0411P SOPREMA WATERPROOFING - EXTERNAL AND TANKING

Branded worksection

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Worksection abstract

This worksection *Template* is applicable to SOPREMA membranes for tanking and external waterproof membrane applications to roofing, balconies, concrete slabs over below ground spaces, planter boxes and tanking generally. It relies on AS 4654.1 (2012) and AS 4654.2 (2012). It does not include concrete admixtures, penetrating sealers or decorative coatings.

How to use this worksection

Customise this worksection *Template* for each project. See A guide to NATSPEC worksections (www.natspec.com.au) for information on *Template* structure, word styles and completing a worksection.

Related material located elsewhere in NATSPEC

If a listed worksection is not part of your subscription package and you wish to purchase it, contact NATSPEC.

Related material may be found in other worksections, including:

- *0193 Building access safety systems*.
- *0243 Landscape - water features*.
- *027 Pavements* subgroup.
- *0314 Concrete in situ* for admixtures.
- *0315 Concrete finishes*.
- *042 Roofing* subgroup for skylights and hatches.
- *0471 Thermal insulation and pliable membranes* for inverted roof membrane assemblies (IRMAs) or protective membrane roofs (PMRs).
- *0612 Cementitious toppings*.
- *0613 Terrazzo in situ*.
- *0621 Waterproofing - wet areas*.
- *0631 Ceramic tiling*.
- *0632 Stone and terrazzo tiling*.
- *0802 Hydraulic design and install*.

Documenting this and related work

You may document this and related work as follows:

- Show the location, extent and type of membrane including details of junctions with flashings and damp-proof courses on the drawings. BCA (2022) F1D5 and BCA (2022) H2D8 require certain roofs, balconies, podiums or similar horizontal surface parts of buildings to be provided with a waterproofing membrane.
- Plan structural control and expansion joints to avoid critical areas such as low points in slabs, planter boxes, water features and above habitable rooms, and show on the drawings. See BCA (2022) F1D4.

The *Normal* style text of this worksection may refer to items as being documented elsewhere in the contract documentation. Make sure they are documented.

Search acumen.architecture.com.au, the Australian Institute of Architects' practice advisory subscription service, for notes on the following:

- Guarantees and warranties.
- Slip resistance compliance and testing.
- Slip resistance design considerations.
- Waterproofing.

Specifying ESD

The following may be specified by including additional text:

- Low VOC emitting liquid membrane systems.
- Recycling of construction scrap materials.

Refer to NATSPEC TECHreport TR 01 on specifying ESD.

1 GENERAL

SOPREMA is an international manufacturer specialising in the production of innovative products for waterproofing, insulation, soundproofing and vegetated solutions in response to the specific challenges within the construction industry for the roofing, building envelope, underground and civil engineering sectors.

With over 100 years of expertise, SOPREMA has earned its place as a world leader of the waterproofing industry, and the availability of its technical team.

1.1 RESPONSIBILITIES

General

Requirement: Provide SOPREMA external waterproofing and tanking systems to substrates, as documented.

Documented is defined in *0171 General requirements* as meaning contained in the contract documents.

Performance

Requirements:

- Graded to falls to dispose of stormwater without ponding above the depth of lapped seams.
- Able to accommodate anticipated building movements.
- Able to accommodate its own shrinkage over the warranty life of the roofing system.
- Able to resist water under hydrostatic pressure.

Consider adding the required service-life of the membrane system (material and installation), 10 to 15 years appears normal. Life expectancy for exposed roofs in excess of 35 years.

1.2 COMPANY CONTACTS

SOPREMA technical contacts

Website: soprema.com.au/contacts/

1.3 CROSS REFERENCES

General

Requirement: Conform to the following:

- *0171 General requirements*.

0171 General requirements contains umbrella requirements for all building and services worksections.

List the worksections cross referenced by this worksection. *0171 General requirements* references the *018 Common requirements* subgroup of worksections. It is not necessary to repeat them here. However, you may also wish to direct the contractor to other worksections where there may be work that is closely associated with this work.

NATSPEC uses generic worksection titles, whether or not there are branded equivalents. If you use a branded worksection, change the cross reference here.

1.4 STANDARDS

Below ground waterproofing

Membrane design and installation: To BS 8102 (2022).

BS 8102 (2022) provides guidance on methods of dealing with and preventing the entry of water from surrounding ground into a structure below ground level. There is no Australian Standard for below ground waterproofing.

External waterproofing

Membrane materials: To AS 4654.1 (2012).

Membrane design and installation: To AS 4654.2 (2012).

AS 4654.1 (2012) and AS 4654.2 (2012) are applicable to waterproof membranes for external and above ground use only. Materials selected for tanking and waterproofing of below ground structures should be designed and selected with the assistance of a specialist waterproofing consultant and with the manufacturer or supplier. The Master Builders Association of NSW *Guide to external waterproofing - Balcony and decks (2017)* and *Guide to planter box waterproofing (2017)* are useful sources of details and advice on good installation practice.

Stormwater drainage

Standard: To AS/NZS 3500.3 (2021).

1.5 MANUFACTURER'S DOCUMENTS

Technical manuals
Website: soprema.com.au/search-documentation/

1.6 INTERPRETATION

Abbreviations
General: For the purposes of this worksection, the following abbreviations apply:

- APP: Atactic polypropylene.
- PVC-P: Polyvinyl chloride plasticised.
- SBS: Styrene butadiene styrene.

Edit the **Abbreviations** subclause to suit the project or delete if not required. List alphabetically.

Definitions
General: For the purposes of this worksection, the definitions given in AS 4654.1 (2012) and AS 4654.2 (2012) and the following apply:

- Bitumen: A viscous material from the distillation of crude oil comprising complex hydrocarbons, which is soluble in carbon disulfide, softens when it is heated, is waterproof and has good powers of adhesion. It is produced as a refined by-product of oil.
  - . APP bitumen: Bitumen modified with atactic (meaning non-crystalline or amorphous) polypropylene wax to form a plastomeric sheet. The membrane is reinforced with fibreglass, non-woven polyester (NWP), or a composite of both.
  - . SBS bitumen: Bitumen modified with styrene-butadiene-styrene, a thermoplastic rubber that undergoes a phase inversion at elevated temperature and converts to an elastomeric material. The membrane is reinforced with fibreglass, non-woven polyester (NWP), or a composite of both.
- Bond breaker: A system preventing a membrane bonding to the substrate, bedding or lining.
- Double detail joint: A joint formed by turning up and bonding the horizontal membrane to a vertical substrate and adding an overflashing of membrane material bonded to the vertical substrate and folded over and bonded to the horizontal membrane. In certain situations the double detail can be achieved by bonding an angle profile of membrane material to the junction before laying the membrane.
- Liquid applied: A water-based formulation that cures to form an elastomeric membrane.

Urethane modified acrylics have better resistance to ponding. Products include acrylics, modified polyurethanes (water-based), polyurea and modified cementitious systems.

- Polyurethane: Water or solvent-based formulations that moisture cure to form an elastic rubber membrane.

They can be made more cheaply with bitumen at the expense of long-term properties.

- PVC membrane: Flexible plastic sheet membrane (vinyl).
- Slip sheet: A sheet used to isolate the membrane system from the supporting substrate or from the topping or mortar bedding. The most common material is polyethylene.
- Substrate: The surface to which a material or product is applied.
- Waterproofing system: Combinations of membranes, flashings, drainage and accessories that form waterproof barriers and that may be:
  - . Loose-laid.
  - . Bonded to substrates.

Edit the **Definitions** subclause to suit the project or delete if not required. List alphabetically.

1.7 SUBMISSIONS

Operation and maintenance manuals
Requirement: Submit manual to **COMPLETION**, **Operation and maintenance manuals**.

Products and materials
SOPREMA product data: Submit product data sheets.

Type tests: Submit test results for the following:

- Membranes: To PRODUCTS, **GENERAL**, **Tests**.

Type tests are carried out off-site. However, submission of evidence of a successful type test may be called up here for requirements specified in PRODUCTS.

Evidence of delivery: Submit delivery docket as evidence of delivery of [complete/delete]

If evidence of delivery to site is required for particular products, consider including this *Optional* style text by changing to *Normal* style.

Prototypes

Requirement: Submit prototypes to EXECUTION, **GENERAL**, **Prototypes**.

Include this *Optional* style subclause by changing to *Normal* style text if the *Optional* EXECUTION, **GENERAL**, **Prototypes** subclause is included.

Records

General: Submit photographic records to EXECUTION, **GENERAL**, **Reporting**.

Flood tests: Submit photographic records to **TESTING**, **Flood tests**.

Samples

Requirement: Submit samples to PRODUCTS, **GENERAL**, **Samples**.

Shop drawings

Requirement: Submit shop drawings showing the following:

- Junctions with vertical surfaces and upstands.
- Junctions at perimeters.
- Drainage details.
- Control joints.
- Flashings.
- Penetrations.
- Corners.
- Terminations and connections.
- Membrane layers.
- Insulation and protection.

An alternative is to prepare these details in consultation with the membrane supplier. Delete as appropriate.

Subcontractors

General: Submit names and contact details of proposed suppliers and installers as recommended by SOPREMA.

Contact SOPREMA for a list of local suppliers and installers.

Evidence of experience: [complete/delete]

Delete if supplier/installer details are not required.

Substrate acceptance

Requirement: Submit evidence of installer's acceptance of the flooring substrate before starting installation.

Tests

Detail the tests required in EXECUTION and list the submissions required here.

Site tests: Submit test results of the following:

- Substrate moisture content to **TESTING**, **Substrate moisture tests**.
- Adhesion to **TESTING**, **Adhesion tests**.
- Flood test, including results of retesting after rectification, to **TESTING**, **Flood tests**.
- Electronic leak detection to **TESTING**, **Electronic leak detection tests**.

If electronic leak detection testing is used, consider including this *Optional* style text by changing to *Normal* style.

- Slip resistance of completed installation to **TESTING**, **Slip resistance tests**.

Warranties

Requirement: Submit warranties to **COMPLETION**, **Warranties**.

1.8 INSPECTION

Notice

Inspection: Give notice so that inspection may be made of the following:

- Substrates prepared and ready for installation of the waterproofing and tanking systems.
- Secondary layers prepared and ready for subsequent layers.
- Membranes after installation and before concealment.
- Underflashings after installation and before installation of overflashings.
- Flood tests, if applicable.
- After flood testing, if applicable.

Edit to suit the project adding critical stage or mandatory inspections required by legislation or regulation.

Hold points, if required, should be inserted here.

2 PRODUCTS

2.1 GENERAL

Product substitution

Other products: Conform to **SUBSTITUTIONS** in *0171 General requirements*.

SUBSTITUTIONS in *0171 General requirements* sets out the submissions required if the contractor proposes alternative products. Refer also to NATSPEC TECHnote GEN 006 for more information on proprietary specification.

Product identification

General: Marked to show the following:

- Manufacturer's identification.
- Product brand name.
- Product type.
- Quantity.
- Product reference code and batch number.
- Date of manufacture.

Edit the list to suit the project or delete if not required.

Samples

Requirement: Provide 300 x 300 mm samples of each type of membrane including the finish of the visible surface.

Storage and handling

General: Store and handle to SOPREMA's recommendations and as follows:

- Protect materials from damage.

Tests

0171 General requirements defines different tests in **INTERPRETATION**, **Definitions**.

Standard: To AS 4654.1 (2012) Section 2 and Tables 2.1 to 2.3.

2.2 SHEET MEMBRANE SYSTEMS – BITUMEN

Soprasun Plus 3 Plain/Sanded

Description: Heat welded base sheet membrane composed of a composite reinforcement and APP modified bitumen. Option of both sides covered with a thermofusible film or top side sanded.

Application: Suitable for use as a top layer (with no UV exposure) or under layer in multi-layer waterproofing assemblies. It can be used on vertical and horizontal surfaces for rooftops, plaza decks, balconies, planter boxes (with Sopragum Garden 4 Plus) and retaining walls.

Soprasun Plus 4.5 kg Mineral

Description: Heat welded, UV stable cap sheet membrane composed of a composite reinforcement and APP modified bitumen. Underface covered with a thermofusible film and surface protected by coloured granules.

Application: Suitable for use as a top layer in multi-layer waterproofing assemblies. It can be used on vertical and horizontal surfaces for rooftops, plaza decks, balconies and retaining walls.

Sopralene Flam 180
Description: Heat welded base sheet membrane composed of a non-woven polyester reinforcement and SBS modified bitumen. Both sides covered with a thermofusible film.

Application: Suitable for use as a base layer in multi-layer waterproofing assemblies. It can be used on vertical and horizontal surfaces for general roofing, plaza decks, balconies, planter boxes (with Sopralene Flam Jardin) and retaining walls.

Sopralene Flam 180 GR/ALU
Description: Heat welded, UV stable cap sheet membrane composed of a non-woven polyester reinforcement and SBS modified bitumen. Underface covered with a thermofusible film and surface protected by coloured granules or aluminium foil.

Application: Suitable for use as a top layer in multi-layer waterproofing assemblies. It can be used on vertical and horizontal surfaces for general roofing, plaza decks, balconies and retaining walls.

Soprafix Base 630
Description: High performance base sheet membrane mechanically fastened composed of a composite reinforcement and SBS modified bitumen. Underface sanded and surface covered with a thermofusible film.

Application: Suitable for use as a base layer in multi-layer waterproofing assemblies. It can be used on horizontal surfaces for general roofing, green roofs (with Sopralene Flam Jardin) and planter boxes (with Sopralene Flam Jardin).

Sopragum Garden 4 Plus
Description: Heat welded cap sheet membrane composed of a composite reinforcement and APP modified bitumen with root-resistant properties. Underface covered with a thermofusible film and surface coated with anti-adhesive amorphous sand.

Application: Suitable for use as a top layer in multi-layer waterproofing assemblies where root resistance is required. It can be used on vertical and horizontal surfaces for green roofs, plaza decks, planter boxes and retaining walls.

Sopralene Flam Jardin
Description: Heat welded cap sheet membrane composed of a non-woven polyester reinforcement and SBS modified bitumen with root-resistant properties. Underface covered by a thermofusible film and surface protected by slate chippings.

Application: Suitable for use as a top layer in single or multi-layer waterproofing assemblies where root resistance is required. It can be used on vertical and horizontal surfaces for green roofs, plaza decks, planter boxes and retaining walls.

Duo High Tech 4 Slates/F C180 FC
Description: Flexible waterproofing membrane with a composite reinforcement and APP/SBS bitumen coating with fire resistance additives. Underface covered with a sacrificial film and surface finished with optimally pressed-in coloured slates.

Application: Suitable for use as a top layer in multi-layer waterproofing assemblies. It can be used on vertical and horizontal surfaces for general roofing.

Duo High Tech 4 WGG/F C180 FC Landscape
Description: Flexible waterproofing membrane with a composite reinforcement and a APP/SBS bitumen coating with root-resistant and fire resistance additives. Underface covered with a sacrificial film and surface finished with optimally pressed-in coloured slates.

Application: Suitable for use as a top layer in multi-layer waterproofing assemblies where root resistance is required. It can be used on vertical and horizontal surfaces for green roofs, plaza decks, planter boxes and retaining walls.

Sopraply Base 520
Description: High performance base sheet membrane composed of a composite reinforcement and SBS modified bitumen. Both sides covered with a thermofusible film.

Application: Suitable for use as a base layer in multi-layer waterproofing assemblies. It can be used on horizontal surfaces for general roofing, green roofs (with Duo High Tech 4 WGG/F C180 FC Landscape) and planter boxes (with Duo High Tech 4 WGG/F C180 FC Landscape).

Colphene BSW UNI NG
Description: Heat welded waterproofing membrane for below grade, composed of a blend of high performance flexible SBS elastomeric bitumen reinforced with a ultra-high strength double reinforcement system.

Application: Suitable for use in blindside waterproofing applications (below grade and tanking works). It can be used for foundations or vertical retaining walls.

Colphene BSW V
Description: Self-adhesive waterproofing membrane for below grade, composed of SBS modified bitumen and a composite reinforcement.

Application: Suitable for use in blindside waterproofing applications (below grade and tanking works). It can be used for foundations.

Colphene 3000
Description: Self-adhesive waterproofing membrane composed of SBS modified bitumen and a tri-laminated woven polyethylene facer.

Application: Suitable for use in single or multi-layer waterproofing assemblies. It can be used on vertical and horizontal surfaces for retaining walls, foundations and plaza decks.

Antirock Bridge
Description: Torchable SBS modified bitumen waterproofing membrane with a non-woven polyester reinforcement mesh.

Application: Suitable for use in single or multi-layer waterproofing assemblies under an asphalt topping. It can be used for road bridges, rail bridges, car parks and slabs directly underneath one or more layers of asphalt bituminous mixtures or concrete topping.

2.3 SHEET MEMBRANE SYSTEMS – PVC

Flagon SFc
Description: Synthetic membrane of plasticised PVC reinforced with a layer of glass fibre for dimensional stability and coupled to non-woven polyester felt support.

Application: Suitable for use as a single layer membrane system. It can be used on horizontal surfaces for general roofing, green roofs, planter boxes, plaza decks and balconies.

Flagon SR
Description: Synthetic membrane of plasticised PVC reinforced with a polyester mesh and a signal layer on the surface.

Application: Suitable for use as a single layer membrane system. It can be used on horizontal surfaces for general roofing, green roofs, planter boxes, plaza decks and balconies.

Flagon SV
Description: Synthetic membrane of plasticised PVC reinforced with a layer of glass fibre for dimensional stability.

Application: Suitable for use as a single layer membrane system. It can be used on vertical and horizontal surfaces for general roofing, green roofs and planter boxes.

Flagon S
Description: Synthetic membrane of plasticised PVC non-reinforced for roof detailing.

Application: Suitable for roof detailing with Flagon PVC membrane systems.

Flagon BSL
Description: Synthetic membrane of plasticised PVC with a signal layer for below ground use.

Application: Suitable for use as a waterproofing layer for foundations and below ground structures.

Flagon AT
Description: Synthetic membrane of plasticised PVC non-reinforced for waterproof potable water tanks and other hydraulic works.

Application: Suitable for waterproofing blue roofs, water tanks and other hydraulic works that require compatibility with drinking water.

2.4 LIQUID MEMBRANE SYSTEMS

Alsan Trafik HP 500
Description: Coating system consisting of a primer coat and three single-component polyurethane coats.

Application: Suitable for areas with pedestrian and vehicular traffic. It can be used for rooftops, plaza decks, balconies, car parks and pedestrian traffic areas.

2.5 INTERNAL ROOF OUTLETS

Draini PVC
Description: Flexible flange made from PVC reinforced with fiberglass with an aluminium outlet pipe.

Application: Suitable for use on roofs with PVC sheet membrane systems.

Draini Bitumen
Description: Flexible flange made from elastomer bitumen reinforced with a non-woven polyester, with an aluminium outlet pipe.

Application: Suitable for use on roofs with bituminous membrane systems.

Flagon PVC rainwater outlet
Description: Flexible flange made from PVC with a PVC outlet pipe.

Application: Suitable for use on roofs with Flagon PVC membrane systems.

2.6 FLASHINGS

Alsan Flashing
Description: Single-component, UV stable polyurethane and bitumen-based resin.

Application: Suitable for roof flashings and details where it is difficult to apply waterproofing membranes. It can be used for general roofing, plaza decks and terraces, balconies and foundations.

Alsan Flashing Jardin
Description: Single-component, UV stable polyurethane and bitumen-based resin with root-resistant properties, coloured grey RAL 7012.

Application: Suitable for upstands, planters, roof edges and other roof details. It can be used for general roofing, green roofs, plaza decks and terraces, retaining walls and planter boxes.

Alsan Flashing Quadro
Description: Single-component, UV stable polyurethane-based resin with root-resistant properties.

Application: Suitable for junctions between horizontal surfaces, upstands and other roof details. It can be used for general roofing, green roofs, plaza decks and terraces, retaining walls and planter boxes.

2.7 LIQUID MEMBRANE REINFORCEMENT

Polyfleece
Description: Non-woven polyester reinforcement.

Application: Suitable for use with Alsan Flashing and Alsan Flashing Jardin.

Alsan Fleece 165 P
Description: Non-woven perforated polyester fleece.

Application: Suitable for use with Alsan Flashing Quadro.

2.8 SEALANTS AND BOND BREAKERS

Sopraseal Sealant
Description: Low VOC, solvent-free, polyether adhesive sealant.

Application: Suitable for use on most construction materials.

Sopramastic
Description: Solvent-based mastic composed of SBS modified bitumen, fibres and mineral fillers.

Application: Suitable for use with bituminous membrane systems.

Sopramastic Alu
Description: All-purpose aluminium-coloured, UV stable mastic composed of SBS modified bitumen and solvents.

Application: Suitable for use with bituminous membrane systems. It can be applied on damp surfaces.

2.9 ADHESIVES

Flexocol A89
Description: Single-component polyurethane adhesive, moisture curing liquid with medium-low viscosity, with controlled expansion.

Application: Suitable for bonding Flagon SFc membrane systems coupled to a non-woven polyester felt on horizontal surfaces.

Coltack Evolution 750

Description: Single-component, solvent-free, moisture curing polyurethane-based adhesive foam.

Application: Suitable for use on flat roofs to bond ridged insulation panels with an appropriate finishing (no thermofusible film) to the substrate. It can also be used for the mutual bonding of panels.

2.10 PRIMERS

Elastocol Stick

Description: Cold-applied primer composed of SBS synthetic rubbers, adhesion enhancing resins and volatile solvents.

Application: Suitable to prime non-porous surfaces, such as concrete, fibre cement, metal and timber. It can be used with self-adhesive membrane systems.

Elastocol 600

Description: Cold-applied primer composed of elastomeric bitumen and volatile solvents.

Application: Suitable to prime non-porous surfaces, such as concrete, fibre cement, metal and timber. It can be used with self-adhesive membrane systems.

Antirock Primer

Description: Primer composed of a blend of SBS modified bitumen, fast-evaporating solvents and adhesive enhancing additives.

Application: Suitable to prime concrete and metal surfaces. It can be used with bituminous membrane systems.

Sopradere Quick

Description: Cold-applied primer composed of a bitumen, volatile solvents and adhesive additives.

Application: Suitable to prime concrete, degreased metal and timber surfaces. It can be used with bituminous membrane systems.

2.11 THERMAL INSULATION

Sopra-Iso

Description: Thermal insulation board composed of closed cell polyisocyanurate (PIR) foam laminated on both sides with a textured aluminium facer.

Application: Suitable for use with SOPREMA bitumen and PVC insulated waterproofing systems.

R-Value (m^2K/w): R2.35 (50 mm), R2.85 (60 mm), R3.30 (70 mm), R4.00 (80 mm), R4.50 (90 mm).

2.12 SEPARATION LAYER

Geoland PT FR 200

Description: 100% polypropylene stable filament non-woven geotextile.

Application: Suitable for use as a separation layer, drainage layer, protection and filtration works. It can be used for roofs, green roofs, planter boxes, and road and rail work.

Geoland PP FR 1000

Description: 100% polypropylene stable filament non-woven geotextile for below ground use.

Application: Suitable for use as a separation layer, drainage layer, protection and filtration works. It can be used for foundation and civil works.

2.13 VAPOUR CONTROL LAYER

Sopravap'r

Description: Self-adhesive vapour barrier membrane composed of SBS modified bitumen and a tri-laminated woven polyethylene facer.

Application: Suitable for use in trafficable insulated roof systems. It can be installed on most substrates, such as concrete, plywood, steel, gypsum, cement boards and asphaltic panels.

Sopravap Stick A 07

Description: Self-adhesive vapour barrier membrane composed of SBS modified bitumen.

Application: Suitable for use on steel decks for buildings with high moisture production.

2.14 VENTED SHEET LAYER

Aerisol Flam
Description: Perforated sheet for partial bonding of torch-applied waterproofing membranes.

Application: Suitable for use as a vapour diffusion layer for concrete or bitumen roofing. It can be used with bituminous membrane systems.

Soprastick Venti Tack Plus T/F
Description: Flexible self-adhesive waterproofing membrane, composed of a mixture of penetration bitumen improved with SBS and reinforced with a composite fleece. Underface covered with a removable siliconised film and surface finished with a mixture of talcum and sand.

Application: Suitable for use as a vapour diffusion layer for concrete, timber surfaces and selected thermal insulation boards. It is not suitable for steel. It can also be used as a base sheet layer in multi-layer waterproofing assemblies.

2.15 DRAINAGE BOARD

Sopradrain Eco 10
Description: High density drainage board composed of a polypropylene core with a laminated geotextile filter layer.

Application: Suitable for use in green roofs, bridge abutments, planter boxes, retaining walls and foundations.

Sopradrain 20
Description: High performance drainage board composed of a polypropylene core with a laminated geotextile filter layer.

Application: Suitable for use in green roofs, bridge abutments, planter boxes, retaining walls and foundations.

2.16 SOLAR SUPPORTS

Soprasolar Fix Evo Tilt Bitumen
Description: Support system for photovoltaic panels that allows connection between the panels and the top layer of the bituminous waterproofing membrane system without drilling into the membrane.

Application: Suitable for use on flat roofs with bituminous membrane systems.

Soprasolar Fix Evo Tilt PVC
Description: Support system for photovoltaic panels that allows connection between the panels and the top layer of the PVC waterproofing membrane system without drilling into the membrane.

Application: Suitable for use on flat roofs with PVC membrane systems.

2.17 UNDERGROUND ACCESSORIES

Soprajoint TPE
Description: Waterstop with a transparent customised profile.

Application: Suitable for use at construction joints, around piling, at termination and to isolate critical areas to prevent the risk of increased water through the structure. It can be used with Colphene BSW membrane systems.

Flagon PVC Disc
Description: Disc made from plasticised PVC.

Application: Suitable for use for underground linings to fix the protection layer to the primary lining and to serve as an anchor point for welding PVC membranes. It can be used with Flagon PVC membrane systems.

Flagon Compartment Joint W6
Description: Finishing element made from plasticised PVC, characterised by six T-flaps.

Application: Suitable for use at joints. It can be used with Flagon PVC membrane systems.

Soprahose 13 Injection System
Description: Single channel re-injection hose system made from specially formulated PVC materials.

Application: Suitable for use at horizontal and vertical construction joints.

Sopraswell NG
Description: Hydrophilic rubber waterproofing strip.

Application: Suitable for use at horizontal and vertical construction joints.

Alsan EP M
Description: Two-component epoxy adhesive.

Application: Suitable for bonding bituminous and PVC membranes on vertical and horizontal surfaces. It can be used for pile caps in conjunction with Alsan EP Cap.

Alsan EP Cap

Description: Two-component pre-filled epoxy grout.

Application: Suitable for use in heavy duty civil engineering applications and for encapsulating pile tops.

3 EXECUTION

3.1 GENERAL

Prototypes

Requirement: Apply waterproofing to 10 m^2 of substrate to demonstrate surface preparation, crack and joint treatment, corner treatment, and execution quality. Install final surface finish to demonstrate aesthetic affects, physical properties, and quality of materials and execution as applicable.

If a prototype is a project requirement, consider including this *Optional* style text by changing to *Normal* style text.

Reporting

General: Make progressive photographic records of the waterproofing installation. Label photographs with the date, location and weather.

Timing: Record at the following stages:

- After substrate preparation.
- After primer application.
- After membrane installation.
- After protection from traffic provided.

Liquid applied membranes:

- Record wet film thickness once every 10 m^2 and compare to SOPREMA's requirements.
- On completion of every 100 m^2 of each coat, compare the amount of membrane used with SOPREMA's application rate and record the result.

Personnel: Employ an appropriately qualified person to monitor the application and protection of the membranes and prepare a daily report.

For large or complex projects, consider including this *Optional* style text by changing to *Normal* style text.

3.2 PREPARATION

Substrates

General: Prepare substrates as follows:

- Clean and remove any deposit or finish that may impair adhesion of membranes.
- Remove excessive projections.
- Fill voids and hollows in concrete substrates with a concrete mix not stronger than the substrate, as follows:
  - . Below ground substrates - horizontal surfaces: Use mortar, blinding layer, shotcrete or SOPREMA’s Geosynthetic Cementitious Composite Mats (GCCM).
  - . Below ground substrates - vertical surfaces: Use mortar or shotcrete.

For roofing, SOPREMA recommends the ratio between the height and width of irregular areas to be no more than 1:10, and the minimum curving ray of irregularities (swellings or recesses) to be 200 mm.

- Fill cracks in substrates wider than 1.5 mm with a filler compatible with the membrane system.

e.g. Sopraseal Sealant, Sopramastic or Sopramastic Alu.

- Remove all traces of a concrete curing compound if used.

Delete the reference to the curing compound if it is demonstrated to be compatible with the membrane.

Concrete substrates: Cure for more than 21 days or until the substrate has a moisture content of less than 5%. Conform to SOPREMA’s recommendations.

Refer to SOPREMA’s substrate curing time requirements for the membrane system being used.

Moisture content

Requirement: Verify that the moisture content of the substrate is compatible with the water vapour transmission rate of the membrane system by testing to **TESTING**, **Substrate moisture tests**.

Refer to NATSPEC TECHnote DES 008 for the preparation of concrete substrates. Refer also to *CCAA Data Sheet on Moisture in concrete and moisture-sensitive finishes and coatings (2007)*.

Adhesion

General: If required before installation, test adhesion of membranes to **TESTING**, **Adhesion tests**.

SOPREMA recommends adhesion testing before installation of membranes.

Falls

Requirement: Verify that falls in substrates are greater than 1:100.

Consult the membrane supplier to determine a fall that minimises ponding at lapped seams.

Joints and fillets

Internal corners:

- Liquid applied membranes: Provide 15 x 15 mm 45° fillets.
- Sheet membranes: Provide 40 x 40 mm 45° fillets.

Alternatively, provide a double detail joint for sheet membranes.

See AS 4654.2 (2012) clause 2.7.

Fillet material: Cement or plastic.

External corners: Round or arris edges.

Control joints: Prepare all substrate joints to suit the membrane system.

Priming

Compatibility: If required, prime the substrates with compatible primers for adhesion of the membrane system.

3.3 INSTALLATION

Ambient conditions

Requirement: Do not install in conditions outside SOPREMA's recommendations.

Protection

Damage: Protect membrane from damage during installation and for the period after installation until the membrane achieves its service characteristics that resist damage.

This includes making sure liquid applied membranes have fully cured.

Drains

General: Prevent moisture from tracking under the membranes at drainage locations.

Drains and cages: Provide removable grates or cages to prevent blockage from debris. If the finished surface is above the level of the membrane, provide a slotted extension piece to bring the grate up to the level of the finished surface.

See AS 4654.2 (2012) clause 2.10 and Figure 2.15.

Overflows: Apply a bond breaker to the perimeter of the overflow outlet at its junction with the surface to which the membrane will be fixed. Turn the membranes into the overflow to prevent moisture from tracking behind the membrane.

Alternatively, fit a preformed overflow outlet fitting with a face mounted flange and bond membrane to flange.

See AS 4654.2 (2012) clause 2.11 and Figure 2.16.

Sheet membrane joints

Orientation of laps: Lap sheets on the upslope side of the roof fall over sheets on the downslope side.

End laps generally: Stagger end lap joints by minimum 1000 mm.

Bituminous sheet membranes:

- Side laps: 75 or 100 mm.
- End laps: ≥ 150 mm.
- Method: Heat welded.

PVC membranes:

- Factory-welded laps: ≥ 40 mm.
- Field-welded laps:
  . If used over insulation boards: ≥ 120 mm.
  . Other instances: ≥ 75 mm.
- End laps: 120 mm or side by side with 300 mm strip.

Movement and control joints

General: Install membranes to accommodate control joints in the substructure.

Bond breakers: Size to allow the membrane to accommodate movement.

Joint backing gutter: Fix a formed metal gutter to one side of the soffit directly below the joint and fall to a suitable disposal or drainage point.

Consider for joints in critical locations or delete if not required.

Control joint covers: Install after fixing hobs and membranes.

See AS 4654.2 (2012) clause 2.9 and Figures 2.13 and 2.14 on major control joints. See also BCA (2022) F1D4. Consult the membrane supplier for the preparation of details and selection of products for their ability to withstand the expected long-term movements of joints and the substrate.

Membrane terminations

Membrane upturns: Provide upturns above the maximum water level expected from the exposure conditions of rainfall intensity and wind, as follows:

- Height: To AS 4654.2 (2012) Table A1.

See AS 4654.2 (2012) clause 2.8.1 and Appendix A for termination heights ranging from 40 to 180 mm.

- Anchoring: Secure sheet membranes along the top edge.
- Edge protection: Protect edges of the membrane.

Waterproofing above vertical upward terminations: Waterproof the structure above the termination to prevent moisture entry behind the membrane using cavity flashings, capping, waterproof membranes or waterproof coatings.

Vertical upward terminations:

- Liquid applied membranes: Terminate under an overflashing, or provide an overflashing of liquid applied membrane.
- Sheet membranes: Terminate under an overflashing, or provide a pressure seal overflashing or an overflashing fixed into a cast-in reglet.

See AS 4654.2 (2012) clause 2.8.1 and Figures 2.2 and 2.3.

Membrane downturns: Provide downturns for sheet membrane systems as follows:

- Roofs or similar structures: Extend minimum 100 mm from the junction of the structure.
- Balconies with a fully bonded membrane: Terminate at the drip groove.

Vertical downward terminations:

- Liquid applied membranes: Extend membrane to the underside of a horizontal return.
- Sheet membranes: Provide a pressure seal overflashing.

See AS 4654.2 (2012) clause 2.8.2 and Figure 2.4.

Horizontal terminations: Do not provide. Use vertical terminations.

Membrane penetrations

Vertical penetrations: Provide flashing with reinforcement fleece fixed to the substrate for vertical penetrations including pipes, ducts and vents, as follows:

- Generally: Alsan Flashing with Polyfleece or Alsan Flashing Quadro with Alsan Fleece 165 P.
- Green roofs and planter boxes: Alsan Flashing Jardin with Polyfleece or Alsan Flashing Quadro with Alsan Fleece 165 P.

See AS 4654.2 (2012) clause 2.8.4 and Figure 2.10.

For bituminous membrane systems only.

Horizontal penetrations: Provide Alsan Flashing to seal the membrane to rigid PVC-U conduits and pipes without burning the PVC-U. Do not use high density polyethylene (HDPE), polypropylene (PP) pipes or flexible PVC conduit.

See AS 4654.2 (2012) clause 2.8.4 and Figure 2.11.

Adhesion to HDPE and PP is very poor, and flexible PVC conduit has low temperature resistance. Specify copper if seeking to minimise PVC.

Penetrations: Consult the membrane supplier for the preparation of details and selection of products, e.g. preformed linings or flashings. Penetrations through the waterproofing system should be avoided. Where they are unavoidable, design the detail to make sure the system is watertight and durable.

Membrane at balcony doors and windows

Requirement: Install membrane before fixing door or window frames.

Upturn height above external finished floor level: To AS 4654.2 (2012) Table A1.

See AS 4654.2 (2012) Appendix A for termination heights ranging from 40 to 180 mm.

Hobless and flush thresholds: Install membrane before fixing door or window frames. Provide a continuous grated drain abutting the external face of the door or window sill.

See AS 4654.2 (2012) clause 2.8.3 and Figures 2.8 and 2.9.

Membrane around skylights and hatches

Requirement: Install membranes to upstands before the installation of the skylight or hatch.

Upturn height above roof surface: To AS 4654.2 (2012) Table A1.

See AS 4654.2 (2012) clause 2.8.5 and Appendix A for termination heights ranging from 40 to 180 mm.

Membrane at parapets

Requirement: Terminate membrane upturns under parapet flashing or capping with at least 75 mm overlap. Do not top fix parapet cappings. Seal heads of fasteners against capping.

See AS 4654.2 (2012) clause 2.8.2.2 and Figures 2.5 and 2.6.

Membrane at gutters

Requirement: Terminate membrane over a corrosion-resistant metal angle fixed to the gutter support substrate with the vertical leg of the angle turned down into the gutter at least 35 mm.

See AS 4654.2 (2012) clause 2.8.2.3 and Figure 2.7.

Membrane at post supports

Post supports fixed before membrane:

- Fix post support to substrate with countersunk fasteners and seal the perimeter of the base plate to the substrate.
- Lay out membrane sheets to minimise cuts around the post support vertical member.
- Dress the membrane closely around the post support and seal the edge of the penetration to the vertical member.
- Fix an overflashing so that any joint is staggered as much as possible relative to joints in the base membrane, and overlap at least 150 mm beyond the perimeter of the base plate.

Post supports fixed after membrane:

- Fix post support to substrate with countersunk fasteners over a waterproof resilient gasket cut to match the shape of the base plate, and seal the perimeter of the base plate to the membrane.
- Dress the overflashing closely around the post support and seal the edge of the penetration to the vertical member.
- Fix an overflashing and overlap at least 150 mm beyond the perimeter of the base plate.

See AS 4654.2 (2012) clause 2.8.4 and Figure 2.12.

Membrane to green roofs and planter boxes

Membrane: Extend root-resistant membrane at least 100 mm vertically above the soil or fill level and secure.

Drainage: Grade the base of the planter to adequately sized drainage outlets and terminate the membrane in the outlets.

Drainage riser: Install a riser with drainage slots that extend from the membrane level to the top of the drainage board. Extend the riser above the soil fill level and finish with a screw cap to provide access for drain clearing.

Protection board: Provide protection board to the full extent of the membrane including areas between soil level and the underside of flashings and cappings.

Drainage board: Provide Sopradrain Eco 10 to the base of the planter and turn drainage board up drainage riser at least 100 mm above drainage slots and taped side.

Cappings and flashings: Provide capping to the tops of planter walls to protect the membrane. Extend the capping to overlap the top of the protection board on the inside face of the planter wall. Where planter walls abut other walls, provide a flashing over the top of the membrane.

See AS 4654.2 (2012) clause 2.13 and Figure 2.17.

Membrane to below ground structures

Membrane: Externally apply membrane to all walls and return to horizontal surfaces to prevent water tracking around structure at joints and corners.

Reinforcement: Provide reinforcement to the membrane at junctions, corners and over joints to SOPREMA's recommendations.

Protection board: Provide protection board to the full extent of the membrane.

Make sure there are no materials used requiring mechanical fixing to the membrane. Where backfilling and using hard edged drainage board, protect the membrane with a 6 mm thick layer of reconstituted rubber mat protection sheet.

Vertical surfaces: Provide the following:

- Flagon BSL: Sopradrain 20 or Geoland PP FR 1000.
- Colphene BSW V: Sopradrain 20.

Curing of liquid membrane systems

General: To SOPREMA's recommendations.

To prevent failure of the membrane, finishes are not applied until the membrane has fully cured.

Overlaying finishes on membranes

Compatibility: If a membrane is to be overlaid with another system such as tiles, pavers, ballast, insulation or soil, provide an overlaying system that is compatible with and will not cause damage to the membrane.

Bonded or partially bonded membranes: If the topping or bedding mortar is to be bonded to the membrane, provide sufficient control joints in the topping or bedding mortar to reduce the movement over the membrane.

Slip sheet: If the topping or bedding mortar is structurally sufficient to not require bonding to the substrate, lay a double slip sheet over the membrane to separate it from the topping or bedding mortar.

Paint coatings: If maintenance pathways are indicated by a paving paint, use a paving paint that is compatible with the membrane.

3.4 TESTING

0171 General requirements defines different tests in **INTERPRETATION**, **Definitions** and calls for an inspection and testing plan in **TESTING - GENERALLY**, **Inspection and testing plan**.

Substrate moisture tests

Moisture content of concrete substrate: Test substrate in-slab relative humidity to ASTM F2170 (2019). Perform three tests for the first 100 m^2 of subfloor area and an additional test for each additional 100 m^2.

Alternative moisture content tests other than in-slab relative humidity may be accepted, particularly if the slab has post-tensioning or in-floor heating systems.

AS 1884 (2021) suggests the alternative testing method of ASTM F1869 (2023), only if testing to ASTM F2170 (2019) is not possible. Edit testing requirement above to suit if alternatives to in-slab relative humidity testing are acceptable.

Moisture content of timber, plywood and particleboard substrate: Test substrate to AS/NZS 2098.1 (2006) for plywood substrates or to AS/NZS 1080.1 (2012) for timber and particleboard substrates.

Adhesion tests

Requirement: Test adhesion of membranes as follows:

- Pull test: To ASTM D4541 (2022).
- Peel test: To ASTM C794 (2018).

Flood tests

A flood test may be required where the waterproofed area is over a habitable space particularly that of another occupant. However it should be noted that membrane system failures may occur due to damage caused on site after the flood test is conducted. Delete if not required.

Requirement: Perform a flood test before the installation of surface finishes.

Extent: [complete/delete]

Nominate where flood tests are required, e.g. Areas above plant rooms and habitable areas.

Moisture content measurement method: To **Substrate moisture tests**.

Set-up:

- Measure the wall/floor junction of adjacent spaces and of the slab soffit below for dryness.
- Record the result for each area.
- Dam the access openings and seal drainage outlets.
- Provide temporary overflows of the same capacity as the outlets.

The aim is to prevent damage if it rains overnight. If the building is occupied consider calling for the flood test to be conducted during supervised working hours.

- Fill space with clean water as follows:
  - . Minimum water level: 25 mm.
  - . Maximum water level: 100 mm.
  - . Minimum dimension below perimeter flashings: 25 mm.
- Test duration: Minimum 24 hours and maximum 72 hours.

Records:

- Make photographic records of the flooded areas and adjacent areas.
- Label photographs with the date and location.

Delete if photographic records for flood testing are not required.

Evaluation:

- Visual test: Drain the water. After 2 hours, visually inspect the wall/floor junction of adjacent spaces and of the slab soffit below for water or moisture.
- Moisture meter test: If there is no visual evidence of water, test the same areas for dryness using a moisture meter, and compare the results to the measurements taken before flooding.

Conformance:

- Evidence of water from the visual test: Failure.
- Test results indicating an increase in moisture after flooding: Failure.
- Failure: If required, remedy defects and retest.

Specify here the approval criteria set up for the project. If necessary, nominate a **Hold point**.

Electronic leak detection tests

Standard: To ASTM D8231 (2024).

AS 4654.2 (2012) clause 2.16 notes a visual inspection and/or either a dry film thickness test or a controlled water test (flood test) should be conducted on completion of the membrane system installation. Electronic leak detection is an alternative testing method involving locating membrane breaches using electronic conductance. It is not intended to replace visual or other methods of inspection.

If electronic leak detection testing is required, consider including this *Optional* style text by changing to *Normal* style.

Slip resistance tests

Slip resistance of completed installation: To AS 4663 (2013).

Site testing is expensive. Delete if not required. See NATSPEC TECHnote DES 001 on slip resistance.

3.5 COMPLETION

Reinstatement

Extent: Repair or replace faulty or damaged work. If the work cannot be repaired satisfactorily, replace the whole area affected.

Operation and maintenance manuals

Requirement: Prepare a manual that includes SOPREMA's maintenance recommendations, including the following:

- Preventive maintenance procedures.
- Instructions and procedures for the repair of the membrane.

Compliance with this subclause targets the Operations and Maintenance requirement within the Minimum Expectation level of the Verification and Handover credit in Green Star Buildings (2021).

Warranties

Requirement: Cover materials and workmanship in the terms of the warranty in the form of interlocking warranties from SOPREMA and the applicator.

- Form: Against failure of materials and execution under normal environment and use conditions.
- Period: [complete/delete]

Use only if warranties extending beyond the defects liability period are available for the particular system. Insert the required warranty period and terms, which should be negotiated beforehand. If the warranty is in the form of separate material and installation warranties, the signatures of both supplier and applicator are required.

SOPREMA offer the following warranties:

- Standard manufacturing materials warranty: 5 to 10 years.
- Soprema limited materials warranty: 10 to 20 years.
- Mammoth platinum warranty for materials and workmanship for Sopralene Flam, Soprasun Plus and Flagon PVC membrane systems: 10 to 20 years.
- Insurance back warranty for DuO membranes: 20 years.

4 SELECTIONS

Schedules are a tool to specify properties required for products or systems. If the principal permits documentation of the product or system by proprietary name, some of the properties may be unnecessary and can be deleted. Document the product or system's location or application here and/or on the drawings with a matching project code. Refer to NATSPEC TECHnote GEN 024 for guidance on using and editing schedules.

4.1 ROOF/PLAZA DECK WATERPROOFING – NEW CONSTRUCTION

Maintenance traffic areas schedule (UV exposed systems)

	RW1	**RW2**	**RW3**	**RW4**	**RW5**
Proprietary system	SOPREMA Duo	SOPREMA Sopralene	SOPREMA Soprasun	SOPREMA Flagon SFc	SOPREMA Flagon SR
Material type	SBS-APP sheet membrane system	SBS sheet membrane system	APP sheet membrane system	PVC-P fully adhered sheet membrane system	PVC-P mechanically fixed sheet membrane system
Primer	Sopradere Quick	Antirock Primer	Antirock Primer	-	-
Bonding agent	-	-	-	Flexocol A89	-
Base membrane	Sopraply Base 520	Sopralene Flam 180	Soprasun Plus 3 Plain/Sanded	-	-
Top membrane	Duo High Tech 4 Slates/F C180 FC	Soprelene Flam 180 GR/ALU	Soprasun Plus 4.5 kg Mineral	Flagon SFc	Flagon SR
Internal roof outlets	Draini Bitumen	Draini Bitumen	Draini Bitumen	Draini PVC or Flagon PVC rainwater outlet	Draini PVC or Flagon PVC rainwater outlet
Option: Solar supports	Soprasolar Fix Evo Tilt Bitumen	Soprasolar Fix Evo Tilt Bitumen	Soprasolar Fix Evo Tilt Bitumen	Soprasolar Fix Evo Tilt PVC	Soprasolar Fix Evo Tilt PVC
Option: Cool Roof reflective					

	RW1	RW2	RW3	RW4	RW5
roof					

The codes in the header row of the schedule designate each application or location of the item scheduled. Edit the codes to match those in other contract documents.

System RW1: Torch applied, two layer, 6.5 mm thickness, fire retardant, excellent resistance against puncture and tear, high elongation. Insurance back warranty 20 years.

System RW2: Torch applied, two layer, 7 mm thickness, excellent resistance against puncture and tear, high elongation. Standard warranty 20 years.

System RW3: Torch applied, two layer, 7 mm thickness, economical, strong performance properties, good elongation. Standard warranty 20 years.

System RW4: Fully bonded, flameless solution, 1.5 mm thickness, self-extinguishing. Standard warranty 20 years.

System RW5: Mechanically fixed, flameless solution, 2 mm thickness, resistant to wind stress, self-extinguishing. Standard warranty 20 years.

Contact SOPREMA to discuss the most appropriate waterproofing system for your project, including options and accessories. Delete systems not used.

Option: Solar supports: Delete if not required.

Option: Cool Roof reflective roof: Nominate if required or delete if not required or not available for the system. The Cool Roof reflective roof option can improve the Solar Reflectance Index (SRI) and is available for System RW2 (SRI 88) and System RW5 (SRI 108).

Pedestrian traffic areas schedule (UV protected systems)

	PW1	PW2	PW3	PW4	PW5
Proprietary system	SOPREMA Soprasun	SOPREMA Antirock	SOPREMA Colphene 3000	SOPREMA Flagon SR	SOPREMA Flagon SFc
Material type	APP sheet membrane system with pod and paver	SBS sheet membrane with concrete, screed with a separation layer, or asphalt directly over	SBS self-adhered sheet membrane system with concrete, asphalt, screed, tile/paver with a separation layer, or pod and paver	PVC-P mechanically fixed sheet membrane system with pod and paver	PVC-P fully adhered sheet membrane system with pod and paver
Primer	Antirock Primer	Antirock Primer	Elastocol Stick	-	-
Bonding agent	-	-	-	-	Flexocol A89
Base membrane	Soprasun Plus 3 Plain/Sanded	-	Colphene 3000	-	-
Top membrane	Soprasun Plus 4.5 kg Mineral	Antirock Bridge	Colphene 3000	Flagon SR	Flagon SFc
Internal roof outlets	Draini Bitumen	Draini Bitumen	Draini Bitumen	Draini PVC or Flagon PVC rainwater outlet	Draini PVC or Flagon PVC rainwater outlet

The codes in the header row of the schedule designate each application or location of the item scheduled. Edit the codes to match those in other contract documents.

System PW1: Torch applied, two layer, 7 mm thickness, economical, strong performance properties. Standard warranty 20 years.

System PW2: Torch applied, single layer, 4 mm thickness, high resistance against puncture and tear, can be used directly underneath asphalt. Standard warranty 20 years.

System PW3: Self-adhered, flameless solution, single layer, 1.5 mm thickness, high tensile strength and puncture resistance with greater flexibility. Standard warranty 20 years.

System PW4: Mechanically fixed, single layer, flameless solution, 2 mm thickness, resistant to wind stress, self-extinguishing. Standard warranty 20 years.

System PW5: Fully bonded, fleece-backed, single layer, flameless solution, 1.5 mm thickness, self-extinguishing. Standard warranty 20 years.

Contact SOPREMA to discuss the most appropriate waterproofing system for your project, including options and accessories. Delete systems not used.

High traffic areas (vehicle and pedestrian traffic) schedule

	HW1	**HW2**
Proprietary system	SOPREMA Antirock	SOPREMA Alsan Trafik Heavy Duty
Material type	SBS sheet membrane system with concrete, screed with a separation layer or asphalt directly over	Polyurethane liquid system self-protected
Primer	Antirock Primer	Alsan EP 100 H20
Waterproofing membrane	Antirock Bridge	Alsan Trafik HP 520
Wearing course (two layers)	-	Alsan Trafik HP 530 and aggregates
Finishing coat	-	Alsan Trafik HP 540

The codes in the header row of the schedule designate each application or location of the item scheduled. Edit the codes to match those in other contract documents.

System HW1: Torch applied (manual or automated), single layer, can be used directly underneath asphalt, high mechanical and puncture resistance. Standard warranty 20 years.

System HW2: Highly resistant liquid waterproofing system consisting of a primer coat and three single-component polyurethane coats, UV resistant, superior elongation properties, high abrasive resistance. Standard warranty 10 to 15 years.

Contact SOPREMA to discuss the most appropriate waterproofing system for your project, including options and accessories. Delete systems not used.

4.2 INSULATED WATERPROOFING – NEW CONSTRUCTION

Insulated maintenance traffic areas schedule (UV exposed systems)

	WR1	**WR2**	**WR3**
Proprietary system	SOPREMA Bituminous Insulated Roof	SOPREMA Bituminous Insulated Roof	SOPREMA PVC Insulated Roof
Material type	SBS sheet membrane system with thermal insulation	SBS-APP sheet membrane system with thermal insulation	PVC-P mechanically fixed sheet membrane system with thermal insulation
Primer	Elastocol Stick	Elastocol 600	Elastocol Stick
Vapour control layer	Sopravap'r	Sopravap Stick A 07	Sopravap'r
Bonding agent	-	Coltack Evolution 750	-
Insulation board	Sopra-Iso	Sopra-Iso	Sopra-Iso
Insulation thickness (mm)			
Base membrane	Soprafix Base 630	Soprastick Venti Tack Plus T/F	Geoland PT FR 200
Top membrane	Sopralene Flam 180 GR/ALU	Duo High Tech 4 Slates/F C180 FC	Flagon SR
Option: Cool Roof reflective roof			

The codes in the header row of the schedule designate each application or location of the item scheduled. Edit the codes to match those in other contract documents.

System WR1: Torch applied, two layer, excellent resistance against puncture and tear, with thermal insulation directly underneath. Standard warranty 20 years.

System WR2: Self-adhered solution with cap sheet torched, two layer, 6.5 mm thickness, fire retardant, excellent resistance against puncture and tear, high elongation. Backed warranty 20 years.

System WR3: Mechanically fixed, flameless solution, single layer, 2 mm thickness, self-extinguishing. Standard warranty 20 years.

Contact SOPREMA to discuss the most appropriate waterproofing system for your project, including options and accessories. Delete systems not used.

Insulation thickness (mm): Nominate 50 (R2.35), 60 (R2.85), 70 (R3.30) or 80 (R4.00).

Option: Cool Roof reflective roof: Nominate if required or delete if not required or not available for the system. The Cool Roof reflective roof option can improve the Solar Reflectance Index (SRI) and is available for System WR1 (SRI 88) and System WR3 (SRI 108).

4.3 LANDSCAPE WATERPROOFING – NEW CONSTRUCTION

Green roofs, gardens and planter boxes schedule (UV protected systems)

	GR1	GR2	GR3	GR4	GR5
Proprietary system	SOPREMA Duo Green Roof	SOPREMA Sopralene Green Roof	SOPREMA Sopralene Green Roof	SOPREMA Flagon SFc Green Roof	SOPREMA Flagon SV Green Roof
Material type	SBS-APP root-resistant sheet membrane system	SBS root-resistant sheet membrane system	APP root-resistant sheet membrane system	PVC-P fully adhered root-resistant sheet membrane system	PVC-P mechanically fixed root-resistant sheet membrane system
Primer	Sopradere Quick	Antirock Primer	Antirock Primer	-	-
Bonding agent	-	-	-	Flexocol A89	-
Base membrane	Sopraply Base 520	Sopralene Flam 180	Soprasun Plus 3 Plain/Sanded	-	-
Top membrane	Duo High Tech 4 WGG/F C180 FC Landscape	Sopralene Flam Jardin	Sopragum Garden 4 Plus	Flagon SFc	Flagon SV
Drainage board	Sopradrain Eco 10	Sopradrain Eco 10	Sopradrain Eco 10	Sopradrain Eco 10	Sopradrain Eco 10
Internal roof outlets	Draini Bitumen	Draini Bitumen	Draini Bitumen	Draini PVC or Flagon PVC rainwater outlet	Draini PVC or Flagon PVC rainwater outlet

The codes in the header row of the schedule designate each application or location of the item scheduled. Edit the codes to match those in other contract documents.

System GR1: Torch applied, two layer, 6.5 mm thickness, fire retardant, UV resistant, excellent resistance against puncture and tear, high elongation, root-resistant. Standard warranty 20 years.

System GR2: Torch applied, two layer, 7 mm thickness, excellent resistance against puncture and tear, UV resistant, high elongation, root-resistant. Standard warranty 20 years.

System GR3: Torch applied, two layer, 7 mm thickness, economical, strong performance properties, good elongation, root-resistant. Standard warranty 20 years.

System GR4: Fully bonded, flameless solution, 1.5 mm thickness, self-extinguishing, root-resistant, UV resistant. Standard warranty 20 years.

System GR5: Mechanically fixed, flameless solution, 2 mm thickness, resistant to wind stress, self-extinguishing, root-resistant, UV resistant. Standard warranty 20 years.

Contact SOPREMA to discuss the most appropriate waterproofing system for your project, including options and accessories. Delete systems not used.

4.4 BALCONY WATERPROOFING – NEW CONSTRUCTION

Balconies/terrace areas – tiled/paved schedule (UV protected systems)

	BA1	BA2	BA3	BA4
Proprietary system	SOPREMA Sopralene Balconies	SOPREMA Soprasun Balconies	SOPREMA Flagon SFc Balconies	SOPREMA Alsan Trafik Light Duty
Material type	SBS sheet membrane system with tile or paver on pedestal over	APP sheet membrane system with tile or paver on pedestal over	PVC-P fully adhered sheet membrane system with tile or paver on pedestal over	Polyurethane liquid system trafficable (no additional protection required)
Primer	Antirock Primer	Antirock Primer	Flexocol A89	Alsan EP 100 H20
Base membrane	Sopralene Flam 180	Soprasun Plus 3 Plain/Sanded	-	Alsan Trafik HP 520
Intermediate layer	-	-	-	Alsan Trafik HP 530 and aggregates
Top membrane	Sopralene Flam 180 GR	Soprasun Plus 4.5 kg Mineral	Flagon SFc	Alsan Trafik HP 540
Internal roof outlets	Draini Bitumen	Draini Bitumen	Draini PVC or Flagon PVC rainwater outlet	Draini PVC or Flagon PVC rainwater outlet

The codes in the header row of the schedule designate each application or location of the item scheduled. Edit the codes to match those in other contract documents.

System BA1: Torch applied, two layer, 7 mm thickness, excellent resistance against puncture and tear, high elongation, root-resistant. Standard warranty 20 years.

System BA2: Torch applied, two layer, 7 mm thickness, economical, strong performance properties, good elongation, root-resistant. Standard warranty 20 years.

System BA3: Fully bonded, flameless solution, 1.5 mm thickness, self-extinguishing, root-resistant. Standard warranty 20 years.

System BA4: Highly resistant liquid waterproofing system consisting of a primer coat and three single-component polyurethane coats, UV resistance, superior elongation properties, high abrasive resistance. Standard warranty 10 to 15 years.

Contact SOPREMA to discuss the most appropriate waterproofing system for your project, including options and accessories. Delete systems not used.

4.5 BELOW GROUND BASEMENT WATERPROOFING AND TANKING – NEW CONSTRUCTION

Pre-applied below ground basement waterproofing and tanking schedule

	BG1	BG2
Proprietary system	SOPREMA BSW	SOPREMA BSL
Material type	SBS sheet membrane system	PVC-P sheet membrane system
Drainage board (vertical)	Sopradrain 20	Sopradrain 20 or Geoland PP FR 1000
Primer (vertical)	Elastocol Stick	-
Vertical membrane	Colphene BSW V	Flagon BSL
Slab membrane	Colphene BSW UNI NG	Flagon BSL
Underslab preparation		

The codes in the header row of the schedule designate each application or location of the item scheduled. Edit the codes to match those in other contract documents.

System BG1: Self-adhesive membrane applied on the drainage layer against a retaining system, before concrete is poured. Excellent adhesion to poured concrete, increased resistance to hydrostatic pressure, superior resistance to tears and punctures. Standard warranty 20 years.

System BG2: Loose-laid membrane temporarily welded to fixing disc applied on the drainage or geotextile layer against a retaining system, before concrete is poured. Excellent resistance to hydrostatic pressure, superior resistance to tears and punctures. Standard warranty 20 years.

Contact SOPREMA to discuss the most appropriate waterproofing system for your project, including options and accessories. Delete systems not used.

Underslab preparation: e.g. Mortar, blinding layer, shotcrete or SOPREMA's Geosynthetic Cementitious Composite Mats (GCCM). Delete if not required.

Post-applied below ground basement waterproofing and tanking schedule

	BT1	**BT2**	**BT3**
Proprietary system	SOPREMA Colphene 3000	SOPREMA Sopralene Jardin	SOPREMA Duo HT Landscape
Material type	SBS self-adhered sheet membrane system	SBS sheet membrane system	SBS-APP sheet membrane system
Primer	Elastocol Stick	Antirock Primer	Sopradere Quick
Base membrane	-	Sopralene Flam 180	Sopraply Base 520
Top membrane	Colphene 3000	Sopralene Flam Jardin	Duo High Tech 4 WGG/F C180 FC Landscape
Drainage board	Sopradrain 20	Sopradrain 20	Sopradrain 20

The codes in the header row of the schedule designate each application or location of the item scheduled. Edit the codes to match those in other contract documents.

System BT1: Self-adhesive membrane, flameless solution, extremely flexible, fits easily around the contours and angles of concrete footings and foundations, puncture resistant with high tensile strength. Standard warranty 20 years.

System BT2: Torch applied, two layer, 7 mm thickness, excellent resistance against puncture and tear, high elongation, root-resistant. Standard warranty 20 years.

System BT3: Torch applied, two layer, 7 mm thickness, fire retardant, excellent resistance against puncture and tear, high elongation, root-resistant. Standard warranty 20 years.

Contact SOPREMA to discuss the most appropriate waterproofing system for your project, including options and accessories. Delete systems not used.

4.6 OTHER WATERPROOFING

Water storage retaining tanks/vessels schedule

This schedule is applicable for new construction and remedial waterproofing.

	WS1
Proprietary system	SOPREMA Flagon AT
Material type	PVC-P sheet membrane system
Separation layer	Geoland PT FR 200
Sheet membrane	Flagon AT

The codes in the header row of the schedule designate each application or location of the item scheduled. Edit the codes to match those in other contract documents.

System WS1: Mechanically fixed, flameless solution, high mechanical resistance. Standard warranty 20 years.

Contact SOPREMA to discuss the most appropriate waterproofing system for your project, including options and accessories. Delete systems not used.

Tunnel waterproofing and tanking schedule

This schedule is applicable for new construction only.

	TW1	**TW2**
Proprietary system	SOPREMA BSW	SOPREMA BSL
Material type	SBS sheet membrane system	PVC-P sheet membrane system

	TW1	TW2
Drainage board (vertical)	Sopradrain 20	Sopradrain 20 or Geoland PP FR 1000
Primer (vertical)	Elastocol Stick	-
Vertical membrane	Colphene BSW V	Flagon BSL
Slab membrane	Colphene BSW UNI NG	Flagon BSL
Underslab preparation		

The codes in the header row of the schedule designate each application or location of the item scheduled. Edit the codes to match those in other contract documents.

System TW1: Self-adhesive membrane applied on the drainage layer against a retaining system, before concrete is poured. Excellent adhesion to poured concrete, increased resistance to hydrostatic pressure, superior resistance to tears and punctures. Standard warranty 20 years.

System TW2: Loose-laid membrane temporarily welded to fixing disc applied on the drainage or geotextile layer against a retaining system, before concrete is poured. Excellent resistance to hydrostatic pressure, superior resistance to tears and punctures. Standard warranty 25 years.

Contact SOPREMA to discuss the most appropriate waterproofing system for your project, including options and accessories. Delete systems not used.

Underslab preparation: e.g. Mortar, blinding layer, shotcrete or SOPREMA's Geosynthetic Cementitious Composite Mats (GCCM). Delete if not required.

Remedial waterproofing systems for failed membranes schedule

This schedule is applicable for remedial waterproofing only.

	RM1	RM2	RM3	RM4	RM5
Proprietary system	SOPREMA Duo Remedial	SOPREMA Sopralene Remedial	SOPREMA Soprasun Remedial	SOPREMA Flagon SFc Remedial	SOPREMA Flagon SR Remedial
Material type	SBS-APP sheet membrane system	SBS sheet membrane system	APP sheet membrane system	PVC-P fully adhered sheet membrane system	PVC-P mechanically fixed sheet membrane system
Primer	Elastocol 600	-	Antirock Primer	-	-
Bonding agent	-	-	-	Flexocol A89	-
Separation layer/vented layer	Soprastick Venti Tack Plus T/F	-	Aerisol Flam	-	Geoland PT FR 200
Base membrane	-	Soprafix Base 630	Soprasun Plus 3 Plain/Sanded	-	-
Top membrane	Duo High Tech 4 Slates/F C180 FC	Soprelene Flam 180 GR/ALU	Soprasun Plus 4.5 kg Mineral	Flagon SFc	Flagon SR
Option: Cool Roof reflective roof					

The codes in the header row of the schedule designate each application or location of the item scheduled. Edit the codes to match those in other contract documents.

System RM1: Self-adhered solution with cap sheet torched, two layer, 6.5 mm thickness, fire retardant, excellent resistance against puncture and tear, high elongation. Backed warranty 20 years.

System RM2: Mechanically fixed and torch applied, two layer, excellent resistance against puncture and tear, high elongation. Standard warranty 20 years.

System RM3: Torch applied, two layer, economical, strong performance properties, good elongation. Standard warranty 20 years.

System RM4: Fully bonded, flameless solution, 1.5 mm thickness, self-extinguishing. Standard warranty 20 years.

System RM5: Mechanically fixed, flameless solution, 2 mm thickness, resistant to wind stress, self-extinguishing. Standard warranty 20 years.

Contact SOPREMA to discuss the most appropriate waterproofing system for your project, including options and accessories. Delete systems not used.

Option: Cool Roof reflective roof: Nominate if required or delete if not required or not available for the system. The Cool Roof reflective roof option can improve the Solar Reflectance Index (SRI) and is available for System RM2 (SRI 88) and System RM5 (SRI 108).

REFERENCED DOCUMENTS

The following documents are incorporated into this worksection by reference:

AS/NZS 1080		Timber - Methods of test
AS/NZS 1080.1	2012	Moisture content
AS/NZS 2098		Methods of test for veneer and plywood
AS/NZS 2098.1	2006	Moisture content of veneer and plywood
AS/NZS 3500		Plumbing and drainage
AS/NZS 3500.3	2021	Stormwater drainage
AS 4654		Waterproofing membranes for external above-ground use
AS 4654.1	2012	Materials
AS 4654.2	2012	Design and installation
AS 4663	2013	Slip resistance measurement of existing pedestrian surfaces
BS 8102	2022	Protection of below ground structures against water ingress. Code of practice.
ASTM C794	2018	Standard test method for adhesion-in-peel of elastomeric joint sealants
ASTM D4541	2022	Standard test method for pull-off strength of coatings using portable adhesion testers
ASTM F2170	2019	Standard test method for determining relative humidity in concrete floor slabs using in situ probes

The following documents are mentioned only in the *Guidance* text:

AS 1884	2021	Floor coverings - Resilient sheet and tiles - Installation practices
BCA F1D4	2022	Health and amenity - Surface water management, rising damp and external waterproofing - Exposed joints
BCA F1D5	2022	Health and amenity - Surface water management, rising damp and external waterproofing - External waterproofing membranes
BCA H2D8	2022	Class 1 and 10 buildings - Damp and weatherproofing - External waterproofing
CCAA Data Sheet MC	2007	Moisture in concrete and moisture-sensitive finishes and coatings
GBCA Buildings	2021	Green Star Buildings
MBA (NSW) Book 2	2017	Guide to external waterproofing - Balcony and decks (Book 2)
MBA (NSW) Book 3	2017	Guide to planter box waterproofing (Book 3)
NATSPEC DES 001		Slip resistance performance
NATSPEC DES 008		Preparation of concrete substrates
NATSPEC GEN 006		Product specifying and substitution
NATSPEC GEN 024		Using NATSPEC selections schedules
NATSPEC TR 01		Specifying ESD
ASTM D8231	2024	Standard practice for the use of a low voltage electronic scanning system for detecting and locating breaches in roofing and waterproofing membranes
ASTM F1869	2023	Standard test method for measuring moisture vapor emission rate of concrete subfloor using anhydrous calcium chloride