



# Nuraply 3P Covered Membrane Installation Manual

Nuralite Waterproofing Limited

[www.nuralite.co.nz](http://www.nuralite.co.nz)

2024 Edition v1



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## ABOUT THIS MANUAL

This manual provides the technical information necessary to correctly specify the Nuraply 3P Covered Membrane waterproofing system. It has also been designed for use by Nuralite Waterproofing Ltd approved applicators, for training and quality management purposes.

This manual may also be used by main contractors and Building Consent Authorities (BCA's) for quality management and inspection purposes.

Buildings with deep multi-storey basements and when subject to constant hydrostatic pressure present, specialist design and installation problems which are not covered by this manual.

Nuralite Waterproofing are intended for application by trained and approved installers. A listing of the current approved applicators is available at [www.nuralite.co.nz/Applicators\\_By\\_Region/](http://www.nuralite.co.nz/Applicators_By_Region/).

## NOTE TO APPLICATORS

Where a specific situation arises on a particular project that makes it difficult for you to follow the published procedure or comply with a particular detail drawing, communicate this to Nuralite Waterproofing Ltd for an approved working solution.

has a long product defects warranty period, and care must be taken to avoid installation faults.

## TECHNICAL ADVICE

For advice on unusual or abnormal conditions or details, please contact Nuralite Waterproofing Ltd,

Phone: 09 579 2046, 0800 687 254

Email: [info@nuralite.co.nz](mailto:info@nuralite.co.nz)

## OTHER REFERENCE DOCUMENTS

Technical literature (available at [www.nuralite.co.nz](http://www.nuralite.co.nz))

- Nuraply 3P covered membrane system detail drawings.
- Material Safety Datasheets.
- Technical Datasheets.

## Specifications

- Generic Nuraply 3P covered membrane system specifications.
- Project specific specification.

## FOR FURTHER INFORMATION, CONTACT:

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## Document Control

Issued	John Simmons	March 2019	2019 Edition V1
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The only person authorised to change this installation manual is the Managing Director, John Simmons.

The Nuraply 3P Covered Membrane System complies with the New Zealand Building Code.

As an explanation of compliance with Building Code criteria under s269 (1) of the Building Act 2004 –

Clause B1.3.2	Compliance has been established by testing to ensure that tensile strength, elongation, compression, and seam strength are adequate.
Clauses B1.3.3 (b), (e) & (m)	Compliance has been established with testing to ensure resistance to water absorption, hydrostatic pressure, earth pressure, differential movement over substrate joints are adequate and vegetation (3PG).
Clause B2.3.1 (a) & (b) if exposed	Unexposed, the Nuraply 3P covered membrane system is assessed for at least a 50-year durability period as part of the envelope building elements as it does not degrade when buried. Exposed elements are assessed for 15-year durability period based on in-service history more than this period.
Clause B2.3.2 (a)	The membrane is not installed over elements with lesser durability than 50 years.
Clause E2.3.1	The roof membrane system will repel water from entering building and drainage paths ensure it can shed precipitated moisture and melted snow.
Clause E2.3.2	The membrane system prevents the penetration of moisture as it has been tested for water absorption, vapour transmission, hydrostatic pressure, and joint seam strength to satisfy this requirement.
Clause E2.3.3	The membrane system does not absorb or transmit moisture so protects the building elements from dampness or damage.
Clause E2.3.7 due allowance has been given to;	
(a)	The consequences of failure have been considered through specified repair and maintenance requirements, multiple drainage paths and the ability of the system to tolerate ponding (standing water three days after cessation of flow)
(b)	The effects of any uncertainty in or from the sequence of construction can be accommodated.
(c)	Variation in the properties of materials and in the characteristics of the site are accommodated. The membrane has a tolerance for substrate variations and environmental factors.
Clause F2.3.1	No gases liquid or particles are emitted by materials that could give rise to harmful concentrations on surfaces or in atmosphere of any space.

Compliance with other clauses have been considered and found not applicable.

## STATEMENT OF USE & LIMITATIONS

### USE

Nuraply 3P covered membrane system provides a durable waterproofing system for installation by approved installers on below grade walls, beneath floor slabs and green roofs and carpark decks. The system covers the products Nuraply 3PT (for walls), Nuraply 3PTM (for beneath floor slabs), Nuraply 3PG (for walls near plants and green roofs) and Nuraply 3PC (for carpark decks).

### LIMITATIONS

Installation is in accord with this manual Nuralite 3P Covered Membrane Installation Manual 2023 Edition 1 available on the Nuralite website and the Nuraply Waterproofing Membrane Building Product Quality Plan 2022 v1.

Only on a structure complying with the New Zealand Building Code. It may be installed directly onto the substrates listed below:

### UNDER SLAB - 3PTM

- compacted hardfill up to 600mm with smooth blinding, installed complying with the requirements of NZS 3604 (2011), or site concrete.

### WALLS - 3PT AND 3PG

- concrete substrates complying to NZS 3101 (2006)
- concrete block surfaces NZS 4229 (2013) with mortar joints flush.
- ICF formworks EPS and XPS smooth block surfaces
- Polymer Permanent Formworks (e.g. Dincel)

### GREEN ROOFS – 3PG

- H3.2 treated Timber\*, including plywood sheets, CLT and reconstituted wood panels, substrates complying to AS/NZ 2269 (2012) (directly or with Nuratherm PIR Boards between) with treated timber\* trim, battens and framing where timber is detailed and Nuralite product is directly applied or
- concrete substrates complying to NZS 3101 (2006) (directly or with Nuratherm PIR Boards between) or
- NPM 900 metal tray decks with Nuratherm PIR boards between.

### CAR DECKS – 3PC

- concrete substrates complying to the performance requirements of NZS 3101 (2006)

\* All timber products must be treated but must not be treated with LOSP (light organic solvent preservative) nor CuN (copper nitrate).

The design and construction of the substrate, control joints, junctions and allowances for ventilation, movement, condensation control, soil composition and plant selection, framing timber, metal over flashing, cladding, fascia, and fire safety provisions is specific to each building, and therefore is the responsibility of the building designer and building contractor. These matters are all outside the scope of this CodeMark.

Product selection and system design is the responsibility of the specifier. Before making their selection, they must consider:

- likelihood of hydrostatic pressure and
- natural ground is free of contaminants and
- whether trees or plants may be located adjacent to building where their roots may damage the membrane. In this case Nuraply 3PG should be used as an alternative to Nuraply 3PT.

The Nuraply 3P covered membrane system must be installed with suitable wall drainage and membrane protection in place when used on walls. The under-slab substrate must be prepared with compacted sand blinding or site concrete on compacted hard fill.

Nuraply 3PC membrane is a tough, reinforced, bituminous product for waterproofing concrete substrates. The trafficable surface may have hot mix asphalt laid directly on the Nuraply 3PC or masonry overlay separated from the Nuraply 3PC with a heavy-duty polyethylene slip layer. The installation of these is outside the scope of this CodeMark.

Above Nuraply 3PG, a layer of heavy-duty black polyethylene must be installed prior to installing drainage layers and plants or ballast. This protects the membrane from damage during installation of the Green Roof components. The installation of these is outside the scope of this CodeMark. Potable water must not be collected from Green Roof areas.

Exposed membranes, such as at upstands, must be protected with a Nuraply 3PTM or 3PM cap sheet.

The system may be installed in all NZS 3604 Wind Zones, up to and including Extra High.

The slopes allowable are clearly set out in the table on page 10. For low slope roofs the designer of the substrate should consider the intended use of the roof or deck to ensure continued compliance with the Building Code.

All Green roof and Carpark projects designs must be certified by an independent engineer that the building structure can sustain the installed loads.

When used on existing projects, it is the responsibility of the property owner to have the structure and substrate assessed by a suitably qualified person and to the satisfaction of Nuralite Waterproofing Ltd. For this CodeMark to be applicable the substrate material is limited to only those approved within this manual.

Attention must be paid to application temperature ranges, the necessary requirements for storage of products and their use by dates.

The membranes must be installed only by Nuralite Waterproofing Ltd approved installers.

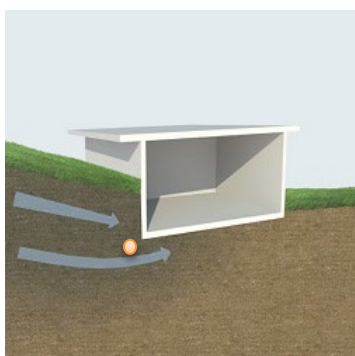
Any construction details outside those listed in this manual are outside the scope of this CodeMark.

## PRODUCT OVERVIEW

This manual is designed installing covered membranes on carpark decks and green roofs, or tanking of below grade level of a building which is wholly or partly below ground. Buildings with deep multi-storey basements or constant hydrostatic pressure present specialist design and installation problems which are not covered by this manual.

The membranes are capable of withstanding 2 head (20m) of water pressure. However, in situations of hydrostatic pressure which may not be drained, such as below sea level or the water table, the products may be used only in conjunction with specific engineering design. In these cases, Nuralite must be consulted for specification and design input before work commences.

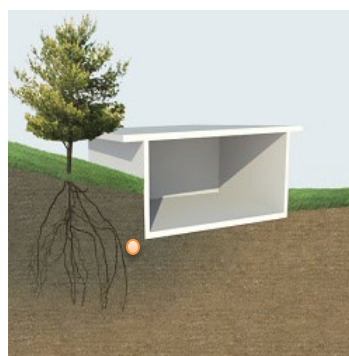
Alert Nuralite if you have concerns about the environment or localised water table.



**Waterproof tanking**

3PT on wall /

3PTM under slab



**Waterproof tanking**

3PG on wall /

3PTM under slab

Nuraply 3PT system is primarily used to waterproof vertical surfaces. No plants may be located nearby unless Nuraply 3PG (with an anti-root inhibitor inbuilt) is used instead. Throughout this document where 3PT is mentioned it covers 3PT, 3PT-SA or 3PG.

Nuraply 3PTM is used for under slab, foundation, and blindside wall waterproofing. Laid chip side up, it keys into the poured concrete slab.

Any failure or deficiency of inaccessible below ground waterproofing of a structure, can be very difficult and expensive to correct.

Nuraply is a positive (rather than passive) waterproofing system that is watertight immediately upon installation.

It is common practice to use polythene vapour barriers under slabs. These barriers are not part of the waterproofing system and cannot be sealed to the Nuraply 3PT system to form a complete waterproofing system. Nuralite does not recommend the mixing of materials.

Nuraply 3P covered membranes are designed for permanent waterproofing. Full integrity and benefit in service will be achieved by close supervision of the system application to ensure correct design and good detailing on site. Care must be taken once the membrane is installed to ensure it is not damaged prior to backfilling or installing the covering system.

## NURAPLY 3P COVERED MEMBRANE SYSTEM COMPONENTS

For all substrates, a clean, dry, and smooth surface is required.

The adhesive or primer recommended is Nuraflux, this can be Number 10, QD solvent based primer, or IKO ECO water based primer.

The wall membranes suitable for use include Nuraply 3PT, Nuraply 3PT-SA, Nuraply 3PTM (A), and Nuraply 3PG (B).

The drainage layer products recommended are Nuradrain, Corfluté Board (C), and Fibre-Cement Sheet (C).

The insulation board to use with Nuraply 3P products is IKO Nuratherm ALU.

Additional notes indicate that Nuraply 3PG (B) should be used if vegetation is close to the tanking installation to prevent root damage. Corfluté Board (C) and Fibre-Cement Sheet (C) are only for use in non-draining, highly compacted, blindside tanking, or sharp fill situations, as determined by an engineer. Nuraply 3PTM (A) is recommended if the tanking is exposed to UV or for blindside installations.

## WALL TANKING PRODUCT SELECTION

Substrate		Concrete or Brick
Substrate Comments		Clean, dry and smooth surface required
Adhesive/Primer		
	Nuraflux	Yes
Wall Membranes		
	Nuraply 3PT	Yes
	Nuraply 3PT-SA	Yes
	Nuraply 3PTM (A)	Yes
	Nuraply 3PG (B)	Yes
Drainage layer		
	Nuradrain	Yes
	Corflute Board (C)	Yes
	Fibre-Cement Sheet (C)	Yes
Insulation		
	IKO Nuratherm ALU	Yes
Notes		

(A) Use if tanking is exposed to UV or for blindside installations

(B) Use if vegetation is close to the tanking installation to prevent root damage

(C) Only for use in non-draining, highly compacted, blindside tanking, or sharp fill situations to be determined by an engineer.



## CAR PARK PRODUCT SELECTION

Substrate	Masonry
Minimum Finished Fall	Nominally zero (A)
Substrate Comments	
Adhesive/Primer	
Nuraflux	Yes
Membranes	
Nuraply 3PC	Yes
Notes	

A) Back falls are not acceptable and must be corrected. Where areas are found by a site level survey to have negative falls, i.e., will hold water, remedial action should be taken, e.g., localized screed or additional rainwater outlet. To prevent ponding caused by lap build ups around rainwater outlets, these should be recessed or fitted in sumps, where practical.

## GREENROOF PRODUCT SELECTION

Substrate	Plywood (A)	Concrete (A)	Concrete with Nuratherm	Plywood with Nuratherm	Hibond Metal tray with Nuratherm
Minimum Finished Fall (excluding gutters) (B)	1:80	1:80	1:80	1:80	1:80
Gutters	1:100	1:100	1:100	1:100	1:100
Substrate Comments	Using minimum 17mm plywood, rafters at 600 centres, nogs at 600 centres.	Option to create required slope with a screed. Wait for concrete and screed to cure.	Tapered boards are 1:60. Nuralite can assist with layout.	Using minimum 17mm plywood, rafters at 600 centres, nogs at 600 centres.	
Due to weight constraints an Engineer must validate the substrate's structural design					
<b>Adhesive/Primer</b>					
Nuraflux	Yes	Yes	Yes	Yes	Yes
<b>Vapour Barrier</b>					
Nuraply ALU			Yes	Yes	Yes
<b>Insulation (B)</b>					
Nuratherm			Yes	Yes	Yes
Tapered Nuratherm at 1:60			Yes		
<b>Insulation fixing</b>					
IKO Fix				Yes	Yes
Nurabond High Foam PU (C)			Yes		
<b>Base sheet</b>					
Nuraply 3PB	Yes	Yes			
Nuraply 3PB-SA	Yes	Yes	Yes	Yes	Yes
<b>Cap sheets</b>					
Nuraply 3PG	Yes	Yes	Yes	Yes	Yes
<b>Drainage layer</b>					
Nuramat Greendrain (D)	Yes	Yes	Yes	Yes	Yes

### Notes

- A. On Cold Roofs, no venting of the substrate is allowed through the Green Roof system. Use either a Nuratherm Warm Roof or cross flow ventilation
- B. Roofs must have a minimum finished fall of 1:80. This is the fall that is achieved on the roof at the completion of construction. Designers should make allowance for construction tolerances and deflection to ensure the falls are achieved onsite.
- C) Refer to Nuralite representative
- D) A layer of heavy-duty Polyethylene must be installed as a separation layer before laying out the Nuramat Green Drain

## MEMBRANE

### NURAPLY 3PT MEMBRANE

Nuraply 3PT is a modified bitumen with a 180gm/m<sup>2</sup> spun bound composite polyester reinforcement, with a thin thermofusible film on both sides of the membrane. (Labelled: *Nuraply 3P F/F 10m*)

### NURAPLY 3PT-SA MEMBRANE

A nominally 3mm thick, 15m long x 1m wide polymer modified bitumen sheet, first layer waterproofing. Self-adhering onto the primed substrate. With heat welded lap joints and a sand upper surface. (Labelled: *IKO Base Stick F/SA 10m*)

### NURAPLY 3PTM UNDER-SLAB MEMBRANE

Nuraply 3PTM reinforced fibre asphalt with a mineral chip face to key into slab. A flexible, tough, waterproofing system applied and joined by welding. Nominal thickness of 3mm, 10m long x 1m wide.

The chip surface on the Nuraply 3PTM makes the membrane suitable for exposure to UV light. It should be used as the tanking membrane on all surface that is exposed to UV. (Labelled: *IKO gum, IKO GUM 4000*)

### NURAPLY 3PG MEMBRANE

Nuraply 3PG is a modified bitumen with a 180gm/m<sup>2</sup> spun bound composite polyester reinforcement, with a thin thermofusible film on one side and sand on the other. Incorporated into the membrane is an inbuilt root inhibitor. (Labelled: *IKO Roofgarden 7.5m*)

### NURAPLY 3PC

Nuraply 3PC is nominally 5mm thick, 10m long x 1m wide polymer modified bitumen. Heat fused onto the substrate with heat welded lap joints and talc upper surface. Consists of a 280 g/m<sup>2</sup> impregnated carrier with combination of polyester and glass fleece covered at the bottom side with flexible polymer bitumen.

The finish of the top surface of this membrane, talcum, admits direct application of road asphalt at a temperature of max. 160°C-200°C or mastic asphalt with a temperature approx. 250 °C.

The positioning of the carrier close to the upper surface of the membrane ensures a thorough adhesion between membrane and substrate. (Labelled: *IKO Polybridge 5 T/F*)

### NURAPLY 3PB - ON TIMBER OR CONCRETE

Base sheet under Nuraply 3PG. Nuraply 3PB provides a nominally 3mm thick 10m long x 1m wide polymer modified bitumen sheet. All internal and external corners and vertical to horizontal transitions shall have Nuraply 3PB membrane gusset patches and strips applied before the main membrane application. (Labelled: *Nuraply 3P 10m*)

### NURAPLY 3PB-SA - ON TIMBER, CONCRETE OR NURATHERM PIR PANELS

Base sheet under Nuraply 3PG. A nominally 3mm thick, 15m long x 1m wide polymer modified bitumen sheet, first layer waterproofing. Self-adhering onto Nuratherm PIR insulation panels substrate. With heat welded lap joints and a sand upper surface. (Labelled: *IKO Base Stick T/SA 15m*)

### NURAPLY 3PM - MINERAL CHIP

Nuraply 3PM Sheet is nominally 4mm thick, 7.5m long x 1m wide, polymer modified bitumen sheet with a prefinished mineral chip upper surface. For use on all exposed upstands. (Labelled: *IKO Carbon 7.5m, IKO POLYGUM 7.5m*)

## ADDITIONAL COMPONENTS SUPPLIED BY NURALITE

### NURAFLUX PRIMER

For substrate priming to prepare the surface and improve adhesion (Labelled: *IKOPro QuickDry Primer, Nuraflux No10, IKOPro WB*)

### NURAPATCH

One pack high strength finishing & repair plaster.

### NURALITE BITUMEN FILLET

A triangle of bitumen that may be installed at internal corners instead of building a mortar fillet.

## NURADRAIN PROTECTION SHEET

Rot-proof board for use as a protective barrier and drainage medium behind retaining walls.

## NURAMAT GREEN DRAIN PROTECTION SHEET

Rot-proof board for use as a protective barrier, water retention and drainage mat beneath Greenroof growing medium.

## NURADRAIN SELF-ADHESIVE MECHANICAL FIXING

A Self-Adhesive mechanical fixing to secure Nuradrain to the substrate.

## TERMINATION BAR

Metal strip predrilled to allow mechanical fixation of the Nuraply 3PT membrane and Nuradrain

## NURASWELL

A controlled hydrophilic swellable gasket that expands in a controlled fashion when exposed to moisture, forming a seal in concrete joints. May be used at the junction of a poured concrete wall and a concrete floor slab.

## IKOPRO STICKALL

IKOpro Stickall is a dense, all weather, bituminous sealing glue that remains plastic under normal temperatures and adheres well to most building surfaces.

## NURAPLY ALU

Roofing membrane with glass fibre reinforcement, topside finished with polyester reinforced aluminium foil and under-side coated with self-adhesive SBS modified bitumen. Applicable as vapour barrier for roofing systems in buildings with high humidity conditions. (*Labelled: IKO Shield PRO ALU/SA 25m*)

## NURATHERM

Nuratherm is a 100 % CFC, HCFC and HFC-free insulation board with a core in hard polyisocyanurate foam, coated on both sides with a multi-layer gastight aluminium complex. (*Labelled: IKO Enertherm*)

## IKOFIX

Polypropylene telescopic sleeves for fixing membrane and insulation. Screws supplied in lengths to suit the installed insulation.

## NURABOND FOAMING PU ADHESIVE

A permanent elastic high-performance moisture-cured single part polyurethane adhesive with light foaming capacity for bonding bituminous roofing membranes, vapour control layers and rigid insulation boards. For use on various substrates including profiled metal decking, existing bitumen membranes, concrete, timber etc. Available in high foaming and low foaming varieties. (*Labelled: IKOPro PU Adhesive*)

## NURATRIM

An aluminium edge that provides a mechanical fixing of the membrane and water check. Designed to be installed on roof edges, verges, and parapets with a level plane.

## METAL SCUPPERS & SUMPS

Fabricated for use with Nuraply 3P membranes. Available in 80, 100 and 150mm sizing with alternative dimensions available on request.

## IKO HYBRITECH MS DETAIL LIQUID FLASHING

Hybritech MS Detail is a solvent-free, coloured, liquid, single-component waterproofing coating based on MS Polymer technology.

## NURALITE OUTLETS AND OVERFLOWS

A series of rainwater outlets which provides a robust means of connecting a roof system to an outlet drain. For use on flat roof applications for either commercial or residential buildings.

## NURADECK

A tough liquid-applied, elastomeric, fibreglass reinforced waterproofing system suitable for detailing terminations and flashings.

## **NURAJACKS & NURAPADS**

A Tile or Paving support system that is height adjustable and includes a self-levelling head to automatically compensate for the deck gradient or any difference in the level of the substrate. Allows the tile or timber deck to be independent of the waterproofing membrane.

## **NURACOAT BG (OPTIONAL)**

Nuracoat BG forms a durable, highly elastic film that adheres well to most common substrates such as Nuratherm PIR, Nuraply bitumen membranes, concrete, cementitious products, uPVC, metals, timber. Nuracoat BG is highly resistant to chlorides and sulphates commonly present in soil.

## **LOCKIN' POCKET FLASHING SYSTEM**

A prefabricated inter-locking flashing system that is easily assembled on-site and filled with fast setting, solvent free, Hurricane Force Universal Sealer. The system becomes waterproof within minutes of application. Lockin' Pocket is designed to seal technically challenging roof penetrations where field flashing may not be practical. When installed and filled with Hurricane Force Universal Sealer, the Lockin' Pocket Inter-Locking Flashing System becomes a long lasting, waterproof, solid mass that can make the most challenging penetrations watertight in minutes.

## **THE LOCKIN' POCKET SYSTEM INCLUDES:**

- Interlocking Corners
- Interlocking straights 150mm, 200mm, 250mm, 300mm
- Fully moulded square pockets 150mm, 200mm
- Nuralite Sealant
- Hurricane Force Universal Sealer

## **ACCESSORIES SUPPLIED BY OTHERS**

**GORILLA MS SEALANT (SUPPLIED BY SOUDAL, FKA FIXALL 220 MS SUPPLIED BY HOLDFAST)**  
High performance MS sealant

## **METAL JUBILEE CLIP**

An adjustable stainless-steel band secured with a screw.

## **HIBOND METAL TRAY (DIMOND)**

A metal tray deck substrate with wide ridges to support the Nuratherm sheets when used in a green roof application.

## **HEAVY DUTY POLYETHYLENE**

General purpose heavy weight black polyethylene. 250µm.

## **GORILLA FIRE RATED EXPANDING FOAM (SUPPLIED BY SOUDAL FKA HOLDFAST)**

Gorilla Fire Rated Aerosol is a single-component, self-expanding, ready-to-use 'gunless' polyurethane foam with a fire rating of up to 240 minutes (Ghent test report 9279). It contains propellants, which are completely harmless to the ozone layer.

Store NURALITE waterproofing systems rolls and accessory materials under conditions that ensure no deterioration or damage. Store in shade or cover in hot sun. Protect liquid components from freezing.

## HEALTH AND SAFETY

An applicator's wellbeing is paramount.

### **Do not enter a worksite, commence work or continue working if:**

1. You have not been adequately trained by your employer.
2. You have not been briefed about the workplace hazards by the site manager.
3. You do not have proper clothing, footwear, safety & workplace equipment.
4. You witness unsafe practices, or you believe the workplace is unsafe.

### **Use your common sense and speak up if anything concerns you.**

A few points of relevance to Applicators are:

1. Applicators must wear protective clothing including a hat and suitable footwear. Heat resistant gloves must be worn to reduce the risk of torch flame and heated bitumen contacting skin. Footwear should have soft, non-slip soles.
2. Working with a gas torch is hazardous and requires care both for the Applicator, other associated personnel, and other persons on the work site.
3. Regular checks of all gas equipment to ensure that it is in good working order and safe for use. All personnel who use this equipment should be trained in its proper use and maintenance.
4. As torch-work can create the risk of fires, including smouldering fires, the Applicator must be trained in fire prevention and the proper extinguishing of fires. On every job fire extinguishing equipment must be kept close to the Nuraply 3P installation area and be in good working order.
5. First aid equipment must be provided on site and work personnel trained in first-aid procedures.
6. Tanking work is performed in confined spaces. Before entering a space ensure it is safe to work in and particularly ensure that banks are well formed.

## PROJECT ADMINISTRATION/SUPERVISION

Many poor jobs are found to result from membranes being laid on top of a badly constructed substrate.

Before commencing laying any Nuraply 3P systems, the installer must be sure that the substrate is ready by receiving a completed Nuraply 3P Substrate Readiness Check sheet from the main contractor (builder). The installer should contact Nuralite in case of any concerns.

Be sure to store the completed forms and supply them to Nuralite when the Materials Defects Warranty is applied for.

Before commencing work, the Applicator must determine:

- That all the building consents, if required, have been issued and the specifications and detailed drawings are workable and suitable for the project
- That there is nothing that will compromise the Applicator's required responsibility under the NZ Building Code or your ability to follow these instructions and thus issue a warranty on your workmanship
- That no existing conditions at the site prevent the Applicator from performing in a professional and safe manner
- That the product to be installed is as per the building consent documents.
- A substrate readiness checklist has been completed by the main contractor (builder) (see section 10) and then a copy attached to the warranty application.

## NURALITE SITE REQUIREMENTS

It is the responsibility of the main contractor (builder) to provide a suitable site and correctly prepared substrate for the applicator. Work should not commence until the site requirements are all met.

### DE-WATERING (RESPONSIBILITY OF MAIN CONTRACTOR (BUILDER))

It is important to adequately drain the area where the membrane is being installed.

To drain, dig a hole next to the installation area to position the pump. The hole should be deeper than the area to be drained. Use the pump to remove water from the installation area. In large construction situations a full site dewatering system may be required.

Maintain water level at not less than 300mm below the level of the base concrete during the progress of the tanking work and until waterproofing of the walls is complete.

### THE UNDERSLAB SUBSTRATE SHOULD BE:

- Granular fill, sand blinding and compaction to comply with the requirements of NZS 3604.
- Dress off surface of hardfill with a 15mm layer of fine, clean sand rolled to a smooth surface. Alternatively, a screed of site concrete no less than 50mm thick, can be used in place of compacted sand.
- Granular fill more than 600mm may require a Geotechnical Engineer to investigate the underlying soil substrate layers for specific design requirements.

## THE WALL SUBSTRATE SHOULD BE:

- Clean, dry and cured. Dewater must be complete.
- All surfaces are clean and free from voids, spalled areas, loose particles, and sharp protrusions. No projections of sharp materials exist that will cause damage to tanking. Check that masonry joints are struck off flush.
- Smooth off the surface so as not to allow water to track behind the membrane. Remove any projections, sharp edges, boxing lines, and nail spikes, wire-brush and remove all debris, leaving the surface dust-free, oil-free, and clean, with nothing that could diminish the adhesion of primers. Fill tie-holes flush and smooth with NURAPATCH. Grind off steps or sharp protrusions caused by formwork joints.
- All gaps, except expansion joints, between panels or blocks must be filled and flush-pointed, with no bridging points or gaps.
- Form oils or release agents and curing compounds must be completely removed.
- Remove back forms to ensure no vapour pressure develops beneath the membrane.
- Fit a minimum of 20mm mortar or Nuralite Bitumen Fillets to all internal junctions.
- On an external corner, first grind the corner to produce a smooth 25mm radius or chamfer.
- Allow concrete and masonry to cure before applying tanking. Concrete must have 5% or lower moisture content or 75% RH.

## DRAINAGE (RESPONSIBILITY OF MAIN CONTRACTOR (BUILDER))

A drainage system to remove water from foundations must be installed. Ensure drain is protected with geotextile cloth to prevent it clogging with fines, and that it is correctly located below the footing with positive drainage.

The drainage system should be designed to cope effectively with the anticipated volumes of water on the site.

## INSTALLING THE NURAPLY 3P COVERED MEMBRANE SYSTEM

Apply Nuraply 3P covered systems only in fair weather with air temperature above 5°C.

Before commencing work confirm that a Nuraply 3P Substrate Readiness Check sheet has been completed.

### UNDER-SLAB MEMBRANE

Loose lay Nuraply 3PTM as a damp-proof membrane under a concrete slab. The membrane to be laid with mineral chips face up.

Fully heat weld all sheet joints by gas torch. Ensure all joints are well sealed with a minimum lap of 80mm and 150mm at sheet ends. This is indicated by the presence of a thin bead of melted bitumen at all sheet joints after torching. Ensure the under-slab membrane extends minimum 150mm up the footing.

The most common cause of system failure is damage caused during construction. Care should be taken when placing reinforcing steel to avoid puncture or damage to the Nuraply 3PTM membrane.





## WALLS AND FOUNDATIONS MEMBRANE

All surfaces are clean and free from voids, spalled areas, loose particles, and sharp protrusions. Check that masonry joints are struck off flush.

### PRIMING

Prime the substrate with NURAFLEX, ensuring good even coverage.

Allow reasonable time for the primer to become touch dry and fumes to dissipate. Failure to do this may result in adhesion problems or flashover from ignited vapours.

You may have to re-prime substrates if there is a very porous substrate or a delay in installing the membrane which results in the primer losing its tackiness. These delays increase the likelihood of adhesion problems due to contamination.

### EXPANSION JOINTS

Expansion joints are required between tilt slabs. Apply Nuralite Aluminium tape over sealant. Apply a minimum 200mm wide reinforcing strip of Nuraply 3PT. Mould the reinforcing strip into the joint so that any flexing pushes inward rather than outward.

Shrinkage control joints in blockwork do not require this application.

### REINFORCEMENT STRIPS

Apply a minimum 200mm wide reinforcing strip of NURAPLY 3PT over all changes in planes and in risk areas such as the joint between the wall and footing, as well as shrinkage control joints in blockwork.

## INSTALLING MEMBRANE – NURAPLY 3PT/3PG

For Nuraply 3PT, starting at the top of the wall, using the gas torch, burn off the polyethylene and create a small bead of molten bitumen along the front edge of the roll as it is uncoiled down or along the wall.

For Nuraply 3PT-SA, starting at the top of the wall, peel back the polyethylene uncoiled down or along the wall. Use a roller to firmly press the membrane to the wall.

When the entire roll is bonded to the substrate seam-weld all laps. Ensure a bitumen bleed is evident along the length of the lap joint.

Ensure rolls are installed straight and that a minimum 80mm side lap is maintained, and that a minimum 150mm end lap is formed.

It is critical to ensure all laps are fully formed and that the system is fully watertight. Once it is covered, it is often impossible to get back to the membrane to undertake repairs.

Ensure there is no bubbling of the wall membrane. It is important that it is fully bonded to the substrate.

### ICF FORMWORK

When Nuraply 3PT/3PG is applied to ICF formwork, this needs to be done using Nuraflux No. 10 adhesive primer to prime the substrate. Nuraflux No. 10 acts as a primer and separation layer between the Bitumen from the membrane and the polystyrene layer of the formwork. After the ICF has been primed with Nuraflux No. 10, the Nuraply 3PT/3PG is applied to the ICF formwork as per the standard Nuralite installation Instructions.

### POLYMER PERMANENT FORMWORK

When Polymer Permanent Formwork (e.g. Dincel) is in use, Nuraply 3PT-SA must be used, prime the substrate with Nuraflux No. 10 adhesive primer. Nuraflux No. 10 will prime and separate the Bitumen from the membrane and the Polymer Formwork. After the Polymer formwork has been primed with Nuraflux No. 10,



the Nuraply 3PT-SA is applied to the Polymer formwork as per standard Nuralite Installation Instructions. If Nuraply 3PG is specified, Nuraply 3PT-SA must be applied to the Polymer Permanent Formwork first, and then Nuraply 3PG Torch applied over this layer as per standard Nuralite Installation Instructions.

## PILE CAPS

Clean the top of the pile cap thoroughly and flush smooth with a high strength mortar. Install a Nuralite Bitumen Fillet around the pile cap. Prime the area with Nuraflux ensuring good even coverage. Install a Nuraply 3PT under-flashing by cutting and dressing the under-flashing around the pile cap perimeter and up over the fillet onto the top of the pile cap. Terminate the under-flashing clear of the rebar. In the same way, install the Nuraply 3PT cap-sheet ensuring all laps are well bonded, and that the base-sheet and cap sheet membrane cuts are off-set. Ensure all work is fully bonded and a watertight seal is formed.

## PENETRATIONS

Cut a star shape pattern in the membrane to form a collar and slip over the metal pipe protrusion. Torch into place and then wrap 150mm wide strip of membrane around the pipe. Torch seal off all edges. Complete detail with a stainless-steel Jubilee clip to provide mechanical termination.

## IRREGULAR SHAPED PENETRATIONS – LOCKIN’ POCKET

Make sure membrane substrate is clear of loose gravel, dirt, granules, or all foreign substances that can affect adhesion. Place Lockin’ Pocket in desired location and mark the outside edge for reference. Lockin’ Pocket should be placed to assure at least 50mm clearance from the inside of the Lockin’ Pocket to the penetration on all sides. Seal base of penetration with sealant to prevent Hurricane Force Universal Sealer from flowing through openings. Apply a liberal bead of LPS to the substrate where Lockin’ Pocket will be placed and apply a liberal bead of LPS to the locking joint of the Lockin’ Pocket. Set Lockin’ Pocket in place and apply equal pressure to assure positive contact with the membrane surface. Fill assembled pocket with Hurricane Force Universal Sealer until completely full.

## VERTICAL OR IRREGULAR PENETRATIONS - NURACOAT BG

Make sure membrane substrate is clear of loose gravel, dirt, granules, or all foreign substances that can affect adhesion. Dress Nuraply membrane up the penetration.

Apply Nuracoat BG liquid in a 100mm wide strip, covering the top 50mm of the Nuraply membrane, and a further 50mm of the penetration.

Bed fibreglass bandage into the liquid Nuracoat BG and allow to dry.

Once dry, apply an additional coat of Nuracoat BG to the strip.

## REBAR AND TIE ROD PENETRATIONS

If steel Rebar or Tie rods need to be placed through the bitumen membrane, create a strip of appropriate smooth membrane, and wrap the strip around the base of the steel at the membrane face.

Heat and bleed the membrane strip sufficiently so that the melted bitumen can be spread up the steel and out onto the Nuraply membrane ensuring a complete seal.

## MEMBRANE TERMINATION

Terminate the membrane using a Nuralite Termination bar and Nuralite sealant or terminate into a chase if over flashing.

Use Nuraply 3PTM for tanking any areas exposed to UV or overlay a second layer of Nuraply 3PM in exposed areas.

As sections of tanking are completed, arrange for inspection of the work before covering with protective sheets, walls, or slabs.

## PROTECTION OF THE INSTALLED WALL MEMBRANES

It is vital to protect the membrane from damage, either from workers on site or during the backfilling operation. Equally important is ensuring the area adjacent to the membrane is free flowing to minimize the build-up of hydrostatic pressure.

The protection board is designed to prevent damage from the construction process generally as well as possible damage from backfill material.

Spot bond the protection boards in place using IKOPro StickAll bitumen adhesive or use Nuralite Self-Adhesive Mechanical Fixing.

## GREENROOF MEMBRANE

### INSTALLING THE NURATHERM SYSTEM

#### VAPOUR BARRIER

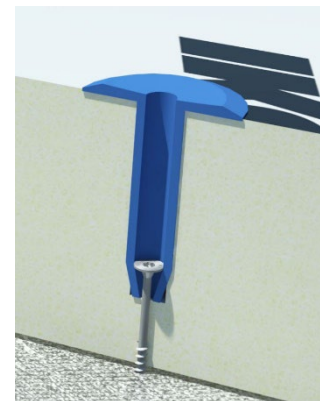
- I. The amount of condensation depends on the temperature in-balance and the humidity of the internal air. Vapour barriers prevent moist air from reaching the dew point and so prevent condensation forming.
- II. Before laying the membrane, prime the substrate with Nuraflux primer.
- III. When installing the membrane, ensure the Nuraply ALU vapour barrier covers the entire area and wraps up and around the insulation so there is no opportunity for vapour to enter the roof system from below.
- IV. Seal all penetrations carefully and repair any damage to the membrane.
- V. Because no condensation will form within the ceiling cavity there is no need to vent the ceiling when installing a Nuratherm warm roof.

#### NURATHERM BOARDS

- I. Lay the sheets in a brick bond fashion to prevent movement. The sheets can be cut with a knife or saw.
- II. Keep the sheets dry onsite and only install sheets that can be waterproof that day to prevent entrapping moisture.
- III. It is desirable that no thermal breaks exist in the system.

#### FIXING ON ALL SUBSTRATES

- I. IKO Fix fasteners are designed to penetrate the insulation and has the following advantages:
  - a. Reduces thermal bridging.
  - b. Is cost effective because it uses shorter screws.
  - c. No risk of the screw penetrating the membrane if someone stands on the fixing.
- II. Secure the sheets with 8 fixing per sheet. The fixings should be inset by 200mm in each corner with at least two in the centre.
- III. If you notice the boards move when walking on them, use additional fixings to ensure the boards are stable and flat.



#### ADHERING ON ALL SUBSTRATES

- I. The Nurabond PU Adhesive is cold applied and has been specially developed to allow the safe, rapid partial bonding of roofing components.
- II. It is moisture curing and tolerant of use in damp conditions. A degree of moisture is required, either in the atmosphere or on the surface, to allow the correct adhesive bond to be achieved. However, all liquid water should be removed from surfaces prior to use.
- III. Curing time is dependent upon ambient temperature and humidity conditions however, curing will usually occur between 2 to 6 hours. The adhesive will take 24 hours to achieve full bond strength.
- IV. The minimum working temperature is 5°C. At low temperatures, warming the containers in hot water prior to use will improve handling characteristics. (N.B do not boil the product). Maximum working temperature 30°C.

Surfaces to receive adhesive should be stable, clean, and free of any liquid water (damp surfaces are acceptable). No priming is required.

Nurabond High Foaming PU Adhesive is applied straight from the container in strips. The maximum distance between the strips is 25cm. Use the spout on can for pouring lines of adhesive.

Weight the Nuratherm boards once they are laid into the adhesive to ensure a good bond between the two surfaces.

#### INSTALLING THE NURAPLY BASELAYER IN A GREEN ROOF

## LAYOUT

- I. All surfaces must be checked to ensure they are dry, clean, smooth, and free from sharp edges, loose, or foreign materials, oil grease or other deleterious material that may affect the adhesion of the membrane or may damage the membrane.
- II. Plan Nuraply 3PB-SA rolls layout for best drainage. Lay Nuraply 3PB-SA from drainage outlets and gutters, low points, and edges, up the roof /deck slopes. Nuraply is usually installed running down the slope to minimise water retention on the roof.
- III. It is preferable to run membrane down the length of the gutter.
- IV. Use chalk lines to ensure straight neat lines of the finished membrane.
- V. Double thickness application is a requirement at all internal and external corners, at upstands and turndowns. This will eliminate:
  - a. The possibility of weakening the Nuraply 3PB-SA when tooling to angles,
  - b. The possibility of the sheet pulling out from the corner when not mechanically fixed,
  - c. The double thickness increases the strength to withstand substrate movement and mechanical damage at these points.

## ADHESION OF NURAPLY 3PB-SA SHEET TO SUBSTRATE

- I. Install detailing (refer to g.) to all drainage outlets gutters and detailing in Nuraply 3PB-SA, before laying the main roof. Ensure outlets are rebated to avoid build-up at outlets and to allow drainage outflow.
- II. Apply the Nuraflux primer evenly over the area to be waterproofed.
- III. Whilst unrolling the roll use a correct size gas torch to heat the membrane just enough to completely melt the protective film and start the base bitumen flowing. Overlap previous rolls sides 80mm and ends 150mm ensuring all laps face downhill.
- IV. Weld all lap joints perfectly using Nuraply welding techniques, discussed below, and testing all joints progressively.
- V. Welding and detailing with skill, creates perfectly fused laps, with minimal exposed smooth bitumen, and neatly angle tooled joint edges. Stagger the roll lying to avoid four corners meeting in one place.

## ADHESION OF NURAPLY 3PB-SA SHEET TO NURATHERM SUBSTRATE

- I. Install detailing (refer to g.) to all drainage outlets gutters and detailing in Nuraply 3PB-SA, before laying the main roof. Ensure outlets are rebated to avoid build-up at outlets and to allow drainage outflow.
- II. Whilst unrolling the roll, peel away the protective film and use a roller or stiff broom to press the self-adhesive membrane to the substrate. Overlap previous rolls sides 80mm and ends 150mm ensuring all laps face downhill.
- III. Weld all lap joints perfectly using Nuraply welding techniques, discussed below, and testing all joints progressively.
- IV. Welding and detailing with skill, creates perfectly fused laps, with minimal exposed smooth bitumen, and neatly angle tooled joint edges. Stagger the roll lying to avoid four corners meeting in one place.

## MECHANICAL FIXING OF NURAPLY 3PB SHEET TO SUBSTRATE

- I. Use Nuralite Oblong washers and appropriate Nuralite screws to suit the depth of Nuratherm PIR.
- II. Place the fixings behind the sheets edge lap, running along the length of the sheet, allow for an 80mm weld after the fixing.
- III. In the case of concrete substrate, pre-drill before using the screw.

## MAKING THE LAP-JOINT

- I. To weld lap-joints use the round edged finishing trowel and heat gently. Insert trowel between sheets and lift the edge of the top sheet high enough to allow the torch flame to liquefy both surfaces.
- II. Both hands must work together, moving back and forth along the sheet approximately 350mm. When the surfaces are melted, remove trowel and torch flame from between lap joint.
- III. Position hot trowel blade firmly on top of joint approximately 50mm back from the open edge and weld the sheets together with pressure from the hot trowel. Then joggle the top sheet along the back edge of the under



- sheet to an angle of approximately 45°. Approximately 30mm from the back of the joint is now welded together.
- IV. If required, re-lift the edge of the upper sheet reheat under it and trowel weld the middle 25mm of the lap with pressure from the trowel. Once again, re-lift the edges of the upper sheet, reheat, and with pressure from the trowel, weld the remainder of the lap to within 5mm of the front edge. Lift the front edge, reduce heat and then apply flame between the sheet edges.
  - V. Seal the front with pressure from the trowel, ensuring this time that the trowel follows closely behind the flame. The edge of the trowel is then run along the front edge of the top sheet at about 45° to ensure a good seal.
  - VI. Finally, finish the front edge to give a tidy appearance. Each section of jointing (i.e. approx. 350mm length) should be completely welded before starting the next section.
  - VII. Always keep the trowel hot and scraped free of carbon build-up, to prevent Nuraply surface from dragging. A properly made lap joint should not be capable of being pulled apart at normal temperatures.
  - VIII. Random test finished and cooled joints with the hot trowel edges, as work progresses.

## INSTALLING THE CAP SHEET

- I. Before proceeding, ensure the first layer has been completed, is fully bonded to the substrate and that the welded joints are sound.
- II. If practical, flood test gutters and outlets before installing the cap sheet.
- III. If there has been an extended period between installing the base layer and the cap sheet, then ensure the base layer is clean and dry. It may be advisable to prime the base layer with Nuraflux primer.
- IV. The laps of the cap sheet must be offset to the laps of the base sheet. Similarly with three or more layered systems.
- V. Weld the upper cap sheets so that they are fully bonded to the immediate under layer by applying heat to the top of the base sheet and underside of the cap sheet as you unroll the cap sheet.
- VI. After each two or three rolls are laid. Weld all lap joints perfectly using Nuraply welding techniques, discussed in “Making the Lap-joint”, testing all joints progressively.

## NURATRIM INSTALLATION

Nuratrims is a proprietary decorative trim supplied by Nuralite that provides an alternative edge termination that can look more appealing than a parapet cap flashing or a membrane verge detail.

Often, Nuratrims will be supplied by the Nuralite approved applicator to the builder, who will install it prior to applicators final waterproofing. It is imperative that the applicator and builder have toolbox talks to make sure that all parties are aware of how Nuratrims should be installed, and the limitations of the product.

Nuralite have a separate method statement on how to install Nuratrims, as well as other important considerations, [available here](#) as well as from [www.nuralite.co.nz](http://www.nuralite.co.nz).

## CARPARK DECK MEMBRANE

- I. Install detailing to all drainage outlets gutters and detailing in Nuraply 3PC, before laying the main roof. Ensure outlets are rebated to avoid build-up at outlets and to allow drainage outflow.
- II. Apply the Nuraflux primer to the area that is to be installed with the 3PC membrane, ensuring the correct coverage is used. Areas not covered within 24 hours after the curing of the Nuraflux should be reprimed to ensure a completely fully bonded system without any trapped vapour pockets.
- III. If using Nuraflux QD, Nuraflux QD is solvent based so allow curing thoroughly before using gas torches nearby.
- IV. Use chalk lines to ensure straight neat lines to the finished membrane. Position the membrane roll to the chalk line.
- V. Put the Nuraply 3PC onto the welding trolley. Line up the 3PC to run down the falls in the substrate, ensuring a minimum 80mm lap on the sides of the rolls and 150mm on ends with all laps facing downhill. This is to prevent the lap joints from hindering the water flow.
- VI. Light up the gas torches and heat the membrane until a bleed of membrane is visible at the intersection of the membrane and the primed concrete substrate. This process creates a fully bonded

membrane without any trapped vapour pockets. Use a heavy or water filled roller to press the membrane down to ensure no pockets of air exist.

- VII. Monitor the edge of the roll to ensure a continuous 5mm bitumen bleed from both sides of the membrane roll. Use pressure roller to push membrane totally flat.
- VIII. After every two or three rolls are laid. Check all lap welds for any signs of not enough bitumen bleed. If there is no sign of constant bitumen bleed use manual Nuraply 3P welding techniques to redo the lap joint (see section b below) and test all joints progressively.
- IX. Welding and detailing with skill, creates perfectly fused laps, with a 5mm minimal exposed smooth bitumen, and neatly angled joint edges. Stagger the roll lying to avoid four corners meeting in one place.

### 3PM UPSTANDS

- I. Apply a 3PB or 3PB-SA reinforcing strip at the base of the upstands a minimum of 100mm on the horizontal and 100mm to the vertical ensuring a bitumen bleed is present at all lap joints.
- II. Continue with the horizontal 3PC layer 70mm up the upstands.
- III. Apply a layer of 3PM as a finishing cap sheet.
- IV. Check all lap joints for a continuous bitumen bleed.

## POST MEMBRANE INSTALLATION

### DRAINAGE BEHIND THE WALL (BY OTHERS)

Subsoil drainage shall be provided to divert groundwater from behind the basement wall.

to an appropriate outfall beyond the building. The drainage should be able to cope with the anticipated volumes of water likely on site.

- The subsoil drainage system must use a pipe of at least 100 mm diameter, with openings to collect water,
- Have the subsoil pipe at the base of the wall with invert a minimum of 200 mm below floor level and pipe sloped a minimum of 1:200 to the outlet,
- Incorporate a geotextile fabric or other filter material to prevent silting of the pipe
- Have access for cleaning subsoil pipe, and
- Have, for the height of the buried wall, free draining backfill above the pipe.



In cases where the tanking is of a deep basement where there is the possibility of ground water under pressure, it is wise to incorporate a sump fitted with a float-switched pump to clear water away.

### GREENROOF DRAINAGE, SOIL SUBSTRATE & PLANT INSTALLATION – (BY OTHERS)

Ensure a Membrane Project Sign-off form has been completed by the main contractor (builder) as a sign that the membrane has been correctly installed. The next trades installer will be responsible for damage once the Project Sign-off form has been completed.

The first layer above the waterproofing must always be a heavy-duty polyethylene sheet, with edges taped together. This is designed to provide a demarcation with the Nuraply 3PG and will provide an element of protection from trades walking on the membrane.

Depending on the system selected, a roll of drainage mat or plant trays may then be installed on the polyethylene. Set soil or trays back 300mm from the building or upstands to allow complete drainage in case of a rain deluge. Outlets must also be kept clear so they may be regularly inspected.

The soil build-up must comply with specification. Uneven soil build-up must be avoided so that the building structure does not become overloaded in points.

Soil substrate and plants should be selected by an expert in the field to ensure they plants have the best chance of survival.

No aggressive chemicals or solvents to be used where they may affect the membrane system.

### CAR PARK OVERLAY INSTALLATION – (BY OTHERS)

Ensure a Membrane Project Sign-off form has been completed by the main contractor (builder) as a sign that the membrane has been correctly installed. The overlay installer will be responsible for damage once the Project Sign-off form has been completed.

The topping design and installation is the responsibility of others and so is not part of this CodeMark.

### ASPHALT OVERLAY

The asphalt overlay should be placed as soon as possible after application of the Nuraply 3PC and prior to any trafficable use. The parties should inspect the applied membrane prior to laying of asphalt to ensure there is no mechanical damage or other isolated moisture related blisters. Rectify any of those issues before the asphalt application commences.

Only asphalt delivery equipment should be permitted on the membrane prior to placement of the asphalt. While flat tracked paving equipment is preferred, either flat tracked or pneumatic tire equipment may be used. Equipment should be inspected prior to use for burrs, stones or sharp projections on tracks which could damage the membrane.

A minimum of 50 mm compacted overlay is recommended. Thicker overlays are recommended for heavy traffic areas, loading zones or fire truck access points. Care should be taken to minimise the possibility of pavement movement on areas with more than a 5% grade. Curved ramps can put stress on the paving system as cars are turning under load.

Paving must not be started following rain until the membrane surface is dry.

Take care not to splash bitumen on any surround surfaces, especially the Nuraply 3PM.

Apply a tack coat of Hot Mix primer to the whole membrane area followed by a No.10 or No.15 Hot Mix. The Hot Mix is screeded out and rolled to a minimum compacted thickness of 50 mm. The rolling out procedure is conducted at right angles to the longitudinal lap joints of the already applied membrane sheets. Compaction of the overlay should occur at a minimum asphaltic temperature of 135°C at the deck. Failure to compact the overlay at 135°C or higher may result in premature deterioration of the overlay.



## MASONRY OVERLAY

A slip layer of heavy duty black polyethene must be installed, with laps taped, so that the concrete cannot bond to the Nuraply 3PC membrane.

Failure to do this can compromise the system as the concrete curing will stress the underlying membrane

An engineer must specify the depth and reinforcing required for the concrete pour. The main contractor (builder) must ensure the polyethene and Nuraply 3PC is undamaged before pouring the concrete.

Other masonry forms such as large pavers may also be used, but these must be mortar bedded onto the heavy-duty polythene.

## FLOOD TESTING

Where possible, flood test all gutters with a minimum 50mm depth of water at the outlet (clamp ring drain or scupper) for 24 hours. Make good any lack of water tightness when the surface is completely dry. Not all applications can be flood-test checked. Electronic Leak detection is also an option as stated on most council PS3 forms. Either way all gutters are required to be checked.

It is important to note that sometimes overflow clamp ring Drains or Scuppers are above the level of the deck / roof surface, therefore, to test those you would require to flood onto the deck / roof area. This can lead to issues of weight loading especially on timber construction and excess hydrostatic pressures created. It is important to note that membrane decks / roofs are water shedding devices and not water holding devices. If the deck / roof requires testing it is better practice to apply a continuous water flow for at least 24 hours across the roof.

We only require that the gutter and outlets are tested and that the gutter is filled with water so it does not encroach on the roof / deck, so the maximum fill will depend on the height of the gutter wall at the shallowest point.

If a balcony deck has the outlet centrally located, the water flood test is not to exceed the height of the lowest point of the overflow outlet. Allow the water to just start to enter the overflow and stop the addition of any further water.

It is critical that weather conditions are suitable for testing, with no rain expected during the test time frame, unless the building is shrink-wrapped or similar preventing further rainwater entering the test areas. Electronic leak detection is an acceptable alternative means of testing.



## CHECK SHEETS

Nuralite maintain comprehensive check sheets for substrate readiness, project sign-off, and maintenance.

We have bundled these check sheets into a single, concise file, which can be obtained by [clicking here](#) or from [www.nuralite.co.nz](http://www.nuralite.co.nz)

## TECHNICAL DATASHEETS

The links below will take you to the relevant technical datasheets, which are also hosted on our website. Appropriate safety data sheets for each product are found on our website.

[Nuraflux QD Primer](#)

[Nuraflux No. 10 Primer](#)

[Nuraflux WB Primer](#)

[Nurapply ALU Vapour Barrier](#)

[Nurapply 3PB](#)

[Nurapply 3PB-SA](#)

[Nurapply 3PG](#)

[Nurapply 3PT](#)

[Nurapply 3PTM](#)

[Nurapply 3PC](#)

[Nurapply 3PM](#)

[Nurapatch](#)

[Nuraswell](#)

[Nuralite Lockin' pocket](#)

[Nuracoat BG](#)

[Nuradeck Gel](#)

[Nuradeck C](#)

[MS Detail](#)

[Nuralite PU Adhesive](#)

[Nuradrain](#)

[Nuramat Green Drain](#)

[Nuratherm PIR](#)

[Nuralite Fixing Plate](#)

[Nuraglaze](#)

[Nuraboard](#)

[Nuraflush](#)

## INSTALLATION DETAILS

The links below will take you to the relevant installation detail downloads:

[Nurapply 3PT + 3PTM Tanking](#)

[Nurapply 3PG + 3PTM Tanking](#)

[Nurapply 3PG Warm Green Roof](#)

[Nurapply 3PG Cold Green Roof](#)

[Nurapply 3PC Carpark Decking](#)

All these details are available from [www.nuralite.co.nz/spec-flow](http://www.nuralite.co.nz/spec-flow)