



Vector Arena, Auckland

## NURAPLY 3PV SYSTEM Technical Brochure

### Description

Nuraply 3PV is a special ventilating grade of Nuraply 3P. Moisture trapped in the substrate below the membrane can cause vapour blisters with standard sheet systems. Nuraply 3PV features a unique vapour diffusion layer in the base of the material to alleviate this issue.

The built-in vapour diffusion layer on the under-side of the Nuraply 3PV is composed of diamond shaped heat melting bitumen adhesive. The melted bitumen bonding area to the substrate is approximately 40%, achieving the ideal ratio between wind resistant adhesion and vapour diffusion below the Nuraply 3PV sheet.

Nuraply 3PV is a tough 4mm thick, reinforced APP bituminous waterproofing membrane, of great strength, suitable for light foot traffic and finished in any selected colour using Nuracolour coating system.

Nuraply 3PV is manufactured for Nuralite by ATAB of Belgium. ATAB manufacture over 10 million square meters of membranes per annum.

Nuraply 3PV can be installed as a single or double layer system. On most residential projects a single layer is appropriate. With larger commercial work two layers are preferable as there is a high risk of damage to the Nuraply during construction.

In single layer systems, the installed Nuraply 3PV roof talc surface is finished with either Nuracolour Gel or Nuracoat BAC (bitumenious aluminium coating), to provide surface protection, heat reduction and an attractive appearance.

In two layer systems, the cap sheet finish over the Nuraply 3PV layer can be Nuraply 3P, Nuraply 3PM or Nuraply 3PG sheets.



BRANZ Appraised  
Appraisal No.547 [2007]





Vector Arena under construction, Auckland



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## When to use Nuraply 3PV

Nuraply 3PV has been developed for long-term, low maintenance waterproofing where moisture entrapment may be an issue. Examples of this are over concrete surfaces or areas where high moisture exists in the building ie. heated swimming pools.

The inert dense Nuracolour surface of Nuraply 3PV is suitable for the catchment of drinking water.

## Warranty

Nuralite warrants Nuraply 3PV against materials defects for 20 years from the date of installation. The warranty must be applied for at the completion of the job. For this extended warranty to remain current the customer must maintain the roof and have it inspected every five years by a qualified Nuralite applicator.

The workmanship of is covered by a separate workmanship warranty issued by the applicator. Nuralite will inspect the completed job if requested.

## Building Code Verification



BRANZ has appraised the Nuraply 3PV system and has concluded that it complies with NZBC E2 – weathertightness and B2 – durability.

We are happy to work with clients on any building consent issues, especially if something outside the scope of usual work is planned.

## Things to consider

The substrate provides the foundation for a successful system. The two most common substrate problems are movement and ponding. To alleviate these ensure when plywood is being used that:

- ▶ The treated plywood substrate is at least 17.5mm thick, 20mm on decks, supported at 400mm x 400mm. The plywood must be tightly butted and staggered or brick pattern laid. Stainless steel fixings and glue bonding of the plywood must be used.
- ▶ Falls are as much as possible. The BRANZ certificate is for a minimum of 1:40 for roof decks and 1:60 for gutters. Lower falls can be accommodated after consultation with our technical advisors. Pay attention to detailing around scuppers as they often are a source of ponding.

New concrete should be clean and free from defects, cured for a minimum of 28 days, graded to correct falls with a wood float finish incorporating fillets to upstands with all sharp edges removed.

To permit dispersion of moisture vapour from a Nuraply 3PV installation, edge flashings must “breathe”. Where design constraints do not permit adequate edge flashing ventilation, Nuravents must be installed into the Nuraply 3PV system at one per 20m<sup>2</sup> of roof surface.

If drinking water is being collected a first flush diverter should be installed to reject possible roof deposits and stagnant or contaminated water.

If the membrane is being tiled over, the preferred method is to keep the membrane accessible by using Nurapads.

Building maintenance is important. Annual cleans and visual inspections are recommended. Five yearly detailed inspections by a qualified Nuralite applicator is a warranty requirement.

Although Nuracolour is available in any colour it is recommended that lighter colours are used (RV > 40) to keep the roof system cooler. As with any coating system, new coats will be required during the life of the system. Depending on environmental factors and the quality of the roof maintenance programme the coating will need recoating at between every 5 and 10 years.



A (Melting bitumen adhesive pad)



B (Welding lap joints)



C (Nuracolour surface dressing)

## When you should not use Nuraply 3PV

**Not** as a cap sheet for Green roofs or planter boxes – specify the Nuraply 3PG system and related drainage mat to ensure the plant roots will not attack the membrane and that there is proper drainage within the waterproofing system.

**Not** in situations where the Nuraply 3PV is likely to be exposed to high foot traffic or may be mechanically or chemically damaged. In these cases ensure the Nuraply 3PV is completely protected by overlaying of pavers or similar.

## Accessories

**Nuratrim** – a smart way to provide a sharp edge finish where the membrane must lap over the roof edge. Detailed to ensure watertightness. Available in mill finish, aluminium, powdercoated or painted.

**Nurapads** – designed so that the client can have tiles or pavers, but the Nuraply 3PV is still accessible, Nurapads come in a range of sizes to enable tiles to be floating just above the deck or raised up to the level of the building interior if desired.

**Nuravents** – low profile vents are unobtrusive but have a large capacity for air circulation.

See separate Nuralite Accessories brochure for a detailed discussion of these products.

**Drains & Scuppers** – Nuralite recommends Allproof products for this purpose. Their complete range is stocked at Nuralite and is available to all Nuralite applicators.

## General Application Method – Single layer system

1. Nuraflux Primer is applied to the substrate to seal the surface. This provides a good key for the melted bitumen adhesive pads.

2. The base of the Nuraply 3PV membrane is heated to melt the bitumen adhesive pads. (Picture A)
3. The membrane is laid up the slope of the roof to allow for the best drainage flow towards the gutter.
4. All lap joints are welded as a separate process. As this step is vital, a three pass method is used so that the quality of the weld is checked during the process. (Picture B)
5. A layer of Nurastone primer is applied before applying two coats of Nuracolour. Alternatively, two coats of Nuracoat BAC is applied. (Picture C)

## General Application Method – Double layer system

1. Steps 1 – 4 of Single layer system is performed.
2. Selected cap sheets, Nuraply 3P or 3PM or 3PG are laid offset from the runs of Nuraply 3PV and are then fully heat welded to the Nuraply 3PV.
3. The membrane joints are welded as a separate process. As this step is vital, a three pass method is used so that the quality of the weld is checked during the process.
4. Any necessary coating is applied to the top sheet.

## Applicators

All Nuralite authorized applicators have been trained in Nuralite's systems followed by on-site monitoring. Most Nuralite applicators have been working with Nuralite systems for many years.

We work closely with applicators to ensure quality standards are maintained.

If clients require an independent quality check during the course of a job or at completion, contact a Nuralite technical advisor and a site report will be provided.

# Technical Information

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A comprehensive set of design details and specifications are available at [www.nuralite.co.nz](http://www.nuralite.co.nz)

Nuralite technical advisors are all very experienced and willing to help either on the phone, in your office or on site. Call **09 579 2046** or **0800 Nuralite (0800 687254)**.

## Description – Nuraply 3PV

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A waterproofing membrane consisting of straight run bitumen heavily modified with polymers (APP = Atactic Polypropylene) and reinforced with non-woven polyester.

## Finishing

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- ▶ Top surface finished with talc then coated in situ with either Nuracoat BAC in reflective silver or Nuracolour in any colour.
- ▶ Underside finished with built-in vapour diffusion facility plus melted bitumen adhesive pads.

## Composition

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- ▶ Reinforcement: non-woven polyester 180 g/m<sup>2</sup>
- ▶ Coating mass: plastomer bitumen, consisting of ±70 % bitumen and ±30% atactic polypropylene (APP)

## Technical specifications (average values)

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- ▶ Tensile strength (U.E.A.t.c.):  
L: 900 N  
T: 550 N
- ▶ Elongation at break (U.E.A.t.c.):  
L: 45%  
D: 45%

## Dimensions

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- ▶ Thickness: 4 mm
- ▶ Length: 7.5 m
- ▶ Width: 1 m
- ▶ Surface: 7.5 m<sup>2</sup>
- ▶ Average weight: 32 kg

Refer to Nuraply 3P, Nuraply 3PM and Nuraply 3PG technical brochures for information on cap sheets.

Nuraply 3PV and Nuracolour are non-hazardous products.

Nuraflux, Nuracoat BAC and Nurastone sealer are Class III Dangerous Goods and are flammable. Care is required in use.

To the best of our knowledge, the information in this brochure is accurate at the time of printing.

Nuralite Waterproofing Ltd reserves the right to alter information, formulation or parameters at any time without notice.

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