

## Technical Information

A comprehensive set of design details and specifications are available at [www.nuralite.co.nz](http://www.nuralite.co.nz). The Nuralite advisors are all very experienced and willing to help either on the phone, in your office or on site. Call **09 579 2046** or **0800 687 254**.

### Description – Nuratech

- Nuratech SG – Adhesive bonded
- Nuratech SM – Mechanically attached
- Nuratech SD – Detailing membrane
- Nuratech SW – Walkway Maintenance Traffic membrane

A polyester scrim reinforced Thermoplastic Elastomeric (TPE) membrane for application onto both flat and sloping roofs. The membrane can be installed over most substructures, including plywood, concrete, Enertherm Insulation and existing Nuraply membrane roofs.

### Composition and Finishing

The same TPE compound is used on the both upper and lower side, and fully encapsulates the polyester reinforcement ensuring optimum weld quality and excellent mechanical properties.

Colour choice of pure white, light grey or dark grey is available

- ▶ Reinforcement: Polyester knitted fabric.
- ▶ Coating mass: Thermoplastic Elastomeric (TPE).

### Dimensions and Weights

- ▶ Thickness: 1.2 mm
- ▶ Roll width: 2.05 m
- ▶ Roll length: 20 m
- ▶ Roll coverage: 41m<sup>2</sup>
- ▶ Roll weight: 32 kg

### Typical Performance

- |                                |                 |                          |
|--------------------------------|-----------------|--------------------------|
| ▶ Weight:                      | DIN EN 2286     | 1300 g/m <sup>2</sup>    |
| ▶ Tensile strength:            | DIN EN 12311-2  | 1439 (L) 1286 (T) N/50mm |
| ▶ Elongation at break:         | DIN EN 12311-2  | 592 (L) % 565 (T) %      |
| ▶ Tear strength:               | DIN EN 12310-2  | 194 (L) N 174 (T) N      |
| ▶ Peel strength:               | DIN EN 12316-2  | 639 (heat aged) N/50mm   |
| ▶ Low temperature flexibility: | DIN EN 495-5 oC | <-35                     |
| ▶ Dimensional stability:       | DIN EN 1107-2   | <0.5%                    |
| ▶ Water vapour diffusion:      | DIN 1931        | μ-value ca . 100,000     |
| ▶ Fire rating:                 | BS476-3 1958    | Achieves up to EXT. F.AA |
| ▶ Solar Reflective Value:      | Pure White      | 77%                      |

### Certification

BBA Agrément Certificate No. 05/4203  
Euro Agrément Procedure No. 007/04/E  
UBAtc ATG 04/2603)

To the best of our knowledge, the information in this brochure is accurate at the time of printing. Nuralite Waterproofing Ltd reserves the right to alter information, formulation or parameters at any time without notice.

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## NURATECH Technical Brochure

## Description

Nuratech roofing systems use the very latest in advanced polymer technology to provide the flat roofing system of the future – today. Incorporating a range of high performance waterproofing membranes with complementary accessories made from the same TPE polymers, these “next generation” TPE systems combine the best performance characteristics of thermo-plastics (e.g. PVC) and elastomers (e.g. EPDM). This ensures optimum results both during installation and in performance.

Nuratech waterproof membranes can be mechanically fastened, adhered or loose laid and ballasted. The membrane can be installed over most substructures, including plywood, concrete, Enertherm Insulation and existing Nuraply membrane roofs. They are durable, environmentally friendly and offer flame-free application as membrane laps are welded using hot air. The system is installed as a single layer using 2m wide sheets. This width is optimal as the rolls are manageable on site, waste is minimized and the installation can be completed very quickly.

Nuratech roofing sheets are thermally welded using hot air - meaning there are no naked flames on the building site. The membrane has a very broad “thermal welding range” of between 280° and 600°. This is far more forgiving than some single-ply alternatives which have as little as a 20° welding range. The result is a fast installation (up to 4m per minute) with a high degree of certainty and excellent quality of the weld, one which is stronger than the actual roofing sheet itself.

The membrane sheets do not absorb moisture and are only affected by dirt-pickup to a very small degree. This means that it remains possible to make repairs or add further details if required in the future. Minor mechanical damage can be repaired by reheating the polymers without the need to resort to an unsightly patch. The installed roof is easy to clean with solutions of soft soap, using a soft broom or rubber wiper.





Nuratech membrane with NuraSolar Panels installed



Belgium Nuratech with Batten Detail



England A - Primer installed



B - Press Nuratech into primer



C - Welding sheet joints

## Environmentally friendly and recyclable

Nuratech TPE roofing sheets are particularly environmentally friendly. Nuratech roofing sheets are free of halogens (Chlorine, Fluorine, Bromine and Iodine), softeners, (H)CFCs and heavy metals. TPE polymer is homogeneous and pure, so that if mechanically fastened, recycling as a durable raw material in new primary end products is possible at the end of its long lifespan.

Nuratech membrane is ideally suited for the installation of Nurasolar flexible Photo Voltaic panels. These panels are bonded to the membrane once the Nuratech is installed and shown to be watertight. The pure white membrane has a high solar-reflective value to help keep the roof cool. And being easy to clean, the solar-reflective value is maintained over the life of the roof. Nuratech roofing systems do not leach and can therefore be installed on roofs used for the collection of potable rainwater.

## Warranty

Nuralite warrants Nuratech against product defects for 20 years from the date of install. The warranty must be applied for at the completion of the job. For this extended warranty to remain current the customer must maintain the roof and have it inspected every five years by a qualified applicator. The workmanship is covered by a separate workmanship warranty issued by the applicator.

## Buiding Code Verification

The British Board of Agreement has appraised the membrane to European standards 05/4203. This report is available on our website. Nuralite has applied for a BRANZ appraisal and is working to have it issued shortly. We are happy to work with you on any building consent issues, especially if you are seeking to do something outside the scope of usual work.

## Things to consider

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

- ▶ The treated plywood substrate is at least 17.5mm thick, 20mm on decks, supported at 400mm x 400mm. The plywood must be tightly butted and staggered or brick pattern laid. Stainless steel fixings and glue bonding of the plywood must be used.
- ▶ Falls are as much as possible. In accordance with E2/AS1 we recommend a minimum of 1:40 for roofs, 1:60 for decks and 1:100 in gutters. Pay attention to detailing around scuppers as they often are a source of ponding.

Nuratech membrane is compatible with Enertherm PIR foam to produce the Nuratherm system. If installing a cold roof instead, ventilation is very important to keep the ceiling space cooler, as well as removing condensation buildup. A vent every 20m<sup>2</sup> is recommended but attention must be paid to placement relative to rafters to allow for cross flow. Soffit vents can also be useful addition to a flat roof design.

The membrane is suitable for collecting potable water but if drinking water is being collected a first flush diverted should be installed to reject possible stagnant or contaminated water.

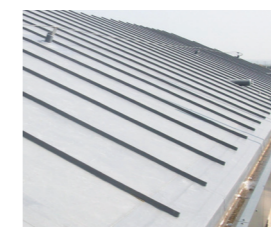
In areas expected to experience high wind pressures the IKOFix mechanical fastening systems has been specifically designed for the Nuratech SM sheet range. It includes corrosion resistant screws and washer plates, flat bars for clamping frames, and is applicable to any substrate suitable for mechanical attachment. The combination of IKOFix mechanical fastening system with the exceptional mechanical properties of Nuratech SM roofing sheets results in a particularly high capacity to absorb forces and divert them to the substructure.

In situations where it is likely to be exposed to foot traffic ensure the membrane has complete protection by use of pavers or specify the Nuratech trafficable walkway. If the membrane is being tiled over, the only method available is to keep the membrane accessible by using Nurapads/ Nurajacks.

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

## Accessories

Nuratech Batten Detail is welded to the finished roof to create a sharp, interesting roof detail.



Nurajacks – designed so that the client can have tiles, but the membrane is still accessible.

Nuratech Drains and Scuppers: Complete range of accessories, detailing and roof security formed using TPE polymers for applications in combination with Nuratech sheets.



## Application Method - Adhesive

1. Allow membrane to relax prior to installing fixings (5-10 mins depending on ambient temperature). Unroll the Nuratech SG over the prepared substrate and fold back approximately half its length.

2. Using a sheepskin or similar roller apply a primer coat of Spectrabond PU to the substrate surface, priming only the area of roof where the membrane will be laid. The PU adhesive must be given time to activate prior to applying the membrane. On activation i.e. the point at which the adhesive will afford the highest bond strength, the surface of the adhesive starts to change from pink to opaque. **(Photo A)**
3. Carefully roll the Nuratech SG into the primed surface and roll with water filled roller or soft bristled broom. **(Photo B)**
4. Fold back other half of the roll of Nuratech SG and repeat the procedure.
5. Unroll the next roll of Nuratech SG, ensuring the end laps are staggered and the side overlaps the previously installed sheet by 50mm.
6. Repeat the adhering process.
7. Fully hot air weld the 50mm side lap and allow to cool completely. If using a automatic welder maximum speed is 6m per minute. **(Photo C)**
8. Mechanically check the integrity of the cooled weld by running a 4mm wide screwdriver along the joint.

## Applicators

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

As the Nuratech system is new, all applicators will be trained in the installation and will be issued with an ID card before starting work.

We work closely with applicators to ensure quality standards are maintained. If clients require an independent quality check during the course of a job or at completion, contact a Nuralite technical advisor and a site report will be provided.