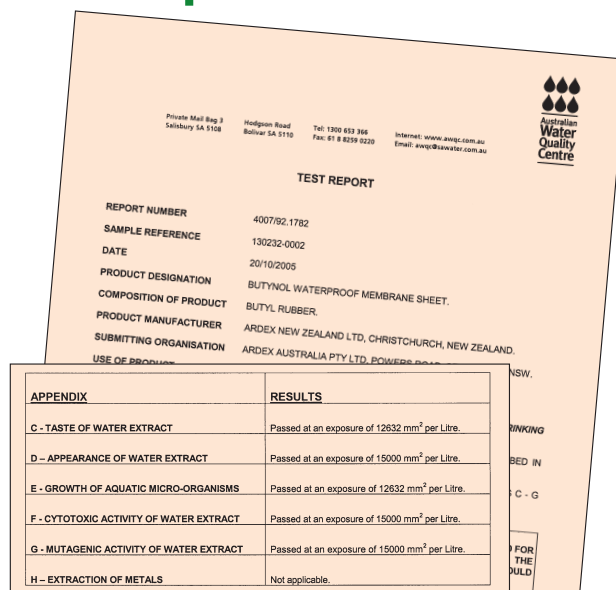
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# Butynol passes potable water tests

Ardex is suitable for roofs which are used for collecting water supplies. It has been independently tested by the Australian Water Quality Centre and meets the requirements of AS/NZS 4020:2002 for the collection and storage of potable (drinking) water.

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# Butynol tops off the world's 9th top green building

A Seattle-based website has rated a Wellington building, Conservation House, the ninth top green building in the world. With Seattle being a global leader in environmentally-friendly and sustainable practice, it's a worthy commendation. It's also an astonishing achievement - the project was completed at only NZD 20million, against other buildings worldwide totalling over NZD 500million.

Globally, buildings account for roughly 40% of the world's energy use. Internationally, the focus is on the sustainable and responsible use of energy. The construction of energy efficient buildings is an integral part of this movement, and many countries, including New Zealand, have established a Green Building Council in support of it.

Consequently, there's an increasing

emphasis on examining every aspect of construction. Architects, engineers and designers are all aiming to incorporate products that minimise the environmental impact of construction, and add to the overall integrity of the build.

The completely refurbished Conservation House, in Manners St, is a stunning example of a green building. It was developed by The Wellington Company from an old cinema complex that closed in 2003. The retrofit utilised the most advanced environmentally sustainable features, and is the first New Zealand equivalent of a five-star-rated Green Star building.

Fittingly, given its recycled nature, Conservation House is the new head office for the Department of Conservation, the

government body charged with conserving New Zealand's natural and historical heritage.

Since its completion in December 2006, the project has accumulated a number of accolades. The building was the Property Council of New Zealand Energy Efficiency Property Award Winner, sponsored by the Ministry for the Environment and EECA. In their summing up, the judges stated "Conservation House has set a new standard for energy-efficient buildings in New Zealand."

In 2008, Conservation House was a Supreme Winner in the much-coveted New Zealand Institute of Architects Awards. In selecting this building, the judges noted "The building's environmental control systems are cleverly exploited to create a lively and protected rooftop garden, meeting rooms and café. This is adaptive re-use at its best and will be a benchmark for the future."

In keeping with selecting only the most environmentally sustainable products, project architects, Architecture +, of Wellington, specified Butynol as their roofing material of choice for the development.

The project made extensive use of 1mm black Butynol waterproofing membrane to cover 1000 sqm of roof slab, as well as an extensive courtyard area, gutters, planters and water features.

The roof of the building's Manners Wing

*The Multiple Award winning Conservation House, Manners Street, Wellington*



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was reclaimed by constructing a café and conference facility, which sits among landscaped terraces, native gardens and pools. Butynol membrane lined the sloping roof slab, separated by spacers from the overlying concrete pavers and timber decking.

Butynol's flexibility allowed for the use of one continuous product capable of lining the roof slab, planters and pools. In addition, Butynol allows for plaster to be placed on top, as chosen in some areas.

Finally, Butynol enabled an irregularly shaped basement space to be cleverly utilised to house a new rainwater tank, by laying a Butynol liner over concrete block construction.

*Right: A view of terrace area showing paving slabs over Butynol membrane with Butynol lined planters and pools*

*Below: Birds eye view of roof showing Butynol roofing and terrace area*

The 65,000-litre basement tank adds to the building's environmentally sustainable design credentials by preventing rainwater from running off

roofs into Wellington's stormwater system. Instead it can be harvested and used for flushing toilets and urinals.



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# Butynol green roofs - alive with environmental benefits

Butynol from Ardex enables anyone to become part of a worldwide movement that looks to soften and lighten the impact of modern building on our planet.

Buildings that blend with, instead of disrupting the natural landscape, are seen in communities around the world - aging gently over the years and achieving a natural synergy with their environment and functionality for their purpose.

A living roof over your head isn't something that's just emerged with the

increased focus on climate change and sustainability issues.

Many visionary architects and environmentalists were passionate advocates more than 40 years ago.

In particular the Austrian architect Friedensreich Hundertwasser, who spent the last 20 years of his life in New Zealand, promoted the health and cost benefits of green roof housing. His public toilet building has become a tourist attraction at Kawakawa the small North Auckland

town near the Bay of Islands.

Low slope roofs with Butynol fully bonded, or loose laid with factory welded seams is the perfect substrate that gives a 100% waterproof platform for a living roof.

Green roofs are a natural choice when

*The Sans Souci Inn at Pohara Golden Bay is a seven bedroom adobe building set in three acres of gardens.*

*Its green roof blends into the lush, subtropical landscape emphasising the ecological architecture.*



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developing environmentally sustainable building designs.

The environmental benefits are many and varied:

- Retention of rainwater manages stormwater runoff
- Oxygen released and CO<sub>2</sub> extracted from the air
- Reduction of heat released by buildings into the environment that has been absorbed by the sun
- A natural building insulator - cooler in the summer, warmer in the winter
- Buildings blend with the landscape they are situated in to enhance the natural environment

*The Carter family house at Pakawau, Golden Bay just south of Farewell Spit*



*The "famous" public toilet at Kawakawa North Auckland is an example of Austrian born Friedensreich Hundertwasser's work, a pioneer in sustainable architecture*



*These chalets which form part of Takaro Lodge at Te Anau are a fine example of living roofs using Butynol as the waterproofing membrane*



*The McGregor House situated at Wanaka, Central Otago by Richard Wilden Design Dunedin*

*Above: House under construction with Butynol waterproofing membrane laid in position*

*Left: Its bell shaped living roof provides a unique architectural feature which is in perfect harmony with the house and its environment*

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