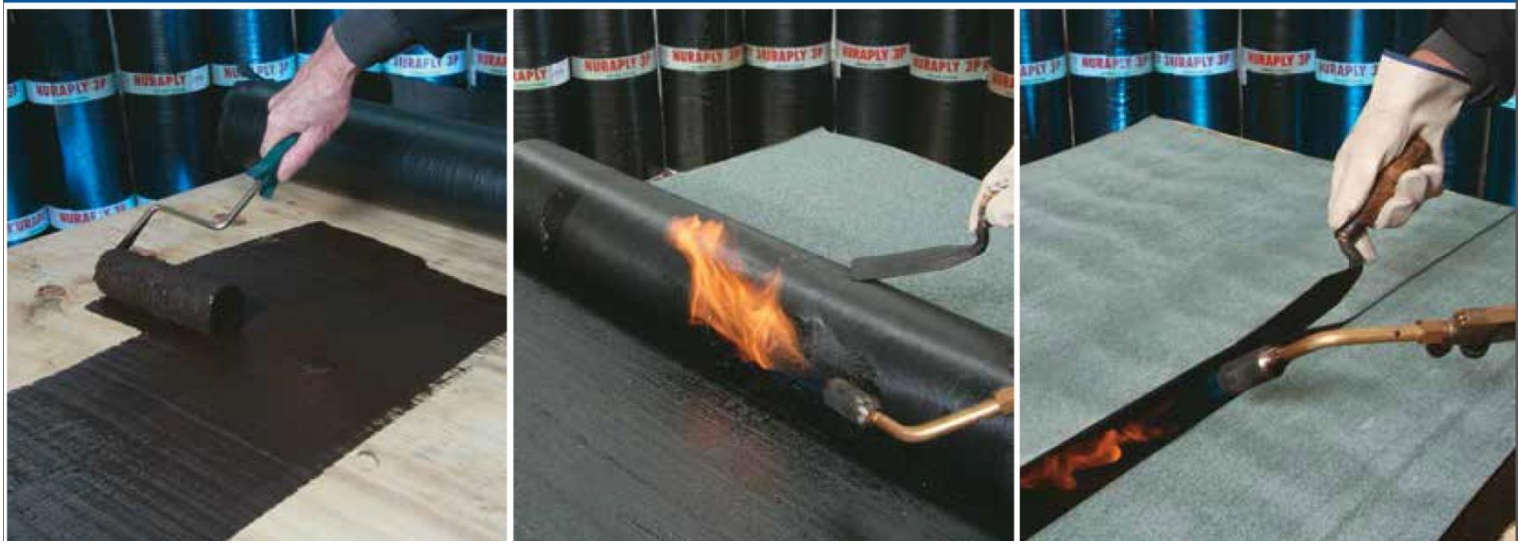

NURALITE
THE FLAT ROOF EXPERTS

Nuraply 3PM Roofing Membrane Installation Manual

Nuralite Waterproofing Limited
www.nuralite.co.nz

2019 Edition 1

March 2019

TABLE OF CONTENTS

Nuralite roofing and waterproofing systems are intended for application by trained and approved installers. A listing of the current approved applicators are available at www.nuralite.co.nz/Applicators_By_Region/. These notes are a technical guide to the application of the Nuraply 3PM range. The Nuralite organisation also maintains a team of skilled technical representatives who are prepared to demonstrate the correct application of Nuraply 3PM on site or to discuss any problems which may arise regarding its use.

Please note that Nuraply has a long product defects warranty period and every precaution must be taken to avoid any possible installation faults. Application according to these guidelines must be insisted upon by the Applicator to ensure that full benefits of the warranty period are maintained.

TECHNICAL ADVICE

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

Auckland phone: 09 579 2046 fax: 09 579 5136
Email: info@nuralite.co.nz

OTHER REFERENCE DOCUMENTS

This manual forms one part of the full technical documentation for the Nuraply 3PM system.

Technical literature (available at www.nuralite.co.nz)

- Nuraply 3PM detail drawings
- Material Safety Datasheets
- Technical Datasheets

Specifications

- Generic Nuraply 3PM specifications
- Project specific specification

Document Control

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Revised	John Simmons	Mar 2019	2019 Edition V1

The only person authorised to change this plan is the Managing Director, John Simmons.

The Nuraply 3PM Roofing 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 (e) and (m)	Compliance has been established with testing to ensure resistance to water absorption, hydrostatic pressure, differential movement over substrate joints are adequate.
Clause B2.3.1 (b)	The membrane is part of the envelope building element and assessed for 15 year durability period based on in-service history in excess of this period.
Clause B2.3.2 (a)	The membrane is not installed over elements with lesser durability than 15 years.
Clause E2.3.1	The roof membrane system will repel water from entering the building and roof design will ensure it can shed precipitated moisture and melted snow.
Clause E2.3.2	The membrane system has been tested for water absorption, vapour transmission, hydrostatic pressure and joint seam strength to satisfy this requirement.
Clause E2.3.6	The membrane system provides for cross flow venting or for ceiling space ventilation.
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)	Being a double layer system, 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.

1. Statement of Use & Limitations

Use

Nuraply 3PM double layer torch on membrane system provides a durable waterproofing system for installation by approved installers, on new and existing roofs and decks of any size. Installation is in accord with this manual Nuralite 3PM Roofing membrane Installation manual 2019 Edition 1 available on the Nuralite website and the Nuraply Waterproofing Membrane Building Product Quality Plan 2019 v1.

On a structure complying with the New Zealand Building Code, it may be installed directly onto the following substrates;

- H3.2 treated Timber*, including plywood sheets and reconstituted wood panels (Strandboard), substrates complying to AS/NZ 2269 (2012) (directly or with Enertherm 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 Enertherm PIR Boards between) or,
- NPM 900 metal tray decks with Enertherm PIR boards between.

Nuraply 3PM system is a tough, reinforced, bituminous waterproofing membrane suitable for light maintenance foot traffic. It may be installed on a cold roof with insulation installed (by others) below the substrate or as a warm roof (known as Nuratherm) with Enertherm insulation installed (by Nuralite applicator) above the substrate

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

Limitations

The design and construction of the substrate, framing timber, metal overflashing, cladding, fascia, control joints, junctions and allowances for ventilation, movement, condensation control, snow 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.

* Timber products must not be treated with LOSP (light organic solvent preservative) nor CuN (copper nitrate). Timber substrates must be installed in accordance with Manufacturers instructions and be warranted as a suitable substrate for membrane roofing or decking.

Rigid Air Barrier (RAB) may only be used as a substrate when used for upstands behind cladding.

IKO Enertherm has class E fire resistance in accordance with EN-13501-1. The insulation complies with NZ 2122.1-1993. The plate has a low to zero smoke emission rate and does not melt or drip. On 0.75mm metal tray deck the system is rated 1-S NZBC Clause C3.4(a) using ISO 9705:1993 (Fire class ‘end use’ according to 13501-1: B-s2,d0 (steeldeck))

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

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.

The slopes allowable are clearly set out in the table on page 6. For low slope roofs the designer of the substrate should take into account the intended use of the roof or deck to ensure continued compliance with the Building Code. While the membrane is tolerant of ponding (standing water that remains after 3 days of cessation of flow), excessive ponding is undesirable as it contributes loads and encourages dirt buildup by reduced rain washing

While the membrane has been assessed for melted snow, any junctions above the membrane must be considered by the designer in relation to snow and hail and the behaviour of melt water.

Potable water may be collected off the finished roof surface though it is recommended that Nuraglaze is applied, and a filter and first flush diverter are installed.

Not for use as a directly trafficable deck surface. On decks the membrane must be protected from pedestrian traffic with a floating tile or timber deck surface laid onto Nurapads or Nurajacks.

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

Attention must be paid to application temperature ranges and the necessary requirements for storage of products.

2. 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.
5. You see wet or rainy conditions

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

A few points of particular relevance to Applicators are:

1. Applicators must wear protective clothing including a hard hat and suitable footwear. In particular, heat resistant gloves must be worn to reduce the risk of torch flame and heated bitumen coming into contact with 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. Daily 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 3PM 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. Experience and training for working at height is important, including understanding restraint procedures. Nuraply 3PM systems are normally applied to either roofs or decks, which are usually 2.5m or more above the ground. All work carried out in such situations require sufficient safety and protection to avoid falls.
7. All applicators must have a current Site Safe passport.

3. Project Administration/Supervision

Nuralite & you, the applicator, are in a partnership designed to achieve the installation of many high quality Nuraply 3PM systems.

Nuralite works hard to get jobs specified by Architects. The Applicator is responsible for the quality control and the installation of the Nuraply 3PM membrane systems and quotations.

All work will rapidly dry up if the application is not performed in a professional manner. Not only must the workmanship be high quality, but the service and support to the builder and project manager should equal that to ensure we all get repeat business.

Nuralite recommends a pre-inspection and/or a pre-job meeting of all parties involved with the Nuraply 3PM system to identify any areas of concern. It is important for a successful installation to resolve and clarify any issues or project requirements, work programme and issues with other trades, the project documentation required product storage, and site health and safety matters.

Before commencing work, the Applicator must determine:

- That all the building consents 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 official consent documents.
- A substrate readiness checklist has been completed by the main contractor (builder) (see section 4)

If you have any concerns about the project, your working conditions or the substrate preparations then raise them with the site manager, your employer or a Nuralite representative.

All applicators have the right to refuse to commence work until they are satisfied they can complete the job safely and to the highest standards.

4. Nuraply 3PM Products

The complete Nuraply 3PM system has a number of installation methods and base sheet options which are selected based on factors such as the substrate material and the risk of moisture vapour entering the system and causing condensation.

All projects are done with a double layer of membrane

Product Selection and Limitations

Substrate	Timber	Concrete	Existing Membrane	Concrete with Tapered Boards or Flat Enertherm (Nuratherm)	Timber with Enertherm (Nuratherm)	NPM900 with Enertherm (Nuratherm)
Minimum Finished Fall (excluding gutters) (A)	1:80	1:80	1:80	1:80	1:80	1:80
Gutters	1:100	1:100	1:100	1:100	1:100	1:100
Substrate Comments	Using 17mm (roofs) or 21mm (decks) plywood, rafters at 600 centers, nogs at 600 centers.	Create required slope with a screed. Wait for concrete and screed to cure.	Confirm substrate is sound	Tapered boards are 1:60. Nuralite can assist with layout.	Create required slope in the timber	Create required slope in the NPM900
Adhesive/Primer						
Nuraflux	Yes	Yes	Yes	Yes	Yes	Yes
Vapour Barrier						
Nuraply ALU				Yes	Yes	Yes
Insulation (B)						
Enertherm			Yes (C)	Yes	Yes	Yes
Tapered Enertherm at 1:60			Yes (C)	Yes		
Insulation fixing						
IKO Fix			Yes		Yes	Yes
Nurabond Hi Foam PU				Yes		
Basesheet						
Nuraply 3PB	Yes					
Nuraply 3PB-SA	Yes					
Nuraply 3PV		Yes	Yes			
Nuraply 3PV-SA		Yes	Yes	Yes	Yes	Yes
Capsheets						
Nuraply 3PM	Yes	Yes	Yes	Yes	Yes	Yes
Nuraglaze	Optional	Optional	Optional	Optional	Optional	Optional
Substrate Venting						
Nuravents	Yes	Yes	Yes	No	No	No

Notes

A) 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.

B) The entire system, vapour barrier, insulation and waterproofing is known as a Nuratherm Warm Roof

C) Enertherm may be installed over exisiting roofs to improve the insulation of the building

Basesheets

On Timber

NURAPLY 3PB provides a nominally 3mm thick 10m long x 1m wide polymer modified bitumen sheet, first layer in two layer applications on timber substrates. Heat welded onto Nuraflux primed substrate with heat welded lap joints.
(Labelled: Nuraply 3P)

NURAPLY 3PB-SA provides a nominally 3mm thick 10~~0~~5m long x 1m wide polymer modified bitumen sheet, first layer in two layer applications on timber substrates. Self-Adhered onto Nuraflux primed substrate with heat welded lap joints.
(Labelled: IKO Base Stick F/SA 15m)

On Concrete or existing Nuralite membrane

Nuraply 3PV Sheet is a nominally 4mm thick, 7.5m long x 1m wide polymer modified bitumen sheet, first layer waterproofing, heat fused, and 40% bond pattern integral vapour diffusion underside, to avoid vapour blisters from substrate moisture. Heat welded onto Nuraflux primed substrate with heat welded lap joints.
(Labelled: IKO Base Quadra F/F 7.5m)

On Enertherm PIR panels

Nuraply 3PV-SA Sheet is a nominally 3mm thick, 10m long x 1m wide polymer modified bitumen sheet, first layer waterproofing. With a 40% bond pattern integral vapour diffusion underside, to avoid vapour blisters from substrate moisture. Self-adhering onto Enertherm PIR insulation panels substrate. Heat welded lap joints.
(Labelled: IKO Base Quadra F/SA 10m)

Capsheets

Mineral Chip

Nuraply 3PM Sheet is a nominally 4mm thick, 7.5m long x 1m wide, polymer modified bitumen sheet. Heat fused onto the basesheet underlay with heat welded lap joints, and a prefinished mineral chip upper surface.

Nuraply 3PM is available from stock in three colour options; White, Slate, Charcoal

A thin coating of Nuraglaze may be applied to enhance the systems appearance and is a recommendation if potable water is being collected.
(Labelled as)
IKO Carbon Turbo 7.5m (Charcoal)
IKO Polygum7.5m (White)
IKOgum 4 AR/F 7.5m (Other))

Additional Components Supplied by Nuralite

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 PLUS ALU/SA 25m)*

Enertherm

Enertherm 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)*

The entire Warm Roof system of vapour control, insulation and membrane waterproofing is known as Nuratherm Warm Roof.

IKOFix

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

Nurabond High 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. *(Labelled: IKOPro PU Adhesive)*

Nuraflux Primer

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

Accessories Supplied by Nuralite

Nuraglaze

Clear acrylic glaze to seal chips and retain appearance 15l pails with coverage of 10m2/litre

Nuralite Bitumen Fillet

A 25mm triangle of bitumen that may be installed at internal corners instead of building a mortar fillet.

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.

Nuratrim

A metal edge that provides a mechanical fixing of the membrane and watercheck. Designed to be installed on roof edges, verges and parapets without a slope.

Nuralite Fixing Plate

Integrated fixing point for aluminium channels. Designed to hold solar panels or light weight plant, without penetrating the membrane.

Nuravent

Nuravents are made of aluminium. They are simple mushroom shaped vents that can be purchased in powder-coated colours to blend in with the Nuraply roof. Install at high and low points to promote air flow in roof cavity, which should have interconnecting ventilating passages.

Metal Scuppers & Sumps

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

Termination Bar

Metal strip predrilled to allow mechanical fixation of the Nuraply 3PM membrane.

MS Detail liquid flashing

MS Detail is a solvent-free, coloured, liquid, single-component waterproofing coating on the basis of MS Polymer technology.

Nuralite outlets and overflows

A series of roof 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.

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.

Nuradeck

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

Lockin' Pocket flashing system

A pre-fabricated 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
- LPS Sealant
- Hurricane Force Universal Sealer

Nurapatch

A highly polymer modified, high specification cement render that features strong adhesion and tensile strength development combined with a rapid yet practical through-cure in thicker render sections, with outstanding cured strength, resilence and low shrinkage. For patching concrete prior to membrane installation.

Accessories Supplied by Others

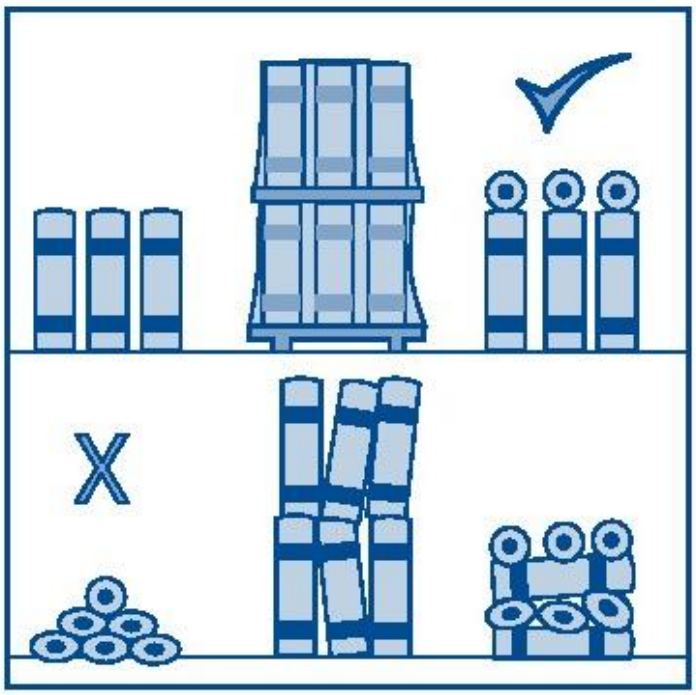
NPM900 Metal Tray (Supplied by Dimond Roofing)
A metal tray deck substrate with wide ridges to support the Enertherm sheets.

FixAll 220 MS Sealant (Supplied by Holdfast)
High performance MS sealant

Gorilla Fire Rated Expanding Foam (Supplied by Holdfast)
A one-component, self-expanding, ready to use polyurethane foam. Seals against smoke and gas. Insulates, adheres & waterproofs

SITE STORAGE

a. Store rolls on selvage end of roll and off the ground, with pails.
b. Protect all products and equipment from sun, heat and frost.



Tools in General

String line, gas torch (small 20mm for detailing & 50mm for large areas), 2 x fire extinguishers suitable for Class A, B, and C fires, moisture meter to measure moisture content of substrates, water spray bottle, spirit level, 2 x craft knife (straight & hooked blade), tape measure, straight edge, cutting board, margin trowel, tool belt & or tray, seam/printers roller, paint brush & roller, knee pads and gas lighter (BBQ)

5. Substrate Readiness

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

Before commencing laying any Nuralite systems, the installer must be sure that the substrate is ready by receiving a completed Substrate Readiness Checklist 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.

If a project has two or more substrate types, separate checklists must be completed for each substrate and any interface between the substrates is a matter of specific design for each building.

In particular,

1. SUBSTRATE – NEW TIMBER

a. The top surface of the plywood should be sanded and plugged, to a minimum standard of C.

b. Plywood substrate must be 17mm thick for roofs, 21mm thick for decks, and must be treated H3.2 grade. Do not use LOSP-treated (light organic solvent preservative) or CuN treated (copper nitrate) timber.

c. Refined timbers, refer to manufacturers technical literature for correct use and application. Must be treated but must not be treated with LOSP (light organic solvent preservative) nor CuN (copper nitrate).

d. All other timber products, ie, trim, battens and framing must be treated but must not be treated with LOSP (light organic solvent preservative) nor CuN (copper nitrate).

e. Roofs and decks must be supported at 600mm centre maximum (including noggins & rafters), timber sheets must be laid across supports and joints staggered (brick pattern), unless otherwise specified.

f. Timber and support timber dry, surface clean.

g. Minimum Finished Constructed Falls
1:80/0.7° for roofs or decks (Note 1)
1:100/0.6° for gutters

h. Sheets must be glued and then fixed with Grade 316 Stainless Steel 10 gauge countersunk screws.
Screw edges every 150mm} about 20mm from the edges
Screw centres every 200mm} throughout the timber sheet

i. Joints butted, upstands filleted, edges arrised.

j. Drainage outflow details rebated.

2. SUBSTRATE – NEW CONCRETE (TRUE IN PLANE, WOOD FLOAT SURFACE)

a. Minimum Finished Constructed Falls
1:80/0.7° for roofs or decks (Note 1)
1:100/0.6° for gutters

b. Concrete substrate contains less than 5% moisture content (measured with a calibrated concrete moisture meter) and curing membranes removed.

c. Upstands filleted, edges arrised, drainage outflows rebated.

d. Surface clean and dry.

3. SUBSTRATE – NEW NPM900 METAL TRAY SURFACE

This is the quickest and most cost effective substrate to install.

a. Minimum Finished Constructed Falls
1:80/0.7° for roofs or decks (Note 1)
1:100/0.6° for gutters

b. Supporting rafters spaced as per specification (varies depending on NPM900 gauge).

c. Enertherm sheets stagger lay (fully offset) with correct falls and no ponding.

4. EXISITING SUBSTRATE

When used on existing projects, it is the responsibility of the property owner to have the structure and substrate assessed by a qualified expert and approved by 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 the substrate surface to ensure it has not deteriorated to the point of being unsuitable.

a. Minimum Finished Constructed Falls
1:80/0.7° for roofs or decks (Note 1)
1:100/0.6° for gutters

Note 1: Roofs must have a minimum finished (constructed) 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.

a. New Timber Substrate Readiness Checksheet

Project Name: _____

Form Completed by: _____

Company: _____

Area ready: _____

Applicator _____

Fax Number: _____

Structure complies to the New Zealand Building Code and timber complies with AS/NZ 2269	☐
H3.2 CCA treated timber sheets 17mm thick for roofs, 21mm thick for decks.	☐
Timber sheets supported at 600mm centred rafters and nogs for roofs and decks. Unless otherwise specified.	☐
Sheets stagger lay (fully offset) with falls as per plan.	☐
5mm clearances from all abutments, 5mm radius to all exposed edges.	☐
All sheet edges supported, fixed 150mm on edges and 200mm through girth, edges butt-jointed with no gaps except at abutments.	☐
Sheets fixed by gluing and Stainless Steel countersunk screw fixing.	☐
Fillets installed to all internal junctions and neatly fitted.	☐
Mitres neatly formed.	☐
Rainwater outlets and overflow recesses formed to fit outlets rebated into the Surface.	☐
Sharp edges and lips removed and cavities filleted. All joints flush.	☐
Plinths formed for any exterior ventilation, solar panels or fixtures.	☐
Substrate dry, clean, firm and suitable condition for laying	☐

When substrate is ready complete this form and fax to the Nuralite *applicator*

Notes

Signed by main contractor (builder) Date:

b. New Concrete Substrate Readiness Checksheet

Project Name: _____

Form Completed by: _____

Company: _____

Area ready: _____

Applicator _____

Fax Number: _____

Structure complies to the New Zealand Building Code and concrete complies with NZS 3101 (2006)	☐
Concrete cured with curing membranes removed. Concrete substrate contains less than 5% moisture content.	☐
Surface smooth and clean with falls as per plan.	☐
Cavities and cracks filled with Nurapatch, flushed off and cured.	☐
Concrete surface firm with any soft concrete or laitance removed.	☐
Ponding areas removed.	☐
Roof drains and overflow recesses formed to fit rebated outlets.	☐
Mortar or Nuralite Bitumen fillets to all upstands and smooth 5mm radius to all external edges	☐
If terminating into a chase, pre-form the chase and ensure it's Straight and 20mm deep.	☐
Plinths formed for any exterior ventilation, solar panels or fixtures.	☐
Construction joints incorporated in slab as per designers specification.	☐
Substrate clean, firm and suitable condition for laying the Nuralite systems.	☐

When substrate ready complete this form and fax to the Nuralite *applicator*

Notes

Signed by main contractor (builder) Date:

c. New ENERTHERM Timber Substrate Readiness Checksheet

(Prior to vapour barrier installation)

Project Name: _____

Form Completed by: _____

Company: _____

Area ready: _____

Applicator _____

Structure complies to the New Zealand Building Code	☐
Sheets stagger lay (fully offset).	☐
Confirm the substrate slope complies with plans.	☐
Rainwater outlets and overflow recesses formed to fit outlets rebated into the surface.	☐
Ensure only approved accessories to be used for drainage and venting.	☐
Review penetrations to minimize number and complexity.	☐
Sharp edges and lips removed and cavities filleted. All joints flush.	☐
Mitres neatly formed.	☐
Plinths formed for any exterior ventilation, solar panels or fixtures.	☐
Substrate clean, firm and suitable condition for laying the Nuralite systems.	☐

When substrate ready complete this form and fax to the Nuralite *applicator*

Notes

Signed by main contractor (builder) Date:

d. Metal Tray Substrate Readiness Check sheet

(Prior to vapour barrier Installation)

Project Name: _____

Form Completed by: _____

Company: _____

Area ready: _____

Applicator _____

Dimond sheet installed with the narrow trough down	☐
Fastening the metal tray sheet in the pan with 6 fasteners per purlin support.	☐
If using timber supports, installed bitumen tape between timber and metal tray.	☐
Confirm the substrate slope complies with specification.	☐
Rainwater outlets and overflow recesses formed to fit outlets.	☐
Ensure only approved accessories to be used for drainage.	☐
Review penetrations to minimize number and complexity.	☐
All edges of insulation supported by timber to prevent damage	☐
Plinths formed for any exterior ventilation, fixtures or similar.	☐
Substrate clean, firm and suitable condition for laying the Nuralite systems.	☐

Notes

Signed by Applicator Date:

e. ***Enertherm Substrate Readiness Check sheet***

(Prior to Membrane Installation)

Project Name: _____

Form Completed by: _____

Company: _____

Area ready: _____

Applicator _____

Sheets stagger lay (fully offset).	☐
Any gaps in the insulation filled to prevent thermal bridging.	☐
Material fastened with the correct quantity of IKOfix Thermal Break Flanges and Fixing Screws (4 per m2 up to 3.33 kPa ULS).	☐
Edges of insulation supported by metal sheet ridges	☐
Plinths formed for any exterior ventilation, solar panels or fixtures.	☐
Substrate clean, firm and suitable condition for laying the Nuralite systems.	☐

Notes

Signed by Applicator Date:

f. Existing Roof Substrate Readiness Checksheet

Project Name: _____

Form Completed by: _____

Company: _____

Area ready: _____

Applicator _____

The structure and substrate assessed in writing by a suitably qualified person	☐
Confirm the substrate is suitable with no signs of deterioration in the form of rust or rot.	☐
Cladding, doors and windows removed to allow upstands to be formed.	☐
Confirm the substrate slope exceeds minimum requirements.	☐
Rainwater outlets and overflow recesses formed to fit outlets rebated into the surface.	☐
Ensure only approved accessories to be used for drainage and venting.	☐
Review penetrations to minimize number and complexity.	☐
Plinths formed for any exterior ventilation, solar panels or fixtures.	☐
Substrate clean, firm and suitable condition for laying the Nuralite systems.	☐

When substrate ready complete this form and fax to the Nuralite *applicator*

Notes

Signed by main contractor (builder) Date:

6. Installing the Nuraply 3PM system

a. Installing the Enertherm 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 QD primer.

iii. When installing the membrane, ensure the Nuraply ALU vapour barrier covers the entire area and wraps up the insulation side 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.

Enertherm 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 vital that no thermal breaks exist in the system so fill any gaps with Gorilla Fire Rated Expanding Foam.

Fixing Enertherm PIR on Timber or Metal Traydeck

i. IKO Fix fasteners are designed to penetrate the insulation and has the following advantages:

- Reduces thermal bridging
- Is cost effective because it uses shorter screws
- No risk of the screw penetrating the membrane if someone stands on the fixing.

~~ii.~~ Secure the sheets with 4 fixing per sqm for wind zones up to and including Very High. The fixings should be inset by 200mm in each corner with at least one in the center. For wind zones extra high and above consult with Nuralite who can commission a site specific fixing plan.

iii. If you notice the boards move when walking on them, use additional fixings to ensure the boards are stable and flat.

Fixing Enertherm PIR on Concrete

i. The Nurabond High Foaming 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^{O}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^{O}C.

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

vi. 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.

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

b. Installing the Nuraply baselayer

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 rolls layout for best drainage. Lay membrane from drainage outlets and gutters, low points and edges, up the roof /deck slopes. Nuraply is usually installed running down the slope to minimize water retention on the roof.

iii. Be sure to run membrane down the length of the gutter – not across it. There should be no laps within 1m of the outlet.

iv. Use chalk lines to insure straight neat lines of the finished membrane.

v. Double thickness application is required at all internal and external corners, at upstands and turndowns. This will eliminate –

(a) The possibility of weakening the Nuraply membrane when tooling to angles,

(b) The double thickness increases the strength to withstand substrate movement and mechanical damage at these points.

Adhesion of Nuraply 3PB, Nuraply 3PB-SA or Nuraply 3PV Sheet to Substrate

i. Unroll and relax the sheet.

ii. Apply the Nuraflux primer evenly over the area to be waterproofed.

iii. Install detailing (refer to g.) to all drainage outlets gutters before laying the main roof. Ensure outlets are rebated to avoid build-up at outlets and to allow drainage outflow.

iv. Whilst unrolling the membrane roll use a correct size gas torch to heat the membrane until a bitumen bleed is established (Not required for Nuraply Self-Adhesive membranes). Overlap previous rolls sides 80mm and ends 100mm ensuring all laps face downhill.

v. Weld all lap joints carefully using Nuraply welding techniques and testing all joints progressively.

vi. 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 3PV-SA Sheet to Enertherm Substrate

i. Unroll and relax the sheet.

ii. Install detailing (refer to g.) to all drainage outlets gutters before laying the main roof. Ensure outlets are rebated to avoid build-up at outlets and to allow drainage outflow.

iii. Whilst unrolling the membrane roll, peel away the film to reveal the self-adhesive surface. Overlap previous rolls sides 80mm and ends 100mm ensuring all laps face downhill.

iv. Weld all lap joints carefully using Nuraply welding techniques 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.

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 a distance of 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.

iv. 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^{O} to ensure a good seal.

vi. Finally, dress the front edge. 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 membrane 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.

REMEMBER: A SOUNDLY WELDED LAP-JOINT IS CRITICAL FOR THE SYSTEM TO REMAIN COMPLETELY WATERPROOF.

c. Installing 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.

iii. If there has been an extended period between installing the baselayer and the capsheet then ensure the base layer is clean and dry. It may be advisable to prime the baselayer with Nuraflux QD 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. Unroll and relax the sheet.

vi. Weld the upper Capsheets so that they are fully bonded to the immediate under layer by applying heat to the top of the Basesheet and underside of the capsheet as you unroll the capsheet.

vii. After each two or three rolls are laid. Weld all lap joints perfectly using Nuraply welding techniques, discussed in "5.g Making the Lap-joint", testing all joints progressively.

Installing Metal Nuravents (not required on Nuratherm Warm Roof systems)

The method for creating cross flow ventilation is a design consideration and so must be specified by the designer.

If using a cold roof system, ventilation of timber roof spaces, particularly skillion roofs, is recommended by Nuralite to assist with removal of interstitial moisture and mitigate high temperatures in the ceiling cavity. A practical and unobtrusive way is using soffit vents or parapet venting.

If a Nuravent is specified, install at high and low points to promote air flow in roof cavity, which should have interconnecting ventilating passages. It is recommended that a Nuravent is installed every 20sqm.
.

i. Lay the Nuraply roof first. Consequently Nuravents can be installed on new or existing roofs.

ii. Locate Nuravent positions. Cut holes through the substrate to ventilate roof spaces.

iii. Screw down the vent base onto the substrate using at least 4 screws per vent. The vent base can sit directly on top of the installed Nuraply.

iv. Weld the baseplate overflashing tight to baseplate edge and surrounding Nuraply. Ensure the flashing extends at least 75mm from the edge of the Nuravent baseplate

v. Flash up the vent pipe with Nuraply.

vi. Repeat steps iv and v so it is encased with two layers of membrane.

vii. Fasten on the Nuravent cap using the three screws and washers provided.

Flood Testing

If possible flood test to a maximum of 50mm vulnerable areas such as gutters and outlets for 24 hours before signing off the job.

7. Trouble Shooting Problems and Repairs

If bubbles occur in Nuraply 3PM – either

a) Moisture has become vapour underneath the Nuraply 3PM, or

b) Air is underneath the Nuraply 3PM, or

c) Too much heat has been used in welding

With a) and b) the bubbles will be formed by the Nuraply 3PM lifting off the deck.

With c) the smaller “blisters” form only in the top layer of Nuraply 3PM.

i. Check ventilation of timber/timber decks.

ii. Check for water entry somewhere.

a. When the moisture which causes the vapour-created bubbles has gone, or dried out, or stopped, the bubbles can be warmed and blocked down to remove the problem. It may also be necessary to cut open and torch down and overlay neatly with Nuraply 3PM to reseal bad areas.

b. Air trapped during laying can be removed by rolling or warming and blocking down. If this does not work, the bubbles can be cut and warmed and blocked down. After this an overlay piece will be required, welded onto the surface after priming with Nuraflux.

c. Blisters from welding can be warmed carefully and blocked down before recoating the surface.

d. Install Nuravents as required to ventilate roof space.

Repairs to the Nuraply 3PM system are performed by welding pieces of Nuraply 3PM to the cleaned and Nuraflux primed damaged surfaces:-

a. Minimum repair of one small hole is a lap to lap infill strip of Nuraply 3PM 100mm wide to look like a lap joint.

b. Larger/wider spread damage requires lap to lap infill pieces of Nuraply 3PM long enough to cover all damage plus 100 mm minimum each side of the damage.

c. Ensure that the repaired Nuraply 3PM roof remains neat and attractive in appearance.

8. Project Sign-off Form

Project Name: _____
Builder Firm: _____
Applicator Firm: _____
Area covered by QC Sheet _____
Nuralite Invoice number _____
Applicator Invoice number _____

Roofing membrane installation item	Comply Y/N/Na	Comments
Substrate readiness form completed		
Underflashings installed to all corners and upstands (pay attention to parapets, gutters, junctions)		
Gutters correctly and neatly installed, particularly the internal corners		
Roof drains & overflows installed to specification and watertight		
Membrane adequately adhered to substrate with no evidence of bubbles or lifting. Correct quatities of primer or adhesive used as per specification.		
Cap sheet and basesheet fully bonded together, no areas of delamination.		
Cap sheet side laps 80mm and end laps 100mm fully welded and tidily seamed off.		
No sign of overheating/excessive bitumen bleed from laps (over 2-3mm).		
Cap sheet and base sheet laps offset satisfactorily. No three layer lap build-ups		
Overall installation free of wrinkles, creases and splits		
Nuravents installed to specification.		
All penetration details completed to specification including under/overflashing		
Standard details used throughout including at upstands, parapets, construction joints		
All non standard details installed as per pre-approved specifications (attach approved drawing)		
Gutters and outlets have been floodtested		
Any damage to cap sheet repaired to specification.		

Note: Where an element identified in the above checklist is not applicable, please record N/A in the comply column.

Project Sign-off Form cont.

Remedial action required:

Note of damaged areas repaired:

Signed Applicator _____

Date: _____

9. Nuraply Maintenance Programme - Checklist

To get the longest life from a roof it must be regularly inspected & maintained.

When first installed the building owner should arrange inspections each spring and autumn, to enable the effects of annual extremes of weather to be checked. Following that an annual program of roof inspection and cleaning should be established by the building owner as part of general building maintenance.

Roofs exposed to high levels of pollution or in close proximity to trees might require more frequent inspection.

Any inspection of a roof should include the interior of the building for signs of water penetration or condensation and for alterations, which may have affected the roof. Externally, abutting construction, which can affect the performance of the roof, should also be inspected.

Annual Inspections & Cleaning

Inspections
The inspection should concentrate on “high risk” areas such as hatches, drains and around all roof top equipment, as well as a general inspection of the entire roof. Inspections should also include the examination of the roof deck if possible from the underside for evidence of leaks, deteriorated decking, structural cracks or movement and other deficiencies. Parapets and edging should also be examined for evidence of cracking, deterioration and moisture infiltration.

Damage
If damage is found on the roof surface it should be repaired immediately by an approved Nuralite Applicator. They will use NURAPLY 3PM component products and special techniques to achieve neat, unobtrusive reinstatement of the NURAPLY 3PM.

Cleaning
Location, traffic level, effective drainage, and service use will dictate cleaning requirements. Sweeping clean followed by hose and broom washing of the NURAPLY 3PM roof is recommended, not waterblasting. If mould does appear it should be removed with a long-term mould killer such as Nuracide.

The building owner may do this themself or engage an approved applicator if they prefer.

Five Year Authorised Service Checks

To maintain the material defects warranty, every five years the owner must engage an Approved Applicator to inspect the roof and ensure it remains in good condition. Failure to maintain the roof system will void the warranty.

The Applicator must thoroughly check the roof for signs of damage, water ingress or potential problems.

	Applicator	Date	Signed
Inspection 1			
Inspection 2			
Inspection 3			
Inspection 4			

INSPECTION CHECKLIST

1) Surface:
   a) bare patches in solar reflective finish or chippings;
   b) accumulation of loose chippings;
   c) accumulation of silt or vegetation;
   d) loose, inadequately supported or broken paving slabs;
   e) exposed insulation (protected membrane roofs);
   f) areas of ponding.

2) Membrane:
   a) blistering, ripples, rucking, detachment;
   b) cracks, splits, tears, punctures, indentations;
   c) pimpling, pitting, crocodiling;
   d) pulled, unbonded laps;
   e) softening of surface.

3) Substrate:
   a) depressions in surface;
   b) lack of support/soft support to membrane.

4) Rainwater outlets:
   a) blocked;
   b) not bonded to membrane (if bonded type);
   c) clamping ring loose (if clamped type).

5) Upstands:
   a) damaged/detached flashings;
   b) sagging membrane;
   c) splits, cracks, tears;
   d) membrane unsupported at fillet;
   e) unbonded laps;
   f) blistering.

6) Eaves/verge:
   a) unbonded or peeling membrane;
   b) cracking/splitting or strain in membrane;
   c) displacement or signs of movement of edge trim.

7) Movement joints, upstand type:
   a) unsealed capping joints;
   b) dislodged flashing/capping;
   c) unbonded laps.

8) Movement joints, proprietary flush type:
   a) unbonded laps;
   b) splits, cracks, tears.

9) Abutting construction:
   a) parapet copings cracked, loose, unsealed;
   b) damaged damp-proof course, lack of continuity in damp-proofing;
   c) open joints, cracking in construction;
   d) loose/missing pointing.

10) Roof fixtures and penetrations:
   a) upstand defects as above;
   b) rooflight glazing defects;
   c) damaged/missing flashings;
   d) balustrade/vent pipe, loose or missing flashing or collar;
   e) plant plinth damaged/missing flashing;
   f) lightning conductor tape, fixing loose/detached

10. Technical Datasheets

NURAFLUX NO 10
TECHNICAL DATA SHEET

DESCRIPTION
Nuraflux No 10 adhesive is a water based adhesive designed to bond Nuraply roofing membranes to concrete, plywoodand timber. It features good initial grab with excellent exterior weathering resistance.

SPECIFICATION :
Type:	Modified synthetic latex / bitumen emulsion.
Colour:	Black.
Viscosity:	Brushable or spreadable.
Solids:	55% approx.
Cleaner:	Water while wet, Bostik Solvent No.2 or 3 when dry
Stability:	Protect from frost. Not freeze-thaw stable.

APPLICATION :
All surfaces must be clean and free from grease, oil, release agents or dust etc. It can be applied using brush, roller.

NOTE: Concrete must be cured for a minimum of 27 days and have a moisture content of 18% or less. Timber and timber must have a moisture content of 18% or less and be of the correct standards.

PACKAGING :
15 litres plastic pail

STORAGE :
Store in cool, dry conditions out of direct sunlight between 5° C and 25° C. This product MUST be protected from frost.

SHELF LIFE :
12 months under normal temperature conditions and in original containers.

VERSION :
Version 1	3rd October 2006
Updated	Feburary 2019

IMPORTANT NOTICE:

The information in this product data sheet is based on our experience and testing. It represents the latest information available at the time of printing, but no guarantee of its accuracy is made or implied, nor responsibility taken for use to which this information may be put. We reserve the right to alter or up-date information parameters and formulations at any time without notice.

NURAFLUX PRIMER

IKO QuickDry Primer

TECHNICAL DATA SHEET

DESCRIPTION AND AREAS OF USE

Nuraflux Primer is a bitumen based adhesive solvent solution which is specifically formulated to provide excellent adhesion for Nuralite Waterproofing Membranes under many kinds of surface conditions. Nuraflux Primer is an integral part of the Nuralite Waterproofing System and sufficient primer must be used on dry surfaces to condition them to be dust free so that the substrate is suitable for the application of Nuralite Waterproofing Membranes.

Used to prime all structural concrete, masonry, or wood surfaces on which waterproofing membranes will be used.

Designed to be used on applications down to –4°C.

May be used on horizontal surfaces, but remains tacky, and precautions must be used in this application to prevent contamination of the Primer surface prior to installation of the membrane.

May be used on all concrete block and brick wall conditions.

APPLICATION

Nuraflux Primer may be applied with roller, brush or spray. A roller with a heavy nap should be used to carry sufficient material to the area being primed.

Apply all Nuraflux Primer to a clean, dry, dust free and frost free surface at a coverage of approximately 5 sqm/litre. The primer should be spread sufficiently to avoid areas of excess material. Areas of excess material will lengthen the drying time on the application of the primer.

Nuraflux Primer will dry in a minimum of one hour - may dry quicker due to drying conditions, such as wind and warmth.

This product is black in colour and will remain tacky when dry.

The application of primer should be limited to what can be covered with Waterproofing Membrane in one working day. Any areas not covered with membrane during the day must be reprimed - be sure to cover all open containers when not applying primer, as the primer is volatile.

SAFETY, STORAGE & HANDLING INFORMATION

Nuraflux Primer vapours are flammable. User should review Material Safety Data Sheet (MSDS) for this product and follow safety instructions listed therein.

TRANSPORT CLASSIFICATION

IMDG Class 3.1
UN No. 1294

1

NURAGLAZE
TECHNICAL DATA SHEET

Description:

NURAGLAZE is a water based, interior/exterior coating with a unique cross linking technology that gives a tough, hard wearing, satin finish.
NURAGLAZE is designed for use on new or existing Nuradeck membrane deck systems or over Nuraply 3PM mineral chip membrane.
Once applied, the NURAGLAZE surface is hard wearing yet does not get dirty easily.

Typical Uses

Provides a film over the Nuraply 3PM to bond chips down, keep the membrane surface cleaner and aid with collection of potable water. May be tinted to alter the appearance of the Nuraply 3PM mineral chip membrane.

Physical Properties:

Binder Type	Unique cross-linking Acrylic
Solvent	Water
Colour	White though dries clear. Can by tinted any colour
Finish	Satin 15%gloss @ 60°C (Approx)
Dry Time	30 minutes at 20°C. Allow 12 hours before walking.
Recoat time	2 hours at 20°C
Number of Coats	2
Film Thickness	100 microns WFT
Theoretical Coverage *(per coat)*	8-10m2/litre over bare concrete, 12-14m2/litre over painted surfaces
Thinning & Clean Up	Water

Surface Prep Nuraply 3PM

- Ensure surface is in sound condition, dry and free from dirt, dust, grease or oils.
- Brush or blow loose chips from the membrane surface.

Application

- Apply 1 or 2 coats of NURAGLAZE. The application should be thin to ensure the glaze does not develop a “milky” appearance.

Performance & Limitations Performance

Non yellowing
Easy application properties with excellent flow and levelling
Excellent durability

Limitations

Do not paint if air or surface temperature is less than 10°C or above 35°C .
Cold or humid conditions may require longer dry times.

Health & Safety

Waterborne
NURAGLAZE is a water reducible non toxic coating. It is non flammable and requires no special handling. We recommend the use of a barrier cream for hands when applying.

Transport UN No. :	1263
Class :	N/A
Hazchem :	N/A

Storage

Avoid freezing or temperatures in excess of 50°C.

IMPORTANT NOTE

This product as supplied by **Nuralite Waterproofing Ltd** is warranted to conform to those physical properties listed in the Typical Properties section of this information sheet. Otherwise the information presented including that on suggested areas and methods of use is in good faith only and is specifically without recommendation or guarantee as to particular suitability. It is the responsibility of the purchaser to satisfy itself that the product is both fit for the purpose intended and that their use of the product can and does achieve that purpose in any particular instance or condition. Usage rates are presented as an initial guide only and do not account for wastage or substrate or build variations.

Nuraply ALU Vapour Barrier

IKO shield PLUS ALU/SA

TECHNICAL DATA SHEET

DESCRIPTION AND AREAS OF USE

Roofing membrane with glass fibre reinforcement, topside finished with polyester reinforced aluminium foil and under-side coated with self-adhesive SBS modified bitumen.

The combination of glass fibre reinforcement and aluminium finish layers ensures a dimension-stable, accessible roofing membrane, which facilitates stepping on metal deck during operation.

- The bottom side is coated with self-adhesive, SBS modified bitumen, which guarantees an immediate and high adhesion strength to the substrate surface.

- The top is finished with a polyester reinforced aluminium foil.

- The bottom side is finished with a removable silicon foil.

APPLICATION

Self-adhesive vapour barrier on metal deck, accessible during operation.
Also as vapour barrier on fully substrate substructures, if it is dry, dust and fat free.
Nuraply Aluminium Vapour Barrier is applicable as vapour barrier for roofing systems in buildings with high humidity conditions (Inner climate: class IV).

COMPOSITION

Type of bitumen:	Elastomeric
Upper surface finish:	ALU
Inlay:	Glass fibre threads
Lower surface finish:	Self-adhesive bitumen with anti-stick film

TECHNICAL CHARACTERISTICS (EN 13707)

Tensile strength L (EN 12311-1 MDV N/50 MM ± 20%)	800	
Tensile strength T (EN 12311-1 MDV N/50 MM ± 20%)	700	
Elongation L (EN 12311-1 MDV % ± 15% abs.)		NPD
Elongation B (EN 12311-1 MDV % ± 15% abs.)		NPD
Nail tear resistance (EN 12310-1 MDV N Only MF)	≥ 200	
Flexibility at low temperature (EN 1109 MLV °C Surface/Bottom)	≤ -20	
Flow temperature (EN 1110)	NPD	
Shear resistance (EN 12317-1 MDV N/50 mm)		NPD
Dimensional stability (EN 1107-1 MLV)		NPD
Fire resistance		NPD
Vapour diffusion resistance (µd)		≥ 1500 m
Root resistance (EN 13948)	-	

DIMENSIONS

- Thickness: 0.6 mm
- Length: 25 m
- Width: 1,08 m
- Weight: ± 20 kg
- Packaging: 30 rolls per pallet

APPLICATION

Nuraply Aluminium Vapour Barrier is applied as a vapour barrier in buildings with inner climates till class IV. The substrate should be smooth, dry, clean, fat- and dust free. All substrates, with exception of pre-coated metal deck, needs to be coated with bitumen primer IKOpro SA Primer (Nuraflux QD). In case of application on metal deck the membrane shall be placed parallel on to the corrugations, as to position the side laps supported on the metal deck, and have the ability to rightly pressure it.
The first membrane is unrolled and lined out and rolled up again till approximately half the length of the strip. The remove-able silicon foil should be cut in cross direction and pulled up in one time while unrolling the membrane. This way, the self-adhesive underside will get in direct contact with the substrate and stick immediately. The same procedure should be repeated for the other end of the roll. The next membrane Nuraply Aluminium Vapour Barrier is applied in the same way with a side lap of 8 cm and an end lap of minimum 10 cm. Overlaps are to be pressured with a medium hard pressure roller.
The isolation is applied by bonding with IKOpro PU-Roof Adhesive or mechanically fixing with thermal break flanges and fasteners direct on to the aluminium facing of the Nuraply Aluminium Vapour Barrier.
Insulation types admitted: Mineral wool, EPS without facing, glass fibre faced PUR, PIR and PF (NOT: with talc/sand finished bituminized facing at the underside).
Temperature in application ≥ 10° C.
In case of application during colder periods the material should be stored at least 12 hours before application in an ambient temperature of >= 10° C.
Attention: Finish the roofing system every working day until at least 1 watertight layer on the insulation material in order to protect the aluminium foil of the Nuraply Aluminium Vapour Barrier against thermal shocks.

SAFETY, STORAGE & HANDLING INFORMATION

Do not pile pallets
Store indoors, preferably in dark room; avoid direct sunlight
Apply as quickly as possible after production
Pot-life: depending on circumstances: ideally in dark room at 10 to 20°C, maximum 6 months.

ATAB herewith declares that the following product is in conformity with the provisions of the following EC Directive(s) when installed in accordance with the installation instructions contained in the product documentation:
89/106/EEC Construction Products Directive
EN 13707: Flexible sheets for waterproofing-Reinforced bitumen sheets for roof waterproofing

NURAPLY 3PB

Nuraply 3P 10m

TECHNICAL DATA SHEET

DESCRIPTION AND AREAS OF USE

Waterproofing membrane consisting of straight run bitumen heavily modified with polymers and reinforced with a non-woven polyester.

FINISHING

- Top surfaceraw bitumen
- Underside finished with a smooth thermofusible film

APPLICATIONS

- Underlay in multi layer waterproofing system

COMPOSITION

- Reinforcement : non-woven polyester 180 g/m²
- Coating mass : polymer modified bitumen

TECHNICAL SPECIFICATIONS (average values)

- Tensile strength (U.E.A.t.c.)
  - longitudinal : 600 N
  - transversal : 550 N
- Elongation at break (U.E.A.t.c.)
  - longitudinal : 40 %
  - transversal : 40 %
- Resistance to heat (U.E.A.t.c.) : > 140°C
- Low temperature flexibility (U.E.A.t.c.) : -5°C
- Dimensional stability : <0,5%
- Tear resistance (U.E.A.t.c.)
  - longitudinal : 160 N
  - transversal : 160 N

DIMENSIONS

- Thickness : 3 mm
- Length : 10 m
- Width : 1 m
- Surface : 10 m²
- Average weight : 41 kg

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SAFETY, STORAGE & HANDLING INFORMATION

- Do not pile pallets
- Store indoors

TRANSPORT CLASSIFICATION

N/A

The information in this product data sheet is based on our experience and testing. It represents the latest information available at the time of printing, but no guarantee of its accuracy is made or implied, nor responsibility taken for use to which this information may be put. We reserve the right to alter or up-date information parameters and formulations at any time without notice.

NURAPLY 3PB – SA

IKO Base Stick T/SA 15m

TECHNICAL DATA SHEET

DESCRIPTION AND AREAS OF USE

Roofing membrane with polyester fibre reinforcement for use on areas requiring quality waterproofing without the use of naked flames.

- The polyester reinforcement has high mechanical strength.
- The bottom side is coated with self-adhesive, SBS modified bitumen, which guarantees an immediate and high adhesion strength to the substrate.
- The topside is finished with quartz mineral and a removable silicon foil of 80 mm on the side lap area, which guarantees a fast and secure sealing.
- The bottom side is finished with a removable silicon foil.

COMPOSITION

- Reinforcement: polyester fibre, 150 g/m².
- Bitumen coating mass:
  - Topside: flexible bitumen.
  - Bottom side: self-adhesive SBS modified bitumen.

TECHNICAL SPECIFICATIONS (average values)

- Tensile strength: (UEAtc)
  - Longitudinal : 700 N
  - Transversal : 500 N
- Elongation at break (UEAtc)
  - Longitudinal : 35 %
  - Transversal : 35 %
- Low temperature flexibility self-adhering coating : -25°C

DIMENSIONS

- Thickness: 2.5 mm
- Length: 15 m
- Width: 1.08 m
- Weight: ± 44.5 kg

APPLICATION

The substrate should be smooth, dry, clean, fat- and dust free.

All non-insulated substrates, with exception of pre-coated metal deck, needs to be coated with Nuraflux bitumen primer. In case of application on metal deck the membrane shall be placed

parallel on to the corrugations, as to position the side laps supported on the metal deck, and have the ability to rightly pressure it.

The first membrane is unrolled and lined out and rolled up again till approximately half the length of the membrane. The removable silicon foil should be cut in cross direction and pulled up in one time while unrolling the membrane. This way, the self-adhesive underside will get in direct contact with the substrate and stick immediately.

The same procedure should be repeated for the other end of the roll.

The next membrane Nuraply 3PB – SA is applied in the same way with a side lap of 80 mm. Before unrolling it definitively, the silicon foil on the welding strip of the first membrane shall be removed.

Pressure shall be exerted with a medium hard pressure roller. The end laps should be sealed over a width of at least 100mm with a smooth flame or hot air gun.

In multi layer roofing systems the top layer may be another layer of Nuraply 3PB-SA with a coating applied or Nuraply 3PM torched-applied onto the Nuraply 3PB–SA.

Temperature in application ≥ 10° C.

In case of application during colder periods the material should be stored at least 12 hours before application in an ambient temperature of ≥ 10° C.

SAFETY, STORAGE & HANDLING INFORMATION

- Do not pile pallets
- Store indoors, preferably in dark room; avoid direct sunlight
- Apply as quickly as possible after production

TRANSPORT CLASSIFICATION

N/A

NURAPLY 3PM

IKO CARBON (Charcoal) Polygum 4AR Mec (Slate) Polygum (White)

TECHNICAL DATA SHEET

DESCRIPTION AND AREAS OF USE

Waterproofing membrane consisting of non-woven polyester coated with plastomer bitu-men. With slate layer in either Charcoal, Slate, White, Red or Green.

FINISHING

- Top surfaced finished with a mechanically rolled slate layer (colour red) offering excellent bonding with PP film on the 8 cm overlap.
- Underside finished with a thermofusible film

APPLICATION

- Cap sheet in multi layer waterproofing system

COMPOSITION

- Reinforcement: 180gm2 non-woven polyester
- Coating mass: polymer modified bitumen.

TECHNICAL SPECIFICATIONS (average values)

- Tensile strength (EN 12311-1)
  - longitudinal : 650 N
  - transversal : 500 N
- Elongation at break (EN 12311-1)
  - longitudinal : 40 %
  - transversal : 40 %
- Resistance to heat (EN 1110): > 140°C
- Low temperature flexibility (EN 1109): -8°C
- Dimensional stability (EN 1107-1): ≤ 0,5 %

DIMENSIONS

- Thickness : 4 mm
- Length :7.5 m
- Width :1 m
- Surface :7.5 m²
- Average weight :43 kg
- Colour :Charcoal, Slate, White

FIXING

Torching method with asphalt burner.

SAFETY, STORAGE & HANDLING INFORMATION

- Do not pile pallets
- Store indoors

TRANSPORT CLASSIFICATION

N/A

NURAPLY 3PV

IKO Base Quadra F/F 7.5m

TECHNICAL DATA SHEET

DESCRIPTION AND AREAS OF USE

Roofing membrane, consisting of a non-woven polyester reinforcement, coated with modified bitumen and provided with a built-in vapour diffusion layer.

- The built-in vapour diffusion layer on the under-side of the roofing membrane is realised by an additional diamond-shaped profiled coating, consisting of self-adhesive plastomer bitumen that can be thermally activated. The bonding area to the substrate is approx. 40 %, achieving the ideal ratio between wind resistance and vapour diffusion.
- The wide, diagonal-shaped channels, provided with a heat-resistant mineral anti-adhesive finish, ensure the optimum vapour diffusion.
- The welding strip on the underside of the roofing membrane is additionally provided with a self-adhesive plastomer bitumen that can be slightly thermally activated. The welding strip on the top of the roofing membrane is provided with a thermofusible film.
- These two finishing's ensure a safe joint, by means of the gentle flame from the asphalt burner.
- The top of the roofing membrane is surfaced with talc. The underside is provided with a thermofusible film.

COMPOSITION

- reinforcement: non-woven polyester 180 g/m²
- coating mass: modified APP bitumen

TECHNICAL SPECIFICATIONS (average values)

- tensile strength (EN 12311-1)
  - longitudinal : 900 N
  - transversal : 550 N
- elongation at break (EN 12311-1)
  - longitudinal : 45 %
  - transversal : 45 %

DIMENSIONS

- length : 7,5 m
- width : 1 m
- weight : ±32 kg

FIXING

Thermally activate the profiles on the underside by means of the gentle flame of the asphalt burner.

APPLICATION

Vapour diffusion under layer for the Nuraply 3PM or 3PG system.

Used on concrete substrates or areas of high moisture content within the built environment.

SAFETY, STORAGE & HANDLING INFORMATION

- Do not pile pallets
- Store indoors

TRANSPORT CLASSIFICATION

N/A

NURAPLY 3PV-SA

IKO Base Quadra F/SA 10m

TECHNICAL DATA SHEET

DESCRIPTION AND AREAS OF USE

Roofing membrane consisting of a impregnated polyester reinforcement, coated on both sides with flexible coating bitumen and bottom side provided with a build-in vapour diffusion layer based on diamond-shaped profiled self-adhesive SBS modified bitumen.

- The polyester carrier has a high mechanical strength and is accessible during operation.
- The build-in vapour diffusion layer is based on diamond-shaped profiled plots consisting of self-adhesive SBS modified bitumen.
- The adhesive surface underneath is about 40 %, so that the ideal relation between wind resistance and vapour pressure exposure is achieved.
- The optimal vapour pressure diffusion is achieved by the broad, diagonal canal structure of the non-faced reinforcement.
- The bottom side is covered with diamonds of self-adhesive SBS modified bitumen, which guarantees an immediate and high bonding to the supporting substrate.
- The topside is finished with re-movable silicon foil. This guarantees fast and secures water tightness.
- The bottom side is finished with a removable silicon foil.

COMPOSITION

- Carrier polyester, 180 g/m²
- Bitumen coating mass: polymer modified bitumen
- Bottom side: build-in vapour pressure diffuser based on diamond-shaped profiled self-adhesive SBS modified bitumen

TECHNICAL SPECIFICATIONS (average values)

- Tensile strength: (UEAtc)
  - Longitudinal : 700 N
  - Transversal : 500 N
- Elongation at break (UEAtc)
  - Longitudinal : 35 %
  - Transversal : 35 %
- Low temperature flexibility self-adhering coating : -25°C

DIMENSIONS

- Thickness: ±2.5 mm
- Length: 10 m
- Width: 1 m
- Weight: ±32 kg

APPLICATION

Used as self-adhesive vapour pressure diffusing under layer in a multi-layer roofing system.
Can be placed on substrates with enough delaminating resistance such as concrete, existing bituminous membranes, stable wooden supports.
Secondly, as a first layer on IKO enertherm MG/ALU): do not prime-on beforehand!

Nuraply 3PV - SA is applied as a base layer in multi layer roofing systems. The substrate should be smooth, dry, clean, fat and dust free. All substrates, with exception of thermal insulation, needs to be coated with Nuraflux bitumen primer
.
The first membrane is unrolled and lined out and rolled up again until approximately half the length of the strip. The removable silicon foil should be cut in cross direction and pulled up in one time while unrolling the membrane. This way, the self-adhesive underside will get in direct contact with the substrate and stick immediately.
The same procedure should be repeated for the other end of the roll. The next membrane Nuraply 3PV – SA is applied in the same way with a side lap of 80mm and an end lap of at least 100mm. Pressure shall be exerted with a medium hard pressure roller. The end lap will be torched with a gentle flame.
Next, the top layer will be fully torched-applied on the Nuraply 3PV -SA with a smooth flame of an asphalt torch.

Temperature in application ≥ 10° C.

In case of application during colder periods the material should be stored at least 12 hours before application in an ambient temperature of ≥ 10° C.

SAFETY, STORAGE & HANDLING INFORMATION

- Do not pile pallets
- Store indoors, preferably in dark room; avoid direct sunlight
- Apply as quickly as possible after production

TRANSPORT CLASSIFICATION

N/A

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ENERTHERM PIR INSULATION BOARD

TECHNICAL DATA SHEET

IKO enertherm ALU is a 100 % CFC-free insulation board with a rigid polyisocyanurate foam core, faced with aluminium tri-laminate foil on both sides.

The insulation board is designed for the application in mechanically fixed or loose laid roof waterproofing systems made of reinforced polymers modified bitumen membranes and single ply plastic sheets.

APPLICATIONS

Thermal insulation of flat roofs, floors and walls.

TECHNICAL CHARACTERISTICS

- Core density: 32 kg/m3
- Compression strength at 10% deformation: ≥120 kPa (EN 13165)
- Performance under the influence of an equally distributed load: class C
- λd-value (EN 13165 – declared value) : 0,022 W/Mk
- Tensile strength perpendicular to surface: > 80 kPa (EN 1607)
- Facing: aluminium tri-laminated foil
- Fire reaction: Class E according to EN 13501 part 1
- Chemical resistance: only degraded by concentrated leach and acids. Most in practice used paintings and solvents have no influence on the foam.
- Fungus resisting: PIR insulation boards have no potential on growing micro organisms.

THERMAL PERFORMANCE

λd value according EN 13165 = 0,022 W/mK

CERTIFICATION

Product homologation certificate from Intron bv in Holland registered under # CTG 485.
ACERMI CSTB France Certificate n° 06/103/434/2.
CE-key: PIR – EN – 13165 – T2-DS(TH)8-DLT(2)5-TR80-CS(10\Y)120.

FIXATION OF INSULATION

- Mechanical fixation to the substrate
- Nurabond High Foaming PU adhesive

DIMENSIONS

FLAT BOARDS

Board dimensions
70mm 2.27 x1.2
80mm 2.27 x 1.2
100mm 2.4 x 1.2

INTEGRATED SLOPE 1:60

Dimensions 1200 x 1200 mm

Thickness mm
- 40-60
- 60-80
- 80-100
- 100-120

NURABOND HIGH FOAMING PU ADHESIVE

IKOPro PU Adhesive

TECHNICAL DATA SHEET

DESCRIPTION AND USE

Nurabond High Foaming PU Adhesive is 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.

The adhesive is cold applied and has been specially developed to allow the safe, rapid partial bonding of roofing components to a wide variety of substrates.

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.

CURING TIME

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.

APPLICATION

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.

Application time: max 20 minutes

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.

For roof perimeter or corner zones or roofs in particularly exposed locations, more vulnerable to wind uplift, six strips per metre width (300 g/m2) should be applied.

Advised glue consumption:

Average Consumption	Roofzone	per m2
Metal Plates	Centre	300g
	Perimeter	500g
	Corner	700g
Full Substrates	Centre	250g
	Perimeter	400g
	Corner	500g

These glue consumption rates are minimum advised rates and are valid for buildings with a maximum height of 15 metres

The membrane or insulation should be applied and pressed into position before formation of a skin on the adhesive. It is recommended that the bond is checked from time to time, by lifting a corner of the insulation/membrane to ensure that the adhesive ridges have been squeezed flat. This is particularly important with uneven substrates.

CLEANING
Trichloroethane or methylene chloride

PACKAGING
Nurabond High Foaming PU Adhesive is supplied in 6kg containers

STORAGE
Keep containers tightly closed when not in use. Store in its sealed container, in dry conditions at a temperature between 5°°C and 25°°C.

To avoid the risk of spillage, always store and transport in a secure upright position.

HEALTH & SAFETY
Keep container tightly sealed and away from direct heat. Keep away from sources of ignition. No smoking. Avoid contact with skin and eyes. Should there be contact with skin, wash immediately with soap and water or a recognized skin cleaner. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. In the event of accidents, seek medical attention immediately. Do not empty into drains. Do not allow solvent vapour to enter the air intakes of ventilation systems of buildings.

FIRE
In case of fire, use foam, dry powder, carbon dioxide or sand. Never use water jet.

Transport Classification

3YE

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IKO MS DETAIL

IKOprotect MS Detail

TECHNICAL DATA SHEET

- **DESCRIPTION**
- MS Detail is a solvent-free, based off MS Polymer technology, grey coloured, liquid waterproofing systems that are applied with a brush. After reaction or polymerisation with the humidity present in the air, they form a waterproof skin around the finished roof detail, resulting in seamless waterproofing. In many cases, roof details are too complex to guarantee a waterproof finish using standard roof membranes.
- **AREAS OF APPLICATION**
- The system is specifically recommended for the waterproofing of roof details for roofs with technical installations and for roofs with complex shapes, in both new buildings and renovations. The system can also be used for the waterproofing of simple and complex roof details such as flashing, raised edges
- of domes or skylights, chimneys, ventilation lead-throughs, posts, scuppers, etc.
- **REINFORCING FLEECE**
- Non-woven polyester membrane used as reinforcement for the LIQUID WATERPROOFING of details,
- not affected by acids and most alkalis and bacteria. Use the strip at a width of ± 12 cm. **Not supplied by Nuralite**
- Weight 30 g/m²
- Tensile strength lengthwise 52 N/ 5 cm
- Tensile strength crosswise 61 N/ 5 cm Tear resistance lengthwise 12 N
- Tear resistance crosswise 11.3 N
- Elongation at break, lengthwise 28 %
- Elongation at break, crosswise 34 %
- Thickness 0.13 mm
- **PREPARATION**
- All surfaces must be clean and free from grease, oil, release agents or dust etc. It can be applied using brush, roller or spray. The area around the detail should be outlined with masking tape in order to obtain a well-outlined finish for the detail.
- NOTE: Concrete must be cured for a minimum of 28 days and have a moisture content of 18% or less.
- Plywood and timber must have a moisture content of 18% or less and be of the correct standards.
- The below table shows a list of the substrates on which MS Detail can be applied, indicating whether
- the substrate should be pre-treated and primed first.

Substrate	MS Detail	Teknoprimer Detail
Nuraply 3PM & 3PTM	2	No
Steel	6 & 7	No

Aluminium	6 & 7	No
Copper	6 & 7	No
Zinc	6 & 7	No
Old Lead	6 & 7	No
Polyester	7	No
Concrete	Yes	8
Brick	Yes	8
Mortar	Yes	8
Natural Stone	No	No
Hard PE	No	No
Hard PVC	7	No
Acylate / PMMA	3	No
Polycarbonate	No	No
Timber	9	No

- 1) In the case of bituminous membranes finished with sand or talc, remove all loose sand or talc with a stiff brush before starting.
- 2) In the case of bituminous membranes finished with slate flakes or granulate, brush away any loose
- particles with a wire hand brush before starting.
- 3) An internal ageing test should be carried out first.
- 4) Roughen the membrane first using a belt sander, and then apply Quick Prime Plus.
- 5) Roughen the membrane first using a belt sander.
- 6) Sand down the metal to clean the substrate.
- 7) Pre-clean with methyl ethyl ketone (MEK) or Acetone solvent.
- 8) If the substrate is very porous, apply Teknoprimer Detail first. The substrate must be clean, dry and free from dust and loose particles, and must have cured for a minimum of 28 days. The relative humidity of the screed or concrete may not exceed 18%, measured on the wooden scale of a Protimeter.
- 9) Must have been pre-treated for outdoor use. Chipboard panels must be water-repellent.

- Situations where these liquid waterproofing systems cannot be applied:

- • On Teknoprimer Detail that is still moist or wet (drying time approx. 30 min.). The primer layer must have become transparent.
- • Teknotan Detail cannot be applied indoors due to the odour. MS Detail can be applied indoors.
- • If the temperature is below + 5°C, or if there is a risk that the temperature will drop below 5°C within 4 hours following the application.
- • If the air temperature is above +35°C, and if the surface temperature is above +50°C.
- • At a relative humidity degree above 85 %.
- • During rainfall or in the case of fog.
- • On substrates where the temperature is below + 5°C.
- • On a frozen but dry substrate.
- • In areas where capillary rising damp could occur (e.g., vapour diffusion within the building because there is no moisture barrier, or humidity from the soil in the case of a terrace on the ground floor because there is no moisture barrier under the concrete).
- • On synthetic or rubber membranes that are not listed in Table 1.
- • On hard polyethylene accessories.
- • On polycarbonate boards.
- • On natural stone.

APPLICATION OF TEKNOPRIMER DETAIL

- Apply Teknoprimer Detail with a brush or roller at a rate of 0.1 to 0.2 L/m². Leave to dry in the open air for 30 minutes. The primer is applied to a distance of 1 cm beyond the surface that is to be treated.

- **APPLICATION OF MS DETAIL**
-
- Never stir MS Detail!
- • Open and close the lid of the packaging smoothly, without using force.
- • The coating can be applied with a brush, a roller or a spatula.
- • Adapt the size of the brush to the dimensions of the can.
- • MS Detail can be applied in 1 layer or in 2 layers (wet-on-wet).
- • If a layer of primer has been applied first, the outer edge of the LIQUID WATERPROOFING should be 1 cm inside the outer edge of the primed area.
- • Remove the masking tape within 30 minutes of applying the product.
- Follow the application instructions as described above.
- For aesthetic reasons you can scatter slate flakes within the damp liquid waterproofing.
- After a period of 30 minutes, it is no longer necessary to protect the layer from rain drops.
-
- Always use non-woven Polyester tape when bridging different substrates and changing plains.
-
- **PACKAGING**
-
- 1 litre steel tin.
-
- **STORAGE**
-
- Store in cool, dry conditions out of direct sunlight between 5° C and 25° C. This product MUST be protected from frost. Do not store upside down.
-
- **SHELF LIFE**
-
- 12 months in the hermetically sealed packaging under normal temperature conditions and in original containers. Once opened: use within 2 months. Do not store upside down.
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NURALITE FIXING PLATE
TECHNICAL DATA SHEET

Description and Application Fields

The **Nuralite Fixing Plate** is supplied as a factory assembled unit pre-fitted with the correct membrane enabling full integration with the **Nuraply** roof system it is being installed on.

It provides a universal fixing offering two M10 x 20 female threaded anchor points for supporting and securing most types of rails and bars. Multiple fixings can made directly to the roof structure providing excellent pull out values into most substrates.

All the fixings are sealed under the flange against water ingress.

The **Nuralite Fixing Plate** can be used on all Nuraply membranes.

The roof area is an ideal area to site many parts and components of the building's mechanical services equipment that are essential to the building use.

These components include air conditioning units, condensers, chillers, general roof plant, pipework and solar panels. Any effort to fix these items to the roof structure involves a potential threat to the integrity of the roof covering. Solar panels in particular, due to their size and location, are vulnerable to wind forces.

Nuralite Fixing Plate Installation

The **Nuralite Fixing Plate** is to be fitted over the completed **Nuraply** membrane system. Where for loading purposes it has been established that the **Nuralite Fixing Plate** should be positioned over structural elements such as rafters or purlins, these should be identified and the **Nuralite Fixing Plate** set out and located accordingly. The **Nuralite Fixing Plate** should be positioned on the roof taking into account the constraints of any framing system that will be fitted to them. Particular care should be taken to get the orientation of the two points correct as this cannot be adjusted once the **Nuralite Fixing Plate** has been installed.

Fixing on cold roof construction, ensure that the fixings used will penetrate the **Nuraply** membrane and the roof deck below in accordance with the manufacturers tolerances. Use all available fixing holes to achieve the maximum pull-out value.

Fixing on timber and concrete warm roof construction, ensure that the fixings used will penetrate the **Nuraply** membrane and the roof deck below in accordance with the manufacturers tolerances. Use all available fixing holes to achieve the maximum pull-out value.

Fixing on metal tray warm roof construction, the fixings **MUST** only be into the crown of the profile. Care must be taken to identify and locate the positions of the crowns before fixing commences.

Membrane Installation

Nuraply 3PM: Once the **Nuralite Fixing Plate** has been correctly installed, the **Nuralite Fixing Plate** is to be primed with Nuraflux primer (refer to the Installation Manual). 70mm2 **Nuraply Alu** self adhesive patches are to be bonded over all fixings, then the **Nuraply 3PM** can be heat welded down (refer to the Installation Manual). A selvedge edge must be created out around the fixing plate 150mm.

Technical

Static loadings in Kg. Nuralite Enertherm PIR has a static load rating of 40Kpa

Insulation manufacturers long term static load ratings*	20Kpa	30Kpa	40Kpa	50Kpa	60Kpa
Nuralite Fixing Plate loading capacity per post in Kg	125Kg	187Kg	250Kg	312Kg	375kg

Typical uplift values in kN** **No of fixings per unit (safety factor of 3)**

Substrate type	Thickness	kN per fixing	4 x fixings	6 x fixings	8 x fixings
Steel decking	0.7mm	1.6	2.1kN	3.2kN	4.2kN
	0.9mm	2.2	2.9kN	4.4kN	5.0kN
	1.2mm	2.7	3.6kN	5.0kN	5.0kN
	1.6mm	4.0	5.0kN	5.0kN	5.0kN
Plywood	18mm	2.2	2.9kN	4.4kN	5.0kN
OSB	18mm	2.2	2.9kN	4.4kN	5.0kN
Softwood boarding	25mm	3.4	4.5kN	5.0kN	5.0kN
Softwood joist	35mm embedment	4.1	5.0kN	5.0kN	5.0kN
Concrete	25mm embedment	4.1	5.0kN	5.0kN	5.0kN

Unit weight (approx.)

Nuraply 3PM: 3.65Kg

- *Consult insulation manufacturer for static load rating
- **Based on the Fixfast HD-6.1 range of fasteners. The above values are typical test results and do not include safety factors and intended as a guide only. On-site pullout tests should be carried out to determine the actual uplift values.

Storage

Nuralite Fixing Plate can be stored for 5 years at 5 - 35ºC in a dry storage place protected against sunlight.

Safety

All regulations applicable to working at height, flammable liquids, flame and general roof work should be followed. Once the **Nuralite Fixing Plate** is installed it can pose a trip hazard. Use a warning sign and position so that the site operatives are warned before entering that particular area.

Transport Classification

N/A

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LOCKIN POCKET
TECHNICAL DATA SHEET

DESCRIPTION

Nuralite's Lockin' Pocket filler is a fast setting, solvent free, multi-use universal sealer that becomes waterproof within minutes of application. Lockin' Pocket is a two-component product that cures via a chemical crosslinking mechanism. Unlike one-part moisture cure sealants, Lockin' Pocket filler will cure consistently and quickly throughout, rather than simply skinning over and remaining tacky on the inside.

The enhanced formulation of Lockin' Pocket filler delivers a tough, strong, cured material that withstands the most extreme roof-top conditions. Under severe tensile and shear forces typically experienced on commercial roof installation, Lockin' Pocket provides long-term robust performance.

With a quick tack-free and cure time, Lockin' Pocket provides peace of mind that the roof penetration is fully cured and sealed literally within minutes of filling the pocket. Precision in-line mixing during dispensing starts the curing process immediately and the reactive/curing process is consistent across a wide temperature range even in humid conditions

Lockin' Pocket offers very aggressive bonding properties to a wide-range of substrates including steel, galvanized metal, copper and PVC. The aggressive bonding properties reduce the risk of delaminating from these demanding substrates even under fluctuating thermal and environmental changes experienced on the typical commercial roof.

APPLICATION

1. With a utility knife, remove the molded tips at the groove from the mixing head.
2. Attach a mixing nozzle to the threaded mixing head.
3. Place the cartridge into the appropriate applicator.
4. IMPORTANT! Dispense an initial amount of Lockin' Pocket filler approx. 60mls into a waste container to ensure a proper mix, then discard.
5. Apply Lockin' Pocket filler directly to the substrate. If needed, use a small trowel to work the material into the required opening or defect.

CAUTION! All substrates must be completely dry prior to the application of sealer.

6. When used as a penetration pan filler: When filling the Lockin' Pocket with Lockin' Pocket filler, the entire pocket must be filled, no grouts or fillers will be accepted. Approved pitch pans must be filled with a minimum of 2" (5.1cm) of Lockin' Pocket filler and in accordance with all of Nuralite's current application instructions. Penetrations must be prepared by wire brushing to remove loose cements, residual sealer, rust, or other contaminants. If pocket or penetration is damp prior to application, thoroughly dry or wipe with a solvent wipe or primer wipe and allow to dry before adding sealant.
7. Unused material can be applied at a later date by simply plugging the cartridges (with provided half-moon plugs) and using a new mixing nozzle.

AREAS OF USE

Nuralite's Lockin' Pocket is a multi-purpose sealer that finds application in:

- Repairing splits, cracks, holes, and other membrane defects
- Attaching lightning protection
- Repairing shingles
- All-purpose sealing

APPROVED SUBSTRATES

Lockin' Pocket can be used on Nuraply 3PM or Nuraply systems, as well as other substrates in the list below.

- Concrete
- Gypsum
- Modified Bitumen (sanded or granule surfaced only)
- Metal panels
- Lightweight insulating concrete (LWIC)
- Gravel surfaced built-up roofs
- EPDM
- TPO

- Cementitious wood fiber
- Steel
- Gravel surfaced built-up roofs
- Base sheets (sanded or smooth surfaced)
- Smooth built-up roof surfaces

EQUIPTMENT

The fast and dependable applicators make applying Lockin' Pocket filer simple:

- Battery Powered Applicator
- Lockin' Pocket
- Lockin' Pocket filler
- Lockin' Pocket LPS Sealant

STORAGE

Keep temperature of contents between 18°C - 29°C 24 hours prior to use. Do not store in direct sunlight or temperatures higher than 32°C.

SURFACE PREPARATION

All work surfaces should be clean, dry, and free of dirt, dust, debris, oils, loose and/or embedded gravel, un-adhered coatings, deteriorated membrane and other contaminants that may result in a surface that is not sound or is uneven. For applications on granule surfaced modified bitumen membranes, remove all loose granules from the surface of the membrane prior to installing Lockin' Pocket LPS Sealer.

When Lockin' Pocket filler is to be used in a Lockin' Pocket installed on a single ply membrane, the surface of the membrane must be prepared according to the single ply manufacturer's recommendations. As a general guideline, the following methods of surface preparation shall apply:

• EPDM: Clean with splice wash or surface cleaner and prime with manufacturer's EPDM primer

• TPO: Clean with surface cleaner and prime.

• Gravel BUR's: Remove gravel surfacing down to plies

For applications, over existing weathered asphalt or coal tar pitch BUR, apply Lockin' Pocket Sealant prior to the application of Lockin' Pocket filler. For applications, over fresh and/or non-oxidized asphalt, coal tar or plastic film membranes, also apply Lockin' Pocket Sealant prior to the application of Lockin' Pocket filler.

SAFETY

Prior to working with this or any adhesive product consult product label and Safety Data Sheet (SDS) for necessary health and safety precautions.

LIMITIATIONS

- Do not apply to wet or damp surfaces.
- Not intended for insulation attachment.
- Maximum two-minute working time between filling pockets, over two minutes requires a new static mixer to be attached to the cartridge.
- Keep applicator tool in horizontal position and invert just prior to dispensing to prevent premature mis-mix in the static mixer.

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NURAFLUSH
TECHNICAL DATA SHEET

DESCRIPTION

TWO PACK HIGH STRENGTH BITUMEN AND CEMENT FINISHING & REPAIR PLASTER

A high specification bitumen based cement render that features strong adhesion and tensile strength development combined with a rapid yet practical through-cure in thicker render sections, with outstanding cured strength, resilience and low shrinkage.

NURAFLUSH emulsion is a high performance ready to use, cold applied, high build liquid waterproofing membrane based on polymer modified bitumen emulsion. NURAFLUSH forms a seamless and durable film that adheres well to most of the common substrates e.g. concrete, cement blocks, wood, existing roof felts and steel. NURAFLUSH is highly resistant to chlorides and sulphates commonly present in the soil.

NURAFLUSH is a two component material supplied as a pail of base emulsion to be mixed for use with standard grey cement. This combination with cement gives a uniquely high build and low shrinkage membrane with a positive chemical cure, without sacrifice of long term flexibility inherent from the high proportion of acrylic co-polymer film-former. Compared to single pack emulsion products NURAFLUSH membrane can be laid in far poorer curing conditions, and because of lower shrinkage, in a lesser number of coats. Compared to other two-pack liquid membrane types this product does not depend on environmentally aggressive polyurethane or similar chemistries for cure, and being water based does not contain any organic solvent pollutants.

SPECIFICATION

Type:	Thixotropic black emulsion dries to a black flexible protective membrane.
Colour:	Black.
Viscosity:	Brushable or spreadable.
Specific Gravity:	1.04 +/- 0.01
Non-volatile content:	65% Min
Rubber content :	10% Minimum
pH:	10.0 – 12.0
Curing time:	24 hours – dependant on thickness
Cleaner:	Tools may be cleaned with water as long as the product is wet. Once dry, by mechanical means only.
Stability:	Protect from frost. Not freeze-thaw stable.

APPLICATION

All surfaces must be clean and free from grease, oil, release agents or dust etc. It can be applied using brush, roller.

NOTE: Concrete must be cured for a minimum of 27 days and have a moisture content of 18% or less. Plywood and timber must have a moisture content of 18% or less and be of the correct standards.

Mix ratio is approximately 7.5Kg cement per 15L pail NURAFLUSH emulsion - slightly less or more depending on ambient temperature and the degree of workability required. Add cement slowly with good mechanical stirring to a lesser amount of emulsion base to begin to give a thick & lump free concentrate, then dilute with remaining base to working consistency.

Use a trowel to apply the mixture of the desired area. Feather the edges to create a smooth appearance.

The mixed material has a usable working life in excess of 1 hour. If the material should begin to set up earlier, it may be readily re-stirred to return consistency. Do not add water and attempt to use material that will not restir as it has begun to cure.

Once fully cured Nuraflush should be protected from UV by painting with Nurastone sealer and Nuracolour or by welding a Nuraply 3P membrane system over it.

PACKAGING

15 litres plastic pail

STORAGE

Store in cool, dry conditions out of direct sunlight between 5° C and 25° C.
This product MUST be protected from frost.

SHELF LIFE

12 months under normal temperature conditions and in original containers.

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NURAPATCH

TWO PACK HIGH STRENGTH FINISHING & REPAIR PLASTER

DESCRIPTION

A highly polymer modified, high specification cement render that features strong adhesion and tensile strength development combined with a rapid yet practical through-cure in thicker render sections, with outstanding cured strength, resilence and low shrinkage. The polymer modification used is pure acrylic and not PVA or cellulosic as is common with simpler single pack materials, with resultant far improved alkaline durability, resilience and long-term cracking resistance.

A particular benefit has been careful attention to application mix rheology to give excellent trowel “feel” and build capability allowing ready attainment of specification thickness with reduced application effort. This product can be applied from a feather edge to 20mm thickness and work can often then be completed in a single application, with major labour cost savings achieved.

Major areas of use include finishing and fairing of concrete repair work, flushing of blockwork, and plaster render repairs.

- Water based for ease of use and cleanup.
- Simple, controlled mix on site combining a pre-measured bottle liquid and bagged solids blend. Mix working time “pot-life” – 1 hour plus.
- Ease of trowelling and single pas build capability from feather edge to 20mm.
- Virtually no cure shrinkage, allowing ready attainment of specification thickness and forming of details and corners in a single application.
- Labour saving, and extremely cost effective.
- Low temperatures cure, down to O°C. Fast through cure minimises weather delays and ensures timely job completion.

TYPICAL PROPERTIES

Specific Gravity (Mix Packaging)	2.1 30kg pack, combining 5 litre emulsion bottle and 25 kg bagged powder blend
Shelf life (Unopened)	Minimum 12 months
Working time/”pot-life”	Minimum 1 hour @ 25° C.
Building and usage	For fairing work, between a feather edge and 20mm
Appearance	Highly thixotropic wet mix, low gloss grey

mass when cured.

Non-flammable. Wet material is alkaline - Avoid eye and skin contact.

APPLICATION

Apply to clean surfaces free of loose or friable material. Ideally concrete surface to be patched, should be damp, (but not wet), rather than totally dry to avoid undue suction and cracking. Alternatively, the emulsion component may be “slurred” with an equal amount of Portland cement and this mix used as a thin priming coat. Avoid application in direct sun or in hot windy conditions where this is unavoidable, then keep the new plaster dampened by mist water spray during the first day of cure. This material is cement based and will show efflorescence but because of the high polymer content this is “fixed” and providing a good quality acrylic sealer is used, may be overcoated at three days after application.

Stir or shake the liquid bottle and decant contents into an appropriate mixing container, for example a clean 20 litre pail.

- Add a full bag of the powder blend, slowly, while stirring continuously with a heavy duty drill to avoid lumping. A 30kg packaged unit will yield about 14 litres of mixed material. When all powder has been added continue to mix briefly to a uniform consistency.

The mixed material has a usable working life in excess of 1 hour.

- If the material should begin to set up earlier, it may be readily re-stirred to return consistency, otherwise do not add water and attempt to use material that will not re-stir, and has begun to cure.

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11. Installation Details