



SYSTEM **ARDÉX**  
PREMIUM PERFORMANCE



LIGHT WEIGHT, ENVIRONMENTAL GREEN ROOF SOLUTIONS

# ARDÉX LIVING ROOF SYSTEMS

ARDÉX BUTYNOL®,  
ROOT REPELL™  
OR TPO SYSTEMS

# ARDEX LIVING ROOF SYSTEMS

## Light-weight, environmental green roof solutions

Forty years ago, ARDEX Butynol® pioneered living roof systems in New Zealand with a green roof completed on Takaro Lodge, Te Anau. A living roof is a roof first and foremost, and ARDEX has been a market leader in membrane roofing since the early seventies. ARDEX has decades of experience in manufacturing and installing membrane roofs.

Buildings that blend with, instead of disrupting the natural landscape are seen in communities around the world and are being specified now in Australia and New Zealand more than ever before. Living roofs achieve a natural synergy with the environment, creating a new functionality particularly for buildings in developed urban areas.

Low slope roofs with ARDEX membranes provide the perfect substrate for a 100% waterproof living roof. Choose from a custom designed ARDEX Butynol®, ARDEX Root Repell™ or ARDEX TPO Living Roof system that can be welded on-site. Quick to install, single-ply and light-weight, ARDEX Living Roof Systems are a cost effective alternative to a bitumen system. They also give a substantial weight saving compared to a bitumen system (two layers of torch-on membrane), reducing the load requirements for a building significantly.



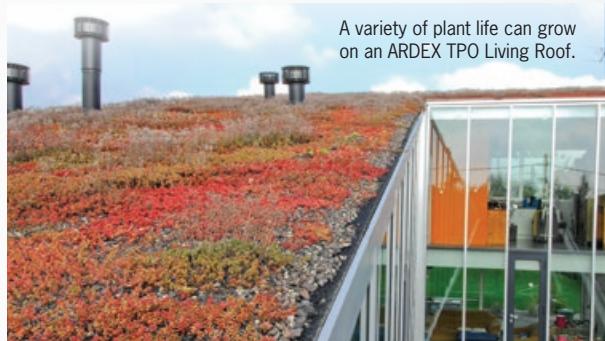
- **Roofing experts** ARDEX have been in the roofing industry for over 50 years.
- **Living roof expertise** Pioneered 40 years ago.
- **Number of options** Loose laid, mechanically fixed or ballasted.
- **Fast installation** Single ply systems, can be loose laid.
- **Cost effective** Compared with a bitumen green roof system.
- **Light-weight roof** Costs reduced due to lower load requirements of roof.
- **Specialist systems** Applicators require training in ARDEX Green Roof Systems.
- **Green Star Building** VOC compliant for Green Star Building.
- **Non-carcinogenic** Compared to bitumen – what's green about a roof with carcinogens?

## ARDEX TPO LIVING ROOF SYSTEM

A lightweight, flexible, scrim-reinforced membrane, ARDEX TPO is engineered to provide dependable performance in most commercial roofing applications. An ARDEX TPO Living Roof is an excellent choice as the system can be installed and welded on site, ensuring absolute weathertightness of the substrate. The scrim-reinforced membrane combines the durability of rubber with the heat weldability of a thermoplastic in a flexible sheet with excellent installed characteristics.



Membrane seams are welded on-site with an automatic Varimat Leister



A variety of plant life can grow on an ARDEX TPO Living Roof.

- **Best suited to large projects** Cost effective for commercial installations.
- **Oversize rolls** Less welds per metre of roof area due to wide sheet lengths.
- **Quality assurance** Decades of experience manufacturing Butynol®, technical assistance on site.
- **System options** Fully bonded, ballasted or mechanically fastened roofing system.
- **Root penetration resistance** Successfully passed the FLL test for root penetration resistance for green roofs.
- **Additions, alterations or repairs made easy** No need for adhesives or sealants on patches. Additions or accidental damage can be welded to restore the membrane.

## ARDEX BUTYNOL® LIVING ROOF SYSTEM

ARDEX Butynol® Roofing Membrane is manufactured in Christchurch, New Zealand. Butynol® is a flexible rubber roofing membrane that is renowned for its strength, versatility and watertightness. In the waterproofing industry, Butynol® has an unmatched track record of success.

Choose a custom living roof system. Butynol® is welded in the factory and on-site to meet the requirements of individual projects. A proven quality product, an ARDEX Butynol® Living Roof System comes with a 20 year materials warranty.



The McGregor House in Wanaka, by Richard Wilden Design Dunedin, has a unique bell shaped green roof.



- **Projects of any size** Large commercial buildings or residential homes.
- **Quality assurance** Decades of experience manufacturing Butynol®, technical assistance on site.
- **Fast track system** Quick to install, Butynol® can also be applied on green concrete.
- **System options** Loose laid or fully adhered system available.
- **Water permeability** Better water permeability resistance than other types of membrane.
- **Potable water quality** Butynol® is suitable for roofs which are used for collecting water supplies, and therefore, the plants in a green roof are growing in a non-toxic environment.
- **Resistant to fertilisers** Butynol® is resistant to commonly used fertilisers and chemicals, meaning the membrane remains unaffected.

## ARDEX ROOT REPELL™ LIVING ROOF SYSTEM

ARDEX Root Repell™ is a single-ply membrane based on butyl technology that can be hot air welded to provide full waterproofing protection to your building. In addition to this, the membrane contains a root inhibitor Preventol B2 that provides an effective root control to prevent damage to your membrane and your building through root penetration.

Root Repell™ contains the correct concentration of Preventol B2 to pass the FLL Test. The EN13948 uses fire thorn only as the test plant. The FLL test is stricter than the EU standard and uses fire thorn and couch grass in the two year test.

Large roof gardens are quickly installed using a robotic hot air welding machine that can complete 30 linear metres in around 6 minutes. Seams are all the same – guaranteed quality with no tapes or significant overlaps.

- **Projects of any size** Large commercial buildings, residential homes or planter boxes.
- **Heat-weldable** Large roof gardens can quickly be installed using a robotic hot air welding machine.
- **Root penetration resistance** Successfully passed the FLL test for root penetration resistance for green roofs.
- **System Options** Loose laid or fully adhered system available.
- **Potable water quality** Root Repell™ is suitable for roofs which are used for collecting water supplies, and therefore, the plants in a green roof are growing in a non-toxic environment.
- **Resistant to fertilisers** Root Repell™ is resistant to commonly used fertilisers and chemicals, meaning the membrane remains unaffected.

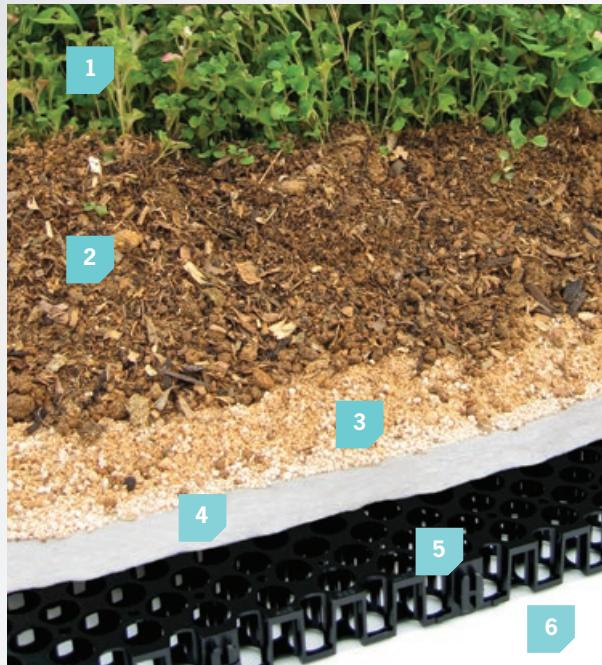
## CHOOSE A LIGHT WEIGHT SYSTEM

Reduce costs by choosing a light weight living roof system. Whichever ARDEX membrane used, either ARDEX TPO, ARDEX Root Repell™ or ARDEX Butynol®, you can be sure you are choosing a light weight roofing membrane. This reduces the load requirement of the roof, which cuts down on structural costs. Considering the membrane is then going to be covered by soil, stones and plants, it makes sense to reduce the weight of the roof where possible.

## LIGHT WEIGHT PRODUCT COMPARISON

| ARDEX<br>Butynol®    | ARDEX<br>Root Repell™ | ARDEX TPO             | Two Layer<br>Torch-on<br>Bitumen<br>Membrane |
|----------------------|-----------------------|-----------------------|--|
| 1.2kg/m <sup>2</sup> | 1.3kg/m <sup>2</sup>  | <1.6kg/m <sup>2</sup> | 8.7kg/m <sup>2</sup>                         |

# COMPONENTS OF A LIVING ROOF SYSTEM



1. **Plant life** A variety of plants will thrive in a living roof environment. Aggressive flaxes, rizones and bamboo are to be avoided however.
2. **Soil & growing medium** Soil is either taken from surrounding areas or obtained from plant life suppliers.
3. **Sand** Sand is optional in a living roof system. It depends upon the needs of the plant life.
4. **Geotextile** A geotextile is used to stop fines clogging the drainage layer.
5. **Drainage system** ARDEX offers a variety of drainage systems with superior load support capabilities and free flow construction. The drainage layer ensures collected rain or irrigation water flows promptly to roof outlets.
6. **Waterproofing membrane** ARDEX recommends ARDEX TPO, ARDEX Root Repell™ and ARDEX Butynol® for Living Roof systems. These membranes have welded seams and there is no risk of adhesive failure due to constant immersion.

## ENVIRONMENTAL BENEFITS

- **Reduce heat gain in summer and heat loss in winter** Plants reduce the heat released by buildings into the environment, reducing the overall heat absorption of the building. Living roofs also act as insulation to keep heat within the building during cooler months.
- **Reduction of energy costs** Excellent natural insulation properties to help to keep the cold out in winter and the heat out in summer.
- **Storm water management** Through water retention and increased evaporation.
- **New habitats for plants and animals** Green roofs create a natural habitat for local wildlife.
- **Improved air quality** Purification of the air by filtering dusts and pollutants and converting CO<sub>2</sub> into oxygen.
- **Reduction of noise pollution** Excellent sound insulators reducing the noise pollution external sources.



## TURN A LIVING ROOF INTO A COOL OR WARM ROOF

Due to the superior waterproofing of ARDEX TPO, ARDEX Root Repell™ and ARDEX Butynol®, a living roof system can also be turned into a cool or warm roof. By adding a layer of insulation under the membrane the living roof can be completely isolated from the substrate. This adds substantial heat retention to the building, or in warmer climates, reduces the effect of solar gain.

ARDEX offers a range of insulation options to supply a full and complete warrantable system for warm and living roofs. Contact an ARDEX technical representative for a complete specification for your project.



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