

Technical Data Sheet

SOPREMA SOPRASUN



DESCRIPTION

Soprasun provides complete waterproof integrity to roof structures by providing a double layer assurance of watertight-ness with a system that is unaffected by water over long periods of time.

BRANZ Appraised, certificate current

SOPRASUN is a hot torch applied bituminous waterproofing membrane system. The bitumen is modified with APP polymers and reinforced with 180gsm/m² non-woven polyester. The system is a total of 7mm with Soprasun 3 (3mm) torch applied and then over-laid with aggregated Soprasun 4AR (4mm)

SUPPLY OF MATERIALS

All materials shall be supplied by Allnex New Zealand Ltd. To avoid incompatibility of component materials it is essential that Allnex technical staff be consulted before any product other than those specified is used. In conjunction with structural concrete or heavy duty treated plywood, Soprasun will deliver long term, fully waterproofed, flat roofs.

Short Form Specification & SYSTEM DESCRIPTION

Soprasun is available in 3 forms: Soprasun 3 Plain (3mm), Soprasun 4 Plain (4mm) and Soprasun 4AR which is a 4mm cap sheet with a granule finish to provide durability and UV protection. The system is installed as follows)

Double Layer Torch on System - recommended

Soprasun 3 torched directly to substrate. **Soprasun 4AR** is torched directly onto the prefixed Soprasun 3. *Complies with Waterproofing Membrane Code of Practice.*

CERTIFICATIONS

CE: 0749-CPD-BC2-310-0300-0123-01

Year: 2004 Norm:

EN 13707

BRANZ Appraisal

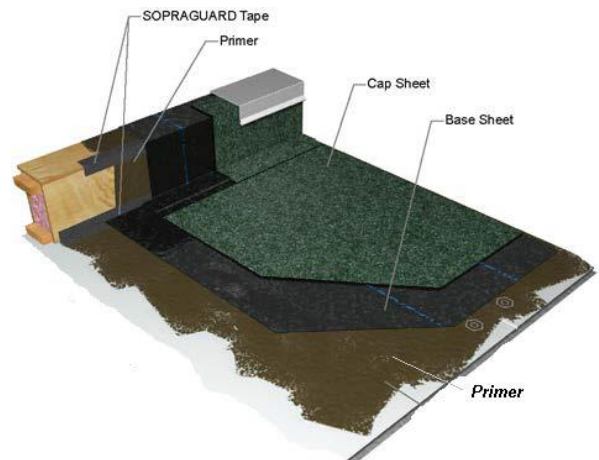
No 819 (2014)



SPECIAL INDICATIONS

Health and Environment:

The membrane does not contain any substance which is likely to be detrimental to health or to environment and complies with generally admitted Health and Safety Requirements. For more detailed information, please refer to the relevant safety data sheet.



Quality control:

SOPREMA has always attached the highest importance to Quality Control. For this reason, they operate an independently monitored Quality Assurance System in line with **EN ISO 9001:2008** and **EN ISO 14001:2004**.

COMPOSITION

	SOPRASUN 4 AR
Reinforcement	Polyester
Upperside	Slates
Colour	Natural grey
Lowerside	Foil
Coating mass	APP

	SOPRASUN 3
Reinforcement	composite polyester
Upperside	sand
Lowerside	Foil
Coating mass	APP

CHARACTERISTICS

		SOPRASUN 4 AR
Membrane thickness (mm)		4
Tensile strength: L (N/5cm) (EN 12311-1)	MDV	700
Tensile strength: T (N/5cm) (EN 12311-1)	MDV	500
Elongation at break: L (%) (EN 12311-1)	MDV	35
Elongation at break: T (%) (EN 12311-1)	MDV	35
Dimensional stability (%) (EN 1107-1)	MLV	0.3
Nail tear resistance: L (N) (EN 12310-1)	MLV	100
Nail tear resistance: T (N) (EN 12310-1)	MLV	100
Cold flexibility (°C) (EN 1109)	MLV	0
Softening point (°C) (EN 1110)	MLV	130
Reaction to fire (EN 13501-1)		NPD

MDV = manufacturer declared value MLV = manufacturer limited value NPD = no performance determined (All values are nominal)

		SOPRASUN 3
Membrane thickness (mm)		3
Tensile strength: L (N/5cm) (EN 12311-1)	MDV	700
Tensile strength: T (N/5cm) (EN 12311-1)	MDV	500
Elongation at break: L (%) (EN 12311-1)	MDV	35
Elongation at break: T (%) (EN 12311-1)	MDV	35
Dimensional stability (%) (EN 1107-1)	MLV	0.3
Nail tear resistance: L (N) (EN 12310-1)	MLV	100
Nail tear resistance: T (N) (EN 12310-1)	MLV	100
Cold flexibility (°C) (EN 1109)	MLV	0
Softening point (°C) (EN 1110)	MLV	130
Reaction to fire (EN 13501-1)		NPD

MDV = manufacturer declared value MLV = manufacturer limited value NPD = no performance determined (All values are nominal)

ADDITIONAL CHARACTERISTICS

Properties SOPRASUN 4 AR	Standards	Values
Ultraviolet resistance	AS 4654.1	=> pass
Heat ageing	AS 4654.1	=> pass
Cyclic movement	AS 4654.1	=> pass

Properties SOPRASUN 3	Standards	Values
Heat ageing	AS 4654.1	pass
Cyclic movement	AS 4654.1	pass

PACKING

	SOPRASUN 4 AR
Dimensions of the roll (m)	10 x 1
Weight of the roll (kg)	58
Number of rolls per pallet	23

	SOPRASUN 3
Dimensions of the roll (m)	10 x 1
Weight of the roll (kg)	41
Number of rolls per pallet	30

SURFACE PREPARATION

It is the contractor's responsibility to inspect all areas which are to receive the waterproofing membrane and report any unsatisfactory conditions to the main contractor. Listed below are detailed specifications for preparing various substrates. The surface to be waterproofed must be clean and sound. Remove all dust, dirt, laitance or any other contaminants which may hinder adhesion of the membrane.

VENTILATION

It is important that membrane roof structures are vented to prevent condensation build up and subsequent damage. Ventilate between roofing framing and to the exterior. Specific designs and advice are available. Ridge vent caps are an effective solution.

ROOF SLOPE

This Soprasun double layer roofing system will fully waterproof a flat roof. (However the New Zealand Building Code, E2/AS1, for roofs, requires a 2° slope. 1:30) Allnex Soprema membranes are BRANZ appraised to 1:30 on plywood, 1:60 on concrete substrates and 1:40 on decks. Very low pitched roofs will pond unless care is taken with roof substrate preparation and attention to detail is applied to the sheet layout to prevent water ponding behind laps. Allnex offer specific design options to prevent ponding behind laps.

CONCRETE

Any hollows shall be filled and ridges ground smooth (use Allnex Supaset). Surface must be free of any spalled areas, loose aggregate and sharp protrusions. Outside corners must be free of sharp edges.

Substrate must be dry. The use of Allnex Aquaguard 101 is an option to isolate damp concrete. **Aerisol Flam ventilation sheet** is recommended (with vents) to control moisture being emitted from the concrete substrate. This is applied under the membrane sheets.

Control joints shall be treated as specified by architect, engineer and approved by membrane manufacturer. For suggestions see "detailing" on Allnex website. Slope adjustment

New NZBC code requirements mean that minimum falls must be adhered to. Use **Allnex MPS system** (membrane prefill system) to create falls and to correct undulations. (see datasheet). MPS is a system of Screed 20+ and Supaset to create new falls. This will dry promptly and accept membrane primer and torching.

BLOCKWORK

Soprasun 4AR system may be applied to smooth concrete block substrates.

Any pointed blockwork must be flushed out.

If blockwork is rough a well adhered coat of Allnex FLC may be used to achieve a smooth substrate.

PLYWOOD

Plywood must comply with AS/NZS2269 for structural plywood. Plywood must be minimum 17mm, H3.2 treated CCA (waterbased treatment).

Refer CHH Ecoply Specification & installation guide June 2011

Plywood grade: Structural Square Edge H3.2 CCA, min. 17mm

Plywood is loose butted. Plywood must be fastened by stainless steel corrosion resistant screws (preferably 50mm stainless screws) at 150mm centres around the perimeter and 200mm centres within the sheets as per E2/AS1. Roof frame spacing should be: as per Torch-on membrane code of practice. As Roof Support, 17.5mm min, 600 x 600mm centres max As Deck Support 20mm min., 400 x 400mm centres max. All sides and ends must be nogged. Plywood sheets must be staggered.

Refer to plywood suppliers charts for alternate roof usage/slope directions.

All fastenings must be countersunk. All joints must be left with an even uniform finish. Ply upstands must be strong and sound and be well supported and strengthened. Use epoxy and fibreglass if necessary to ensure adequate strength. The engineering designer or plywood supplier's structural specification for roof structure and plywood installation shall override the Allnex specification.

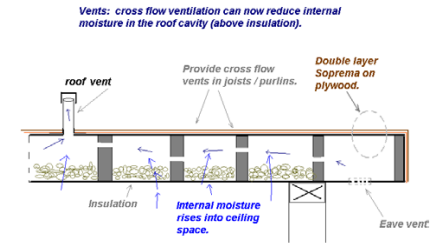
Install expansion joints in the plywood structure to allow for plywood movement. Plywood roof structures tend to move in sections (or "rafts"). Form joints in natural areas where movement is likely to occur. Allnex provide control joint detailing. Roof runs (on plain flat structures) longer than 15m will require control joints.

Special Note For the reinforcement and fire protection of Plywood structures: The use of Sopraboard is an attractive optional improvement for use over the plywood before the double layer system. Sopraboard is a sheet bitumen material which spans the plywood isolating many of the movements found over plywood joints. It also eliminates torching safety issues onto plywood. The Sopraboard is mechanically fastened in a staggered fashion. The Soprasun is then torched without primer, to the Sopraboard. Sopraboard is also used in Roof **renovation** where the existing membrane and plywood is unknown. The Sopraboard is screwed through both the membrane and ply. A sound substrate is then produced for new double layer Soprasun.

www.allnexconstruction.com/pdf/Sopraboard.pdf

VENTILATION

Moisture builds up in roof cavities due to human activity below. With double layer membranes, that are impervious, this moisture cannot escape. Ventilation to the full roof cavity must be provided to prevent moisture build up in the cavity. It also helps prevent excessive heat build-up which causes excessive cyclic movement in the building. This ensures durability of the building elements (not the membrane which is unaffected by moisture). The vented area should be below the ply but above any insulation. Side vents on opposite sides of the building are preferred with full cross ventilation designed into the structure. Distances exceeding 10m should have separate roof vents.



COMPRESSED FIBRECEMENT SHEET

Sheets must be fastened by screws. All fastenings must be well countersunk. All joints must be left with an even uniform finish. Any indentations shall be flushed out with a suitable flushing compound. Refer previous paragraph covering ventilation, upstands and expansion joints.

The supplier's structural specification for sheet installation shall override the Allnex specification.

ROOFING DESIGN & OTHER

Any other substrate or areas with existing waterproofing membranes please refer to Allnex New Zealand Ltd for advice. The designer must consider ventilation and heat build-up in the roof cavity. Excessive moisture build-up and heat build-up are detrimental to the whole building. Heat and moisture are simple to control with vents.

APPLICATION

Allnex provide full lists of approved contractors.

DOUBLE LAYER APPLICATION – the Allnex recommended system

Apply Elastocol 500 at the appropriate spread rate as per the relevant technical data sheets. To all interior and exterior corners hot torch apply a 100mm Soprasun 3 fillet. Hot tool chamfer all edges.

Install expansion joints (in the ply) to allow for plywood movement. The position of the joints will be specified by the roofing engineer.

Plan to install cavity vents if required or determined by the roof space structure. The builder may be required to provide cross ventilation, through the roof structure and cavities, above the insulation, from one side of the building to the other.

An Allnex double layer roofing system will tank a fully flat roof (0° pitch). (However the NZ Building Code data is shown below.) Allnex state that a double layer system is waterproof and will hold and resist ponding water.

Gutters: double layer system of Soprasun 3 over torched with Soprasun 4AR and over coated with a coat of Allnex Hardglaze. Protrusions/Vents: Install and/or waterproof these as per Allnex detailing. Ensure double layers (minimum) of membrane are installed.

To main roof area hot torch apply a layer of Soprasun 3 with 75mm wide side laps and 100mm end laps. Hot tool chamfer all edges.

To parapets and upstands hot torch apply Soprasun 3 extending lap over main roof areas by at least 75mm.

Hot torch apply second layer of Soprasun 4AR to first layer ensuring that all laps are staggered.

Hot torch apply second layer of Soprasun 4AR to all parapets and vertical upstands extending laps over main roof area at least 100mm. **Chip colours** available ex stock: Green-Grey & Black

Any terminations to vertical surfaces are to be finished under a flashing which is mechanically fixed and sealed with a polyurethane sealant.

DETAILS

Detail for upstands, penetrations, gutters, inlets, outlets etc are on our website

(/roofing/details). The details are all compliant with E2 AS1 (detail sections 8.5.) however the Allnex membrane system is in double layer form.

Pipe penetrations: use Alsan Flashing.

DECKS

Decks that cover an internal part of the building are to be treated in exactly the same way described above. They are in effect a "roof". Protection of deck (roof) membranes are by the way of:

- Pavers over a polythene slip layer.
- Tiles on a 75mm concrete slab on a polythene slip layer.
- Paving pedestals supporting square pavers or timber squares. These are compliant with the Building Act as they provide direct access to the drained membrane surface. They also allow a 100mm or more of a step down in doorways. See data sheet on website.

WARRANTY – for Double layer system

A warranty of 20 years is applicable to double layer Soprasun roof systems. This is in excess of the 15 year warranty required by law.

This warranty covers the performance of the membrane itself and does not warrant against excessive building movement. Only double layers systems are covered by the warranty. This applies to new work in accordance with the Building Code and E2/AS1.

MAINTENANCE

Soprasun 4AR is trafficable for maintenance around plant and machinery. It is not suitable for continuous public use and access. To increase access for maintenance and to improve and guide access, then use a modular system such as Boardwalk. Regular inspections are to be carried out to identify any areas of damage. These can be repaired by applying a patch of Soprasun. The Curnoir/Cural system is method of rejuvenating older roofs or areas of surface damage. Cural is to be cleaned down and over coated every five years with one coat of Cural at a rate of 500g/m². Refer to maintenance datasheet for more information. For overlaying use the fastened Sopraboard plus double layer membrane system.

PRODUCER STATEMENT

Soprasun 4AR is provided by Soprema as suitable as an exterior roof cladding in the New Zealand environment. As such it is compliant with the New Zealand Building Act. A warranty is supplied by the contractor. Double layer Soprasun 4AR is an alternative solution with the requirements of E2/AS1 July 2005.

A written opinion on Soprasun 4AR's compliance with E2/AS1 as an alternative solution is available. *Allnex New Zealand Ltd are a founding member of the Membrane group Code of Practice for Torch-on membranes.*

Allnex are members of the Roofing Association of NZ. **BRANZ appraised 2014.**



OPTIONS

(i) Under Tiles

Specify two layers of Soprasun 4. Tiles may be loose laid or bonded using modified Unifloor as per data. Use Supaset to create falls. Plastering with Unifloor over Soprasun **4AR** is preferred as the aggregate chips give better adhesion. Caution: beware of councils requirements for NON-direct bonding over habitable spaces. Expansion joints are required. (See Decks, above for code compliant systems). Soundproofing: Double layer Soprasun is based on flexibilised bitumen. In this regard it will contribute to reduce sound impact transmission.

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