EQUUS SOPREMA DUOTHERM WARM ROOF SYSTEM

Standard Building Consent Package

equus

CELEBRATING 40 YEARS 1982–2022

AUTHORISED DISTRIBUTOR SOPREMA

MAY 2024

CONTENTS

EQUUS SOPREMA DUO & DUOTHERM ROOFING

Two layer roofing membrane

AUTHORISED DISTRIBUTOR SOPREMA

The EQUUS SOPREMA DUO two-layer waterproofing system consists of a 4.3mm DUO capsheet torched to a 2.5mm basesheet, to form a 6.8mm thick roofing system manufactured by a worldwide leader in waterproofing products, Soprema. DUO roofing membrane provides a hard, stable, UV-resistant, and flexible modified bituminous product, finished with pressed coloured natural slates to provide an aesthetically pleasing finish. It is used for waterproofing old and new, flat and near flat roofs and decks. The system has been assessed and complies with the New Zealand Building Code. This system can be used on plywood and concrete substrates to form a standard cold roof system.
The DUOTHERM warm roof system consists of a vapour barrier, a rigid thermal PIR or a mineral wool thermal insulation board with the DUO waterproofing system. This guarantees a continuous and efficient thermal resistance as per the NZ Building code.

Available Colours:

GW (Grey White)

WGG (White Grey Green)

AGR (Black)

BO (Brown Oxide)

Key Benefits:

- CodeMark Certified
- BRANZ Apprasied
- SOPREMA is the largest supplier of waterproofing products around the world
- 6.8mm thick
- Guaranteed R-value
- Proven UV resistance
- Excellent durability and easy maintenance
- Life expectancy of at least 35 years in NZ climates
- No Flame and mechanically fixed solutions available
- Green roof systems available
- Complete roofing solutions available
- Compatible with Equus FixPlus pedestals for decks

Technical Support:

- Project Specific specifications and details
- Condensation risk analysis for warm roof concepts
- Wind uplift study for warm roof concepts
- On-site quality assurance
- Approved/licensed installation nationwide
- Extended Warranties available
- Total System Warranties available

CodeMark
CMNZ70151

BRANZ Appraised
Appraisal No.685 [2021]
EQUUS SOPREMA DUO SYSTEMS

BRANZ Appraised
Appraisal No.1169 [2021]
EQUUS SOPREMA WARM ROOF SYSTEMS

EQUUS SOPREMA DUO & DUOTHERM ROOFING

Two layer roofing membrane

AUTHORISED DISTRIBUTOR SOPREMA

Equus Southern

Unit 6/100 Fitzgerald Ave
Christchurch

Ph: 03 353 2434

southern@equus.nz

Equus Central

45 Hutt Rd, Petone
Wellington

Ph: 04 576 0333

central@equus.nz

Equus Northern

211 Archers Rd, Wairau Valley,
Glenfield, Auckland

Ph: 09 415 4314

northern@equus.nz

Find us on:

masterspec

archify

ARCHIPRO

4421ED EQUUS DUOTHERM WARM ROOF & DECK SYSTEM BY SOPREMA

1 GENERAL

NOTE: Formerly known as *Equus De Boer Duotherm Warm Roof.*

This section relates to the supply and installation of the Equus Industries Ltd - Equus SOPREMA Duotherm warm roof system.
It includes:

- vapour barrier
- thermal PIR rigid insulation or thermal mineral wool insulation
- two layer Soprema Duo waterproofing membrane system
- and accessories necessary to complete the warm and/or green roof system.

1.1 RELATED WORK

Refer to ~ for ~

1.2 ABBREVIATIONS AND DEFINITIONS

Refer to the general section 1232 INTERPRETATION & DEFINITIONS for abbreviations and definitions used throughout the specification.

The following abbreviations apply specifically to this section:

PIR	Polyisocyanurate
SBS	Styrene-Butadiene-Styrene
APP	Atactic polypropylene
BMT	Base metal thickness

The following definitions apply specifically to this section:

TPO modified bitumen membrane	Thermoplastic Polyolefin modified bitumen which have an excellent UV-resistance
SBS modified bitumen	Elastomer modified bitumen which are more elastic and have a better adhesion compared to APP modified bitumen. Ideal for colder climate application.
APP modified bitumen	Plastomer modified bitumen which have a higher melting point and are harder compared to SBS modified bitumen. Ideal for warmer climate application

Documents

1.3 DOCUMENTS

Refer to the general section 1233 REFERENCED DOCUMENTS. The following documents are specifically referred to in this section:

NZBC B2/AS1	Durability
NZBC E2/AS1	External moisture
NZS 1170.2:2011	Structural design actions - Wind actions
NZS 3114	Specification for concrete surface finishes
NZS 3604	Timber-framed buildings
AS 1397	Continuous hot-dip metallic coated steel sheet and strip - Coatings of zinc and zinc alloyed with aluminium and magnesium
AS 1562.1	Design and installation of sheet roof and wall cladding - Metal
AS 2122.1	Determination of Fire Propagation- Surface Ignition of Vertically Oriented Specimens of Cellular Plastics.
BS 476-3	Fire tests on building materials and structures. Classification and method of test for external fire exposure to roofs
BS 476-7	Fire tests on building materials and structures. Method of test to determine the classification of the surface spread of flame of products
EN 13501.5	Fire classification of construction products and building elements. Classification using data from external fire exposure to roof tests
HB39-1997	Installation code for metal roof and wall cladding

WMAI CoP	Waterproofing Membrane Association New Zealand – Reinforced Modified Bitumen Membrane Systems for Roofs and Decks Code of Practice
CodeMark CMNZ70151	Soprema NZ Ltd Waterproofing Membrane Systems

1.4 MANUFACTURER/SUPPLIER DOCUMENTS

Manufacturer's and supplier's documents relating to this part of the work:
SOPREMA Roofer's Guide Bituminous Membranes 2021
Equus SOPREMA Product Technical Data Sheets and Safety Data Sheets
Equus SOPREMA standard warm roof details
Equus SOPREMA Quality Assurance (QA) Checklist
Duo Durability report for New Zealand
BRANZ Appraisal 685 - SOPREMA DuO Roof and Deck Membrane Systems
BRANZ Appraisal 1169 - Equus Soprema Warm Roof System
BBA Appraisal 20/5843 - SOPREMA DuO Roof and Deck Membrane Systems
WMAI torch-on Code of Practice

Manufacturer/supplier contact details

Company:	**Equus Industries Ltd**
Web:	https://equus.nz/
Email:	info@equus.co.nz
Telephone:	Northern Branch, Auckland 09 415 4314 Central Branch, Wellington 04 576 0333 Southern Branch, Christchurch 03 353 2434

Warranties

1.5 WARRANTY - MANUFACTURER/SUPPLIER

Provide a material Equus Industries Ltd warranty:

20 years	For Equus SOPREMA Duotherm warm roof system and proprietary products. It includes an appropriate Maintenance Statement and schedule.

Note: SOPREMA provide an additional material manufacturer warranty to the above. Refer to Equus SOPREMA Waterproofing Solutions for details.

- Provide this warranty on the Equus Industries Ltd standard form (if unavailable, use the standard form in the general section 1237WA WARRANTY AGREEMENT)
- Commence the warranty from the date of Practical Completion of the contract works.

Refer to the general section 1237 WARRANTIES for additional requirements.

Note: Soprema provides an additional "insurance backed" material manufacturer warranty to the above. Refer to Equus Industries Ltd and Soprema for details.

1.6 WARRANTY - INSTALLER/APPLICATOR

Provide an Equus certified applicator warranty:

10 years	For application of Equus SOPREMA Duotherm warm roof system

- Provide this warranty on the applicator standard form (if unavailable, use the standard form in the general section 1237WA WARRANTY AGREEMENT)
- Commence the warranty from the date of Practical Completion of the contract works.

Refer to the general section 1237 WARRANTIES for additional requirements.

Requirements

1.7 NO SUBSTITUTIONS

Substitutions are not permitted to any specified Equus system, or associated components and product.

1.8 QUALIFICATIONS - MANUFACTURER / SUPPLIER REQUIREMENTS

Work to be carried out by certified applicators approved by Equus Industries Ltd. Refer to 1270 CONSTRUCTION for additional requirements relating to qualifications.

1.9 PRE-INSTALLATION MEETING

Convene a meeting between the applicator, contractor, all associated consultants and Equus Industries Ltd where appropriate to ensure all parties know what is required for effective performance of the system.

1.10 SPECIAL DETAILS

Where a standard Equus SOPREMA Duotherm warm roof detail does not exist, or if a standard warm roof detail cannot be applied, an approved alternative must be obtained from Equus Industries Ltd before proceeding with the installation.

1.11 INFORMATION FOR OPERATION AND MAINTENANCE

Provide Equus Industries Ltd and SOPREMA inspection, maintenance and cleaning instructions to the owner at completion of the work.

Compliance information

1.12 INFORMATION REQUIRED FOR CODE COMPLIANCE

Provide the following compliance documentation: -

- Applicator's approval certificate from the manufacturer / importer / distributor
- Importer's warranty
- Manufacturer's warranty
- Applicator's warranty
- Producer Statement - Construction from the applicator
- Other information required by the BCA in the Building Consent Approval documents.

Performance

1.13 WEATHER-TIGHTNESS

Accept responsibility for the weather-tight performance of the completed membrane roofing system, including all penetrations through the roof and junctions with walls and parapets. All penetrations to comply with NZBC E2/AS1 clause 8.5.9 - 'Penetrations' and Equus' recommendations.

1.14 PERFORMANCE - DURABILITY

Equus Soprema Duo membrane roof system complies with NZBC B2/AS1 when maintained to Equus Industries Limited requirements.

1.15 ENERGY EFFICIENCY - PIR INSULATION

Equus PIR rigid thermal insulation board Eurothane Silver or Soprema Sopra-Iso, has an aged thermal resistance (R Value) to AS/NZS 4859.1. Refer to SELECTIONS for R-values.

1.16 ENERGY EFFICIENCY - MINERAL WOOL INSULATION

Equus SOPREMA Mineral Wool thermal insulation board has an aged thermal resistance to AS/NZS 4859.1. Refer to SELECTIONS for R-values.

1.17 FIRE SAFETY

The fire-retardant performance of the Equus Duo Firecare by SOPREMA waterproofing cap sheet is in accordance with European Norm EN13501-5:2016 Test 1, 2 and 4 (Broof(t1), (t2) and (t4)) and achieves an EXT.F.AA rating in accordance with BS476.3.

Equus PIR thermal insulation board complies with AS 2122.1 'Determination of Fire Propagation - Surface Ignition of Vertically Oriented Specimens of Cellular Plastics', has a classification of Class 1 according to BS 476-7 or shall be FM approved.
Equus SOPREMA Mineral Wool insulation is not flammable.

Performance - Wind

1.18 WIND DESIGN PARAMETERS – NON-SPECIFIC DESIGN

The installation to be in accordance with Equus Industries Limited requirements and as appropriate for the project wind design stated in the general section 1220 PROJECT.

Suitable for design wind pressures up to and including Extra High Wind Zone to NZS 3604.

1.19 WIND DESIGN PARAMETERS – SPECIFIC DESIGN

Equus and Soprema provide job-specific wind load calculations to NZS 1170.2 for all specifically designed buildings using Equus Soprema waterproofing systems. Refer to the project wind design stated in the general section 1220 PROJECT.

Quality control and assurance

1.20 QUALITY ASSURANCE

Maintain quality necessary to assure that work is performed in accordance with this specification and the qualifying requirements of Equus Industries Ltd.

1.21 TESTING - FLOOD

Where practical flood test horizontal applications with a minimum 50mm depth of water for 24 hours to Equus Industries Limited requirements. Make good any lack of water tightness when the surface is completely dry and repeat water test process after making any necessary repairs.

1.22 TESTING - ELECTRONIC LEAK DETECTION

Carry out leak detection test using selected electronic leak detection system.

Test the waterproof membrane using Electronic Leak Detection procedure upon completion of membrane installation and prior to any covering. Test to be carried out by experienced operator. Make good any lack of water tightness when the surface is completely dry. Depending on conditions, repeat a total or localised test process after making repairs.

2 PRODUCTS

Materials - Equus SOPREMA Duotherm warm / green roof system

2.1 VAPOUR BARRIER

Equus SOPREMA SBS modified bitumen vapour barrier membrane.

2.2 PIR FLAT THERMAL INSULATION BOARD

Equus PIR Insulation boards are comprised of a polyisocyanurate (PIR) core faced on both sides with multi-layer composite aluminium foil facing or a coated glass-fibre tissue facing. Standard board size is 1200mm x 2400mm.

2.3 PIR TAPERED THERMAL INSULATION BOARD

Equus PIR Insulation boards are comprised of a polyisocyanurate (PIR) core faced on both sides with multi-layer composite aluminium foil facing or a coated glass-fibre tissue facing. Standard board size is 1200mm x 2400mm.

2.4 MINERAL WOOL FLAT THERMAL INSULATION BOARD

Equus SOPREMA Soprarock HD60 is a non-flammable water-repellent mineral wool thermal and sound insulation board. Soprarock HD60 is compatible with SOPREMA's mechanically fastened base sheet membranes. Available in several thicknesses. Standard board size is 1200mm x 2400mm.

2.5 WATERPROOFING BASE SHEET

Equus DeboFlex 2.5mm T/F C175 is a flexible waterproofing membrane consisting of elastomer (SBS) modified bitumen and reinforced with a layer of 175g/m² non-woven polyester with glass-fibre scrim. The membrane has an overlap of 80mm. It is used as a base sheet on top of Equus thermal insulation boards or roof cover boards. All laps are heat welded. Supplied in 1m x 10m rolls.

2.6 WATERPROOFING BASE SHEET - SELF ADHERED, PARTIALLY BONDED

Equus SopraStick Venti Tack Plus (formerly known as DeboTack 2.5mm T/F C175 Aero) is a flexible waterproofing membrane consisting of elastomer (SBS) modified, self-adhesive bitumen and reinforced with a layer of 175g/m² non-woven polyester with glass scrim. The membrane has a pattern of self-adhesive stripes at the back. The membrane is used as a base sheet partially bonded to the Equus PIR thermal insulation boards or the Roof Cover Boards. All laps are heat welded. Supplied in 1m x 11.25m rolls.

2.7 CAP SHEET - TWO-LAYER SYSTEM, FIRE RETARDANT

2.19 C-PROFILE

Equus SOPREMA C-Profile to terminate the cap sheet to walls or upstands.

2.20 EQUUS WATERPROOFING - LIQUID

Equus liquid applied waterproofing for membrane penetrations and other details as per detail drawings.

2.21 DRAINAGE CELL - GREEN ROOF

Equus drainage & filter layer to ensure retention of soil and provide sufficient water to support plant growth while draining excess water.

Accessories

2.22 OUTLETS - ROOF DRAINS AND OVERFLOWS

Allproof roof drains and overflows. Refer to SELECTIONS.

2.23 OUTLETS - SCUPPER

Equus Stainless Steel Scupper 200mm width x 75mm high aperture.

2.24 FLOATING DECK AND PAVER SUPPORT SYSTEM

Refer to 4381EF EQUUS FIXPLUS DECK & TILE SUPPORT SYSTEM for Equus Fixplus range of pedestals and tile supports. Pedestals are customisable to be compatible with a range of flooring materials such as concrete pavers or timber decking.

2.25 RUBBER WALKWAY TILES

Equus Kraitec Step by SOPREMA are rubber walkway tiles designed for protection of waterproofing membranes on flat roofs, balconies and terraces. The tiles allow water to drain underneath and are inter-locked. Available in 500mm x 500mm x 30mm thick. Standard colour: Grey with black, green and red available on request. Refer to SELECTIONS.

2.26 EQUUS SOPREMA SOPRASOLAR FIX EVO TILT

Non-penetrating support system for solar photovoltaic panels.

3 EXECUTION

Conditions

3.1 DELIVERY, STORAGE & HANDLING OF PRODUCTS

Refer to 1270 CONSTRUCTION for requirements relating to delivery, storage and handling of Equus Industries Limited products.
Take delivery of waterproofing membranes, thermal insulation boards and accessories undamaged. Include for site handling facilities where required. Store, on a level surface, off floors, out of direct sunlight and with the required accessories under conditions that ensure no deterioration or damage. Store rolls upright to maintain roll shape. Protect thermal insulation boards from rain and wind. Store primer in a shaded and ventilated space.

3.2 ROUTINE MATTERS

Refer to the general section 1250 TEMPORARY WORKS & SERVICES for protection requirements. Refer to 1270 CONSTRUCTION for requirements relating to defective or damaged work, removal of protection and cleaning.

3.3 PRE-INSTALLATION REQUIREMENTS

Check work previously carried out and confirm it is of the required standard for this part of the work. Ensure moisture content is:
Timber substrate: 20% maximum
Concrete substrate: 75% maximum Relative Humidity

Confirm that the substrate, including sumps, outlets and projections, will ensure work of the required standard. Ensure the falls are the correct falls to rainwater outlets to avoid ponding.

3.4 INSTALLATION SEQUENCE - WARM ROOF SYSTEMS

Install SOPREMA DUOTHERM system components, vapour barrier, insulation sheets with membrane in sections to produce a weather-tight section each day complete with all joint seams, edge flashings and terminations. Cover off exposed edge at the end of each workday or of rain is imminent to ensure complete system remains dry.

Application

3.5 GENERALLY

All work and materials to comply with Equus Industries Ltd installation instructions, NZBC E2/AS1 - 'External moisture', SOPREMA Roofer's Guide Bituminous Membranes 2021 and the WMAI Code of Practice for Reinforced Modified Bitumen Membrane Systems for Roofs and Decks.

3.6 STANDARDS AND TOLERANCES

Refer to the general section 1270 CONSTRUCTION for general requirements

3.7 PRELIMINARY WORK

Ensure that preliminary work, including formation of falls, flashing rebates, grooves, ducts, roof penetrations and fixing of outlets is complete and properly constructed to enable the system to work as intended. This work and the substrate to be smooth, clean, dry and stable.

3.8 MINIMUM FALLS

Ensure minimum falls for SOPREMA DUOTHERM warm roof membrane systems are:

- minimum fall for a roof and deck is not less than 1:80 (0.7°), to CodeMark CMNZ70151.
- minimum fall for a gutter is not less than 1:100 (0.57°), to CodeMark CMNZ70151.

Installation Requirements - Plywood substrate

3.9 PLYWOOD SUBSTRATE - GENERAL

Plywood shall be a minimum of 17mm for roofs, and 21mm for decks. Sheets shall be laid tight butt jointed to maximise the use of whole sheets with sheet joints laid over framing members, in a staggered brick-bond pattern, running across the fall of the roof.

Fix plywood in accordance with the Manufacturer's instructions using countersunk stainless-steel screws, with all sheets laid in a bead of construction adhesive. Screws shall be fixed at 150mm centres on sheet perimeter and 200mm through the body of the sheet. Tongue and Groove plywood does not negate any of the above requirements.

3.10 PLYWOOD CORNERS

Chamfer all leading edges of plywood with a 5mm radius corner.

Installation Requirements - Concrete substrate

3.11 CONCRETE SUBSTRATE - GENERALLY

Confirm concrete structures are specifically engineered to meet the requirements of the NZBC B1/VM1, 3.0 - 'Concrete'. Inspect the existing substrate and structure to ensure that they will not affect the performance of the membrane when applied.

Ensure concrete substrate has been allowed to cure for at least 28 days before commencing application. The relative humidity of concrete substrates must be 75% or less before membrane application to NZBC E2/AS1, 11.0 - 'Construction moisture'. **Equus** do not recommend the use of curing compounds; however, when used ensure all traces of compound are gone or removed. Concrete to be finished to NZS 3114, U3 with a light trowel texture.

3.12 CONCRETE CORNERS

Chamfer all leading edges to 5mm radius.

Installation Requirements - Cross Laminated Timber (CLT)

3.13 CROSS LAMINATED TIMBER SUBSTRATE GENERALLY

All sections shall be laid to manufacturer's instructions with all edges fully supported. Ensure joints are flush with edges chamfered and the surface is even and left clean and free of debris and dry before membrane application.

Installation Requirements - Metal Tray Deck

3.14 METAL TRAY SUBSTRATE GENERALLY

Confirm metal tray substrate is minimum 0.7mm gauge reverse profile run metal roofing to AS 1562.1-1992 and HB 39-1997. Installed in accordance with manufacturer's and Equus requirements.

Installation - Equus Soprema Duotherm warm roof system

3.15 CONTROL AND EXPANSION JOINTS

For control and expansion joints refer to details on the drawings.

3.16 APPLY PRIMER

Prime all dried and prepared substrates with relevant Equus primer to suit vapour barrier, as per manufacturer's instructions. Ensure a good even coverage and penetration as recommended by Equus Industries Ltd. Consumption rates will depend on surface profile and porosity. Allow primer to fully dry.

3.17 APPLY PRIMER TO UPSTANDS

Apply selected primer to all upstands, to 50mm past the top of insulation panel.

3.18 APPLY VAPOUR BARRIER

Install selected Equus Soprema vapour barrier in accordance with manufacturers instructions, found in the relevant Product Technical Data Sheet. To upstands, the vapour barrier shall be taken up 50mm past the top of the insulation board.

3.19 INSTALL PIR THERMAL INSULATION BOARD

Install Equus PIR insulation boards over the vapour barrier in a brick-lay pattern. Secure boards using selected Equus SOPREMA stainless steel fasteners to suit substrate or Easy Foam PU adhesive and install in accordance with manufacturer's instructions. Add pre-formed angle fillets in internal corners.
The angle fillets can be temporarily fixed by Alsan Mastic 2200 sealant or Easy Foam PU adhesive.
Roof cover board may be installed over PIR thermal insulation.
PIR thermal insulation board is also available in tapered insulation boards.

3.20 INSTALL MINERAL WOOL THERMAL INSULATION BOARD

Install Soprarock HD 60 Mineral Wool insulation boards over the vapour barrier in a brick-lay pattern. Secure boards using Equus SOPREMA fasteners to suit substrate and install in accordance with manufacturer's instructions. Add pre-formed angle fillets in internal corners. The angle fillets can be temporarily fixed by Alsan Mastic 2200 bitumen sealant. Roof cover board to be installed over mineral wool thermal insulation. Mineral Wool insulation board is also available in tapered insulation boards.

3.21 INSTALL ROOF COVER BOARD

Install PermaBase Dek boards over the insulation board in a brick-lay pattern. Secure boards using Equus SOPREMA fasteners to suit substrate and install in accordance with manufacturer's instructions. Add pre-formed angle fillets in internal corners. The angle fillets can be temporarily fixed by Alsan Mastic 2200 sealant.

Application - Electronic Leak Detection - conductive surface (by membrane installer)

3.22 INSTALL ELECTRONIC LEAK DETECTION CONDUCTIVE SURFACE

Install electronic leak detection conductive surface, in accordance with manufacturer's requirements. Refer to SELECTIONS.

Installation - Equus Soprema Duotherm membrane

3.23 APPLY WATERPROOFING BASE SHEET

Unroll and align DeboFlex 2.5mm T/F C175 base sheet in the most suitable direction. Discard all packaging prior to installation. The membrane is loose laid on top of the thermal insulation boards and mechanically fastened by means of Equus SOPREMA stainless steel fasteners to suit substrate. The membrane is fully-bonded by torch-on application on top of the roof boards. Repeat in sequence with all rolls maintaining side laps of 80mm and end laps of 150mm. All laps are to be heat welded. Offset end laps by minimum 500mm in adjacent runs.

3.24
APPLY WATERPROOFING BASE SHEET - SELF-ADHESIVE APPLICATION PARTIALLY BONDED

Unroll and align Soprastick Venti Tack Plus (formerly known as DeboTack 2.5mm T/F C175 Aero) base sheet in the most suitable direction. Remove back covering and self-adhere evenly to the PIR thermal insulation boards. Repeat in sequence with all rolls, maintaining side laps of 80mm and end laps of 200mm. All laps are to be heat welded. Offset end laps by minimum 500mm in adjacent runs.

3.25 APPLY CAP SHEET - FIRE RETARDANT WARM ROOF

Unroll and align Duo HT 4 Slates/F C180 Firecare (FC) cap sheet, offsetting half sheet from base sheet to create staggered laps. Cut the cap sheet to length as required. Re-roll both ends to the middle and torch evenly overall to the base sheet as it is unrolled. Ensure even heat application. Repeat in sequence with all rolls, maintaining side laps of 80mm and end laps of 150mm. Ensure all laps are offset to prevent coincidence with the base sheet laps. Following application of the cap sheet, inspect all laps separately to ensure they are neatly and correctly closed.

Where required scatter Duo Mineral Chip carefully over the bitumen joint while welding in order to provide a uniform appearance. Scatter Duo Mineral Chip where detailing of the cap sheet has been carried out to provide protection and uniformity of finish where required.

3.26 APPLY CAP SHEET - ROOT RESISTANT FOR EXTENSIVE OR SEMI-INTENSIVE GREEN ROOF

Unroll and align Duo HT 4 Slates/F C180 Firecare Landscape (FC LC) cap sheet, offsetting half sheet from base sheet to create staggered laps. Cut the cap sheet to length as required. Re-roll both ends to the middle and torch evenly overall to the base sheet as it is unrolled. Ensure even heat application. Repeat in sequence with all rolls, maintaining side laps of 80mm and end laps of 150mm. Ensure all laps are offset to prevent coincidence with the base-sheet laps. Following application of the cap sheet, inspect all laps separately to ensure they are neatly and correctly closed.

Refer to the appropriate GREEN ROOF section(s) for the supply and construction of growing medium and planting as required by the project-specific requirements.

3.27 DETAILING

Detail all outlets, pipe penetrations, gutters, parapet up-stands, machinery plinths and any other details that come into contact with the Duothermsystem. Detailing is carried out before, during or in some cases after the membrane is laid depending on the detail type. All detailing to be done in accordance with the manufacturer's technical literature and application manual current at the time of design, use, installation and maintenance. Note that roof vents are not permitted to be fitted on a warm roof concept

Finishing

3.28 COMPLETION INSPECTION

Inspect the system upon completion and leave up to 2-3 weeks to stabilise. Recheck the entire system prior to any warranties being issued.

Main contractor to arrange appropriate protection for the completed installation. Damage caused to the completed installation, by other trades working over the membrane after the initial inspection, to be the responsibility of the main contractor.

3.29 INSTALL PHOTOVOLTAIC PANEL SUPPORTS

Where photovoltaic panels are to be installed, SOPRASOLAR FIX EVO TILT for bitumen roofs are to be installed as per the installation sheet provided by Equus Industries.

3.30 INSTALL RUBBER WALKWAY TILES

For protection of the Duo Membrane on flat roofs (e.g. walkways for roof maintenance), balconies and terraces. Start the installation of the tiles in a corner of the area and connect the Kraitec Step tiles using the pre-integrated connector pins. Where required, apply SOPRACOLLE 300 N adhesive to tiles at a rate of 250g per tile (5x 50g dots per tile, 1 dot in each corner and one in the centre). Install the first row across the full length of the area and check for proper alignment. It is recommended that the tiles are installed in a masonry type configuration, with every second row starting with a half tile to stabilise the placement. Tiles can be cut to size with a low-speed sabre saw or carpet knife.

3.31 DRAINAGE - GREEN ROOF

Lay drainage cell and overlap adjacent sheets with the 100mm filter fleece overlap. At the edges and at details, lay the geotextile filter fabric across the top of the drainage cell ensuring fabric is lapped 100mm to prevent ingress of soil. Tape the geotextile filter fabric to the wall to prevent soil entering the drainage cell. Ensure the entire area is covered and that there is sufficient drainage to remove excess water from the installation. Do not place heavy materials on the drainage cell.

Once geo-textile cloth drainage layer is in place overlay surface with 25mm grit sand prior to covering with soil.

3.32 GROWING MEDIUM AND PLANTING - GREEN ROOF

Refer to appropriate GREEN ROOF section(s) for supply and construction of green roof.

Completion - general

3.33 ACCEPTANCE

- Arrange for an inspection of the completed work.
- Protect the membrane until completion of the contract works.

3.34 COMPLETION MATTERS

Refer to the general section 1270 CONSTRUCTION for completion requirements and if required, commissioning requirements.

4 SELECTIONS

For further details on selections go to https://equus.nz/
Substitutions are not permitted to the following **Equus** product, unless stated otherwise.

Materials

4.1 EQUUS SOPREMA DUO MEMBRANE - WARM ROOF SYSTEM

Location:	~
Supplier:	Equus Industries Ltd
Substrate:	~
Type:	Equus SOPREMA Duotherm
Primer:	Equus Primer to suit vapour barrier selection
Vapour barrier:	Equus Soprema SBS modified bitumen membrane
Insulation type:	~ / ~ fixed
Thickness/R value:	~
Roof Cover Board:	~
Base sheet:	~
Cap sheet:	Duo HT 4 Slates/F C180 FC (Firecare) by SOPREMA
Colour:	~

4.2 EQUUS SOPREMA DUO MEMBRANE - GREEN WARM ROOF SYSTEM

Location:	~
Supplier:	Equus Industries Ltd
Substrate:	~
Type:	Equus SOPREMA Duotherm
Primer:	Equus Primer to suit vapour barrier selection
Vapour barrier:	Equus Soprema SBS modified bitumen membrane
Insulation type:	~ / ~ fixed
Thickness/R value:	~
Roof Cover Board:	~
Base sheet:	~
Cap sheet:	Duo HT WGG/F C180 Firecare Landscape (FC LC) by SOPREMA
Drainage cell:	Equus drainage cell with integrated geotextile fabric of 140gsm
Growing medium:	~
Colour:	White-Grey-Green

Accessories

4.3 ROOF DRAIN

Location: ~
Type/Brand: ~
Size: ~
Downpipe diameter: ~
Grill: ~

4.4 OVERFLOW

Location: ~
Type/brand: ~
Size: ~
Grill: Overflow

4.5 OUTLETS - STAINLESS STEEL SCUPPERS

Location:
Type/brand: Equus Stainless Steel Scupper
Size: 200mm wide x 75mm high aperture

4.6 EQUUS SOPREMA KRAITEC STEP RUBBER TILES

Location: ~
Type/Brand: Equus Soprema Kraitec Step
Size: 500mm x 500mm x 30mm
Colour: ~

4.7 EQUUS SOPREMA SOPRASOLAR FIX EVO TILT SOLAR PANEL SUPPORTS

Location: ~
Type/brand: Equus Soprasolar

Electronic Leak Detection

4.8 ELECTRONIC LEAK DETECTION SYSTEM

Location: ~
Substrate: ~
System: ~

Quality Assurance

EQUUS SOPREMA DUOTHERM WARM ROOF

Two layer membrane warm roof system applied to plywood surfaces

Specification No: **Date Prepared: November 2023**

Project & Address: _____

_____

Certified Applicator: _____

Building Contractor: _____

Building Owner/Property Manager: _____

1. Statement of Intent

(a) This checklist is to be completed by both the Equus Applicator and the Building Contractor, as a step by step record of compliance with both the Equus Specification provided for the contract, and the requirements of the Manufacturers for Warranty.

(b) A copy of this checklist must be forwarded to the nearest Regional Office of Equus Industries Ltd. A Warranty will not be issued by Equus Industries Ltd. without a copy of this Checklist being filed.

(a) A copy of this checklist should form part of the Contract Documentation filed with the Property Manager on job completion.

2. Areas Treated

The areas to which the Warm Roof is applied are detailed below, with reference to plans (where appropriate).

_____

_____

_____

3. Sign Off

We confirm that all applicable processes listed in Section 4 have been correctly completed and that sign-off on each stage has been made by a person with the authority to do so.

For: _____ _____ (Signature)

(Building Contractor)

Date: ____ / ____ / ____ _____ (Name)

For: _____ _____ (Signature)

(Equus Applicator)

Date: ____ / ____ / ____ _____ (Name)

4. Checklist And Method Statement

* Denotes those processes which must be signed off by the Building Contractor as well.

No.	Process	Completed On	Building Contractor	Equus Contractor	Notes
1.*	Plywood surface installed correctly, with all corner fillets installed.				
2.*	Ensure outlets are sufficiently sized for anticipated run-off.				
3.*	Falls to be incorporated as per plans: □ Specified falls: or standard minimum falls: □ Gutters 1:100 □ Roof 1:80 □ Deck 1:80				
4.*	Plywood surface satisfactory for installation of membrane by Equus Certified Applicator.				
	For areas with a fully torched vapour barrier. Apply one full coat of **SOPRADERE QUICK** primer by brush/roller at spreading rate 5-6 m²/ L. Allow to dry minimum 1 hour.				
5.	*For areas with a self-adhesive membrane.* Apply one full coat of **EQUUS PEEL AND STICK PRIMER** by brush/roller at a spreading rate of 6-8 m²/L. Allow to dry for minimum 1 hour.				
6.	_____ (Nominate vapour barrier) Install vapour barrier either fully torched, or self -adhered.				
7.	Install PIR insulation board in a brick pattern with: □ Mechanically fasten through the center of each board. □ Mechanically fasten as per the SOPREMA engineered fixing plan □ Adhere using approved PU Foam adhesive.				
8.	Install mineral wool insulation in a brick pattern. Using one fastener per board to tack in place.				
9.	Install roofboard where required, and prime using **SOPRADERE QUICK** or **EQUUS PEEL AND STICK PRIMER** depending on nominated base sheet.				
10.	_____ (Nominate base sheet) Unroll base sheet, align and cut to length, discard inner roll packaging, □**Mechanically** fasten as per SOPREMA engineered fixing plan through base sheet to concrete substrate. □ Torch to primed roof board. □**Self-adhesive** base sheet remove film and press membrane down. Maintain laps minimum 100mm				

Equus Industries Ltd
PO Box 601
Blenheim
Phone: 03 578 0214
Email: admin@equus.nz
www.equus.nz

4. Checklist And Method Statement

***** Denotes those processes which must be signed off by the Building Contractor as well.

No.	Process	Completed On	Building Contractor	Equus Contractor	Notes
11.	_____ (Nominate cap sheet) Unroll **DUO** cap sheet, discard packaging, align and cut to length, re-roll each end back to centre. Torch evenly and off-set laps to not coincide with base sheet. All joints back sealed separately ensure correctly closed. Maintain a minimum 80mm side and 100mm head lap.				
12.	Detailing shall occur using **DUO** cap sheet and/ or **MATACRYL THIX or EASY FLASHING** with **DEXX TOPCOAT** on all outlets, pipe penetrations, gutter stops ends, parapet upstands, machinery plinths and anything above or below roof surface.				
13.	Membrane terminated with **C-PROFILE** and **ALSAN MASTIC 2200** sealant				
14.	Install **FIXPLUS** tile supports, or **KRAITEC STEP** rubber tiles or **SOPRASOLAR FIX EVO TILT** photovoltaic panel supports where required.				
15.*	System to be inspected on completion.				
16.	Re-inspection of work after 2 – 3 weeks.				

Equus Industries Ltd
PO Box 601
Blenheim
Phone: 03 578 0214
Email: admin@equus.nz
www.equus.nz

Quality Assurance

EQUUS SOPREMA DUOTHERM WARM ROOF

Two layer membrane warm roof system applied to metal tray surfaces

Specification No: **Date Prepared: November 2023**

Project & Address: _____

_____

Certified Applicator: _____

Building Contractor: _____

Building Owner/Property Manager: _____

1. Statement of Intent

(a) This checklist is to be completed by both the Equus Applicator and the Building Contractor, as a step by step record of compliance with both the Equus Specification provided for the contract, and the requirements of the Manufacturers for Warranty.

(b) A copy of this checklist must be forwarded to the nearest Regional Office of Equus Industries Ltd. A Warranty will not be issued by Equus Industries Ltd. without a copy of this Checklist being filed.

(a) A copy of this checklist should form part of the Contract Documentation filed with the Property Manager on job completion.

2. Areas Treated

The areas to which the Warm Roof is applied are detailed below, with reference to plans (where appropriate).

_____

_____

_____

3. Sign Off

We confirm that all applicable processes listed in Section 4 have been correctly completed and that sign-off on each stage has been made by a person with the authority to do so.

For: _____ _____ (Signature)

(Building Contractor)

Date: ____/____/____ _____ (Name)

For: _____ _____ (Signature)

(Equus Applicator)

Date: ____/____/____ _____ (Name)

4. Checklist And Method Statement

* Denotes those processes which must be signed off by the Building Contractor as well.

No.	Process	Completed On	Building Contractor	Equus Contractor	Notes
1.*	Metal deck installed in accordance with Manufacturer's recommendation.				
2.*	Outlets are sufficiently sized for anticipated run-off.				
3.*	Falls to be incorporated as per plans: □ Specified falls: or standard minimum falls: □ Gutters 1:100 □ Roof 1:80 □ Deck 1:80				
4.*	Metal roof edges overhanging into gutters are cut back and timber upstand installed at the height of insulation board.				
5.*	Metal surface satisfactory for installation of membrane by Equus Certified Applicator.				
6.	*For details and upstands.* Apply one full coat of **EQUUS PEEL AND STICK PRIMER** by brush/ roller at a spreading rate of 6-8 m²/L. Allow to dry for minimum 1 hour.				
7.	_____ (Nominate vapour barrier) Install vapour barrier either fully torched, or self -adhered.				
8.	Install PIR insulation board in a brick pattern with: □ Mechanically fasten through the center of each board. □ Mechanically fasten as per the SOPREMA engineered fixing plan □ Adhere using approved PU Foam adhesive.				
9.	Install mineral wool insulation in a brick pattern. Using one fastener per board to tack in place.				
10.	Install roofboard where required, and prime using **SOPRADERE QUICK** or **EQUUS PEEL AND STICK PRIMER** depending on nominated base sheet.				
11.	_____ (Nominate base sheet) Unroll base sheet, align and cut to length, discard inner roll packaging, □ **Mechanically** fasten as per SOPREMA engineered fixing plan through base sheet to concrete substrate. □ Torch to primed roof board. □ **Self-adhesive** base sheet remove film and press membrane down. Maintain laps minimum 100mm				

Equus Industries Ltd
PO Box 601
Blenheim
Phone: 03 578 0214
Email: admin@equus.nz
www.equus.nz

4. Checklist And Method Statement

***** Denotes those processes which must be signed off by the Building Contractor as well.

No.	Process	Completed On	Building Contractor	Equus Contractor	Notes
12.	_____ (Nominate cap sheet) Unroll cap sheet, discard packaging, align and cut to length, re-roll each end back to centre. Torch evenly and off-set laps to not coincide with base sheet. All joints back sealed separately ensure correctly closed. Maintain a minimum 80mm side and 100mm head lap.				
13.	Detailing shall occur using **DUO** cap sheet and/ or **MATACRYL THIX or EASY FLASHING** with **DEXX TOPCOAT** on all outlets, pipe penetrations, gutter stops ends, parapet upstands, machinery plinths and anything above or below roof surface.				
14.	Membrane terminated with **C-PROFILE** and **ALSAN MASTIC 2200** sealant				
15.	Install **FIXPLUS** tile supports, or **KRAITEC STEP** rubber tiles or **SOPRASOLAR FIX EVO TILT** photovoltaic panel supports where required.				
16.*	System to be inspected on completion.				
17.	Re-inspection of work after 2 – 3 weeks.				

Equus Industries Ltd
PO Box 601
Blenheim
Phone: 03 578 0214
Email: admin@equus.nz
www.equus.nz

Quality Assurance

EQUUS SOPREMA DUOTHERM WARM ROOF

Two layer membrane warm roof system applied to concrete surfaces

Specification No: **Date Prepared: November 2023**

Project & Address: _____

_____

Certified Applicator: _____

Building Contractor: _____

Building Owner/Property Manager: _____

1. Statement of Intent

(a) This checklist is to be completed by both the Equus Applicator and the Building Contractor, as a step by step record of compliance with both the Equus Specification provided for the contract, and the requirements of the Manufacturers for Warranty.

(b) A copy of this checklist must be forwarded to the nearest Regional Office of Equus Industries Ltd. A Warranty will not be issued by Equus Industries Ltd. without a copy of this Checklist being filed.

(a) A copy of this checklist should form part of the Contract Documentation filed with the Property Manager on job completion.

2. Areas Treated

The areas to which the Warm Roof is applied are detailed below, with reference to plans (where appropriate).

_____

_____

_____

3. Sign Off

We confirm that all applicable processes listed in Section 4 have been correctly completed and that sign-off on each stage has been made by a person with the authority to do so.

For: _____ _____ (Signature)

(Building Contractor)

Date: ____/____/____ _____ (Name)

For: _____ _____ (Signature)

(Equus Applicator)

Date: ____/____/____ _____ (Name)

4. Checklist And Method Statement

* Denotes those processes which must be signed off by the Building Contractor as well.

No.	Process	Completed On	Building Contractor	Equus Contractor	Notes
1.*	**Concrete** correctly formed to falls as per plans and cure at least 28 days prior to membrane application.				
2.*	Concrete to have all ridges and protrusions stoned flush.				
3.*	Shall be finished to NZS3114:1987 U3, with light trowel texture.				
4.*	Depressions flushed with **Schomburg ASOCRET BIS 5/40** and allowed to cure 48 hours before overcoating.				
5.*	Ensure outlets are sufficiently sized for anticipated run-off.				
6.*	Falls on concrete roofs to be as per tapered PIR plans or standard minimum falls: □Gutters 1:100 □Roof 1:80 □Deck 1:80				
7.	Concrete surface satisfactory for installation of Duo membrane by Equus Applicator.				
8.	*For areas with a fully torched vapour barrier.* Apply one full coat of **SOPRADERE QUICK** primer by brush/roller at spreading rate 5-6 m²/L. Allow to dry for minimum 1 hour.				
9.	*For areas with a self-adhesive membrane.* Apply one full coat of **EQUUS PEEL AND STICK PRIMER** by brush/roller at a spreading rate of 6-8 m²/L. Allow to dry for minimum 1 hour.				
10.	_____ (Nominate vapour barrier) Install vapour barrier either fully torched, or self-adhered.				
11.	Install PIR insulation board in a brick pattern with: □ Mechanically fasten through the center of each board. □ Mechanically fasten as per the SOPREMA engineered fixing plan □ Adhere using approved PU Foam adhesive.				
12.	Install mineral wool insulation in a brick pattern. Using one fastener per board to tack in place.				
13.	Install roofboard where required, and prime using **SOPRADERE QUICK** or **EQUUS PEEL AND STICK PRIMER** depending on nominated base sheet.				

Equus Industries Ltd
PO Box 601
Blenheim
Phone: 03 578 0214
Email: admin@equus.nz
www.equus.nz

4. Checklist And Method Statement

***** Denotes those processes which must be signed off by the Building Contractor as well.

No.	Process	Completed On	Building Contractor	Equus Contractor	Notes
14.	_____ (Nominate base sheet) Unroll base sheet, align and cut to length, discard inner roll packaging, □**Mechanically** fasten as per SOPREMA engineered fixing plan through base sheet to concrete substrate. □ Torch to primed roof board. □**Self-adhesive** base sheet remove film and press membrane down. Maintain laps minimum 100mm				
15.	_____ (Nominate cap sheet) Unroll **DUO** cap sheet, discard packaging, align and cut to length, re-roll each end back to centre. Torch evenly and off-set laps to not coincide with base sheet. All joints back sealed separately ensure correctly closed. Maintain a minimum 80mm side and 100mm head lap.				
16.	Detailing shall occur using **DUO** cap sheet and/ or **MATACRYL THIX or EASY FLASHING** with **DEXX TOPCOAT** on all outlets, pipe penetrations, gutter stops ends, parapet upstands, machinery plinths and anything above or below roof surface.				
17.	Membrane terminated with **C-PROFILE** and **ALSAN MASTIC 2200** sealant				
18.	Install **FIXPLUS** tile supports, or **KRAITEC STEP** rubber tiles or **SOPRASOLAR FIX EVO TILT** photovoltaic panel supports where required.				
19.*	System to be inspected on completion.				
20.	Re-inspection of work after 2 – 3 weeks.				

Equus Industries Ltd
PO Box 601
Blenheim
Phone: 03 578 0214
Email: admin@equus.nz
www.equus.nz

CodeMark

Certificate no: CMNZ70151
Version: 0
Original issue date: 30 June 2023
Version date: 30 June 2023

1. Certificate Holder Details

SOPREMA NEW ZEALAND LTD
Level 1, 245 High Street, Hutt Central Lower Hutt
5010 New Zealand
www.soprema.com.au

Distributed in New Zealand by:

Equus Industries
info@equus.nz
Ph: +64 3 353 2434
www.equus.nz

2. Product Certification Body

Bureau Veritas Australia Pty Ltd

11/500 Collins Street
Melbourne VIC 3000 Australia

product.certification@bureauveritas.com

Ph: 1800 855 190
www.bureauveritas.com.au

Complaints: The complaints process for this certificate can be found here:
www.bureauveritas.com.au/your-feedback

Product Certificate

SOPREMA NEW ZEALAND LTD
Waterproofing Membrane Systems

3. Description of Building Method or Product

Name of the product or method in Aotearoa New Zealand, including any brand names used. Description of what it is and the components that make up any system and its physical attributes including the materials and make-up of the product, where applicable.

Matters that should be taken into account in the use or application of the building method or product can be found in item 6. Conditions and Limitations of Use

The building method's or building product's catalogue or model identification number or numbers or other unique identifiers that might be used to identify the building product or building method

SOPREMA Waterproofing Membrane Systems are reinforced, double-layer bituminous waterproofing membrane systems, consisting of a cap sheet (DuO, Nova-SK, SOPRASUN and SOPRALENE) used with a basesheet (Soprasun Plus 3, DeboFlex, DeboTack, Soprastick, Nova-SK).

4. Intended use of Building Method or Product

Intended use of the building method or product as described in the product manual and other instructional materials.

A statement of the function or purpose of the building method or product.

SOPREMA Waterproofing Membrane Systems provide a waterproofing system, on new and existing roofs, podiums and decks of any size. SOPREMA Waterproofing Membrane Systems may be installed on a cold roof with insulation installed below the substrate or as a warm roof with PIR or Mineral Wool insulation installed above the substrate. A system incorporating a root-resistant cap sheet can be used in green roofs.

5. New Zealand Building Code Provisions

The performance clauses of the New Zealand Building Code that are relevant to the intended use and with which the building method or product complies or contributes to (where used as part of a system). eg Clause B2 – DURABILITY Performance B2.3.1

How the building method or product complies or contributes can be found in item 9. Basis for Certification.

Any qualifications on the extent of that compliance can be found in item 6. Conditions and limitations of use.

Clause B2 Durability: Performance Clauses B2.3.1(a*, b), B2.3.2(a*) (* when protected e.g. with pavers or green roof)
Clause E2 External moisture: Performance Clauses E2.3.1 (contributes to), E2.3.2, E2.3.7
Clause F2 Hazardous building materials: Performance Clauses F2.3.1

CodeMark

Certificate no: CMNZ70151
Version: 0

Product Certificate

SOPREMA NEW ZEALAND LTD – Waterproofing Membrane Systems

6. Conditions and Limitations of Use

The building method or product's use is to be in accordance with the installation instructions and requirements against which the building method or product was assessed.

Conditions or limitations of conformity for the performance requirements the building method or product is compliant with, including any requirements for people with the qualifications and skills to install or use the building method or product, any known or demonstrated situations where the building method or product should not be used. A statement as to whether there are any matters that should be taken into account in the use or application of the building product or building method and, if so, what those matters are.

NOTE: Together, items 3,4,5 and 6 define scope of use

1. SOPREMA Waterproofing Membrane Systems are certified for use:
   a. on buildings
      i. within the scope limitations of NZBC Acceptable Solution E2/AS para 1.1 located in all wind zones up to and including Extra High (as in NZS3604:2011), or
      ii. subject to specific structural engineering design (complying with Verification Method B1/VM1 and referenced Standard AS/NZS1170:2002 Structural Design Actions and relevant cited material standard) up to:
         1) a maximum ULS wind design pressure of 4.5 kPa, or
         2) higher ULS wind design pressures subject to the manufacturer's site specific fastening requirements to resist wind forces as determined by AS/NZS 1170, and
   b. where the finished fall is not less than 1:80 for roofs, podiums and decks and not less than 1:100 for gutters
   c. applied to the following substrates:
      i. H3.2 treated timber, including plywood sheets and reconstituted wood panels (Strandboard), Cross laminated timber (CLT) (directly to the timber substrate or to PIR or Mineral Wool boards in between the substrate and basesheet). The preservative treatment shall not be LOSP (light organic solvent preservative) or CuN (copper nitrate).
      ii. Concrete substrates (directly to the concrete substrate or to PIR or Mineral Wool boards in between the substrate and basesheet).
      iii. SOPREMA approved metal tray decks (to PIR or Mineral Wool boards in between the metal tray deck substrate and basesheet).
      iv. SOPREMA approved roof cover boards.
      v. SOPREMA approved insulated panels.

2. SOPREMA Waterproofing Membrane Systems shall be:
   a. designed and installed in accordance with the SOPREMA Roofers Guide Bituminous Membranes 2021 Edition, and
   b. installed by a SOPREMA Certified Applicator (see https://equus.nz/find-an-applicator-3/ to find an approved installer in New Zealand).
   c. protected (e.g by pavers) where subject to general pedestrian traffic. For light roof maintenance foot traffic, it is suitable to remain unprotected.

CodeMark

Certificate no: CMNZ70151
Version: 0

Product Certificate

SOPREMA NEW ZEALAND LTD – Waterproofing Membrane Systems

7. Health and Safety Information

Health, safety, and well-being declarations associated with installation, maintenance, and use of the building method or product, and their specific editions and dates necessary to ensure the performance requirements of clauses F1 to F9 of the Building Code can be met.

The compliance with any manufacturer's installation instructions, maintenance, OH & S Statements, MSDS's and other Health and Safety declarations will provide the necessary Health and Safety Information pertaining to the product.

8. Signatures

Name and Signature of the Product Certification Body's (PCB) authorised representative and, where different, the person assigned by the PCB to make the certification decision.

Sam Guindi
Product Certification Manager

For and on behalf of
Bureau Veritas Australia Pty Ltd

9. Basis for Certification

How the performance requirements in the Building Code were met for each of the provisions. Where used as part of a system, the specific contribution to compliance.

B2 Durability - By testing and comparison with Verification Method B2/VM1
E2 External moisture - By testing and comparison with Acceptable Solution E2/AS1
F2 Hazardous building materials - By comparison with the performance requirements of the Building Code clause F2.3.1

CodeMark

Certificate no: CMNZ70151
Version: 0

Product Certificate

SOPREMA NEW ZEALAND LTD – Waterproofing Membrane Systems

10. Supporting Documentation for Certification

Reference to any Acceptable Solutions, Verification Methods, New Zealand Standards, or other compliance pathways referenced against each individual performance requirement the building method or product is compliant with, and their specific version and date.

Reference to documents describing tests and evaluations and any other documents relied on for certification or used to prove compliance, including their full title, specific version and date.

- Acceptable Solutions and Verification Methods for New Zealand Building Code Clause B2 Durability Second edition (Amendment 12), 28 November 2019
- Verification Methods E2/VM1 and Acceptable Solutions E2/AS1, E2/AS2 and E2/AS3 for New Zealand Building Code Clause E2 External Moisture Third edition (Amendment 10), 5 November 2020
- Acceptable Solutions and Verification Methods for New Zealand Building Code Clause B1 Structure First edition (Amendment 20), 29 November 2021
- NZS3604:2011 Timber framed buildings
- AS/NZS1170:2002 Structural Design Actions
- ATG 1924 Technical Approval, Belgian Construction Certification Association, 2 November 2022
- ATG 2814 Technical Approval, Belgian Construction Certification Association, 6 April 2021
- BBA Agrément Certificate 20/5843, Soprema Modified Bitumen Membranes, DUO High Tech Waterproofing Membranes, 15 December 2020
- BRANZ Appraisal 520, Novaflex and Polibit Roof and Deck Waterproofing Membranes, 2019
- BRANZ Appraisal 685, Soprema DUO Roof and Deck Membrane Systems, 2021
- BRANZ Appraisal 689, Soprema DUO Roof Membrane Systems, 2021
- BRANZ Appraisal 819, Allnex Soprema Bitumen Roofing Membrane Systems, 2019
- BRANZ Appraisal 1145, Soprema Bitumen Roofing Membrane Systems, 2021
- Roofers Guide Bituminous Membranes 2021 Edition

11. Supporting Information About Description (Optional)

Any supporting information for section 3.

DuO High Tech Waterproofing Membranes comprise a polyester/glass composite reinforcement with an upper coating of thermoplastic polyolefin (TPO)-modified bitumen and a lower coating of styrene butadiene-styrene (SBS)-modified bitumen:

- DuO High Tech — the standard membrane, for use in built-up specifications
- DuO High Tech FC — an enhanced fire-resistance version of the standard membrane
- DuO High Tech Mecano — for use in mechanical fastened specifications
- DuO High Tech FC Mecano — an enhanced fire-resistance version of the DuO High Tech Mecano membrane
- DuO High Tech Landscape — for use on green roofs and planter boxes
- DuO High Tech FC Landscape — an enhanced fire-resistance version of the DuO High Tech Landscape membrane.

CodeMark

Certificate no: CMNZ70151
Version: 0

Product Certificate

SOPREMA NEW ZEALAND LTD – Waterproofing Membrane Systems

Nova-SK, and Nova-SK Mineral, are self-adhesive bitumen waterproofing membranes, reinforced with nonwoven spun bond polyester in combination with fiberglass.

SOPRASUN is an APP-modified bitumen waterproofing membrane system consisting of a base and cap sheet:

- SOPRASUN PLUS 3 is an APP-modified bitumen waterproofing base sheet membrane designed for roofing applications. SOPRASUN PLUS 3 is reinforced with a non-woven polyester combined with fiberglass.The top surface is sanded and the bottom surface is covered with a thermofusible plastic film.
- SOPRASUN PLUS 4.5KG MINERAL is an APP-modified bitumen waterproofing cap sheet membrane designed for roofing applications. SOPRASUN PLUS 4.5KG MINERAL is reinforced with a non-woven polyester combined with fiberglass. The top surface is coated with slate chips and selvedge edge is slate free on one side; the bottom surface is covered with a thermofusible plastic film.

SOPRALENE is a SBS-modified bitumen waterproofing membrane system consisting of a base and cap sheet:

- SOPRALENE FLAM 180 and SOPRALENE FLAM 180 GR are SBS-modified bitumen waterproofing membranes designed for roofing applications. Both membranes are reinforced with an ultra-high strength 180g/m2 non-woven polyester. SOPRALENE FLAM 180 top and bottom surface are covered with a thermofusible plastic film. SOPRALENE FLAM 180 GR top surface is covered with granules; bottom surface is covered with thermofusible plastic film.
- SOPRALENE FLAM 180 ALU is a flexible SBS elastomeric bitumen waterproofing membrane with a non-woven polyester reinforcement. SOPRALENE FLAM 180 ALU can be used as a protection layer on top of waterproofing systems where fire retardant properties are required. The topside is protected by an embossed aluminium foil and the underside is covered by a thermofusible film.
- SOPRALENE FLAM JARDIN CAP is a flexible SBS elastomeric bitumen waterproofing membrane with a non-woven polyester reinforcement. The topside of SOPRALENE FLAM JARDIN CAP is protected by slate chippings and the underside is covered by a thermofusible film. SOPRALENE FLAM JARDIN CAP bitumen mass contains anti-root penetration properties for green roofs.

DeboFlex is a 2.5 mm I/F C175 - a 2.5 mm thick, SBS modified bitumen-based sheet waterproofing membrane with a mixture of talcum and sand on the upper surface and an ultra-thin polyethylene foil on the under layer used as a base layer in multi-layer systems. It has a composite reinforcement of 175 g/m2 polyester and glass and is supplied in 1 m x 10 m rolls.

DeboTack is a flexible self-adhesive waterproofing membrane consisting of a mixture of penetration bitumen, improved with SBS (Styrene-Butadiene-Styrene). It is reinforced with a composite fleece of 175 g/m² polyester and glass.

- DEBOTACK 2.5 T/F C175 is a flexible self-adhesive waterproofing membrane consisting of a mixture of penetration bitumen, improved with SBS (Styrene- Butadiene-Styrene). It is reinforced with a composite fleece of 175 g/m² polyester and glass.
- DEBOTACK 2.5 T/F C175 AERO is a flexible self-adhesive waterproofing membrane consisting of a mixture of penetration bitumen, improved with SBS (Styrene-Butadiene-Styrene). It is reinforced with a composite fleece of 175 g/m² polyester and glass.

CodeMark

Certificate no: CMNZ70151
Version: 0

Product Certificate

SOPREMA NEW ZEALAND LTD – Waterproofing Membrane Systems

Soprastick and Soprastick Venti are self-adhesive membrane composed of elastomer modified bitumen and a composite polyester reinforcement. Used as a base layer in combination with a torched upper layer. The upper surface is sanded or protected by a thermofusible film.

12. Supporting Information About Intended Use (Optional)

Any supporting information for section 4.

N/A

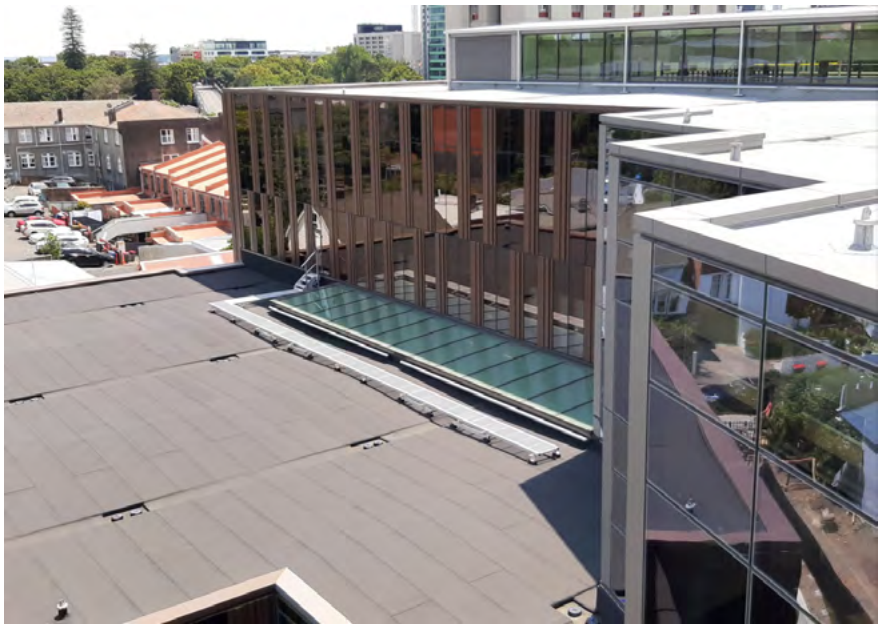
13. Supporting Information About Conditions and Limitations of Use (Optional)

Any supporting information for section 6.

N/A

BRANZ Appraised
Appraisal No. 1169 [2021]

EQUUS SOPREMA WARM ROOF SYSTEM



Appraisal No. 1169 (2021)
Amended 02 November 2022

BRANZ Appraisals
Technical Assessments of products for building and construction.

Equus Industries Ltd
PO Box 601
Blenheim 7240
Tel: 03 578 0214
Web: www.equus.nz

BRANZ
1222 Moonshine Rd,
RD1, Porirua 5381
Private Bag 50 908
Porirua 5240,
New Zealand
Tel: 04 237 1170
branz.co.nz

Product

1.1 Equus Soprema Warm Roof System is an insulating roofing system for limited access flat roofs and decks with concrete, timber or steel structural decks. It consists of a thermal insulation layer and a roof finish of modified bitumen waterproofing membrane or single-ply TPO waterproofing membrane.

Scope

2.1 Equus Soprema Warm Roof System has been appraised for use as an insulating roof or deck on buildings within the following scope:

- the scope limitations of NZBC Acceptable Solution E2/AS1, Paragraph 1.1 with regards to building height and maximum floor plan areas; and,
- on limited access flat roofs with concrete, timber or steel substrates and incorporation of the Equus Soprema Warm Roof System subject to specific structural design; and,
- with roofs and decks constructed to drain water to gutters and drainage outlets complying with the NZBC; and,
- with roofs and decks constructed to suitable falls (refer to Paragraphs 15.3 and 15.4); and,
- with no integral roof gardens and no direct discharge from downpipes; and,
- situated in NZS 3604 Wind Zones up to, and including, Extra High.

2.2 Equus Soprema Warm Roof System has also been appraised for durability and thermal performance as an insulated roofing system on buildings that are the subject of specific design with no building height restriction. Building designers are responsible for the building design and for the incorporation of Equus Soprema Warm Roof System into their design in accordance with the declared properties and instructions of Equus Industries Ltd.

2.3 Equus Soprema Warm Roof System must be installed by Equus Industries Ltd approved and trained installers.

Building Regulations

New Zealand Building Code (NZBC)

3.1 **In the opinion of BRANZ, Equus Soprema Warm Roof System, if designed, used, installed and maintained in accordance with the statements and conditions of this Appraisal, will meet or contribute to meeting the following provisions of the NZBC:**

Clause B2 DURABILITY: Performance B2.3.1 (b) 15 years. Equus Soprema Warm Roof System meets this requirement. See Paragraphs 10.1 and 10.2.

Clause E2 EXTERNAL MOISTURE: Performance E2.3.1 and E2.3.2. Equus Soprema Warm Roof System meets these requirements. See Paragraphs 15.1–15.9.

Clause F2 HAZARDOUS BUILDING MATERIALS: Performance F2.3.1. Equus Soprema Warm Roof System meets this requirement.

Clause H1 ENERGY EFFICIENCY: Performance H1.3.1 (a). Equus Soprema Warm Roof System contributes to meeting this requirement. See Paragraph 14.1.

Technical Specification

4.1 Equus Soprema Warm Roof System is an insulating roofing system for flat roofs and decks. The thermal layer is a polyisocyanurate board or mineral wool insulation board available in a number of thicknesses to suit design requirements. The insulation board is mechanically or adhesive fixed on limited access flat roofs and concrete, timber and steel structural decks. The roof finish is a modified bitumen waterproofing membrane or single-ply TPO membrane, which is adhered to the insulation or roof cover board as per the manufacturer's installation guidelines.

4.2 Materials supplied by Equus Industries Ltd are as follows:

- Equus Soprema Duo High Tech Waterproofing Membrane System
- Equus Soprema Flagon TPO Waterproofing Membranes
- Equus Novaglass Waterproofing Membranes
- Equus Soprema Deboflex 2.5 mm T/F C175
- Thermal Insulation: Soprema SOPRA-ISO/Recticel Eurothane Silver/Soprarock Mineral Wool
- Equus Guardian Fastener Range - fixings as below:
  - Wood - BSRF 4.8 s/s
  - Metal - BS 6.1
  - Concrete - CS 6.1
  - Tubes R75 and ASTL
  - Plates SP-70 and SP- 8240
- Equus Soprema Easyfoam PU Adhesive - used to adhere SOPRA-ISO and Eurothane Silver to vapour barrier.

Handling and Storage

5.1 Handling and storage of all materials, whether on-site or off-site, is under the control of the Equus Industries Ltd approved and trained installers. Dry storage must be provided for all products and the rolls of membrane must be stored in an upright position.

Technical Literature

6.1 This Appraisal must be read in conjunction with:

- Equus Soprema Warm Roof System Details D1-D19.

6.2 All aspects of design, use, installation and maintenance contained in the Technical Literature and within the scope of this Appraisal must be followed.

Design Information

General

7.1 The Equus Soprema Warm Roof System is a roof and deck system which provides thermal insulation and waterproofing. It is for use on limited access flat roofs subject only to light foot traffic for maintenance purposes. The insulation board is mechanically fixed or adhered with PU adhesive to concrete, timber or metal structural decks which are subject to specific structural design. The insulation board is available in several thicknesses to suit various thermal insulation designs.

7.2 The system can be used on new or existing roofs subject to the suitability of the structural deck of existing roofs.

7.3 The waterproofing membranes are fully-bonded, partially-bonded, adhesive or mechanically fastened Soprema waterproofing systems with a valid BRANZ Appraisal which are two-layer modified bitumen sheet or single-ply TPO with heat welded joints.

7.4 A vapour control membrane must be used in Climate Zone 3 (as defined in NZBC Verification Method H1/VM1 and NZBC Acceptable Solution H1/AS1). The vapour control membrane is self-adhesive and applied over the structural deck before the installation of the insulation board.

7.5 The effective control of internal moisture must be considered at the design stage due to the impermeability of the membrane. Refer to the BRANZ Good Practice Guide: Membrane Roofing.

Structure

8.1 In all cases, the fastening requirements are specified by Equus Industries Ltd to resist wind forces as determined by AS/NZS 1170. This calculation is specific to each project.

8.2 For buildings subject to specific design, the structural designer must confirm that the fixing has adequate holding into the structural decking.

Substrates

Plywood

9.1 Plywood must be treated to H3 (CCA treated). LOSP treated plywood must not be used. Plywood must be a minimum of 17 mm to comply with AS/NZS 2269, at least CD Grade Structural with the sanded C face upwards.

Concrete

9.2 Concrete substrates must be to a specific engineering design meeting the requirements of the NZBC, such as concrete construction to NZS 3101.

Steel

9.3 The steel substrate must be G550 aluminium-zinc AZ150 to AS1397.

Existing Construction

9.4 A thorough inspection of the substrate must be made to ensure it is in fit condition.

9.5 Repairs must be undertaken, where applicable, to ensure the substrate is sound. Plywood and steel substrates must be checked for screw fixings, and if necessary refixed as for new plywood and steel.

Durability

Serviceable Life

10.1 The Equus Soprema Warm Roof System is expected to have a serviceable life of at least 15 years, provided it is designed, used, installed and maintained in accordance with this Appraisal and the Technical Literature.

Chemical Resistance

10.2 Industrial air pollutants and windborne salt deposits should not significantly affect the durability of the membrane. However, the long term properties of the material may be affected by contact with petroleum-based products such as oils, greases and solvents.

Maintenance

11.1 The membrane roof system, must be regularly [at least annually] checked for damage, rubbish and debris or coating breakdown. Damage, such as small punctures and tears must be repaired and coatings reapplied as recommended by Equus Industries Ltd.

11.2 Special care must be taken when inspecting the membrane roof system to ensure the continuing prevention of moisture ingress, and repairs must be undertaken where required.

11.3 Drainage outlets must be maintained to operate effectively.

Prevention of Fire Occurring

12.1 Separation or protection must be provided to the Equus Soprema Warm Roof System from heat sources such as fireplaces, heating appliances, flues and chimneys. Part 7 of NZBC Verification Method C/VM1 and Acceptable Solution C/AS1, and NZBC Acceptable Solution C/AS2 provide methods for separation and protection of combustible materials from heat sources.

Fire Affecting Areas Beyond the Fire Source

Control of Internal Fire and Smoke Spread

13.1 The Equus Soprema Warm Roof System includes Soprema SOPRA-ISO or Recticel Eurothane Silver [combustible insulants] and therefore requires a suitable interior surface finish for the completed system to achieve the required Group Number as specified in C/AS2 Table 4.3. The combustible insulant shall comply with the flame propagation criteria as specified in AS1366 Parts 1-4 for the material being used.

13.2 The Soprema SOPRA-ISO or Recticel Eurothane Silver used in the Equus Soprema Warm Roof System has been tested and complies with the flame propagation criteria of AS 1366 as required by NZBC Acceptable Solution C/AS1 Section 4.3 and C/AS2 Paragraph 4.17.2.

13.3 Where the system is installed over metal roofing this will not meet the interior surface finish requirements alone and will need to be protected by an interior surface finish meeting the requirements of C/AS2 Table 4.3.

Energy Efficiency

14.1 Thermal resistance [R-Value] of building elements may be verified by using NZS 4214. The R-Values for the insulation are given in Table1.

Table 1: R-Values

Thickness	R-Value
SOPRA-ISO/Eurothane Silver 40 mm	1.7
SOPRA-ISO/Eurothane Silver 60 mm	2.5
SOPRA-ISO/Eurothane Silver 80 mm	3.35
SOPRA-ISO/Eurothane Silver 100 mm	4.2
SOPRA-ISO/Eurothane Silver 120 mm	5.05
SOPRA-ISO/Eurothane Silver 140 mm	5.9
SOPRA-ISO/Eurothane Silver 160 mm	6.75
SopraRock 60 mm	1.64
SopraRock 80 mm	2.17
SopraRock 100 mm	2.75
SopraRock 120 mm	3.34
SopraRock 140 mm	3.89

External Moisture

15.1 Roofs must be designed and constructed to shed precipitated moisture. They must also take account of snowfalls in snow prone areas. A means of meeting code compliance with NZBC Clause E2.3.1 is given in the Technical Literature which aligns with details in NZBC Acceptable Solution E2/AS1.

15.2 When installed in accordance with this Appraisal and the Technical Literature, Equus Soprema Warm Roof System will prevent the penetration of water and will therefore meet code compliance with NZBC Clause E2.3.2. The membranes are impervious to water and will give a weathertight roof.

15.3 Roof falls must be built into the substrate or formed using tapered insulation board.

15.4 The minimum fall to roofs is 1 in 30 for plywood and steel, 1 in 60 for concrete and 1 in 100 for gutters. The minimum fall for decks is 1 in 40 *(Note: Where possible, BRANZ recommends a fall of 1 in 60 in gutters).*

15.5 Allowance for deflection and settlement of the substrate must be made in the design of the roof to ensure falls are maintained and no ponding of water can occur.

15.6 Equus Soprema Warm Roof System is impermeable; therefore a means of dissipating construction moisture must be provided in the building design and construction to meet code compliance with NZBC Clause E2.3.6.

15.7 Drainage flanges must be used for any outlet and must be fitted with a grate or cage to reduce potential sources of blockages. An overflow must be provided where the roof does not drain to an external gutter or spouting.

15.8 Penetrations and upstands of the membrane must be raised above the level of any possible flooding caused by the blockage of roof drainage.

15.9 The design of details not covered by the Technical Literature is subject to specific weathertightness design and is outside the scope of this Appraisal.

Condensation Control

16.1 In Climate Zone 3, as defined in NZBC Verification Method H1/VM1 and NZBC Acceptable Solution H1/AS1-Definitions, a vapour control membrane must be installed over the substrate prior to installing the insulation.

Water Supplies

17.1 Water is not contaminated by Equus Duo High Tech Waterproofing Membrane System or Equus Novaglass Waterproofing Membranes.

17.2 The first 25 mm of rainfall from a newly installed roof must be discarded before water collection starts. This is to remove residues which may have developed in the process involved in the production of the Equus Soprema Warm Roof System.

17.3 Though it will not contaminate water, it must be noted that all water collected off roof surfaces made from any material is considered to be non-potable due to possible contamination from other sources. Water collection in this way can only be considered potable if it has been passed through a suitable sterilization system and tested. Sterilization systems such as this have not been assessed and are outside the scope of this Appraisal.

17.4 Equus Soprema Flagon TPO Waterproofing Membranes have not been assessed for roofs used for the collection of potable water.

Installation Information

Installation Skill Level Requirement

18.1 Installation must always be carried out in accordance with Equus Soprema Warm Roof System Technical Literature and this Appraisal by, or under the supervision of, a Licensed Building Practitioner (LBP) with the relevant Licence Class.

18.2 Installation and finishing of components and accessories supplied by Equus Industries Ltd and its approved and trained installers must be completed by approved and trained installers, approved by Equus Industries Ltd.

18.3 Installation of the accessories supplied by the building contractor must be carried out in accordance with Equus Soprema Warm Roof System Technical Literature and this Appraisal by, or under the supervision of, a Licensed Building Practitioner (LBP) with the relevant Licence Class.

Preparation of Substrates

19.1 Substrates must be dry, clean and stable before installation commences.

19.2 The relative humidity of concrete substrates must be 75% or less before membrane application. The concrete can be checked for dryness by using a hygrometer, as set out in BRANZ Bulletin No. 585.

19.3 The moisture content of the plywood and timber substructure must be a maximum of 20% and the plywood sheets must be dry at time of membrane application.

System Installation

20.1 The Equus Soprema Warm Roof System must be installed in accordance with the Technical Literature.

20.2 Where a vapour layer is required, it is installed onto the substrate followed by the insulation. The insulation is set out in a brick bond fashion and is adhered with PU adhesive or screwed down using the screws and washers as defined in the Technical Specification.

20.3 The membranes are then installed as per the Technical Literature.

Inspections

21.1 Critical areas of inspection for waterproofing systems are:

- Construction of substrates, including crack control and installation of bond breakers and movement control joints.
- Moisture content of the substrate prior to the application of the system.
- Acceptance of the substrate by the system installer prior to application of the system.
- Installation of the system to the Technical Literature.

Health and Safety

22.1 Safe use and handling procedures for Equus Soprema Warm Roof System are provided in the Technical Literature. The products must be used in conjunction with the relevant Material Safety Data Sheets for each membrane.

Basis of Appraisal

The following is a summary of the technical investigations carried out:

Tests

23.1 The following is a summary of the testing and test reports on Equus Soprema Warm Roof System:

- The manufacture of the membranes has not been examined by BRANZ, but details regarding the quality and composition of the materials used were obtained by BRANZ and found to be satisfactory. The manufacturer of Soprema DuO Roof and Deck Membrane Systems has been assessed and registered as meeting the requirements of ISO 9001 and ISO 14001.
- Testing has been carried out on the membranes for elongation, tensile strength, seam strength, breaking strength, low temperature, resistance to aging, water absorption, resistance to ultraviolet (UV) and peel adhesion to plywood and concrete.
- Dimensions, density, thermal conductivity, compressive strength, tensile strength, fire behaviour (Class E), water absorption, specific heat capacity, water vapour diffusion resistance and linear expansion coefficient.

23.2 The above test methods and results have been reviewed by BRANZ and found to be satisfactory.

Other Investigations

24.1 A durability opinion has been provided by BRANZ technical experts.

24.2 Installation of the insulation and membranes has been assessed by BRANZ for practicability of installation and found to be satisfactory.

24.3 The Technical Literature has been examined by BRANZ and found to be satisfactory.

Quality

25.1 The manufacture of the components of the system has not been examined by BRANZ, but details regarding the quality and composition of the materials used were obtained by BRANZ and found to be satisfactory.

25.2 The quality of the supply of products to the New Zealand market is the responsibility of Equus Industries Ltd.

25.3 Quality on-site is the responsibility of the Equus Industries Ltd approved and trained installers.

25.4 Designers are responsible for the building design, and building contractors are responsible for the quality of construction of substrate systems in accordance with the instructions of Equus Industries Ltd and this Appraisal.

25.5 Building owners are responsible for the maintenance of the membrane system in accordance with the instructions of Equus Industries Ltd and this Appraisal.

Sources of Information

- AS 1366:1992 Rigid cellular plastics sheets for thermal insulation.
- AS/NZS 1170:2002 Structural design actions - General principles.
- AS/NZS 2269:2012 Plywood – structural.
- BRANZ Bulletin No. 585 Measuring Moisture in Timber and Concrete.
- BRANZ Good Practice Guide: Membrane Roofing (second edition), October 2015.
- NZS 3101:2006 The design of concrete structures.
- NZS 3604:2011 Timber-framed buildings.
- NZS 4214:2006 Methods of Determining the Total Thermal Resistance of Parts of Buildings.
- Ministry of Business, Innovation and Employment Record of amendments - Acceptable Solutions, Verification Methods and handbooks.
- The Building Regulations 1992.

Amendments

Amendment No. 1, dated 02 November 2022

This Appraisal has been amended to update the product name from Soprema Efyos Blue A to Soprema SOFRA-ISO.

BRANZ Appraised
Appraisal No.1169 [2021]

BRANZ Appraisal
Appraisal No. 1169 (2021)
21 December 2021

EQUUS SOPREMA WARM ROOF SYSTEM

BRANZ

In the opinion of BRANZ, Equus Soprema Warm Roof System is fit for purpose and will comply with the Building Code to the extent specified in this Appraisal provided it is used, designed, installed and maintained as set out in this Appraisal.

The Appraisal is issued only to Equus Industries Ltd, and is valid until further notice, subject to the Conditions of Appraisal.

Conditions of Appraisal

1. This Appraisal:
   a) relates only to the product as described herein;
   b) must be read, considered and used in full together with the Technical Literature;
   c) does not address any Legislation, Regulations, Codes or Standards, not specifically named herein;
   d) is copyright of BRANZ.
2. Equus Industries Ltd:
   a) continues to have the product reviewed by BRANZ;
   b) shall notify BRANZ of any changes in product specification or quality assurance measures prior to the product being marketed;
   c) abides by the BRANZ Appraisals Services Terms and Conditions;
   d) warrants that the product and the manufacturing process for the product are maintained at or above the standards, levels and quality assessed and found satisfactory by BRANZ pursuant to BRANZ's Appraisal of the product.
3. BRANZ makes no representation or warranty as to:
   a) the nature of individual examples of, batches of, or individual installations of the product, including methods and workmanship;
   b) the presence or absence of any patent or similar rights subsisting in the product or any other product;
   c) any guarantee or warranty offered by Equus Industries Ltd.
4. Any reference in this Appraisal to any other publication shall be read as a reference to the version of the publication specified in this Appraisal.
5. BRANZ provides no certification, guarantee, indemnity or warranty, to Equus Industries Ltd or any third party.

For BRANZ

Chelydra Percy
Chief Executive

Date of Issue:
21 December 2021

BRANZ Appraised
Appraisal No. 685 [2021]

SOPREMA DUO ROOF AND DECK MEMBRANE SYSTEMS

Appraisal No. 685 (2021)

This Appraisal replaces BRANZ Appraisal No. 685 (2016)

Amended 13 November 2023

BRANZ Appraisals

Technical Assessments of products for building and construction.

Soprema nv
Bouwelven 5
B-2280 Grobbendonk
Belgium
Tel (NZ): 021 800 407

Marketed By:

Equus Industries Ltd
PO Box 601
Blenheim
Tel: 03 578 0214
Fax: 03 578 0919
Web: www.equus.co.nz

BRANZ
1222 Moonshine Rd,
RD1, Porirua 5381
Private Bag 50 908
Porirua 5240,
New Zealand
Tel: 04 237 1170
branz.co.nz

Product

1.1 Soprema DuO Roof and Deck Membrane Systems are modified bitumen waterproofing membranes for roofs and decks.

Scope

2.1 Soprema DuO Roof and Deck Membrane Systems have been appraised as roof and deck waterproofing membranes on buildings within the following scope:

- the scope limitations of NZBC Acceptable Solution E2/AS1, Paragraph 1.1; or,
- the scope limitations of NZBC Acceptable Solution E2/AS1, Paragraph 1.1 with regard to building height and floor plan area when subject to specific structural design; and,
- with substrates of plywood or suspended concrete slab; and,
- with minimum falls for roofs of 1:30, plywood decks of 1:40 and suspended concrete slabs of 1:60; and,
- with minimum falls for decks of 1:40; and,
- with deck size limited to 40 m²; and,
- situated in NZS 3604 Wind Zones up to, and including, Extra High.

2.2 Soprema DuO Roof and Deck Membrane Systems have also been appraised as roof and deck waterproofing membrane on buildings within the following scope:

- subject to specific structural and weathertightness design; and,
- with substrates of plywood or suspended concrete slab; and,
- situated in specific design wind pressures up to a maximum design differential ultimate limit state (ULS) of 4.5 kPa; and,
- with the weathertightness design of junctions for each specific structure being the responsibility of the building designer.

2.3 Roofs and decks waterproofed with Soprema DuO Roof and Deck Membrane Systems must be designed and constructed in accordance with the following limitations:

- nominally flat roofs and decks and pitched roofs constructed to drain water to gutters and drainage outlets complying with the NZBC; and,
- with no steps within the deck level, no integral roof gardens and no downpipes discharging directly to decks; and,
- with the deck membrane continually protected from physical damage by a pedestal protection system.

2.4 The design and construction of the substrate and movement and control joints is specific to each building, and therefore is the responsibility of the building designer and building contractor and is outside the scope of this Appraisal.

2.5 The membranes must be installed by Equus Industries Ltd approved applicators.

BRANZ Appraisal
Appraisal No. 685 (2021)
07 July 2021

Building Regulations

New Zealand Building Code (NZBC)

3.1 **In the opinion of BRANZ, Soprema DuO Roof and Deck Membrane Systems, if designed, used, installed and maintained in accordance with the statements and conditions of this Appraisal, will meet the following provisions of the NZBC:**

Clause B2 DURABILITY: Performance B2.3.1 (b) 15 years. Soprema DuO Roof and Deck Membrane Systems meet this requirement. See Paragraph 10.1.

Clause E2 EXTERNAL MOISTURE: Performance E2.3.1 and E2.3.2. Soprema DuO Roof and Deck Membrane Systems meets these requirements. See Paragraphs 13.1–13.9.

Clause F2 HAZARDOUS BUILDING MATERIALS: Performance F2.3.1. Soprema DuO Roof and Deck Membrane Systems meet this requirement.

Technical Specification

4.1 Materials supplied by Equus Industries Ltd are as follows:

- **DeboPlast 2.5 mm T/F C175** - a 2.5 mm thick, APP modified bitumen-based sheet waterproofing membrane with a mixture of talcum and sand on the upper surface and an ultra-thin polyethylene foil on the under layer used as a base layer in multi-layer systems. It has a composite reinforcement of 175 g/m² polyester and glass and is supplied in 1 m x 10 m rolls.
- **DeboFlex 2.5 mm T/F C175** - a 2.5 mm thick, SBS modified bitumen-based sheet waterproofing membrane with a mixture of talcum and sand on the upper surface and an ultra-thin polyethylene foil on the under layer used as a base layer in multi-layer systems. It has a composite reinforcement of 175 g/m² polyester and glass and is supplied in 1 m x 10 m rolls.
- **DeboTack 2.5 mm T/F C175** - a 2.5 mm thick, SBS modified bitumen-based sheet waterproofing membrane with a mixture of talcum and sand on the upper surface and a self-adhesive under-layer used as a base layer in multi-layer systems. It has a composite reinforcement of 175 g/m² polyester and glass and is supplied in 1 m x 10 m rolls.
- **Debotack 2.5 mm T/F C175 Aero** - a 2.5 mm thick, SBS modified bitumen-based sheet waterproofing membrane with a mixture of talcum and sand on the upper surface and the under-layer of heat resistant polypropylene fleece with self-adhesive bitumen strips 55 mm wide to create partial bonding to the substrate. It is used as a base layer in multi-layer systems. It has a composite reinforcement of 175 g/m² and is supplied in 1 m x 10 m rolls.
- **DuO HT 4 Slates/F C180 Firecare** - a nominal 4 mm thick TPO/SBS composite bitumen torch-applied sheet waterproofing membrane with a coloured slate granule upper surface finish and a polyethylene under-finish used as a cap sheet in a multi-layer system. It has a composite reinforcement of polyester and glass of 180 g/m². It is supplied in 1 m x 8 m rolls.
- **DuO HT 4 Slates/F C180 Aero Firecare** - a nominal 4 mm thick TPO/SBS composite bitumen torch-applied sheet waterproofing membrane with a coloured slate granule upper surface finish and an under layer of pure SBS strips with polyethylene foil finish to allow vapour distribution under the waterproofing, used as a cap sheet in a single-layer system. It has a composite reinforcement of polyester and glass of 180 g/m². It is supplied in 1 m x 8 m rolls.
- **DuO HT 4 Slates/F C180 Firecare Mecano** - a nominal 4 mm thick TPO/SBS composite bitumen sheet waterproofing membrane with a coloured slate granule upper surface finish and an under-finish of polyethylene foil which is designed to be mechanically fastened to the roof, used as a single layer system on concrete, or as a cap sheet in a multi-layer system. It has a composite reinforcement of polyester and glass of 180 g/m². It is supplied in 1 m x 8 m rolls.
- **DuO HT 4 Slates/PP C180 Firecare No Flame** - a nominal 4 mm thick TPO/SBS composite bitumen sheet waterproofing membrane with a coloured slate granule upper surface finish and an under-finish of polypropylene fleece which can be partially or fully bonded without heat, used as a cap sheet in a multi-layer system. It has a composite reinforcement of polyester and glass of 180 g/m². It is supplied in 1 m x 8 m rolls.

- **Antirock** - a nominal 5 mm TPO/SBS composite bitumen, torch-applied sheet waterproofing membrane with a grey granule upper surface finish and an under-finish of polyethylene foil. It has a composite reinforcement of polyester and glass of 250 g/m^2 to provide a higher reinforcement level for greater heat resistance, elongation and strength used as a cap sheet under hot applied asphalt mixes. It is supplied in 1 m x 8 m rolls.
- **DuO HT 4 Slates/ F C180 Firecare Landscape** - a nominal 4 mm TPO/SBS composite bitumen, torch-applied sheet waterproofing membrane with a coloured slate upper surface finish and an under-finish of polyethylene foil. It has a composite reinforcement of polyester and glass of 180 g/m^2. It is root-resistant according to EN13948 and applicable for green roofs. It is used as a cap sheet in multi-layer systems. It is supplied in 1 m x 8 m rolls.
- **DuO HT 4 Slates/ F C180 Firecare** - a nominal 4 mm TPO/SBS composite bitumen, torch-applied sheet waterproofing membrane with a coloured slate granule upper surface finish and an under-finish of polyethylene foil. It has a composite reinforcement of polyester and glass of 180 g/m^2. It is designed for fire resistant applications and used a cap sheet in multi-layer systems. It is supplied in 1 m x 8 m rolls.
- **DuO Primer, Sopradere Quick** - a solvent-based, bituminous varnish used to prime dry and porous surfaces. It is supplied in 25 L containers.
- **DuO Primer, Aquadere** - a water-based, bituminous primer used to prime dry and porous surfaces. It is supplied in 25 L containers.
- **DuO Kit Sealant, Aslan Mastic 2200** - a bituminous adhesive/sealant used for cold bonding and sealing when necessary. It is a black paste, supplied in 310 ml cartridges.
- **DuO Fix PU Cold Adhesive** - a PU cold adhesive for adhering DuO No Flame waterproofing membranes.
- **Equus Fix Plus Pedestals** - adjustable pedestal protection system.
- **DuO Cold Glue** - a bituminous cold adhesive for adhering DuO No Flame waterproofing membranes. It is supplied in 25 kg cans.
- **Permabase Deck Roof Cover Board** - is a lightweight cement roof cover board for modified bitumen waterproofing membranes. It is supplied as a 2,400 mm x 1,200 mm x 9 mm thick board.

Handling and Storage

5.1 Handling and storage of all materials, whether on-site or off-site is under the control of the Equus Industries Ltd approved applicators. Dry storage must be provided for all products and the rolls of membrane must be stored in an upright position.

Technical Literature

6.1 This Appraisal must be read in conjunction with:

- Equus Soprema DuO Roof and Deck Membrane, BRANZ Appraisal No. 685 Technical Literature, dated January 2023.

6.2 All aspects of design, use, installation and maintenance contained in the Technical Literature and within the scope of this Appraisal must be followed.

Design Information

General

7.1 Soprema DuO Roof and Deck Membrane Systems are for use on roofs, decks, gutters and parapets where an impervious waterproof membrane is required to prevent damage to building elements and adjoining areas. The products can be used on new or existing buildings. Equus Industries Ltd should be consulted as to the suitability of any existing substrates prior to using Soprema DuO Roof and Deck Membrane Systems.

7.2 Soprema DuO Roof and Deck Membrane Systems are normally applied as double layer systems, with a base layer and cap layer. There are a number of different options available, Equus Industries Ltd should be consulted for the best option depending on performance requirements.

7.3 The effective control of internal moisture must be considered at the design stage because of the impermeability of the membranes. Refer to the BRANZ Good Practice Guide: Membrane Roofing.

7.4 Where regular foot traffic on the roof is envisaged i.e. maintenance of lift equipment, a walkway should be installed to ensure the membrane is protected. The Soprema DuO Roof and Deck Membrane Systems are designed for limited, irregular pedestrian access only.

7.5 Soprema DuO Roof and Deck Membrane Systems can be used exposed or covered with a ballast layer. Equus Industries Ltd should be consulted for ballast options.

7.6 Soprema DuO Roof and Deck Membrane Systems, when used on decks, require a pedestal protection system. Equus Industries Ltd should be contacted for the best system to meet design requirements.

7.7 NZBC Acceptable Solution E2/AS1 limits the size of decks to 40 m^2. Soprema DuO Roof and Deck Membrane Systems are suitable for use on decks larger than 40 m^2. These decks are subject of specific design, in accordance with Paragraph 2.2.

Structure

8.1 Timber framing systems must comply with NZS 3604, or where specific engineering design is used, the framing shall be of at least equivalent stiffness to the framing provisions of NZS 3604, or comply with the serviceability criteria of AS/NZS 1170. In all cases framing must be provided so that the maximum span of the substrate as specified by the substrate manufacturer is met and that all sheet edges are fully supported.

8.2 Soprema DuO Roof and Deck Membrane Systems fully bonded double layer systems are suitable for use in areas subject to maximum wind pressures of 4.5 kPa ULS.

Substrates

Plywood

9.1 Plywood must be treated to H3 (CCA treated). **LOSP treated plywood must not be used.** Plywood must comply with NZBC Acceptable Solution E2/AS1 Paragraph 8.5.3 and 8.5.5. Where specific design is used (i.e. outside the scope of E2/AS1), the plywood thickness and fixing size may increase and centres may decrease to meet specific wind loadings. Timber framing must comply with NZS 3604, or where specific engineering design is used, the framing shall be of at least equivalent stiffness to the framing provisions of NZS 3604, or comply with the serviceability criteria of AS/NZS 1170. In all cases, framing must be provided so that the maximum span of the substrate as specified by the substrate manufacturer is met and all sheet edges are fully supported.

Concrete

9.2 Concrete substrates must be to a specific engineering design meeting the requirements of the NZBC, such as concrete construction to NZS 3101.

Existing Construction

9.3 A thorough inspection of the substrate must be made to ensure it is in fit condition and does not contain any materials that will adversely affect the performance of the membrane.

9.4 Repairs must be undertaken, where applicable, to ensure the substrate is sound, the joints are sealed, and the flashings are sound. Plywood substrates must be checked for screw fixings, and if necessary, refixed as for new plywood.

Durability

Serviceable Life

10.1 Soprema DuO Roof and Deck Membrane Systems will have a durability of at least 15 years and an expected serviceable life of over 25 years, provided they are designed, used, installed and maintained in accordance with this Appraisal and the Technical Literature.

Chemical Resistance

10.2 Industrial air pollutants and windborne salt deposits should not significantly affect the durability of the membranes. However, the long term properties of the material may be affected by contact with petroleum-based products such as oils, greases and solvents.

Maintenance

11.1 Soprema DuO Roof and Deck Membrane Systems must be regularly (at least annually) checked for damage, rubbish or debris. Damage, such as small punctures and tears, must be repaired as recommended by Equus Industries Ltd.

11.2 Special care must be taken when inspecting the membrane roof systems to ensure the continuing prevention of moisture ingress, and repairs must be undertaken where required.

11.3 Drainage outlets must be maintained to operate effectively.

Prevention of Fire Occurring

12.1 Separation or protection must be provided to Soprema DuO Roof and Deck Membrane Systems from heat sources such as fireplaces, heating appliances, flues and chimneys. Part 7 of NZBC Verification Method C/VM1 and Acceptable Solution C/AS1, and Acceptable Solution C/AS2 provide methods for separation and protection of combustible materials from heat sources.

External Moisture

13.1 Roofs and decks must be designed and constructed to shed precipitated moisture. They must also take account of snowfalls in snow prone areas. A means of meeting code compliance with NZBC Clause E2.3.1 is given by the Technical Literature which aligns with details in NZBC Acceptable Solution E2/AS1.

13.2 When installed in accordance with this Appraisal and the Technical Literature, Soprema DuO Roof and Deck Membrane Systems will prevent the penetration of water and will therefore meet code compliance with NZBC Clause E2.3.2. The membranes are impervious to water and will give a weathertight roof or deck.

13.3 Roof and deck falls must be built into the substrate and not created with mortar screeds applied over the membrane.

13.4 The minimum fall to plywood roofs or decks is 1 in 30, concrete is 1 in 60, and gutters is 1 in 100. All falls must slope to an outlet. Inadequate falls will allow moisture to collect and increase the risk of deterioration of the membrane. *[Note: Where possible, a gutter fall of 1:60 is preferred.]*

13.5 Allowance for deflection and settlement of the substrate must be made in the design of the roof or deck to ensure falls are maintained and no ponding of water can occur.

13.6 Soprema DuO Roof and Deck Membrane Systems are impermeable; therefore a means of dissipating construction moisture must be provided in the building design and construction to meet code compliance with NZBC Clause E2.3.6.

13.7 Drainage flanges must be used for any outlet and must be fitted with a grate or cage to reduce potential sources of blockages. An overflow must be provided where the roof or deck does not drain to an external gutter or spouting.

13.8 Penetrations and upstands of the membranes must be raised above the level of any possible flooding caused by the blockage of roof or deck drainage.

13.9 The design of details not covered by the Technical Literature is subject to specific weathertightness design and is outside the scope of this Appraisal.

Water Supplies

14.1 Water is not contaminated by Soprema DuO Roof and Deck Membrane Systems.

14.2 The first 25 mm of rainfall from a newly installed Soprema DuO Roof and Deck Membrane Systems roof must be discarded before water collection starts. This is to remove residues which may have developed in the processes involved in the production of a Soprema DuO Roof and Deck Membrane Systems roof.

14.3 Though Soprema DuO Roof and Deck Membrane Systems will not contaminate water, it must be noted that all water collected off roof surfaces made from any material is considered to be non-potable due to possible contamination from other sources. Water collection in this way can only be considered potable if it has been passed through a suitable sterilization system and tested. Sterilization systems such as this have not been assessed and are outside the scope of this Appraisal.

Installation Information

Installation Skill Level Requirement

15.1 All design and building work must be carried out in accordance with the Soprema DuO Roof and Deck Membrane Systems Technical Literature and this Appraisal. All building work must be undertaken by Equus Industries Ltd approved applicators. Where the work involves Restricted Building Work this must also be completed by, or under the supervision of, a Licensed Building Practitioner (LBP) with the relevant License Class.

Preparation of Substrates

16.1 Substrates must be dry, clean and stable before installation commences. Surfaces must be smooth and free from nibs, sharp edges, dust, dirt or other materials such as oil, grease or concrete formwork release agents. All surface defects must be filled to achieve an even and uniform surface.

16.2 The relative humidity of concrete substrates must be 75% or less before membrane application. The concrete can be checked for dryness by using a hygrometer, as set out in BRANZ Bulletin No. 585.

16.3 The moisture content of the plywood and timber substructure must be a maximum of 20% and the plywood sheets must be dry at time of membrane application. This will generally require plywood sheets to be covered until just before the membrane is laid, to prevent rain wetting.

16.4 All substrates must be primed with DuO Primer and left to dry before the membrane is installed.

Membrane Installation

17.1 The membranes must be installed in accordance with the Technical Literature.

17.2 All roof and wall junctions must have a 20 mm x 20 mm wooden fillet installed at the junction. Concrete substrate junctions must have a 20 mm x 20 mm cement mortar fillet installed. All external edges must be chamfered to a 5 mm radius to remove sharp edges. Alternatively, bitumen fillets of 25 mm x 25 mm can be used.

17.3 The membrane is installed from the lowest point allowing 80 mm side overlap and a 100 mm end overlap. The cap sheet layer must be offset against the base sheet layer. *(Note: These are minimum overlap widths. Refer to the Technical Literature for the specific overlap widths for the product being specified.)*

Inspections

18.1 Critical areas of inspection for waterproofing systems are:

- Construction of substrates, including crack control and installation of bond breakers and movement control joints.
- Moisture content of the substrate prior to the application of the membrane.
- Acceptance of the substrate by the membrane installer prior to application of the membrane.
- Installation of the membrane to the manufacturer's instructions.

Basis of Appraisal

The following is a summary of the technical investigations carried out:

Tests

19.1 The following is a summary of the testing and test reports on Soprema DuO Roof and Deck Membrane Systems:

- Physical properties included tensile strength, elongation, tear strength, dimensional stability.
- Service performance testing included low temperature flexibility, heat resistance, static and dynamic indentation, fatigue cycling and peel resistance.
- Testing by SGS for dimensional stability, tear resistance, tensile strength, elongation at break, low temperature flexibility, heat resistance and tensile shear at joints.
- British Board of Agrément No. 98/3537.

The above test methods and results have been reviewed by BRANZ and found to be satisfactory.

Other Investigations

20.1 A durability opinion has been provided by BRANZ technical experts.

20.2 Installation of the membranes has been assessed by BRANZ for practicability of installation and found to be satisfactory.

20.3 The Technical Literature has been examined by BRANZ and found to be satisfactory.

Quality

21.1 The manufacture of the membranes has not been examined by BRANZ, but details regarding the quality and composition of the materials used were obtained by BRANZ and found to be satisfactory. The manufacturer of Soprema DuO Roof and Deck Membrane Systems has been assessed and registered as meeting the requirements of ISO 9001 and ISO 14001.

21.2 The quality of the supply of products to the New Zealand market is the responsibility of Equus Industries Ltd.

21.3 Quality on-site is the responsibility of the Equus Industries Ltd approved applicators.

21.4 Designers are responsible for the building design, and building contractors are responsible for the quality of construction of substrate systems in accordance with the instructions of Equus Industries Ltd and this Appraisal.

21.5 Building owners are responsible for the maintenance of the membrane systems in accordance with the instructions of Equus Industries Ltd and this Appraisal.

Sources of Information

- AS/NZS 1170:2002 Structural design actions.
- AS/NZS 2269:2012 Plywood – structural.
- BRANZ Good Practice Guide: Membrane Roofing, October 2015.
- NZS 3101:2006 The design of concrete structures.
- NZS 3604:2011 Timber-framed buildings.
- Ministry of Business, Innovation and Employment Record of amendments - Acceptable Solutions, Verification Methods and handbooks.
- The Building Regulations 1992.

Amendments

Amendment No. 1, dated 27 April 2022

This Appraisal has been amended to clarify the Appraisal scope.

Amendment No. 2, dated 13 November 2023

This Appraisal has been amended to update the membrane name from DuO B&T Gran/F C250 to Antirock.

BRANZ Appraised
Appraisal No. 685 [2021]

BRANZ Appraisal
Appraisal No. 685 [2021]
07 July 2021

SOPREMA DUO ROOF AND DECK MEMBRANE SYSTEMS

BRANZ

In the opinion of BRANZ, Soprema DuO Roof and Deck Membrane Systems are fit for purpose and will comply with the Building Code to the extent specified in this Appraisal provided they are used, designed, installed and maintained as set out in this Appraisal.

The Appraisal is issued only to Soprema nv, and is valid until further notice, subject to the Conditions of Appraisal.

Conditions of Appraisal

1. This Appraisal:
   a) relates only to the product as described herein;
   b) must be read, considered and used in full together with the Technical Literature;
   c) does not address any Legislation, Regulations, Codes or Standards, not specifically named herein;
   d) is copyright of BRANZ.
2. Soprema nv:
   a) continues to have the product reviewed by BRANZ;
   b) shall notify BRANZ of any changes in product specification or quality assurance measures prior to the product being marketed;
   c) abides by the BRANZ Appraisals Services Terms and Conditions;
   d) warrants that the product and the manufacturing process for the product are maintained at or above the standards, levels and quality assessed and found satisfactory by BRANZ pursuant to BRANZ's Appraisal of the product.
3. BRANZ makes no representation or warranty as to:
   a) the nature of individual examples of, batches of, or individual installations of the product, including methods and quality of work;
   b) the presence or absence of any patent or similar rights subsisting in the product or any other product;
   c) any guarantee or warranty offered by Soprema nv.
4. Any reference in this Appraisal to any other publication shall be read as a reference to the version of the publication specified in this Appraisal.
5. BRANZ provides no certification, guarantee, indemnity or warranty, to Soprema nv or any third party.

For BRANZ

Chelydra Percy
Chief Executive

Date of Issue:
07 July 2021

DuO membrane durability study in NZ climate conditions - Introduction

The development of DuO as a new concept for a high value, bituminous waterproofing membrane dates back to 1989. The first substantial DuO roofs were installed in 1990.
In 2000, after DuO had been launched as a revolutionary new roof membrane concept for over 10 years, De Boer nv (now Soprema nv) decided to do an objective, international investigation of the quality of this waterproofing membrane. This happened in coordination with SGS and BBRI (Belgian Building research Institute) and evaluated samples form roofs in Western & Northern Europe and Asia.
In 2005, another DuO durability test was performed and test roofs from other countries were added to the list. (Netherlands, Sweden, Japan and Singapore)
In 2011, De Boer nv (now Soprema nv) instructed SGS and BBRI to test the ageing DuO membranes again and two more roofs located in Germany and New Zealand were added. In 2018, another large scale durability investigation took place.
This document provides you a conclusion of the general test results and a summary of the results of the DuO membrane installed on the roof of Wellington Railway Station in 2002.

Location DuO roof : New Zealand

WELLINGTON RAILWAY STATION – NEW ZEALAND

Roof area	:	7000 m2
Height	:	>5 m
Wind zone	:	III
Installation year	:	2002
Built-up	:	Concrete roof + DuO primer + DeboFlex 2.5 T/F K180 basesheet (fully bonded) + DuO HT 4 BO/F C180
installation method	:	DuO cap sheet fully bonded
Construction	:	refurbishment

GENERAL CONCLUSION OF ALL THE TEST RESULTS:

- The samples indicate that there is no significant reduction regarding longitudinal tensile strength but a 10% decrease in transversal tensile strength which is still within the declared value.
- The elongation of the DuO membrane decreased by 25% over time which is still within the declared value range for a new DuO membrane.
- The nail tear resistance of DuO is high for the new membrane. Test results show that the resistance didn't deteriorate over time.
- The tests indicate that the tear resistance of DuO does not diminish through time.
- Maximum allowed shrinkage according to the norm is 0.3%. The test result of 0.1% for the older DuO membranes clearly score below that maximum allowance for new membranes. This indicates that DuO is a very stable waterproofing membrane.
- The cold flexibility of DuO stays within the norm for artificially aged membranes. It even stays within the norm for new membranes.
  The results show us that the cold flexibility of DuO stays very good in NZ climate conditions.
- The flow resistance of DuO stays within the norm for new and artificially aged membranes. Results of membranes installed show good temperature resistance of 150°C after ageing in NZ.
- The shear resistance of the DuO joint connection is still well above the norms that are stipulated for new membranes.

DESCRIPTION OF TESTS:

Resistance to tearing (Rivestyrke) – Laboratory TUM (Germany)
The butterfly tests are related to the tear resistance of a waterproofing system. This test is also used to determine the tear initiation and tear propagation.

Dimensional stability – Laboratory SP (Sweden)
This test method checks the free shrinkage in longitudinal direction. The minimum result as declared by the manufacturer corresponds to good practice.

Flexibility at low temperature – Laboratory BDA (The Netherlands)
This test method determines the flexibility of the membrane at low temperature.

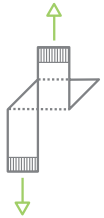
Flow resistance at elevated temperature – Laboratory Soprema nv (Belgium)
This test method determines the flow resistance (melting) of the membrane.
The minimum demanded result as declared by the manufacturer is more stringent compared to good practice.

Shear resistance of the joint - Laboratory BDA (The Netherlands)
This test method determines the shear resistance of the joint connection between two waterproofing membranes.

RESISTANCE TO TEARING (NAIL SHANK) – LAB TUM

RESISTANCE TO TEARING (BUTTERFLY TEST) – LAB TUM

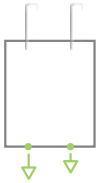
RESISTANCE TO TEARING (Rivestyrke) – LAB TUM



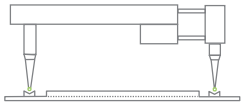
SHEAR RESISTANCE OF THE JOINT – LAB BDA

THICKNESS OF LAYERS

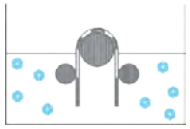
FLOW RESISTANCE AT ELEVATED TEMPERATURE – LAB DE BOER



DIMENSIONAL STABILITY – LAB SP



FLEXIBILITY AT LOW TEMPERATURE - LAB BDA



TENSILE STRENGTH & ELONGATION – LAB BDA

Observations during visual inspection:

- The general condition of the roof is visually in good condition with 'satisfactory' result by SGS New Zealand.
- Roof maintenance is not sufficient. Roof drains were blocked. Some accumulation of dirt was noticed and significant lichen growth.
- The samples were taken at different areas of the roof surface and were repaired in a professional and watertight manner.

TESTS		OFFICIAL LABORATORY VALUES - 2018 samples	
	specification	LONGITUDINAL	TRANSVERSAL
TENSILE STRENGTH *test method (UEAtc – 1984 en EN 12311-1)*	**880N ± 20%**	1065N	790N
ELONGATION *proefmethode (UEAtc – 1984 en EN 12311-1)*	**50 ± 15%abs**	38	37
RESISTANCE TO TEARING (NAIL SHANK) *proefmethode (EN 12310-1)*	**>250N**	292N	326N
RESISTANCE TO TEARING (BUTTERFLY TEST) *proefmethode (DIN 53515 en ISO 34-1 Methode B)*	**>110N**	129N	117N
RESISTANCE TO TEARING (NAIL SHANK) *proefmethode (DIN 53515 en ISO 34-1 Methode B)*	**>50N**	50N	53N
DIMENSIONAL STABILITY *proefmethode (SP 2187 en EN 1107-1 Methode B)*	**<0,30%**	0,1 %	

	specification	
SHEAR RESISTANCE OF THE JOINT *proefmethode (UEAtc – 1982 en EN 12317-1)*	**>500N**	811N

					OFFICIAL LABORATORY VALUES - 2018 samples	
	new		after aging 6 months at 70°C			
FLOW RESISTANCE AT ELEVATED TEMPERATURE *proefmethode (UEAtc - 1984 en EN 1110)*	TOT. MEM-BRANE	TOP COATING	TOT. MEM-BRANE	TOP COATING	TOTAL MEMBRANE	TOP COATING
	>100°C	**>140°C**	**>100°C**	**>150°C**	115	150

	new		after aging 6 months at 70°C		OFFICIAL LABORATORY VALUES - 2018 samples			
FLEXIBILITY AT LOW TEMPERATURE *proefmethode (UEAtc - 1982 en EN 1109)*	L & T topcoating	L & T undercoating	L & T topcoating	L & T undercoating	L topcoating	L undercoating	T topcoating	T undercoating
	-15°C	-20°C	-5°C	-5°C	-30	-34	-26	-29

Final conclusion:

The laboratory tests of existing DuO roof samples show that the results can still be compared to the characteristics that are declared for new membranes.

The results also show that DuO keeps its achievements in the New Zealand climate.

This durability report shows a bright future for the expected serviceability of DuO in the Oceania region.

We can conclude that the DuO membrane, installed on roofs in different continents and as a part of different roof concepts, still performs very well after an extra 5 years of natural ageing.

General conclusion: Taking into account that the oldest roofs in Europe are currently more than 30 years old, we can state today that, with a correct roof and roof detail maintenance, the previous expected lifetime can be confirmed, meaning that a lifetime expectancy of 35 years is achievable.

DATE: Feb 2008
ISSUE: no. 2

environmental declaration

DuO HT 4 Slates-F C180

COMPANY

SOPREMA has a production unit for the manufacturing of bituminous-based water-proofing materials in Schoten, Belgium.

Environmental occupation within SOPREMA
SOPREMA has an environmental policy and has a certified environmental management system according to ISO14001 : 2004.
As a member of the "Foundation for Roof & Environment" in the Netherlands, SOPREMA has been certified to meet the all the emission requirements and leaking aspects stipulated in the building materials decree. (NL –BSB BD 007)
SOPREMA has a certified quality system according to ISO 9001:2000, audited by accredited European Audit companies.

PRODUCT

DuO HT 4 Slates/F C180 is a flexible waterproofing membrane. The upper coating consists of APAO (Amorphous Poly Alfa Olefins) modified bitumen resulting in a hard, protective and UV-resistant surface. The under coating consists of an SBS (Styrene-Butadiene-Styrene) modified bitumen for high elasticity and strong adhesion. The material is reinforced with a composite (po-lyester/glass scrim) inlayer. The upper side is finished with mineral slates; the under side is finished with a polyethylene film.

Products do not contain substances listed in the European Directive of dangerous substances.

Product weight: ca 4600 g/m²

Product contents (weight %):	
APAO modified bitumen	20-30%
SBS modified bitumen	44-55%
Filler	0%
Slates	15-25%
Reinforcement	2-6%
Polyethylene film	<0,3%

Packaging
Every roll is wrapped with three tapes. The rolls are stored upright on a wooden pallet and are wrapped with shrink foil of polyethylene film. The pallet can be locally recycled and the shrink foil is collected and disposed according to local regulations.

Packaging amount: ca 3 g per kg of pro-duct (excl. pallet).

SOPREMA fulfils producer liability for packaging as a member of IVC ('Inter-regionale Verpakkingscommissie' or Inter-regional Packaging Commission) and the organisation 'Val-I-Pac' which controls and overviews the handling of waste and recyclable material by our industry in Belgium.

Transport
Products are transported by container and by truck to the building site or warehouse of the distributor, directly from the production unit in Belgium.

This product is not classified as a dangerous good.

Application
DuO HT 4 Slates/F C180 is applied to ex-posed flat and pitched roofs. It can be used for new construction or as a renovation solution.

DuO HT 4 Slates/F C180 is primarily applied in a double layer system consisting of a base sheet and a cap sheet. Appli-cation by welding and / or by mechanical fastening. (Welding method: torch-on application with gas or hot air warmed by electricity.) Welding fumes are proven non-toxic.

PRODUCTION

Energy
Natural gas

Discharge in water/air
At the production no discharge in water occurs. Outgoing air streams contain carbon oxide, small quantity of dust, volatile hydrocar-bons and diluted nitrogen and sulphur compounds whose levels are additionally reduced with help of filters.

Influence on the soil
At the production no discharge on the soil happens.

Rest substances
Inflammable rest substances containing energy are extracted by incineration Mineral rest substances are deposited as filling material. Waste oil is treated as dangerous waste and disposed according to government regulations.

Noise
Equipment and fans in the production give noise. Sound values are below the current limits and are regularly monitored and controlled.

RENOVATION

The cap sheet does not need to be re-moved. A new layer can be mechanically fastened or torched on top of the existing layer.

In case of demolition, the membrane can be treated according to conditions for rest substances respective the instructions of the local environmental authority.

REST SUBSTANCES

Left over material and un-used product can be applied according to the current conditions at the actual point of time.

Recycling of material
Rest substances can be recycled by re-processing or interference with an alternative building product. (For example in road works)

Energy-recuperation
The energy contents of the product can be recuperated by incineration in approved installations

Waste products
Rest substances cannot shall be disposed off in an approved site and in accordance with the instructions of the local environmental authority.

Metropoolstraat 33 BE 2900 Schoten Tel. +32 (0)3 6410801 Fax +32 (0)3 6410809 www.soprema.com

THERMAL RESISTANCE CHART

Thermal resistance of glassed foil-faced insulation boards	
Insulation Thickness (mm)	Thermal Resistance (m².K/W)
60	2.70
70	3.15
80	3.65
90	4.05
100	4.50
120	5.45

Thermal resistance of glassed fibre-faced insulation boards	
Insulation Thickness (mm)	Thermal Resistance (m².K/W)
60	2.30
70	2.70
80	3.20
90	3.60
100	4.00
120	4.60

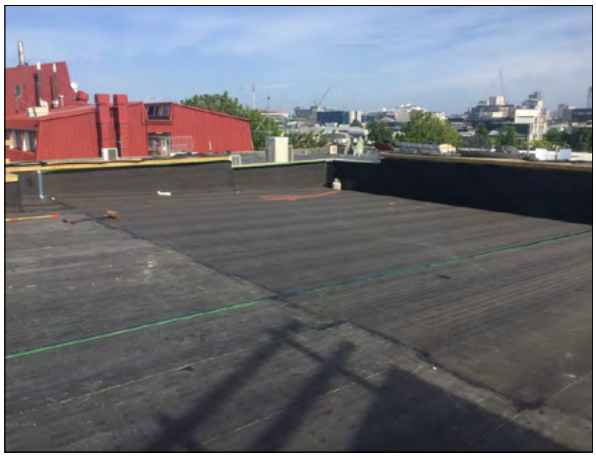
Refer to Equus for current stock and non-stock sizes.
For thickness above 120mm a double layer of insulation is required.

Version 2: June 2019

Equus Industries Ltd. Sheffield Street, Riverlands, PO Box 601, Blenheim
P: 03 578 0214 F: 03 578 0919 E: admin@equus.co.nz www.equus.co.nz

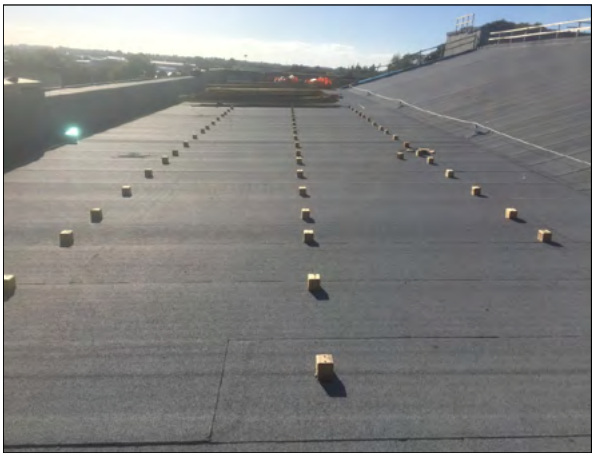
EQUUS PRODUCT SYSTEM REFERENCE SHEET

Metal substrate ready for warm roof installation



DeboTack Aero self adhesive basesheet applied over PIR thermal insulation board

De Boer DuO capsheet application



Finished DuO capsheet application with nib installation for Solar Panels

Finished project with PV Panels installed

Equus Industries Ltd

Email: info@equus.nz

Website: www.equus.nz

Project Name: Kahukura (K Block), Ara Institute of Canterbury

Location: Christchurch

Project Type: Education

Project Size: 2800 sqm

System: Equus De Boer DuOtherm Warm Roof System on Steel

Certified Applicator: Wayman Roofing Services Ltd

Architect: Jasmax

Completion Date: 2017

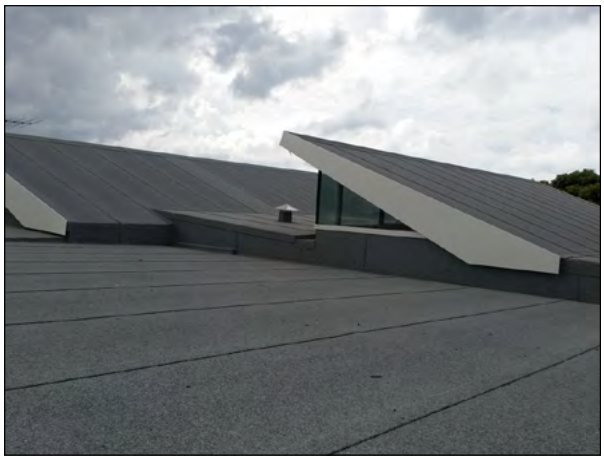
EQUUS PRODUCT SYSTEM REFERENCE SHEET

Metal substrate and primed gutters

Primed substrate

Substrate prepared for warm roof application

DuO Capsheet application



Finished project

Equus Industries Ltd

Email: info@equus.nz

Website: www.equus.nz

Project Name: Private Residence

Location: Takapuna

Project Type: Residential

Project Size: 250 sqm

System: Equus SOPREMA DuOtherm Warm Roof System

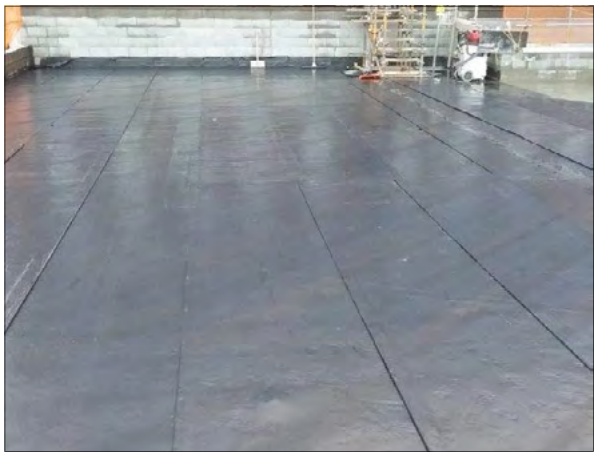
Certified Applicator: Auckland Waterproofing Services Ltd

Main Contractor: PSL Construction Ltd

Architect: Bosley Architects

Completion Date: 2015

EQUUS PRODUCT SYSTEM REFERENCE SHEET



Equus Industries Ltd

Email: info@equus.nz

Website: www.equus.nz

Project Name: Grafton Campus B507 University of Auckland

Location: Auckland

Project: Education

Project Size: 2000 sqm

System: Duotherm Tapered Warm Roof on Concrete

Certified Applicator: Mohan Roofing Services

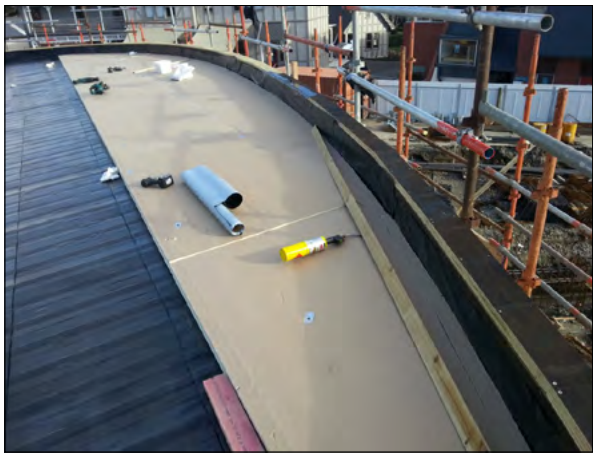
Main Contractor: Hawkins Construction

Architect: Jasmax

Completion Date: 2019

EQUUS PRODUCT SYSTEM REFERENCE SHEET

Metal tray roof ready for warm roof application



Installation of PIR Board over vapour barrier

DuO capsheet application

Finished project

Finished project

Project Name: Rangi Ruru Girls High School

Location: Christchurch

Project Type: Education

Project Size: 550 sqm

System: Equus SOPREMA DuOtherm Warm Roof System

Certified Applicator: Wayman Roofing Ltd

Main Contractor: Leighs Construction Ltd

Architect: Upton Architects Ltd

Completion Date: 2013

Equus Industries Ltd

Email: info@equus.nz

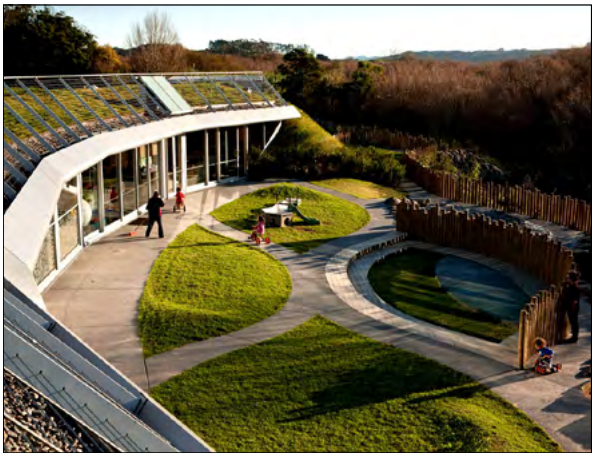
Website: www.equus.nz

EQUUS PRODUCT SYSTEM REFERENCE SHEET

DuO capsheet installed over mechanically fastened basesheet and PIR thermal insulation board

Completed DuO Landscape capsheet application

Green roof installed over DuO Landscape



Finished project showing gutter edge

Finished project

Equus Industries Ltd

Email: info@equus.nz

Website: www.equus.nz

Project Name: Te Mirumiru Childcare Centre

Location: Kawakawa, Northland

Project Type: Education

Project Size: 1400 sqm

System: Equus SOPREMA DuOtherm Green Roof System with DuO Landscape

Certified Applicator: Northland Waterproofing Solutions Ltd

Main Contractor: Harnett Builders

Architect: Collingridge & Smith Architects

Completion Date: 2012

EQUUS PRODUCT SYSTEM REFERENCE SHEET

Vapour barrier installation

Warm roof completed after 2-layer Duo Landscape application

Ramp waterproofing underway

Drainage cell installation over Duo Landscape membrane before the green roof installation

Project completed

Project Name: Hundertwasser Art Centre

Location: Whangarei

Project Type: Museum/Art Centre

Project Size: 1200 sqm

System: Equus SOPREMA Duotherm Green Roof DuO Landscape

Certified Applicator: Whangarei Waterproofing Ltd

Main Contractor: Trigg Construction Ltd

Architect: HB Architecture

Completion Date: 2021

Equus Industries Ltd

Email: info@equus.nz

Website: www.equus.nz

DUOTHERM WARM ROOF SYSTEM

Waterproof roofing membrane with a vapour barrier and thermal insulation

October 2023

PURPOSE AND SCOPE OF USE:
The DUOTHERM Warm Roof System is a light-weight, thermally insulated roof & deck waterproofing system consisting of the fire-retardant DUO two-layer membrane system applied over thermal insulation board and a vapour barrier. A warm roof system guarantees a continuous and efficient thermal resistance (R-value), negating condensation build up and creating energy savings.

The system is designed for use on exposed flat roofs and decks, with UV and weather resistance suitable for any location and wind zone in New Zealand.

Suitable for new builds and refurbishments, residential and commercial construction.

DUOTHERM Warm Roofs can be overlaid with Fixplus or other approved pedestals, pavers and decking, Kraitec Step walkway tiles, or SOPRASOLAR non-penetrative solar panel supports or other approved supports.

Suitable for other waterproofing applications with written approval by Equus Industries Ltd.

PRODUCTS:
The system encompasses a selection of the products below. Refer to standard specifications for full specification details. Technical datasheets and specifications can be found on https://equus.nz.

SOPRADERE QUICK	COLTACK EVOLUTION 750
EQUUS Peel and Stick Primer	Mechanical Fixings
DEBOFLEX 2.5 T/F C175	Eurothane Silver PIR Board
SOPRASUN PLUS 3	SOPRA-ISO PIR Board
COLPHENE 3000	SOPRAROCK Mineral Wool Insulation hd60
SOPRASTICK	Permabase Dek
SOPRASTICK VENTI TACK PLUS	Liquid Membrane Detailing
DUO HT 4 Slates/F C180 FC (or variant)	SOPRAVAP'R

SPECIFICATIONS:

Duotherm on concrete substrate
Duotherm on plywood substrate
Duotherm on metal substrate
Masterspec 4421ED Equus DUOTHERM Warm Roof & Deck Membrane by SOPREMA

Equus Industries Ltd. 4 Sheffield St, Blenheim 7274 | Phone: 03 578 0214 | Email: info@equus.nz | Web: www.equus.nz

DUOTHERM WARM ROOF SYSTEM

Waterproof roofing membrane with a vapour barrier and thermal insulation

October 2023

COLOUR:
Standard Cap Sheet Colours: GW (Grey White), AGR (Black), WGG (White Grey Green), BO (Brown Oxide). Colour availability is stock dependant and may need to be specially ordered.

CONDITIONS OF USE:
In areas of regular foot traffic, higher than for normal maintenance traffic, the membrane must be overlaid with Fixplus pedestals and pavers or decking, Kraitec Step walkway tiles or other approved protection.

The product must be installed by a Certified Equus Applicator. Verification of their status can be confirmed by a current applicator certificate or by contacting Equus Industries. Any installation must be done in accordance with the latest specifications and technical documentation, or with written approval by Equus Industries.

BUILDING CODE COMPLIANCE:
B2 Durability - B2.3.1 (b), DUOTHERM Warm Roofs have a durability of at least 15 years, and a life expectancy of 35 years, when installed with the correct specification, installation and maintenance. See CodeMark CMNZ70151, BRANZ Appraisal 1169, BRANZ Appraisal 685, DUO Durability Study.

E2 External moisture - E2.3.1, E2.3.2, E2.3.7 Test data, together with in-service history in New Zealand and internationally, of the correctly installed DUOTHERM Warm Roofs membrane over correctly designed and constructed substrates, show that the membrane successfully resists the ingress of moisture. See CodeMark CMNZ70151, BRANZ Appraisal 1169, BRANZ Appraisal 685, DUO Durability Study.

E3 Internal moisture - E.3.3.1 DUOTHERM Warm Roofs provide the habitable buildings with adequate thermal resistance and R-values that are equal to or above those specified in E3/AS1. See BRANZ Appraisal 1169.

F2 Hazardous building materials - F2.3.1 Well known experience with the type of materials used together with in-service history, show that DUOTHERM Warm Roofs complies with this performance requirement. Refer to SDS at www.equus.nz and BRANZ Appraisal 1169.

H1 Energy efficiency - H1.3.1 (a) DUOTHERM Warm Roofs provide the building with adequate thermal resistance and R-values that are equal to or above those specified in H1/AS1 and H1/AS2. See BRANZ Appraisal 1169.

SUPPORTING DOCUMENTATION:

Title (type)	Version	URL
Codemark Certificate CMNZ70151	30 June 2023	https://equus.nz/content/reports/codemark-soprema-waterproofing-membranes.pdf
BRANZ Appraisal No. 685	27 April 2022	https://www.equus.nz/content/reports/branz-appraisal-duo-685.pdf
BRANZ Appraisal No. 1169	02 November 2022	https://www.equus.nz/content/reports/branz-appraisal-warmroof-1169.pdf
DUO Durability Study	2018	https://www.equus.nz/content/reports/durability-study-duo.pdf
Technical Datasheets for products listed on page 1 of this document		Technical datasheets can be found on https://equus.nz.

The following additional documentation supports the above statements:

Equus Industries Ltd. 4 Sheffield St, Blenheim 7274 | Phone: 03 578 0214 | Email: info@equus.nz | Web: www.equus.nz

DUOTHERM WARM ROOF SYSTEM

Waterproof roofing membrane with a vapour barrier and thermal insulation

October 2023

WARNINGS AND BANS:

Is the building product/building product line subject to warning or ban under section 26 of the Building Act 2004?	No

MANUFACTURER CONTACT DETAILS:

Manufacture location	New Zealand
Legal and trading name of manufacturer	Equus Industries Ltd.
Manufacturer address for service	4 Sheffield Street, Blenheim 7274
Manufacturer website	www.equus.nz
Manufacturer email	info@equus.nz
Manufacturer phone number	03 578 0214
Manufacturer NZBN	9429032000306

Equus Industries Ltd. 4 Sheffield St, Blenheim 7274 | Phone: 03 578 0214 | Email: info@equus.nz | Web: www.equus.nz

DUO HT 4 Slates/F C180 FC

Fire-resistant waterproofing membrane

February 2024

DESCRIPTION & APPLICATION:
A flexible waterproofing membrane with a dual reinforcement and a double polymeric bitumen coating. The upper coating consists of TPO (Thermoplastic PolyOlefins) - modified bitumen, resulting in a high mechanical resistance and is UV resistant. The undercoating consists of SBS (Styrene Butadiene Styrene) - modified bitumen with high elasticity and strong adhesion properties.

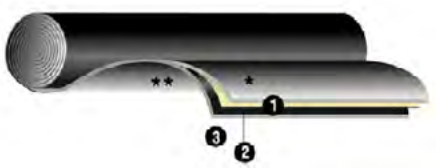
The composite reinforcement of polyester and glass scrim, (180 g/m^2) combine to provide strength and stability. The upper side is finished with optimally pressed in coloured slates and the underside is finished with a sacrificial film. The selvedge with a width of 8 cm is coated with SBS modified bitumen to ensure a SBS-SBS seal. This provides and easy application technique and perfectly sealed joints.

This membrane has been especially designed for fire-resistant applications and meets the requirements of the class Broof(t1)+(t2) following ENV 1187 and achieved an Ext.F.AA rating in accordance with BS 476-3. It is especially used as cap sheet for single or multi-layer torched applications.

CodeMark
CMNZ70151

BRANZ Appraised
Appraisal No.1169 [2021]

BRANZ Appraised
Appraisal No.685 [2021]



* coloured slates
1. Upper coating in TPO-plastomer modified bitumen
2. Composite reinforcement 180 g/m^2 of polyester and glass scrim
3. Under coating in SBS elastomer bitumen
** sacrificial film

PACKAGING:
Roll size: 8 m, Roll weight: 37 kg, Number of rolls on a pallet: 23.

TECHNICAL DATA:

Characteristics	Test Method	Units	Expression of Result	Value
Length x width	EN 1848-1	m x m	MLV ≥	8 x 1
Thickness	EN 1849-1	mm	MDV ± 5%	4
Visual defects	EN 1850-1	-	Pass/No Pass	Pass
Straightness	EN 1848-1	-	Pass/No Pass	Pass
External fire performance (1) (2) (3)	ENV 1187	-	In accordance with EN 13501-5	Broof(t1,t2,t4)
Reaction to fire	EN 13501-1	-	In accordance with EN 13501-1	F
Tensile strength (L/T)	EN 12311-1	N/50 mm	MDV ± 20%	880/880
Elongation (L/T)	EN 12311-1	%	MDV ± 15	50
Resistance to static loading	EN 12730	kg	MLV ≥	L25
Resistance to impact	EN 12691	mm	MLV ≤	I10
Dimensional stability	EN 1107-1	%	MLV ≤	0.3
Flexibility at low temperature TPO/SBS - initial - after aging (EN 1296)	EN 1109	 ºC ºC	MLV ≤	 -15/-20 -5/-5

BBA n° 98/3537 NL-BSD-BD 007 BC2-310-0296-0123-01

Equus Industries Ltd. 4 Sheffield St, Blenheim 7274 | Phone: 03 578 0214 | Email: info@equus.nz | Web: www.equus.nz

DUO HT 4 Slates/F C180 FC

Fire-resistant waterproofing membrane

February 2024

TECHNICAL DATA continued:

Characteristics	Test Method	Units	Expression of Result	Value
Flow resistance at elevated temperature - initial - after aging (EN 1296)	EN 1110	ºC ºC	MLV ≥	110 100
Joint strength: shear resistance	EN 12317-1	N/50 mm	MDV ± 250	750
Water tightness	EN 1928		Pass/No Pass	Pass
Adhesion of granules	EN 12039	%	MDV ± 5%	10

(1) Test report ATG 1924 from UBAtc
(2) Test report
(3) EXT.F.AA rating in accordance with BS 476-3

MDV: Manufacturer's Declared Value
MLV: Manufacturer's Limiting Value
NPD: No Performances Declared

SCOPE OF USE:
DUO HT 4 Slates/F C180 FC is used as a UV and weather resistant cap sheet in the DUO Roof & Deck, and Duotherm Warm Roof waterproofing systems. The product is torch-applied over an approved system base sheet to form a two-layer waterproof membrane designed for roofs, decks, balconies, terraces and podiums. It is suitable for new builds and refurbishments, residential and commercial construction, in any location and wind zone in New Zealand.

DUO HT 4 Slates/F C180 FC can be overlaid with Fixplus or other approved pedestals, pavers and decking, Kraitec Step walkway tiles, and Soprasolar or other approved solar panel supports.
Suitable for other waterproofing applications with written approval by Equus Industries Ltd.

CONDITIONS OF USE:
In areas of regular foot traffic, higher than for normal maintenance traffic, the membrane must be overlaid with pedestals and pavers or decking, Kraitec Step walkway tiles or other approved protection.
The product must be installed by a Certified Equus Applicator. Verification of their status can be confirmed by a current applicator certificate or by contacting Equus Industries. Any installation must be done in accordance with the latest specifications and technical documentation, or with written approval by Equus Industries Ltd.

BUILDING CODE COMPLIANCE:
B2 Durability - B2.3.1 (b), DUO HT 4 Slates/F C180 FC has a durability of at least 15 years, and a life expectancy of 35 years, when installed with the correct specification, installation and maintenance. See CodeMark CMNZ70151, BRANZ Appraisal 685, DUO Durability Study.

E2 External moisture - E2.3.1, E2.3.2, E2.3.7 Test data, together with in-service history in New Zealand and internationally, of the correctly installed DUO HT 4 Slates/F C180 FC membrane over correctly designed and constructed substrates, show that the membrane successfully resists the ingress of moisture. See CodeMark CMNZ70151, BRANZ Appraisal 685, DUO Durability Study.

F2 Hazardous building materials - F2.3.1 Well known experience with the type of materials used together with in-service history, show that DUO HT 4 Slates/F C180 FC complies with this performance requirement. Refer to SDS at www.equus.nz

Equus Industries Ltd. 4 Sheffield St, Blenheim 7274 | Phone: 03 578 0214 | Email: info@equus.nz | Web: www.equus.nz

DUO HT 4 Slates/F C180 FC

Fire-resistant waterproofing membrane

February 2024

SUPPORTING DOCUMENTATION:
The following additional documentation supports the compliance statements:

Title (type)	Version	URL
CodeMark Certificate CMNZ70151	30 June 2023	https://equus.nz/content/reports/codemark-soprema-waterproofing-membranes.pdf
BRANZ Appraisal No. 685	27 April 2022	https://www.equus.nz/content/reports/branz-appraisal-duo-685.pdf
DUO Durability Study	2018	https://www.equus.nz/content/reports/durability-study-duo.pdf

STORAGE:
Membrane rolls shall be stored in a dry area, always in an upright (vertical) position. Do not lay rolls flat (horizontal) when storing.

HEALTH & SAFETY:
SOPRADERE QUICK primer is solvent-based and must be used with adequate ventilation. Remove all naked flames and sources of ignition. Adequate ventilation is required to minimise exposure to bitumen fumes during the torching process. Safety Data Sheet (SDS) must be read and understood prior to use of product.

WARNINGS AND BANS:

Is the building product/building product line subject to warning or ban under section 26 of the Building Act 2004?	No

MANUFACTURERS CONTACT DETAILS:

Manufacture location	Belgium
Legal and trading name of manufacturer	Soprema New Zealand Limited
Manufacturer address for service	Level 3, Candida Building 4, 61 Constellation Drive, Mairangi Bay, Auckland 0630, New Zealand
Manufacturer website	www.soprema.com.au
Manufacturer email	info@soprema.com.au
Manufacturer phone number	+61 3 9221 6230
Manufacturer NZBN	9429050312962

DEBOFLEX 2.5 T/F C175

Flexible waterproofing membrane

February 2024

DESCRIPTION & APPLICATION:
A flexible waterproofing membrane consisting of a mixture of penetration bitumen, improved with SBS (Styrene-Butadiene-Styrene). It is reinforced with a composite fleece of 175 g/m^2 polyester and glass. The upper side is finished with a mixture of talcum and sand and the underside is covered with a sacrificial film. It is used as an underlay or a vapour control layer for torched or mechanically fixed application.

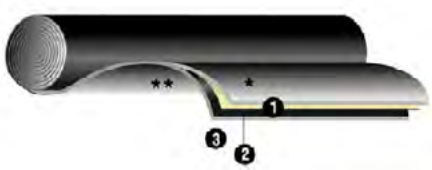
CodeMark
CMNZ70151

BRANZ Appraised
Appraisal No.1169 [2021]

BRANZ Appraised
Appraisal No.685 [2021]

PACKAGING:

Roll size:	10 m
Roll weight:	25 kg
Number of rolls on a pallet:	30



* mixture of talcum and sand
1. Upper coating: SBS-elastomer modified bitumen
2. Composite reinforcement 175 g/m^2 of polyester and glass
3. Under coating in SBS-elastomer bitumen
** sacrificial film

TECHNICAL DATA:

Characteristics	Test Method	Units	Expression of Result	Value
Length x width	EN 1848-1	m x m	MLV ≥	10 x 1
Thickness	EN 1849-1	mm	MDV ± 5%	2.5
Visual defects	EN 1850-1	-	Pass/No Pass	Pass
Straightness	EN 1848-1	-	Pass/No Pass	Pass
Reaction to fire	EN 13501-1	-	In accordance with EN 13501-1	F
Tensile strength (L/T)	EN 12311-1	N/50 mm	MDV ± 20%	780/650
Elongation (L/T)	EN 12311-1	%	MDV ± 15	30/30
Water vapour properties (μ)	EN 13707	-	MLV ≥	20000
(μ)eq		m	MLV ≥	50
Resistance to tearing (nail shank) (L/T)	EN 12310-1	N	MLV ± 50	300/300
Flexibility at -initial	EN 1109	°C	MLV ≤	-15
Flow resistance at elevated temperature -initial	EN 1110	°C	MLV ≥	110
Watertightness	EN 1928	-	Pass/No Pass	Pass

MDV: Manufacturer's Declared Value
MLV: Manufacturer's Limiting Value
NPD: No Performances Declared

BBA n° 98/3537 NL-BSD-BD 007 BC2-310-0296-0123-01

Equus Industries Ltd. 4 Sheffield St, Blenheim 7274 | Phone: 03 578 0214 | Email: info@equus.nz | Web: www.equus.nz

DEBOFLEX 2.5 T/F C175

Flexible waterproofing membrane

February 2024

SCOPE OF USE:
DEBOFLEX 2.5 T/F C175 is used as a flexible base sheet the Soprema range of bitumen membrane systems; primarily DUO Roof & Deck Membrane System and the DUOTHERM Warm Roof System. The product can be torch-applied over concrete, plywood, cross-laminated timber (CLT), and roof cover board substrates, or mechanically fastened over PIR or mineral wool roofing insulation. Along with a cap sheet the membrane forms a two-layer waterproof membrane designed for roofs, decks, balconies, terraces and podiums. It is suitable for new builds and refurbishments, residential and commercial construction, in any location and wind zone in New Zealand.

Suitable for other waterproofing applications with written approval by Equus Industries Ltd.

CONDITIONS OF USE:
Written approval is required for this membrane to be used on a substrate or in a waterproofing system not outlined in the standard Equus specifications. The membrane shall always be over laid with a bitumen membrane cap sheet, as out lined in an Equus standard specification.

The product must be installed by a Certified Equus Applicator. Verification of their status can be confirmed by a current applicator certificate or by contacting Equus Industries Ltd. Any installation must be done in accordance with the latest specifications and technical documentation, or with written approval by Equus Industries Ltd.

BUILDING CODE COMPLIANCE:
B2 Durability - B2.3.1 (b), DEBOFLEX 2.5 T/F C175 has a durability of at least 15 years, and a life expectancy of 35 years, when installed with the correct specification, installation and maintenance. See CodeMark CMNZ70151, BRANZ Appraisal 685, DUO Durability Study.

E2 External moisture - E2.3.1, E2.3.2, E2.3.7 Test data, together with in-service history in New Zealand and internationally, of the correctly installed DEBOFLEX 2.5 T/F C175 membrane over correctly designed and constructed substrates, show that the membrane successfully resists the ingress of moisture. See CodeMark CMNZ70151, BRANZ Appraisal 685, DUO Durability Study.

F2 Hazardous building materials - F2.3.1 Well known experience with the type of materials used together with in-service history, show that DEBOFLEX 2.5 T/F C175 complies with this performance requirement. Refer to SDS at www.equus.nz

SUPPORTING DOCUMENTATION:
The following additional documentation supports the compliance statements:

Title (type)	Version	URL
CodeMark Certificate CMNZ70151	30 June 2023	https://equus.nz/content/reports/codemark-soprema-waterproofing-membranes.pdf
BRANZ Appraisal No. 685	27 April 2022	https://www.equus.nz/content/reports/branz-appraisal-duo-685.pdf
DUO Durability Study	2018	https://www.equus.nz/content/reports/durability-study-duo.pdf

STORAGE:
Membrane rolls shall be stored in a dry area, always in an upright (vertical) position. Do not lay rolls flat (horizontal) when storing.

HEALTH & SAFETY:
Sopradere Quick primer is solvent-based and must be used with adequate ventilation. Remove all naked flames and sources of ignition. Adequate ventilation is required to minimise exposure to bitumen fumes during the torching process. Safety Data Sheet (SDS) must be read and understood prior to use of product.

Equus Industries Ltd. 4 Sheffield St, Blenheim 7274 | Phone: 03 578 0214 | Email: info@equus.nz | Web: www.equus.nz

DEBOFLEX 2.5 T/F C175

Flexible waterproofing membrane

February 2024

WARNINGS AND BANS:

Is the building product/building product line subject to warning or ban under section 26 of the Building Act 2004?	No

MANUFACTURERS CONTACT DETAILS:

Manufacture location	Belgium
Legal and trading name of manufacturer	Soprema New Zealand Limited
Manufacturer address for service	Level 3, Candida Building 4, 61 Constellation Drive, Mairangi Bay, Auckland 0630, New Zealand
Manufacturer website	www.soprema.com.au
Manufacturer email	info@soprema.com.au
Manufacturer phone number	+61 3 9221 6230
Manufacturer NZBN	9429050312962

SOPRASTICK TF

Formally known as DeboTack 2.5 T/F C175

February 2024

DESCRIPTION:
Self-adhesive membrane composed of self-adhesive elastomer SBS modified bitumen and a composite polyester reinforcement. It is used as a self-adhesive vapour repellent layer for concrete, steel, wooden surfaces or as a self-adhesive base layer within a multi layer waterproofing system in combination with a welded top layer.
The upper surface is finished with talcum/sand.
The self-adhesive overlap and lower surface are protected by a silicon release film.

CodeMark CMNZ70151

BRANZ Appraised Appraisal No.1169 [2021]

BRANZ Appraised Appraisal No.685 [2021]

INSTALLATION:
Self-adhesive including the longitudinal overlaps (transverse overlaps to be welded). On substrates other than insulation with a suitable finish, the substrate is primed with Equus Peel & Stick Primer. In order to obtain a good adhesion, the membrane has to be placed at a temperature above 10°C. If installation takes place at lower temperatures, the surface has to be heated or the upper layer is to be welded directly after the base layer was placed. The full bond strength is achieved after the application of an additional thermal activation (e.g. welding upper layer). Before processing, the rolls must be stored for at least 12 hours at a temperature above +10°C.

PACKAGING:
Roll size: 10 m, Roll weight: 27 kg, Number of rolls on a pallet: 30.

TECHNICAL DATA:

Composition	Standard	Unit	Value	Tolerance
Reinforcement			Composite polyester	
Finish upper side			Talcum/sand	
Finish lower side			Silicon release film	
Coating mass			Self-adhesive elastomer modified bitumen	
Technical Characteristics				
Thickness	EN 1849-1	mm	2.5	± 5 %
Mass (Indicative)	EN 1849-1	kg/m^2	2.7	
Tensile force (L/T)	EN 12311-1	N/50 mm	780/650	± 20 %
Elongation at max. tensile force (L/T)	EN 12311-1	%	30/30	± 15 %
Dimensional stability	EN 1107-1	%	≤ 0.5	
Resistance to tearing (nail shank) (L/T)	EN 12310-1	N	335/335	± 25 %
Flexibility at low temperature	EN 1109	°C	≤ -15	
Flow resistance at elevated temperature	EN 1110	°C	≥ 100	
Reaction to fire	EN 13501-1	Class	E	
Water vapour diffusion-equivalent	EN 1931	m	125	± 20%

NPD: No Performance Declared

BBA n° 98/3537 NL-BSD-BD 007 BC2-310-0296-0123-01

Equus Industries Ltd. 4 Sheffield St, Blenheim 7274 | Phone: 03 578 0214 | Email: info@equus.nz | Web: www.equus.nz

SOPRASTICK TF

Formally known as DeboTack 2.5 T/F C175

February 2024

SCOPE OF USE:
SOPRASTICK is used as a self-adhesive base sheet the SOPREMA range of bitumen membrane systems; primarily the DUO Roof & Deck Membrane System and the DUOTHERM Warm Roof System. The product glued via a self-adhesive 'peel and stick' application and can be used over plywood, cross-laminated timber (CLT), and roof cover board substrates. Along with an approved cap sheet the membrane forms a two-layer waterproof membrane designed for roofs, decks, balconies, terraces and podiums. This membrane can also be used as a self-adhered vapour barrier in an Equus Warm Roof system. It is suitable for new builds and refurbishments, residential and commercial construction, in any location and wind zone in New Zealand.

Suitable for other waterproofing applications with written approval by Equus Industries Ltd.

CONDITIONS OF USE:
Written approval is required for this membrane to be used on a substrate or in a waterproofing system not outlined in the standard Equus specifications. The membrane shall always be over laid with a bitumen membrane cap sheet, as out lined in an Equus standard specification.

The product must be installed by a Certified Equus Applicator. Verification of their status can be confirmed by a current applicator certificate or by contacting Equus Industries Ltd. Any installation must be done in accordance with the latest specifications and technical documentation, or with written approval by Equus Industries Ltd.

BUILDING CODE COMPLIANCE:
B2 Durability - B2.3.1 (b), SOPRASTICK has a durability of at least 15 years, and a life expectancy of 35 years, when installed with the correct specification, installation and maintenance. See CodeMark CMNZ70151, BRANZ Appraisal 685, DUO Durability Study.

E2 External moisture - E2.3.1, E2.3.2, E2.3.7 Test data, together with in-service history in New Zealand and internationally, of the correctly installed SOPRASTICK membrane over correctly designed and constructed substrates, show that the membrane successfully resists the ingress of moisture. See CodeMark CMNZ70151, BRANZ Appraisal 685, DUO Durability Study.

F2 Hazardous building materials - F2.3.1 Well known experience with the type of materials used together with in-service history, show that SOPRASTICK complies with this performance requirement. Refer to SDS at www.equus.nz

SUPPORTING DOCUMENTATION:
The following additional documentation supports the compliance statements:

Title (type)	Version	URL
CodeMark Certificate CMNZ70151	30 June 2023	https://equus.nz/content/reports/codemark-soprema-waterproofing-membranes.pdf
BRANZ Appraisal No. 685	27 April 2022	https://www.equus.nz/content/reports/branz-appraisal-duo-685.pdf
DUO Durability Study	2018	https://www.equus.nz/content/reports/durability-study-duo.pdf

STORAGE:
Membrane rolls shall be stored in a dry area, always in an upright (vertical) position. Do not lay rolls flat (horizontal) when storing.

HEALTH & SAFETY:
Hygiene, Health and Environment
The product does not contain any substance which is likely to be detrimental to your health or the environment and complies with generally admitted Health and Safety Requirements. For more information, please refer to the relevant safety data sheet.

Quality, Environment and Safety Management
SOPREMA always recognises as a high level of importance the quality of the products, the environment and safety. For this reason, we operate independently monitored Quality and Environment Assurance Systems in line with EN ISO 9001 and EN ISO 14001.

Equus Industries Ltd. 4 Sheffield St, Blenheim 7274 | Phone: 03 578 0214 | Email: info@equus.nz | Web: www.equus.nz

SOPRASTICK TF

Formally known as DeboTack 2.5 T/F C175

February 2024

WARNINGS AND BANS:

Is the building product/building product line subject to warning or ban under section 26 of the Building Act 2004?	No

MANUFACTURERS CONTACT DETAILS:

Manufacture location	Belgium
Legal and trading name of manufacturer	Soprema New Zealand Limited
Manufacturer address for service	Level 3, Candida Building 4, 61 Constellation Drive, Mairangi Bay, Auckland 0630, New Zealand
Manufacturer website	www.soprema.com.au
Manufacturer email	info@soprema.com.au
Manufacturer phone number	+61 3 9221 6230
Manufacturer NZBN	9429050312962

SOPRASTICK VENTI TACK PLUS TF

Formerly known as DeboTack 2.5 T/F C175 Aero

November 2023

DESCRIPTION & APPLICATION:
Self-adhesive membrane with a vapour-pressure and tension dispersion system, composed of elastomer SBS modified bitumen and a composite polyester reinforcement.
Used as a base layer within a multi layer waterproofing system on surfaces where partial adhesion is required.
The upper surface is finished with talcum/sand.
The self-adhesive overlap and lower surface are protected by a silicon release film.

CodeMark CMNZ70151

BRANZ Appraised Appraisal No.1169 [2021]

BRANZ Appraised Appraisal No.685 [2021]

INSTALLATION:
Self-adhesive including the overlaps. On surfaces other than insulation, the substrate is primed with Equus Peel & Stick Primer. In order to obtain a good adhesion, the membrane has to be placed at a temperature above +10°C.
If installation takes place at lower temperatures, the upper layer is to be welded directly after the base layer was placed. The full bond strength is achieved after the application of an additional thermal activation (e.g. welding upper layer). Before processing, the rolls must be stored for at least 12 hours at a temperature above +10°C.

PACKAGING:

	Testing Method	SOPRASTICK VENTI TACK PLUS TF
Roll size	EN 1849-1	11.25 m x 1 m
Roll weight	EN 1941-1	43 kg
Rolls per pallet	-	30

TECHNICAL DATA:

Composition	Standards	Units	Value	Tolerance
Reinforcement			Composite polyester	
Finish upper side			Talcum/sand	
Finish lower side			Silicon release film	
Coating mass			Self-adhesive elastomer SBS modified bitumen	
Technical Characteristics				
Thickness	EN 1849-1	mm	2.5	± 5 %
Mass (indicative)	EN 1849-1	kg/m^2	3.8	
Tensile force (L/T)	EN 12311-1	N/50 mm	780/650	± 20 %
Elongation at max tensile force (L/T)	EN 12311-1	%	30/30	± 15
Dimensional stability	EN 1107-1	%	≤ 0.5	
Resistance to tearing (nail shank) (L/T)	EN12310-1	N	335/335	± 25 %
Flexibility at low temperature	EN 1109	°C	≤ -15	
Flow resistance at elevated temperature	EN 1110	°C	≥ 100	
Reaction to fire	EN 13501-1	Class	NPD	

NPD = no performance determined

Equus Industries Ltd. 4 Sheffield St, Blenheim 7274 | Phone: 03 578 0214 | Email: info@equus.nz | Web: www.equus.nz

SOPRASTICK VENTI TACK PLUS TF

Formerly known as DeboTack 2.5 T/F C175 Aero

November 2023

SCOPE OF USE:
SOPRASTICK VENTI TACK PLUS is used as a self-adhesive base sheet the Soprema range of bitumen membrane systems in areas where vapour distribution under the membrane is required; primarily the DUO Roof & Deck Membrane System and the DUOTHERM Warm Roof System over concrete substates or directly over PIR thermal insulation. The product is glued via a self-adhesive 'peel and stick' application. Along with an approved cap sheet the membrane forms a two-layer waterproof membrane designed for roofs, decks, balconies, terraces and podiums. This membrane can also be used as a self-adhered vapour barrier in an Equus Warm Roof system. It is suitable for new builds and refurbishments, residential and commercial construction, in any location and wind zone in New Zealand.

Suitable for other waterproofing applications with written approval by Equus Industries Ltd.

CONDITIONS OF USE:
Written approval is required for this membrane to be used on a substrate or in a waterproofing system not outlined in the standard Equus specifications. The membrane shall always be over laid with a bitumen membrane cap sheet, as out lined in an Equus standard specification.

The product must be installed by a Certified Equus Applicator. Verification of their status can be confirmed by a current applicator certificate or by contacting Equus Industries Ltd. Any installation must be done in accordance with the latest specifications and technical documentation, or with written approval by Equus Industries Ltd.

BUILDING CODE COMPLIANCE:
B2 Durability - B2.3.1 (b), SOPRASTICK VENTI TACK PLUS has a durability of at least 15 years, and a life expectancy of 35 years, when installed with the correct specification, installation and maintenance. See CodeMark CMNZ70151, BRANZ Appraisal 685, DUO Durability Study.

E2 External moisture - E2.3.1, E2.3.2, E2.3.7 Test data, together with in-service history in New Zealand and internationally, of the correctly installed SOPRASTICK VENTI TACK PLUS membrane over correctly designed and constructed substrates, show that the membrane successfully resists the ingress of moisture. See CodeMark CMNZ70151, BRANZ Appraisal 685, DUO Durability Study.

F2 Hazardous building materials - F2.3.1 Well known experience with the type of materials used together with in-service history, show that SOPRASTICK VENTI TACK PLUS complies with this performance requirement. Refer to SDS at www.equus.nz

SUPPORTING DOCUMENTATION:
The following additional documentation supports the compliance statements:

Title (type)	Version	URL
CodeMark Certificate CMNZ70151	30 June 2023	https://equus.nz/content/reports/codemark-soprema-waterproofing-membranes.pdf
BRANZ Appraisal No. 685	27 April 2022	https://www.equus.nz/content/reports/branz-appraisal-duo-685.pdf
DUO Durability Study	2018	https://www.equus.nz/content/reports/durability-study-duo.pdf

CERTIFICATIONS:
- BENOR (B)

STORAGE:
Pallets may not be placed on to each other during storage and rolls need to be stacked so they won't bend. Direct sunlight and temperatures above ± 30 °C should be avoided at all times.

SPECIAL INDICATIONS:
Hygiene, Health and Environment
The product does not contain any substance which is likely to be detrimental to your health or the environment and complies with generally admitted Health and Safety Requirements. For more information, please refer to the relevant safety data sheet.

Equus Industries Ltd. 4 Sheffield St, Blenheim 7274 | Phone: 03 578 0214 | Email: info@equus.nz | Web: www.equus.nz

SOPRASTICK VENTI TACK PLUS TF

Formerly known as DeboTack 2.5 T/F C175 Aero

November 2023

Quality, Environment and Safety Management
SOPREMA always recognises as a high level of importance the quality of the products, the environment and safety. For this reason, we operate independently monitored Quality and Environment Assurance Systems in line with EN ISO 9001 and EN ISO 14001.

WARNINGS AND BANS:

Is the building product/building product line subject to warning or ban under section 26 of the Building Act 2004?	No

MANUFACTURERS CONTACT DETAILS:

Manufacture location	Belgium
Legal and trading name of manufacturer	Soprema New Zealand Limited
Manufacturer address for service	Level 3, Candida Building 4, 61 Constellation Drive, Mairangi Bay, Auckland 0630, New Zealand
Manufacturer website	www.soprema.com.au
Manufacturer email	info@soprema.com.au
Manufacturer phone number	+61 3 9221 6230
Manufacturer NZBN	9429050312962

Equus Industries Ltd. 4 Sheffield St, Blenheim 7274 | Phone: 03 578 0214 | Email: info@equus.nz | Web: www.equus.nz

COLPHENE 3000

Self-adhesive waterproofing membrane

February 2024

DESCRIPTION:
COLPHENE 3000 is a self-adhesive waterproofing membrane composed of SBS modified bitumen and a tri-laminated woven polyethylene facer. The underface is covered with silicone release film.

BRANZ Appraised
Appraisal No. 1037

COLPHENE 3000 is designed for foundation walls and other below grade vertical surfaces, as well as a vapour barrier for warm and green roof systems.

This product can be used on most building surfaces, such as masonry, concrete and wood.

PACKAGING:

Specifications	COLPHENE 300
Thickness	1.5 mm
Dimensions	1 x 18.7 m
Weight	1.5 kg/m^2
Selvage width	75 mm
Surface	Tri-laminated woven polyethylene
Underface	Silicone release film
Qty/Pallet	30

TECHNICAL DATA:

Properties	Standards	COLPHENE 3000
Tensile strength, MD/XD	ASTM D5147	11.3/15.4 kN/m
Tensile strength, MD/XD	ASTM D412	11.2/13.1 MPa
Ultimate elongation, MD/XD	ASTM D412	88/55 %
Ultimate elongation, MD/XD	ASTM D5147	40/25 %
Elongation of rubberised asphalt	ASTM D5147	> 1000 %
Flexibility at cold temperature	ASTM D5147	-35°C
Dynamic puncture	ASTM E154	747 N
Static puncture	ASTM D5602	400 N
Tear resistance, MD/XD	ASTM D5601	375/400 N
Lap adhesion	ASTM D1876	2000 N/m
Water absorption	ASTM D5147	0.1 % max
Peel resistance	ASTM D903	3500 N/m
Water vapour permeability	ASTM E96 (Procedure B)	< 2.5 ng/Pa·s·m^2 (< 0.04 perm) (All values are nominal)
Crack cycling at –32°C, 100 cycles	ASTM C836	Unaffected
Resistance to hydrostatic head	ASTM D5385	Minimum 114 m
Adhesion to strength to concrete -not primed -combined with primer	ASTM D1000	 560 N/m 1650 N/m

(All values are nominal)

Equus Industries Ltd. PO Box 601, Blenheim | Phone: 03 578 0214 | Email: admin@equus.nz | Web: www.equus.nz

COLPHENE 3000

Self-adhesive waterproofing membrane

February 2024

SCOPE OF USE:
COLPHENE 3000 is used as waterproofing membrane for foundation walls and other below ground vertical surfaces (up to 3 m deep) with low risk of hydrostatic water pressure against concrete and masonry substrates. The membrane can be overlaid with an Equus approved drainage mat for protection.

COLPHENE 3000 can also be used as a vapour barrier in an Equus Soprema Warm Roof system where specified by the Condensation Risk Analysis (CRA). It is suitable for new builds and refurbishments, residential and commercial construction, in any location in New Zealand.

Suitable for other waterproofing applications with written approval by Equus Industries Ltd.

SURFACE PREPARATION:
The use of Equus Peel and Stick Primer for self-adhesive membranes is required before the installation of COLPHENE 3000 membrane.

The substrate should be clean, sound, dry and free of loose materials, grease and any contaminants, which may compromise the performance of the product.

INSTALLATION:
SELF-ADHESIVE COLPHENE 3000 membrane must be adhered to substrate by peeling off the silicone release film. Side lap joints must be a minimum of 75 mm and end lap joints must be a minimum of 150 mm. Once installed, pressure must be applied over the whole surface using a membrane roller to ensure good contact with the substrate. The upper most edge of the membrane shall be mechanically fastened using termination bars and sealed with a compatible SOPREMA sealant. Contact Equus for suitable sealant.

Application temperatures: Winter grade: -10 to 10°C, Summer grade: 10 to 50°C
UV exposure: up to 60 days

RESTRICTION:
Concrete must be cured a minimum of fourteen (14) days and an adhesion test is recommended before membrane application. For complete information on product installation, please consult your Equus Consultant.

CONDITION OF USE:
COLPHENE 3000 shall not be used on surfaces over 3 m below ground or in areas with high hydrostatic water pressure, in this case COLPHENE BSW waterproofing shall be used.

Written approval is required for this membrane to be used on a substrate or in a waterproofing system not outlined in the standard Equus specifications.

The product must be installed by a Certified Equus Applicator. Verification of their status can be confirmed by a current applicator certificate or by contacting Equus Industries Ltd. Any installation must be done in accordance with the latest specifications and technical documentation, or with written approval by Equus Industries Ltd.

BUILDING CODE COMPLIANCE:
B2 Durability - B2.3.1 (a,b), COLPHENE 3000 has a durability of at least 50 years where used underground and at least 15 years where used above ground, when installed with the correct specification, installation and maintenance. BRANZ Appraisal 1037.

E2 External moisture - E2.3.2, E2.3.3, E2.3.7 Test data, together with in-service history in New Zealand and internationally, of the correctly installed COLPHENE 3000 membrane over correctly designed and constructed substrates, show that the membrane successfully resists the ingress of moisture. See BRANZ Appraisal 1037.

F2 Hazardous building materials - F2.3.1 Well known experience with the type of materials used together with in-service history, show that COLPHENE 3000 complies with this performance requirement. Refer to SDS at www.equus.nz

Equus Industries Ltd. PO Box 601, Blenheim | Phone: 03 578 0214 | Email: admin@equus.nz | Web: www.equus.nz

COLPHENE 3000

Self-adhesive waterproofing membrane

February 2024

SUPPORTING DOCUMENTATION:

Title (type)	Version	URL
BRANZ Appraisal No. 1037	22 April 2022	https://www.equus.nz/content/reports/branz-appraisal-colphene-1037.pdf

STORAGE AND HANDLING:

Rolls must be stored upright, with the selvedge side on top. If the product is stored outdoors, cover them with an opaque protective cover after removal of the delivery packaging.

HEALTH AND SAFETY:

The product does not contain any substance which is likely to be detrimental to your health or the environment and complies with generally admitted Health and Safety Requirements. For more information, please refer to the relevant Safety Data Sheet.

WARNINGS AND BANS:

Is the building product/building product line subject to warning or ban under section 26 of the Building Act 2004?	No

MANUFACTURERS CONTACT DETAILS:

Manufacture location	Canada
Legal and trading name of manufacturer	Soprema New Zealand Limited
Manufacturer address for service	Level 3, Candida Building 4, 61 Constellation Drive, Mairangi Bay, Auckland 0630, New Zealand
Manufacturer website	www.soprema.com.au
Manufacturer email	info@soprema.com.au
Manufacturer phone number	+61 3 9221 6230
Manufacturer NZBN	9429050312962

Equus Industries Ltd. PO Box 601, Blenheim | Phone: 03 578 0214 | Email: admin@equus.nz | Web: www.equus.nz

EUROTHANE SILVER

Insulation board

January 2024

DESCRIPTION:
Eurothane Silver is an insulation board with a core of rigid polyisocyanurate foam, faced on both sides with a gastight multi-layered complex.

BRANZ Appraised
Appraisal No.1169 [2021]

PACKAGING:

Dimensions	Eurothane Silver
Width	1200 mm
Length	600 mm, 1000 mm and 2500 mm
Thickness	30 mm - 60 mm in stock 70-100 mm on request

PRODUCTIVE R-VALUE:

Size (mm)	R-Value
50	2.25
60	2.70
81	3.65
90	4.05
100	4.50
120	5.45

TECHNICAL DATA:

Technical Characteristics	Eurothane Silver
Thermal conductivity	λ_D-value according to EN 12667: 0,022 W/mK
Core volume weight	± 30 kg/m^3
Mechanical performance - Compressive strength with 10% deformation: - Performance under the influence of an equally distributed load: - Transformation under the influence of a load:	 CS(10/Y)150 according to EN 826: ≥ 150 kPa (1.5 kg/cm^2) UEAtc class C DLT(2)5 according to EN 1605: 40 kPa, at 70ºC during 168 hours: ≤ 5%
Vapour diffusion resistance number μ of the PIR*foam*	50-100
Facing	Gastight multi-layered complex
Tensile strength perpendicular to surface	TR80 according to EN 1607 ≥80 kPa
Long-term water absorption WL(T)2 according to EN 12087	< 2%
Fire behaviour	- A1 according to RD 19/12/1997 - Euroclass B s2 d0 (end use steel deck) - Euroclass F according to EN 13501-1 - Class 1 according to BS 476 Part 7
Dimensional stability DS(TH)8 according to EN 1604 - Humidity text 48 hours: - Change in length: - Change in width: - Change in thickness:	 70ºC, 90% RH ≤ 2% ≤ 2% ≤ 6%

Equus Industries Ltd. 4 Sheffield St, Blenheim 7274 | Phone: 03 578 0214 | Email: info@equus.nz | Web: www.equus.nz

EUROTHANE SILVER
Insulation board

January 2024

CERTIFICATES AND STANDARDS:
EN 13165
The production of these boards is certified according to ISO 90001:2000

SCOPE OF USE:
Eurothane Silver is used in Equus SOPREMA Warm Roof and Deck systems, installed over a vapour barrier and underneath a waterproofing membrane system. Eurothane Silver boards are either mechanically fastened, or adhered with an approved PU Foam to the roofing substrate and can be overlaid with a roof cover board. Eurothane Silver is available in flat or tapered boards for design flexibility.

It is suitable for new builds and refurbishments, residential and commercial construction, in any location or wind zone in New Zealand (determined by project specific wind uplift calculations).

Suitable for other applications with written approval by Equus Industries Ltd.

CONDITIONS OF USE:
Eurothane Silver must be covered by a specified waterproofing membrane system. Written approval is required for this product to be in a system not outlined in the standard Equus specifications.

The product must be installed by a Certified Equus Applicator. Verification of their status can be confirmed by a current applicator certificate or by contacting Equus Industries Ltd. Any installation must be done in accordance with the latest specifications and technical documentation, or with written approval by Equus Industries Ltd.

BUILDING CODE COMPLIANCE:
B2 Durability - B2.3.1 (b), Eurothane Silver has a durability of at least 15 years when installed with the correct specification, installation and maintenance. BRANZ Appraisal No. 1169.

E3 Internal moisture - E3.3.1 Eurothane Silver provides habitable buildings with adequate thermal resistance and R-values that are equal to or above those specified in E3/AS1. See BRANZ Appraisal No. 1169.

F2 Hazardous building materials - F2.3.1 Well known experience with the type of materials used together with in-service history, show that Eurothane Silver complies with this performance requirement. Refer to SDS at www.equus.nz

H1 Energy Efficiency - H1.3.1 (a) Eurothane Silver provides the building with adequate thermal resistance and R-values that are equal to or above those specified in H1/AS1 and H1/AS2. See BRANZ Appraisal No. 1169.

SUPPORTING DOCUMENTATION:

Title (type)	Version	URL
BRANZ Appraisal No. 1169	02 November 2022	https://www.equus.nz/content/reports/branz-appraisal-warmroof-1169.pdf

STORAGE:
Do not throw, use shockproof transport. Must be stored in dry conditions and protected from direct weathering.

WARNINGS AND BANS:

Is the building product/building product line subject to warning or ban under section 26 of the Building Act 2004?	No

Equus Industries Ltd. 4 Sheffield St, Blenheim 7274 | Phone: 03 578 0214 | Email: info@equus.nz | Web: www.equus.nz

EUROTHANE SILVER
Insulation board

January 2024

MANUFACTURERS CONTACT DETAILS:

Manufacture location	
Legal and trading name of manufacturer	
Manufacturer address for service	
Manufacturer website	
Manufacturer email	
Manufacturer phone number	
Manufacturer NZBN	

Title (type)	Version	URL
BRANZ Appraisal No. 1169	02 November 2022	https://www.equus.nz/content/reports/branz-appraisal-warmroof-1169.pdf

Is the building product/building product line subject to warning or ban under section 26 of the Building Act 2004?	No

Equus Industries Ltd. 4 Sheffield St, Blenheim 7274 | Phone: 03 578 0214 | Email: info@equus.nz | Web: www.equus.nz

DUO 'EASY FOAM'

BRANZ Appraised
Appraisal No.1169 [2021]

Description:

Duo 'Easy Foam' is a rapid curing, gun grade polyurethane adhesive, specially developed to bond various typed of insulation materials on flat roofs.

With **'Easy Foam'** it is convenient to bond different types of insulation (PUR, PIR, Rockwool, XPS and EPS) to various types of surfaces:

- Bitumen vapour barrier
- Existing bituminous waterproofing membranes
- Concrete

Surface Preparation:

The substrate shall be free from dust and grease. It shall be dry and solid. If required, moistening the substrate will speed up the curing time.

Application:

- Shake the tin thoroughly for at least 15 seconds.
- Screw the tin onto the 'Duo Easy Gun' and apply at least 3 vertical beads of foam onto the surface.
- Apply at least 4 beads of foam in corners and at roof edges (see installation guidelines). Can also be applied in serpentine pattern (max 25cm between curbs).
- Press the insulation panels softly onto the beads.
- Ready to be treated after 30 minutes. Full strength after 3 hours.
- Application temperature for the tin: +10ºC to +30ºC.
- Always keep the tin upright for the most efficient application.

Technical Data:

Characteristics	*Values*
Fire class	B1DIN 4102
Base	Polyurethane pre-polymer
Curing	Moisture curing
Type	Glue
Tack free	After +/- 10 minutes
Initial strength	After +/- 30 minutes
Full strength	After +/- 3 hours
Consumption	+/- 10 to 11m2 of adhesive per tin
Thermal conductivity	40 m W/M.K
Compression resistance	30kPa (at 10% deformation)
Tensile strength	100 kPa
Elongation at break	15%
Shear	80kPa
Application temperature	Surrounding: 0ºC to +35ºC Tin: +10ºC to +30ºC
Temperature resistance	Prolonged: -40ºC until +90ºC Brief: -40ºC until+130ºC
Shelf life	9 months (store cool, dry and upright)

Precautions:

- Always read the safety precautions mentioned on the tin before use.
- Use only in well-ventilated areas.
- No smoking. Protect eyes and wear suitable protective clothing and gloves.
- Protect surrounding surfaces from splashes.
- Superfluous foam can be removed with 'Duo Easy Cleaner'.
- Cured foam has to be removed mechanically.
- Safety precautions: See material safety data sheet.

Equus Industries Ltd
PO Box 601
Blenheim
Phone: 03 578 0214
Email: admin@equus.nz
Website: www.equus.nz
March 2022

ALSAN MASTIC 2200

Flexible mastic

March 2024

DESCRIPTION:
Flexible mastic based on bitumen and synthetic rubber. Used for sealing small tears, cracks, joints and local repairs.

BRANZ Appraised Appraisal No. 1037
BRANZ Appraised Appraisal No.819 [2019]
BRANZ Appraised Appraisal No.520 [2019]
BRANZ Appraised Appraisal No.685 [2021]

TECHNICAL DATA:

Properties	ALSAN MASTIC 2200
Composition	Bitumen and synthetic rubber
Temperature resistance	-20/+80°C
Application temperature	+5/+35°C
Consumption	15-20 m/cartridge

PACKING AND STORAGE:
310 ml cartridge.
20 cartridges/box.

Minimum 12 months in original unopened packaging, stored in a dry and cool place, protected from sunlight at a temperature between +10 and +25°C.

INSTALLATION:
ALSAN MASTIC 2200 is applied with a gun on a clean and dust-free surface. It has excellent adhesion to most materials without prior treatment with a primer. It can be applied on a slightly damp surface.

Apply ALSAN MASTIC 2200 so that it is in full contact and has good adhesion to the edges of the joint. The curing time is 4 to 24 hours depending on the conditions and dimensions of the joint.

CLEANING TOOLS:
White spirit.

HEALTH AND SAFETY:
For more information, please refer to the relevant safety data sheet.

QUALITY, ENVIRONMENT AND SAFETY MANAGEMENT:
SOPREMA always recognises as a high level of importance, the quality of the products, the environment and safety. For this reason, we operate independently monitored Quality and Environment Assurance Systems in line with EN ISO 9001 and EN ISO 14001

WARNINGS AND BANS:

Is the building product/building product line subject to warning or ban under section 26 of the Building Act 2004?	No

Equus Industries Ltd. 4 Sheffield St, Blenheim 7274 | Phone: 03 578 0214 | Email: info@equus.nz | Web: www.equus.nz

ALSAN MASTIC 2200

Flexible mastic

March 2024

MANUFACTURERS CONTACT DETAILS:

Manufacture location	Belgium
Legal and trading name of manufacturer	Soprema New Zealand Limited
Manufacturer address for service	Level 3, Candida Building 4, 61 Constellation Drive, Mairangi Bay, Auckland 0630, New Zealand
Manufacturer website	www.soprema.com.au
Manufacturer email	info@soprema.com.au
Manufacturer phone number	+61 3 9221 6230
Manufacturer NZBN	9429050312962

Equus Industries Ltd. 4 Sheffield St, Blenheim 7274 | Phone: 03 578 0214 | Email: info@equus.nz | Web: www.equus.nz

SOPRADERE QUICK

Cold applied fast drying primer

February 2024

PURPOSE AND AREAS OF USE:
Cold applied fast drying primer based on bitumen, solvents and adhesion-improving additives. Impregnation to ensure good adhesion to substrate (concrete, metal and wood) before welding (torch-on or hot-air method) or gluing bituminous waterproofing membranes. It is also suitable on old/weathered bituminous waterproofing membranes with a slate or granulated finish.

STANDARD PACK:
Can of 5 and 21 L.

PROPERTIES:

Composition	Bitumen, solvents and adhesion-improving additives.
Curing time	530 min.
Consumption (l/m^2)	0.15-0.25
Application temperature	Min +5°C

INSTALLATION:
Thoroughly mix the product before use. Apply with a brush, roller or rubber squeegee on a dry, dust and grease free substrate. Allow to dry completely before applying the membrane. See label for more information.

CLEANING:
Wet product - white spirit.

HEALTH AND SAFETY:
For more information, please refer to the relevant Safety Data Sheet (SDS).

SOPREMA has always attached the highest importance to the quality of the products, the environment and safety. For this reason, they operate independently monitored Quality and Environment Assurance Systems in line with EN ISO 9001 and EN ISO 14001.

WARNINGS AND BANS:

Is the building product/building product line subject to warning or ban under section 26 of the Building Act 2004?	No

MANUFACTURERS CONTACT DETAILS:

Manufacture location	Belgium
Legal and trading name of manufacturer	Soprema New Zealand Limited
Manufacturer address for service	Level 3, Candida Building 4, 61 Constellation Drive, Mairangi Bay, Auckland 0630, New Zealand
Manufacturer website	www.soprema.com.au
Manufacturer email	info@soprema.com.au
Manufacturer phone number	+61 3 9221 6230
Manufacturer NZBN	9429050312962

Equus Industries Ltd. 4 Sheffield St, Blenheim 7274 | Phone: 03 578 0214 | Email: info@equus.nz | Web: www.equus.nz

EQUUS PEEL AND STICK PRIMER

Primer for self-adhesive waterproofing membranes

January 2024

DESCRIPTION:
Equus Peel and Stick Primer is a rubber based adhesive solvent solution which is specifically formulated to provide excellent adhesion with the Equus self-adhesive Waterproofing Membranes under many kinds of surface conditions. Equus Peel and Stick Primer is an integral part of Equus self-adhesive Waterproofing Systems and sufficient primer must be used on dry surfaces to condition them to be dust free so that the substrate is suitable for the self-adhesive application of Equus Waterproofing Membranes.

BRANZ Appraised Appraisal No. 1037
BRANZ Appraised Appraisal No.819 [2019]
BRANZ Appraised Appraisal No.520 [2019]

USES:
Used to prime all structural concrete, masonry, or wood surfaces on which waterproofing membranes will be used. Designed to be used on applications down to –4°C.

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

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

Do not use on EPS sheet or block. In this case use Equus EPS Primer.

APPLICATION:
Equus Peel and Stick Primer may be applied with roller, brush or spray. A roller with a heavy nap should be used to carry sufficient material to the area being primed.

Apply all Equus Peel and Stick Primer to a clean, dry, dust free and frost free surface at a coverage of approximately 6-8 sqm/litre. The primer should be spread sufficiently to avoid areas of excess material. Areas of excess material will lengthen the drying time on the application of the primer.

Equus Peel and Stick Primer is to dry a minimum of one hour - may dry quicker due to drying conditions, such as wind and warmth.

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

SAFETY, STORAGE AND HANDLING:
Equus Peel and Stick Primer vapours are flammable. User should review the Safety Data Sheet (SDS) for this product and follow safety instructions listed therein.

TRANSPORT CLASSIFICATION:
IMDG Class 3.1
UN No. 1294

Equus Industries Ltd. 4 Sheffield St, Blenheim 7274 | Phone: 03 578 0214 | Email: info@equus.nz | Web: www.equus.nz

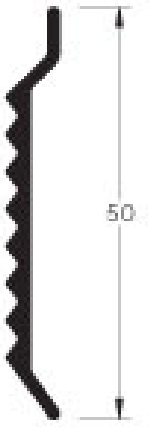
DUO C-PROFILE

Aluminium bar for terminating waterproofing membranes

January 2024

DESCRIPTION:
The C-PROFILE is a pre-manufactured profile that terminates the waterproofing membrane at the wall in a professional and watertight, wind-peel resistant manner.

The C-Profile is used at concrete or wooden walls and curbs.



BRANZ Appraised
Appraisal No.685 [2021]

ADVANTAGES:
- Increases the durability of the waterproofing system.
- Increases the bonding of the waterproofing to the wall or curb.
- Wind-peel resistant.
- Corrosion resistant.
- Continuous quality.
- Provides an aesthetical, straight finishing.
- Provides a dripping point off the wall.

TECHNICAL DATA:

Technical Characteristics	C-PROFILE
Material	Extruded aluminium profile (Al Mg Si 0.5 F22 quality)
Tensile strength	215 N/mm^2
Yield point	160 N/mm^2
Elongation	10%
Hardness	70 brinell
Length	2500 mm
Width	50 mm
Colour	Metalic
Characteristics tested according to German DIN 1748 standard.	

INSTALLATION:
- The waterproofing is installed according to manufacturers details.
- The C-PROFILE is fastened at the edge of the waterproofing membrane into the wall.
- The C-PROFILE covers the membrane with 2/3 of its total width of 50 mm. The rest of the profile protrudes above the membrane.
- The space created at the top of the C-PROFILE is filled with a sealant compatible to the wall's material, bitumen and aluminium. SOPREMA recommends ALSAN MASTIC 2200 sealant.

WARNINGS AND BANS:

Is the building product/building product line subject to warning or ban under section 26 of the Building Act 2004?	No

Equus Industries Ltd. 4 Sheffield St, Blenheim 7274 | Phone: 03 578 0214 | Email: info@equus.nz | Web: www.equus.nz

DUO C-PROFILE

Aluminium bar for terminating waterproofing membranes

January 2024

MANUFACTURERS CONTACT DETAILS:

Manufacture location	Belgium
Legal and trading name of manufacturer	Soprema New Zealand Limited
Manufacturer address for service	Level 3, Candida Building 4, 61 Constellation Drive, Mairangi Bay, Auckland 0630, New Zealand
Manufacturer website	www.soprema.com.au
Manufacturer email	info@soprema.com.au
Manufacturer phone number	+61 3 9221 6230
Manufacturer NZBN	9429050312962

Equus Industries Ltd. 4 Sheffield St, Blenheim 7274 | Phone: 03 578 0214 | Email: info@equus.nz | Web: www.equus.nz

Roof Edge Profile Classic Plus

110/60

Description:

The Classic Plus roof edge profile is a pre-manufactured profile that terminates the waterproofing membrane at the highest edge of the roof in a professional, watertight and wind-uplift resistant manner.

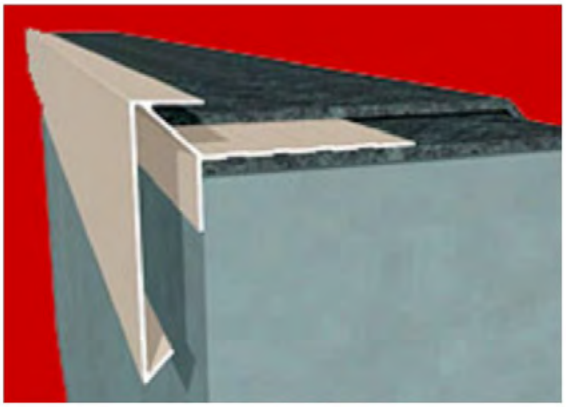
The profile is used on top of roof edge curbs of wooden and concrete flat roofs.

Technical Characteristics:

Material:	Aluminium
Length per profile:	2500 mm
Width (visible, outside):	110 mm
Fastening zone	45 mm
Dripping edge:	15mm from wall

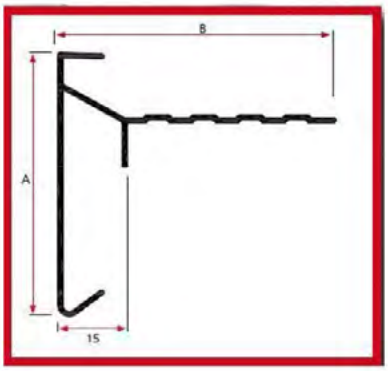
Advantages:

- Strong, stable and durable profile that increases the durability of the waterproofing system.
- Increases the bonding of the waterproofing to the edge of the roof deck.
- Special corner design to prevent penetration by horizontal driven rain.
- Available with connection plates, internal and external pre-manufactured welded corners.
- Wind uplift resistant.
- Corrosion resistant.
- Continuous aesthetical finish.
- Provides a dripping point of 15 mm off the wall to prevent water stains to the wall.



Installation:

- The waterproofing cap sheet is installed on the top of the roof edge curb.
- The profile is fastened at the roof edge on top of the cap sheet.
- The profile and its fixings are covered by another piece of cap sheet.
- Always refer to the manufacturer's detail drawing.



Type	A	B
110/60	110	60

Equus Industries Ltd
PO Box 601
Blenheim
Phone: 03 578 0214
Email: admin@equus.nz
Website: www.equus.nz
June 2021

EASY FLASHING

Liquid waterproofing membrane

January 2024

DESCRIPTION:
EASY FLASHING is a thixotropic waterproofing coating, formulated with bitumen in water emulsion, selected elastomeric resins and special additives, multipurpose with high adhesiveness.

BRANZ Appraised
Appraisal No.819 [2019]

ADVANTAGES:
- Excellent elasticity
- Waterproofs and protects from atmospheric agents and from UV rays
- Resistance against corrosive action of many acids
- Encourages the cold laying
- Perfect grip on different materials
- Compatible with cementitious adhesives
- Long-lasting product
- Odourless and non-flammable product
- Non-toxic, solvent free
- Does not crack at low temperatures and does not pour at high temperatures

APPLICATION:
Operating conditions
It is recommended to apply the product with an ambient temperature not lower than +5°C and when there are no climatic conditions of fog, rain and frost, avoiding extreme situations of cold and heat.

Surface preparation
Before applying the product, make sure that the non-coherent parts, or non-adherent parts, paints, rust, dust, disarming oils are removed and carefully clean surfaces that need to be solid and dry. The efficiency of the water outflow must be ascertained (slopes, positioning and size of the drains). This product can also be applied on wet surfaces, but it is necessary there is no water stagnation.

Preparation
Mix the product thoroughly until the mixture is fully homogenous before using.

Application
EASY FLASHING can be applied by roller, brush, spray, spatula or notched squeegee.
It is generally applied in two coats. To facilitate the application on large surfaces it is advisable to dilute up to a maximum of 10% water. Apply the second coat fresh on fresh if the first has been reinforced, otherwise after complete drying of the first, after 24-48 hours. On surfaces larger than 10 sqm or stressed supports, we recommend reinforcing EASY FLASHING with the special Alsan Voile-P fabric embedded in the first still fresh coat.

Cleaning tools
After use, clean the tools with water and, if the product has dried, it is advisable to remove it with hot water or the most common synthetic thinners.

CONSUMPTION:
Between 0.6-0.9 kg/sqm per coat, the consumption of the product varies according to the substrate and thickness desired. To obtain a dried film of 1 mm, the quantity of product used will be about 1.5 kg/sqm. Approx. 2 kg/sqm if the appropriate Alsan Voile-P reinforcement fabric is used.

Between 400-700 g/sqm if used as an adhesive for spot bonding of insulation panels.

Equus Industries Ltd. 4 Sheffield St, Blenheim 7274 | Phone: 03 578 0214 | Email: info@equus.nz | Web: www.equus.nz

EASY FLASHING
Liquid waterproofing membrane

January 2024

PACKAGING:

EASY FLASHING	
Packaging	- 310 ml plastic cartridges in boxes of 24 pieces - 5, 20 kg metal cans
Colour	Black (when dried)
Storage	

TECHNICAL DATA:

Properties	Test Method	Performance
Physical form	-	Pasta Tixotropica
Dry residue at 130°C	EN ISO 3251	53-59%
Viscosity Brookfield (at 20°C, Impeller n. 6; 10 rpm_	EN ISO 3219	70.000 cP (± 14.000)
Specific weight at 20°C	EN ISO 2811-1	1.21 kg/l (±0.04)
pH (at 20°C)	-	8.3÷9.0
Flexibility at low temperatures	EN 15813	-30 °C
Dimensional stability at high temperatures	EN 15818	+150 °C
External drying time	-	4 hours
Drying time for finishing covering	-	24÷48 hours*

* Values recorded at a temperature of 23°C and 50% humidity. The data expressed may vary depending on thickness of the product applied and the specific conditions of the site; temperature, humidity, ventilation, absorbency of the bottom.

Performance Characteristic (UNI EN 1504 - C Coverings - Principles: PI MC IR)	Test Method	Performance
Permeability to CO_2	EN 1062-6	S_D>50 m
Water vapour permeability	EN ISO 7783	Class I (S_D<5 m)
Liquid water permeability	EN 1062-3	W < 0.1 kg/sqm x $h^{0.5}$
Tensile bond strength (by pull off)	EN 1542	≥1 N/mm^2

* Values recorded at a temperature of 23°C and 50% humidity. The data expressed may vary depending on thickness of the product applied and the specific conditions of the site; temperature, humidity, ventilation, absorbency of the bottom.

Performance EN 14891 Liquid applied water impermeable products for use beneath ceramic tiling bonded with adhesive	Requirements EN 14891	Product Performance
Initial tensile adhesion	>0.5 N/mm^2	Passed
Tensile adhesion after water contact	>0.5 N/mm^2	Passed
Tensile adhesion after heat aging	>0.5 N/mm^2	Passed
Tensile adhesion after freeze/thaw cycles	>0.5 N/mm^2	Passed
Tensile adhesion after contact with time lime water	>0.5 N/mm^2	Passed
Water impermeability	No penetration	Waterproof
Crack Bridging Ability (at 20°C)	>0.75 mm	Passed
CLASSIFICATION ACCORDING TO EN 14891	Class DM 02	Waterproof product applied in dispersed liquid with improved crack bridging capacity at low temperature (-20°C)

Equus Industries Ltd. 4 Sheffield St, Blenheim 7274 | Phone: 03 578 0214 | Email: info@equus.nz | Web: www.equus.nz

EASY FLASHING
Liquid waterproofing membrane

January 2024

SCOPE OF USE:
EASY FLASHING serves as a practical solution for installers facing challenges in applying polymer-bitumen membranes or dealing with restrictions on open flames. Its versatility allows for both vertical and horizontal applications. Installers can use EASY FLASHING for waterproofing foundation walls, foundations, and laying insulation panels. The liquid membrane is effective for quick local repairs and restores waterproofing on balconies and terraces without pavement destruction.

EASY FLASHING provides a reliable base for subsequent tile bonding, improving grip with cement-based adhesives. When diluted at 50%, EASY FLASHING functions as a dust-proof primer. With excellent adhesion on various surfaces, it is suitable for bituminous membranes (with sand or self protected with slates), concrete, metal, fibrocement, plasterboard, wood, ceramic pavements, and glass.

Suitable for new builds and refurbishments, residential and commercial construction, in any location in New Zealand. Suitable for other applications with written approval by Equus Industries Ltd.

CONDITIONS OF USE:
- It is recommended to apply the product with an ambient temperature no lower than +5°C and when there are no weather conditions of fog, rain and frost, avoiding in any case extreme situations of cold and heat and high humidity.
- Particular attention should be paid to the application of the product on some new bituminous surfaces so as to avoid the risk that hydrocarbons still present in the support may compromise the correct adhesion of the product.
- Where extra protection is required or in applications between different materials, structural joints, or in the presence of important cracks it is recommended to use fibreglass reinforcement impregnating it completely in the first coat still fresh.
- Do not exceed the quantity and drying times recommended for each coat to guarantee the correct drying of the product in all its thickness.
- Temperatures over 35°C could accelerate the drying of the product, compromising its workability.
- In the case of waterproofing walls against the ground with EASY FLASHING, suitable mechanical protection must be provided mainly for backfill operations.
- EASY FLASHING can be walked on occasionally in the case of occasional maintenance.
- To improve the durability of EASY FLASHING it is recommended painting with suitable protective paints eg. Chevaline Dexx Topcoat for UV protection.
- Do not use EASY FLASHING on supports subject to counter-thrust or strong water pressure.

Written approval is required for this product to be in a system not outlined in the standard Equus specifications. The product must be installed by a Certified Equus Applicator. Verification of their status can be confirmed by a current applicator certificate or by contacting Equus Industries Ltd. Any installation must be done in accordance with the latest specifications and technical documentation, or with written approval by Equus Industries Ltd.

CERTIFICATION:
EASY FLASHING is CE marked in accordance with:
- EN 1504-2:2004 - Surface protection system for concrete.
- EN 14891:2012 - Dispersion liquid applied water impermeable products for use beneath ceramic tiling bonded with adhesive.

BUILDING CODE COMPLIANCE:
B2 Durability - B2.3.1 (a) EASY FLASHING has a durability of at least 15 years when installed with the correct specification, installation and maintenance. Re-coating specifications are available to extend the life of the membrane.

E2 External moisture - E2.3.1, E2.3.2, E2.3.7 EASY FLASHING test data together with in-service history of the correctly installed EASY FLASHING system over correctly designed and constructed substrates, show that the membrane resists the ingress of moisture.

F2 Hazardous building materials - F2.3.1 Experience with the composition of materials used together with in-service history, show that EAST FLASHING complies with this performance requirement. Refer to SDS at www.equus.nz

Equus Industries Ltd. 4 Sheffield St, Blenheim 7274 | Phone: 03 578 0214 | Email: info@equus.nz | Web: www.equus.nz

EASY FLASHING
Liquid waterproofing membrane

January 2024

SUPPORTING DOCUMENTATION:
Test reports can be provided by SOPREMA New Zealand Ltd.

STORAGE AND HANDLING:
Storage up to 12 months from the production date in the original packaging, in a cool environment, protected from frost and direct sunlight. EASY FLASHING fears frost, do not expose the packages to a temperature below +5°C; once frozen the product is not recoverable.

WARNINGS AND BANS:

Is the building product/building product line subject to warning or ban under section 26 of the Building Act 2004?	No

MANUFACTURERS CONTACT DETAILS:

Manufacture location	Italy
Legal and trading name of manufacturer	Soprema New Zealand Limited
Manufacturer address for service	Level 3, Candida Building 4, 61 Constellation Drive, Mairangi Bay, Auckland 0630, New Zealand
Manufacturer website	www.soprema.com.au
Manufacturer email	info@soprema.com.au
Manufacturer phone number	+61 3 9221 6230
Manufacturer NZBN	9429050312962

Equus Industries Ltd. 4 Sheffield St, Blenheim 7274 | Phone: 03 578 0214 | Email: info@equus.nz | Web: www.equus.nz

MATACRYL THIX

A thixotropic version of Matacryl Manual

April 2024

PRODUCT:
Matacryl Thix is a viscous, urethane-modified, prereacted 100% solid membrane system based on acrylic monomers. To initiate curing, just add Matacryl Catalyst.

USAGE:
Matacryl Thix is designed as a simple to apply, highly elastomeric liquid waterproofing membrane and coating, for vertical and inclined substrates. The cured product is a very flexible crack-bridging membrane that retains its flexibility and crack-bridging performance in service even when the temperature reaches -20°C.

KEY BENEFITS:

- Highly flexible
- Excellent crack bridging characteristics
- Easy to apply
- Excellent waterproofing properties
- Very high impact and puncture resistance
- Good chemical and abrasion resistance
- Fully cured one hour after application

The areas of application for Matacryl Thix include:

- As a Bridge Deck waterproofing membrane, on to which asphalt at temperatures up to 250°C can be directly applied.
- For sub-grade waterproofing of Buildings and Civil Engineering Structures, including below-grade Slabs.
- Waterproofing of concrete and metal Railway bridges including directly under track ballast.
- Waterproofing of Pedestrian and Vehicular trafficable areas (Balconies, Car Parks etc.)
- Protection and waterproofing of Tunnels, Channels and Dam structures.
- Waterproofing of containment structures including Reservoirs and waste and contaminated material storage structures.
- Offshore platforms.

Matacryl Thix can be applied at a wide range of ambient and substrate temperatures (-10°C to +35°C) onto cementitious based screeds, concrete, metal, and ceramic tile substrates, and filled bitumen/asphalt under specific conditions.

STANDARD PACKS:
30 kg units.

PROPERTIES:

Liquid State		
Viscosity, 25°C	4000 mPa*s	DIN 53018
Density, 25°C	1.36 g/ml	ISO 2811
Pot life/processing time at 20°C	15 min.	
Curing time at 20°C	approx. 60 min.	
Flash Point	+11.5°C	ISO 1516

Cured State tested at 20°C		
Tensile strength	6.7 N/mm^2	ISO 527
Elongation	320%	ISO 527
Modulus of elasticity	65 MPa	ISO 527
Abrasion 1000 cycles	64 mg	ISO 7784-2
Dynamic crack-bridging	>5 mm	BPG
Shore A hardness	>85 IRHD	NFP 98285
Shore D hardness	55	DIN 53505

Cured State samples conditioned at -20°C for 24hrs before testing		
Tensile strength	7.1 N/mm^2	ISO 527
Elongation	340%	ISO 527
Modulus of elasticity	460 MPa	ISO 527
Dynamic crack-bridging	>5 mm	BPG

Equus Industries Ltd. PO Box 601, Blenheim | Phone: 03 578 0214 | Email: admin@equus.nz | Web: www.equus.nz

MATACRYL THIX

A thixotropic version of Matacryl Manual

April 2024

SUBSTRATE PREPARATION:
The area to be waterproofed must be dry, firm, solid and free of dust, fat and oil. Laitance and loose particles must be removed thoroughly, e.g. by shot blasting. Fats or oils as well as humidity can be removed by flame blasting for example. Before application of Matacryl Thix, a suitable Matacryl Primer, including sand-blinding when appropriate, must be first applied. For further details, see our general preparation and application guidelines for Matacryl waterproofing systems.

MIXING:
Prior to use, Matacryl Thix must be carefully stirred to achieve a uniform distribution of agents contained in the product. Matacryl Thix is then thoroughly mixed together with the Matacryl Catalyst (50% dibenzoyl peroxide), in accordance with the following guidelines.

It should be noted that the amount of catalyst powder to be added depends upon the substrate temperature.

At 30°C:	Add 200 grams of catalyst to a pail of 30 kg
At 20°C:	Add 350 grams of catalyst to a pail of 30 kg
At 10°C:	Add 700 grams of catalyst to a pail of 30 kg
At 0°C:	Add 1200 grams of catalyst to a pail of 30 kg
Below -5°C:	Add 1200 grams of catalyst to a pail of 30 kg and additionally add Matacryl Accelerator. Please contact your Equus Representative for further details.

Note: Weight to Volumetric conversion of Catalyst. 1 cc of Matacryl Catalyst weighs 0.64gm. 1gm of Matacryl Catalyst = 1.57 cc

APPLICATION:
Matacryl Thix is designed to be manually applied using a brush, roller or squeegee.

CONSUMPTION:
For product consumption per m²; please consult the System Build-up Sheets.
Per layer of membrane; a minimum thickness of 1mm (=1.23kg/m²) should always be applied per coat.

SHELF LIFE:
SIx months when stored in a cool and dry place and in originally closed packaging. The optimal storage temperature is 15-20°C.

HEALTH AND SAFETY:
Protective clothing, gloves and safety goggles must be worn when filling, mixing or handling of Matacryl Thix. When the product is applied in enclosed areas without natural ventilation, forced ventilation must be arranged. Avoid strong concentration of vapour as well as direct contact with skin or eyes. For further information see our Safety Data Sheet.

WARNINGS AND BANS:

Is the building product/building product line subject to warning or ban under section 26 of the Building Act 2004?	No

MANUFACTURERS CONTACT DETAILS:

Manufacture location	Australia
Legal and trading name of manufacturer	Tremco CPG Pty Ltd.
Manufacturer address for service	12/4 Southridge Street, Eastern Creek, NSW 2766, Australia
Manufacturer website	
Manufacturer email	orders@tremco.com.au
Manufacturer phone number	+61 2 4648 0397

Equus Industries Ltd. PO Box 601, Blenheim | Phone: 03 578 0214 | Email: admin@equus.nz | Web: www.equus.nz

CHEVALINE DEXX TOPCOAT

UV resistant finishing coat for the Chevaline Dexx waterproofing membrane

February 2024

PURPOSE AND AREAS OF USE:
A highly durable glossy finishing coat for use as an integral part of the Chevaline Dexx System on walkout decks and similar trafficable areas.

PRODUCT:
Chevaline Dexx Topcoat is a tough; flexible; gloss-finish, pigmented polyurethane/acrylic finishing coat. Waterborne for ease of use and formulated for maximum exterior durability, ease of cleaning, water resistance, excellent adhesion and UV resistance.

A highly durable Gloss or Satin finishing coat for use as an integral part of the Chevaline Dexx System on roofs, decks, balconies and similar traffcable areas.

Chevaline Dexx Topcoat is the topcoat in the Chevaline Dexx Membrane System with approved body coats and primers.

PROCESS COMPATIBILITY:
Formulated as a finishing coat for the Chevaline Dexx Flexible Reinforced Roof and Deck Membrane System.

COLOUR:
Available in all standard Equus Keim and BS5252 colours. May also be matched with other colours but a tinting charge may be applicable.
NB: The use of deep colours in exterior situations is not recommended because of the stress that may be imparted to the building's fabric through excessive heat absorption. Advice should be sought regarding this and special colour matching through your Equus Representative.

STANDARD PACK:
5 litre and 15 litre plastic pail.

PHYSICAL PROPERTIES:

Liquid Material	Dexx Bodycoat
Solids (% by volume)	39% approx.
Specific Gravity	1.1-1.2
Flash Point (°C)	None - water-based product
Shelf Life	3 years in original sealed container, when stored in cool, dry conditions.

Applied Film	Standard System
Flexibility	Passes 3 mm mandrel
Durability	Excellent long term service can be expected. The coating has been specially formulated for maximum UV resistance and weatherability.
Chemical Resistance	Good resistance against general atmospheric pollutants, domestic cleansers and normal household pollutants. Limited resistance to solvents and oils.
Fungus Resistance	Chevaline Dexx Topcoat contains a highly effective anti-fungal preparation which does not contain toxic metals or phenols.
Normal Film Thickness	25-35 microns dft per coat.

Equus Industries Ltd. 4 Sheffield St, Blenheim 7274 | Phone: 03 578 0214 | Email: info@equus.nz | Web: www.equus.nz

CHEVALINE DEXX TOPCOAT

UV resistant finishing coat for the Chevaline Dexx waterproofing membrane

February 2024

SCOPE OF USE:
Chevaline Dexx Topcoat can be used on roofs, decks and other specified areas in existing or new residential or commercial buildings in accordance with the standard Dexx specification.

Suitable as a finished coating or can be overlaid with tiles, pedestals & decking materials.

CONDITIONS OF USE:
Chevaline Dexx Topcoat is not suitable for public high foot traffic or vehicular traffic areas.

The installation must be done by a Certified Equus Applicator. Verification of Applicator status can be confirmed by a current Applicator Certificate or by contacting Equus Industries. Any installation must be done in accordance with the latest specifications and technical documentation, or with written approval from Equus Industries.

SURFACE PREPARATION:

1. Previously coated Dexx surfaces (old or new):	Dexx surfaces overcoated with Chevaline Colourglaze, Traxx Colourseal or Chevaline Dexx Topcoat, or presently not overcoated. Ensure the surface is clean and dry. If necessary use medium pressure water to ensure the surface is thoroughly clean. Old surfaces, repair any existing mechanical damage with the Dexx process prior to recoating.
2. All other surfaces	Clean as in 1 above and apply a test area of Chevaline Dexx Topcoat to determine adhesion before proceeding with the complete treatment.
Priming:	
1.	New Dexx, or existing Dexx Membrane finished with Chevaline Colourglaze, Chevaline Dexx Topcoat. No priming required.
2.	On other deck membrane surfaces. If a test patch, or obvious surface conditions indicate the need to prime, refer to the nearest Equus Office or your Equus Representative for primer recommendation.

APPLICATION METHOD:

Brush or Roller:	Thinning generally not required.
Spray: (Airless or Air Assisted)	Thin up to 30% by volume with clean water, as needed.
Spreading rate:	9-12 sqm/litre.
Dry time:	Touch dry 1-2 hours. Through dry 2-4 hours.
Clean up / Thinning:	Clean tap water.

MAINTENANCE:
Chevaline Dexx Topcoat is a low maintenance finish. It is recommended that it be washed at least every three months with a weak (0.1%) neutral detergent and well rinsed with clean water.

As the purpose of Chevaline Dexx Topcoat is to protect the underlying membrane and maintain its overall finish, recoating should be timed to occur before damage is caused to the underlying surface. Simply wash with a weak (0.1%) neutral detergent solution, rinse and dry before recoating with Chevaline Dexx Topcoat.

Equus Industries Ltd. 4 Sheffield St, Blenheim 7274 | Phone: 03 578 0214 | Email: info@equus.nz | Web: www.equus.nz

CHEVALINE DEXX TOPCOAT

UV resistant finishing coat for the Chevaline Dexx waterproofing membrane

February 2024

WARRANTY:
Chevaline Dexx Topcoat is an integral component of the Chevaline Dexx Reinforced Roof and Deck Membrane System and the Warranty applicable is that of the Chevaline Dexx System it is an integral part of.

When Chevaline Dexx Topcoat is used to recoat an existing Chevaline Dexx Membrane surface; any existing Process Warranty may be reviewed and possibly extended.

HEALTH AND SAFETY:
Wear barrier cream when handling this product, and cartridge mask and goggles when spraying. It is a waterborne material and therefore is non flammable. However, it is recommended NOT TO SMOKE when handling or applying the material. No special storage conditions are required other than protection from frost and prolonged heat.

WARNINGS AND BANS:

Is the building product/building product line subject to warning or ban under section 26 of the Building Act 2004?	No

MANUFACTURERS CONTACT DETAILS:

Manufacture location	New Zealand
Legal and trading name of manufacturer	Equus Industries Ltd.
Manufacturer address for service	4 Sheffield Street, Blenheim 7274
Manufacturer website	www.equus.nz
Manufacturer email	info@equus.nz
Manufacturer phone number	03 578 0214
Manufacturer NZBN	9429032000306

Shrink Sleeve

Description:

The **Shrink Sleeve** is a professional and innovative accessory to make flat roof penetrations watertight.

The **Shrink Sleeve** combines a sleeve, a flange and a base.
The base is made of high-quality, weather-resistant PVC. The **Shrink Sleeve** is made of UV-resistant Polyolefin. It shrinks when heated by hot air or flame and forms a closed, watertight sleeve around the round object that penetrates your flat roof. It has a special flange of elastomer SBS-modified bitumen for an optimal connection to all SOPREMA membrane systems. The flange diameter is 480mm.

Applications:

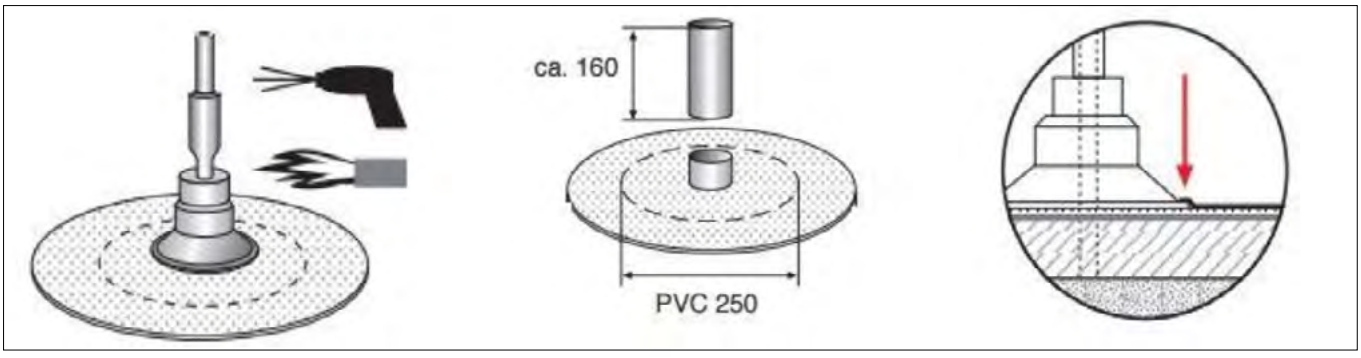
For watertight finish of round objects that penetrate the flat roof such as pipes and cables.

Instructions:

- Slide the **Shrink Sleeve** over the round object.
- Weld the flange in between waterproofing base and cap sheet.
- Bring the cap sheet up to the PVC base.
- Heat the sleeve with a torch or hot-air gun to make it shrink.

Penetration diameter info:

PVC diameter	Shrinks to:
22mm	12mm
55mm	42mm
88mm	66mm
110mm	88mm



Equus Industries Ltd
PO Box 601
Blenheim
Phone: 03 578 0214
Email: admin@equus.nz
Website: www.equus.nz
June 2022

PERMABASE® DEK

Lightweight roof cover board

January 2024

DESCRIPTION:
PermaBASE® DEK Cement Board is lightweight, easy to cut and fasten, and very durable in the presence of moisture. It will not rot, swell, or disintegrate in the presence of moisture. As an underlayment board or cover board for commercial, low slope roofs it provides excellent compressive strength, delamination resistance, and fungus resistance. It can be used in combination with a variety of roofing membranes and systems.

BRANZ Appraised Appraisal No.819 [2019]
BRANZ Appraised Appraisal No.520 [2019]
BRANZ Appraised Appraisal No.685 [2021]

BASIC USES:
Roofing systems manufacturer have found that PermaBASE® DEK Cement Board works well in the following applications of systems:

- Modified bitumen membranes.
- Built-up roofing systems with single-ply roofing systems.
- Inverted and green roof systems.

ADVANTAGES:

- Unaffected by prolonged exposure to moisture.
- Low water absorption.
- Does not require primers.
- Scores and snaps easily and cleanly.
- Protective surface cover over roof assembly and superior flute spanning increases deck stiffness.
- Superior impact and puncture resistance due to high compressive strength.
- Fire resistant.
- Out performs fibreboard, perlite, or glass mat faced gypsum board in moisture protection and durability.
- Suitable for inverted roof assemblies with liquid membranes.
- Do not use panels as a nailing base (they are non-structural).

PACKAGING:

Thickness, Width and Length	# of Pcs. per Unit
9.5 mm x 1219 mm x 2438 mm	50

TECHNICAL DATA:

Physical Properties	Standard	Value
Nominal thickness (mm)	n/a	9.5
Weight (kg/m^2)	n/a	11.0
Flexural strength (MPa)	ASTM C 947	8.6
R Value	ASTM C 518	0.28
Bending radius (m)	n/a	0.9
Water absorption, % max.	ASTM D 1037	5
Water vapour permeance (ng/Pa-s-m^2)	ASTM E 96	260
Flame spread/smoke developed	ASTM E 84/ULC S-102	0/0

Equus Industries Ltd. 4 Sheffield St, Blenheim 7274 | Phone: 03 578 0214 | Email: info@equus.nz | Web: www.equus.nz

PERMABASE® DEK
Lightweight roof cover board

January 2024

WARNINGS AND BANS:

Is the building product/building product line subject to warning or ban under section 26 of the Building Act 2004?	No

MANUFACTURERS CONTACT DETAILS:

Manufacture location	Canada
Legal and trading name of manufacturer	National Gypsum

Equus Industries Ltd. 4 Sheffield St, Blenheim 7274 | Phone: 03 578 0214 | Email: info@equus.nz | Web: www.equus.nz

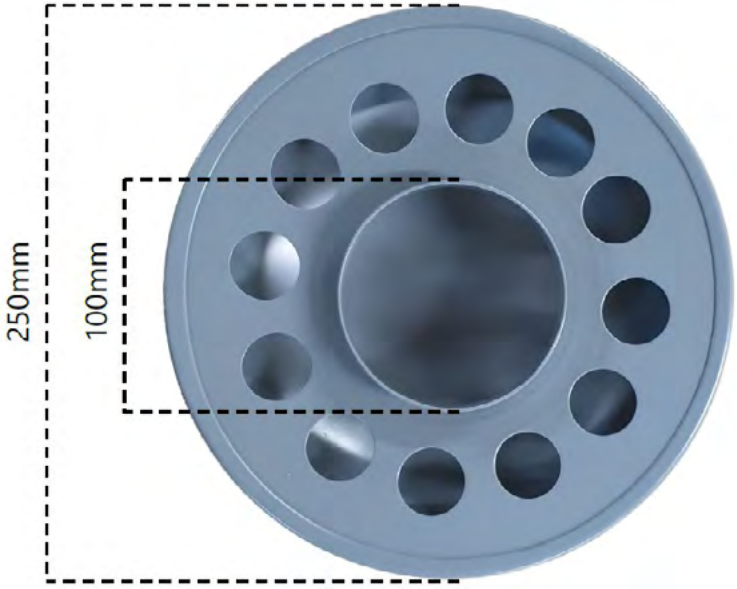
Equus Short Roof Vent

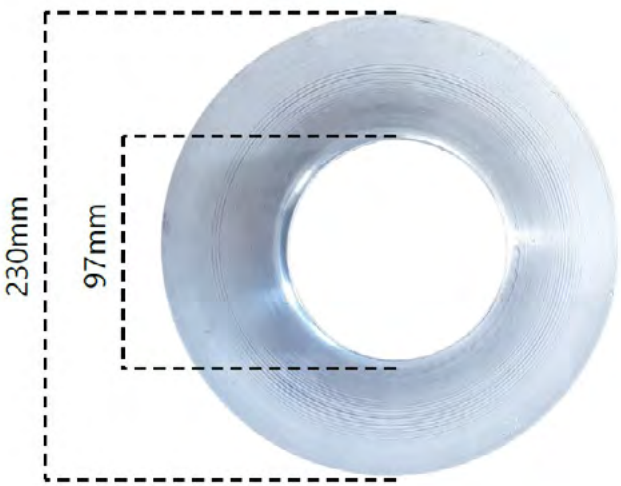
Purpose & Areas of Use:

The Equus Short Roof Vent is designed primarily to vent the ceiling cavity and is normally located near or on the ridgeline. This vent is to be either glued or screwed into place. If screwed, they are to be stainless steel and counter sunk.

All flashing of penetration is to be done as per specifications set out in E2/AS1.

- Standard colours grey or black.
- Project specific detailing available to meet individual service requirements.





Equus Industries Ltd
PO Box 601
Blenheim
Phone: 03 578 0214
Email: admin@equus.nz
Web: www.equus.nz
May 2019

Tecsound®

Soundproofing sheet membrane

Tecsound® is a polymer-based, bitumen-free, high density synthetic membrane.
The combination of its viscoelasticity and its high-density offers good sound-insulation in different construction elements without increasing thickness.
The upper face has a finish of non-woven polypropylene providing mechanical properties as well as protection. The lower face is finished with PE film.

Advantages:

- High sound-insulation combined with light and rigid elements such as gypsum boards.
- High sound damping capacity on metal surfaces, thus improving insulation to rainfall noise on metal decks.
- Reaction-to-fire classified.
- Flexible and adaptable to uneven surfaces.
- Good behaviour at low temperatures, without breaking or cracking.
- Easy to handle and cut with a knife or scissors.
- May act as a vapor control layer.
- Negligible water absorption.
- Ageing resistance.
- Rot proof.

Application:

- Increases airborne noise insulation on vertical surfaces with low surface mass (plasterboard partitions, timber partitions).
- Soundproofing against airborne noise in ceilings and lightweight roofs.
- Reduction of drumming noise level in laminated floors.
- Damping of noise caused by weathering such as rain and hail noise in metal deck roofs.
- Combined with sound-absorbing materials, it offers solutions with high acoustic performance.
- Its applications in the industrial field cover from the soundproofing of booths to the acoustic insulation of machine-rooms, cowling of engines, gutter pipes, sound-damping of metal sheets, etc.

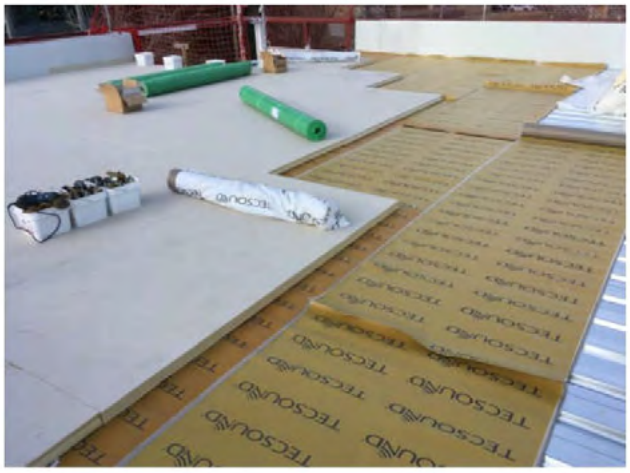
Testing:

Laboratory tests according to EN ISO 140-1, EN ISO 140-3, EN ISO 140-6, EN ISO 140-8, EN ISO 10140, EN ISO 717/1/2, EN ISO 11925-2:2020 and EN 13823:2012+A1:2016

Installation:

Substrate:
The substrate must be even, smooth, clean and dry. It must also be free from elements that could damage the membrane.

Installation of the Membrane on Metal Decks:
Extend the roll over the substrate progressively, fleece upwards, with an overlap of at least 50mm. In case of direct installation on top of the deck, the membrane must be applied perpendicular to the direction of the deck profile. In case of a mechanically fixed insulation and waterproofing systems, specification of type and number of fasteners needed must be respected.



Packing and Storage:

	TECSOUND®			
	35	**50**	**70**	**100**
Weight (Kg/m^2)	3.5	5	7	10
Thickness (mm)	1.75	2.5	3.5	5.0
Length (m)	8.05	6.05	5.05	4.0
Width (m)	1.22	1.22	1.22	1.2
m^2/roll	9.82	7.38	6.16	4.8
Rolls/pallet	24	24	24	21

Tecsound®

	TECSOUND®			
	35	**50**	**70**	**100**
m^2/pallet	235.68	177.12	147.84	100.80

Storage:

Product supplied in rolls with carton core inside and individual protection cover.
Store the rolls horizontally, inside its original packaging, on a pallet protected against moisture, sunlight and heat at a temperature ≤ +35 °C. Do not stack the pallets on top of each other.
In cold periods, installation can be facilitated by leaving the product at +2 °C at least during a minimum of 5h before use.

	TECSOUND®			
	LAM 35	**LAM 50**	**LAM 70**	**LAM 100**
Weight (Kg/m^2)	3.5	5	7	10
Thickness (mm)	1.75	2.5	3.5	5.0
Length (m)	1	1	1	1
Width (m)	1.2	1.2	1.2	1.2
m^2/sheet	1.2	1.2	1.2	1.2
Sheets/pallet		150		75
m^2/pallet		180		90

Storage:

Product supplied in sheets.
Do not stack the pallets on top of each other. Same storage conditions as the rolls format.

Sound Insulation:

Characteristics	**Test Method**	**Weighted sound reduction index Rw**	
TECSOUND 35	-	23	dB
TECSOUND 50	EN ISO 10140-2	25	dB
TECSOUND 70	EN ISO 140-3	28	dB
TECSOUND 100	EN ISO 10140-2	32	dB

Technical Properties:

Characteristics	**Test Method**	**TECSOUND**	**Unit**
Density	-	2.010	Kg/m^3
Tensile strength	NT-67	>30	N/50mm
Elongation	NT-67	>500	%
Pliability	EN 1109	-25	°C
Application temperature [1]	-	5 up to 35	°C
Static Service Temperature	-	-10 up to 70	°C
Resistance to tearing (nail shank)	EN 12310-1	153-235	N/50mm
Fire classification	UNE-EN 13501-1	B-s2.d0[2]	-
Water vapour resistance factor	UNE-EN 1931 met B	μ ≥ 1806	-
Water absorption (24h a 23°C)	ISO 62 met 1	0.0003	%
TVOC after 28 days	EN 16516	≤ 60	μg/m^3
Indoor Air Comfort Gold limit values	-	PASS	-
Shore hardness A	NT 74	30±10	-
Young module €	-	1.35637 x 1.1744	MPa
Poisson coefficient	-	0.23	-

[1] Ranges of temperatures during installation
[2] Valid from TECSOUND 35 to TECSOUND 70

Example of Sound Insulation on Metal Decks:

Frequency (Hz)	**R with TECSOUND 70**	**R without TECSOUND**	**Unit**
125	23.7	16.4	dB
250	24.2	15.3	dB
500	29.2	23.2	dB
1000	35.4	25	dB
2000	43.4	30.3	dB
4000	54.6	39.7	dB
Rw (acoustic reduction index)	**34**	**26**	dB
Testing according to UNE-EN ISO 140-3:1995			

(*) See our Solutions Manual or contact our Technical Department to know about other systems.

Tecsound®

Special Indications:

Hygiene, Health & Environment

This product does not contain any substance which is likely to be detrimental to your health or to the environment and complies with generally admitted Health and Safety Requirements.

Quality, Environment and Safety Management

SOPREMA always recognises as a high level of importance the quality of the products, the environment and safety. For this reason, we operate independently monitored Quality and Environment Assurance Systems in line with **EN ISO 9001** and **EN ISO 14001**.

Equus Industries Ltd
PO Box 601
Blenheim
New Zealand
P: 03 578 0214
techsupport@equus.nz
www.equus.nz
March 2022

SOPRASOLAR

FIX EVO TILT (BITUMEN)

Key Features:

- High puncture resistance
- Installed without roof drilling
- Quick installation
- No thermal bridging
- Tested up to 200km/h wind uplift

Description:

SOPRASOLAR FIX EVO TILT system is a solar waterproofing solution for flat roofs as a support for photovoltaic panels. It allows connection between the panel and cap sheet membrane without drilling into it and compromising the waterproofing properties of the roof.

Application Method:

SOPRASOLAR FIX EVO TILT is installed in total adhesion by heat welded on horizontal surfaces of SBS and APP membranes.

Installation Procedure:

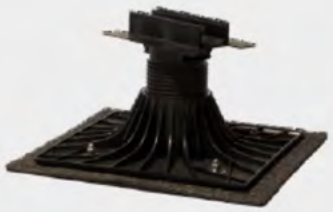
Substrate

- No work should be started until all surfaces are smooth, dry, and free of ice, snow or any other substance that may prevent the membrane from adhering properly.
- Commencement of installation shall be taken as acceptance of the substrate by the Applicator.

Installation

- Install the cap sheet membrane on the roof.
- Mark the location of the **SOPRASOLAR FIX EVO PEDESTAL** on the cap sheet membrane according to the pattern supplied by the contractor in charge of the photovoltaic panels.
- Embed the granules in the area where the pedestal will be installed.
- Heat the plastic film on the underside of the pedestal using a propane torch.
- Heat the designated area on the field membrane using a propane torch.
- Heat the underside of the pedestal again.
- Immediately install the pedestal onto the marked area.

For complete information on product installation, please consult your Equus Representative.

SOPRASOLAR FIX EVO TILT COMPONENTS		
The SOPRASOLAR FIX EVO PEDESTAL is a factory assembled height-adjustable pedestal mechanically fastened to a piece of waterproofing membrane.	The LOWER RAISER and the UPPER RAISER allow the addition of a 10% slope to photovoltaic panels.	The RAISER BLOCKER ensures that the raiser blocks stay in place on the pedestals.
MATERIAL		
Polyamide 6 with 30% fibreglass filler	6060 T6 primary aluminum	6060 T6 primary aluminum
DIMENSIONS		
PEDESTAL 300 mm x 370 mm x 120 mm to 160 mm	LOWER RAISER 40 mm x 120 mm x 45 mm	UPPER RAISER 40 mm x 120 mm x 200 mm	RAISER BLOCKER 50 mm x 125 mm x 25 mm
			

940
2 page

PRODUCT DATA SHEET

SOPRASOLAR FIX EVO TILT (BITUMEN)

Packaging:

SPECIFICATIONS	SOPRASOLAR FIX EVO TILT
Total weight	1.3 kg
Surface	Granules
Underface	Thermofusible plastic film
Membrane thickness	4.7 mm

Properties:

PROPERTIES	STANDARDS	SOPRASOLAR FIX EVO TILT
Reinforcement	-	Non-woven polyester
Tensile strength (initial)	EN 12311	Pedestal base: 6.98 kN Head and rail: 7.14 kN
Tensile strength after UV exposure (EN 16472)	EN 12311	Pedestal base: 7.17 kN Head and rail: 7.10 kN
Resistance to seismic loads (Conditions for Tofino, B.C.)	ICC-ES AC156	Pass

Storage & Handling:

The elements of the system must be stored protected. If the products are stored outdoors, cover them with an opaque protection cover after removal of the delivery packaging.

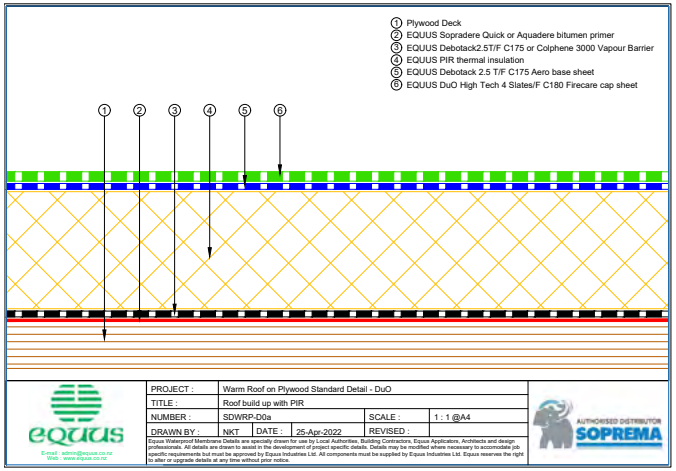
Statement of Responsibility:

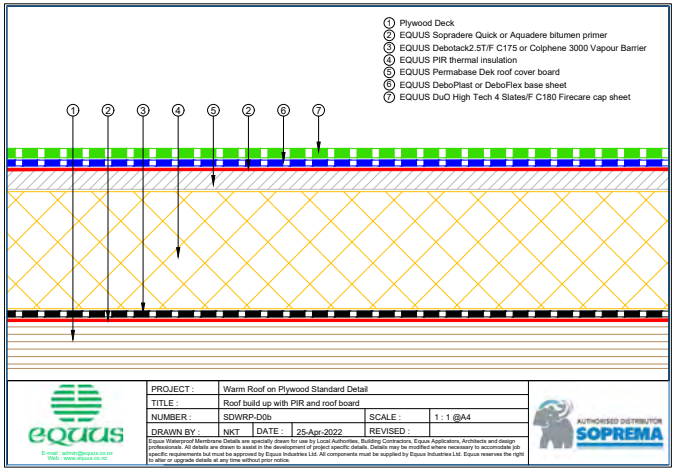
The technical information and application advice given in this publication is based on the present state of our best knowledge. As the information herein is of a general nature, no assumption can be made as to a product's suitability for a particular use or application and no warranty as to its accuracy, reliability or completeness either expressed or implied is given other than those required by Commonwealth or State Legislation. The owner, their representative and/or the contractor are responsible for checking the suitability of products for their intended use.

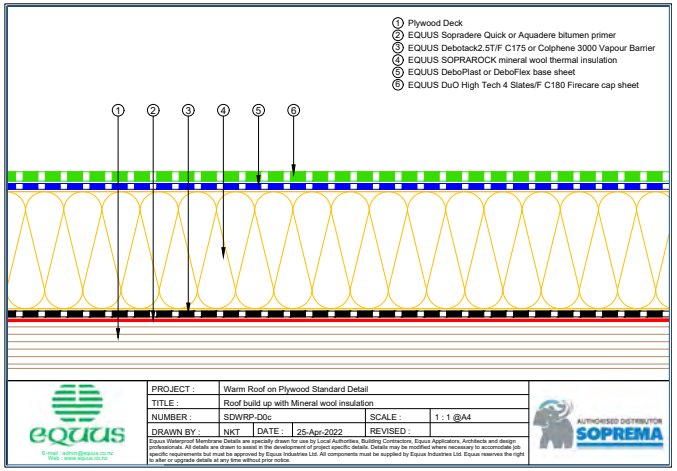
Equus Industries Ltd
PO Box 601
Blenheim
Phone: 03 578 0214 Fax 03 578 0919
Email: admin@equus.nz
Website: www.equus.nz

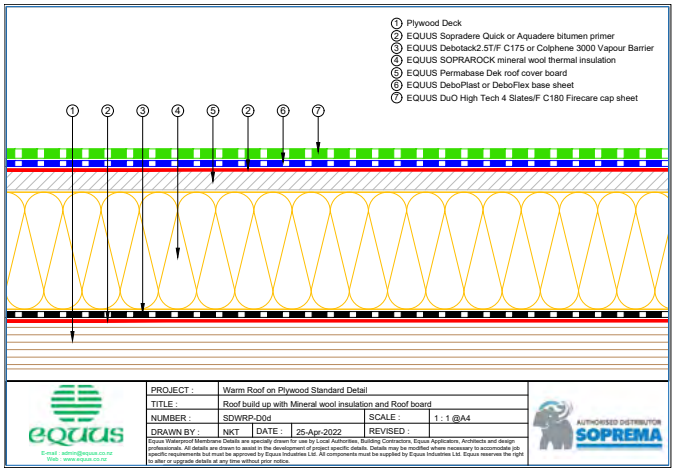
Edition 1
September 2022

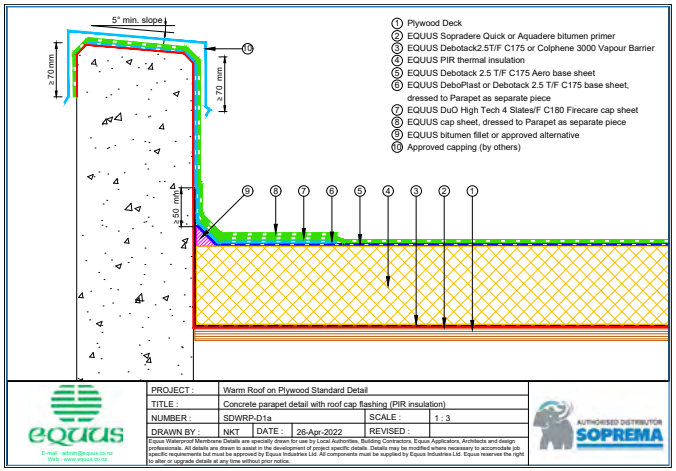
To see or download full size details click here

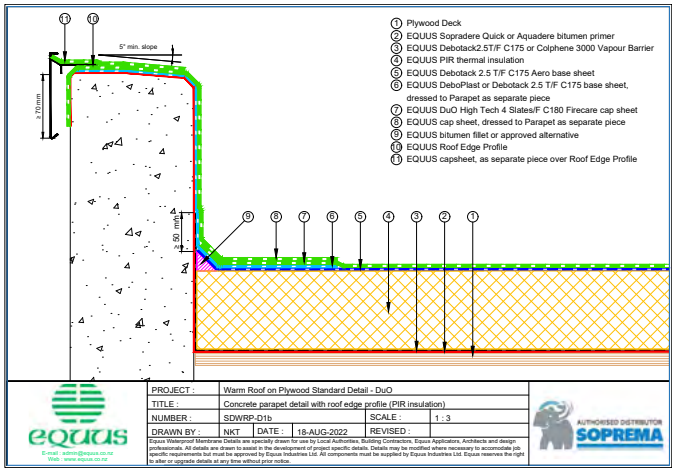


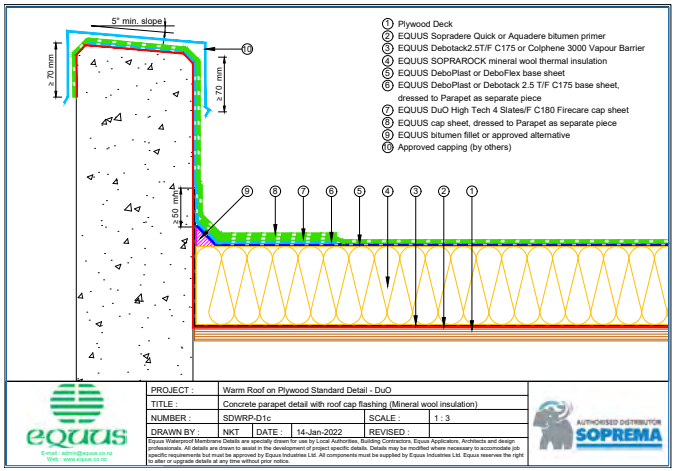


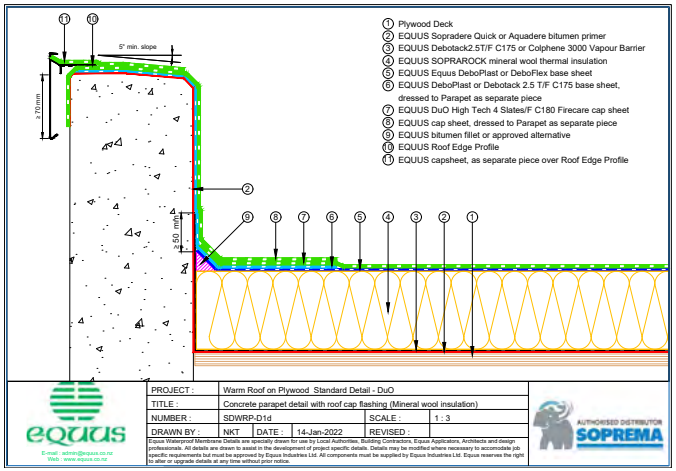


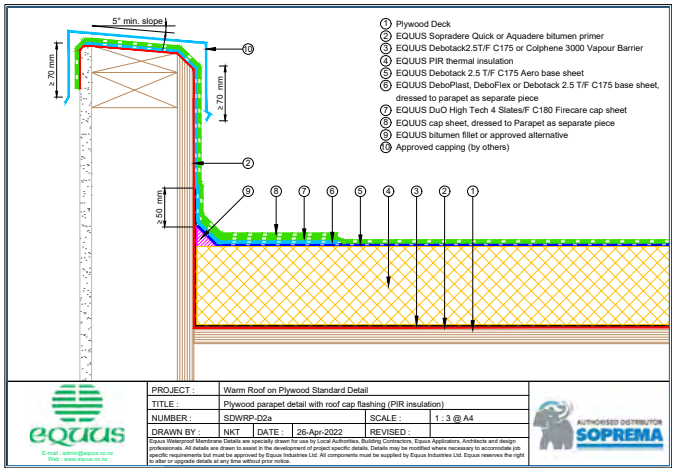




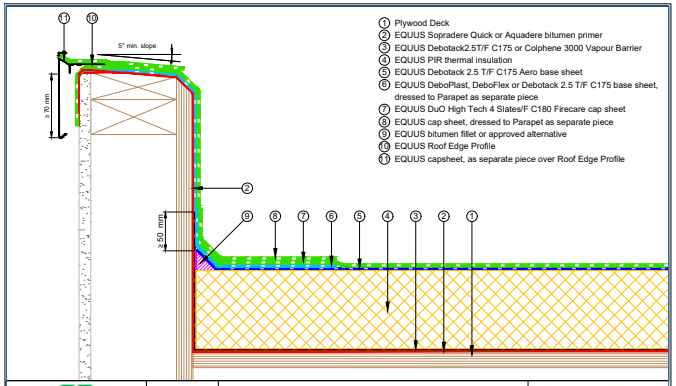






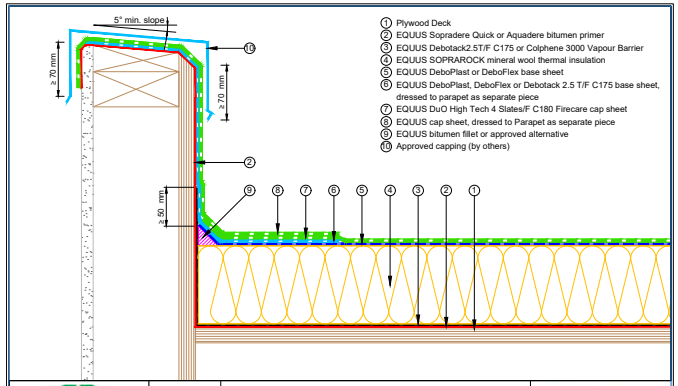


To see or download full size details click here



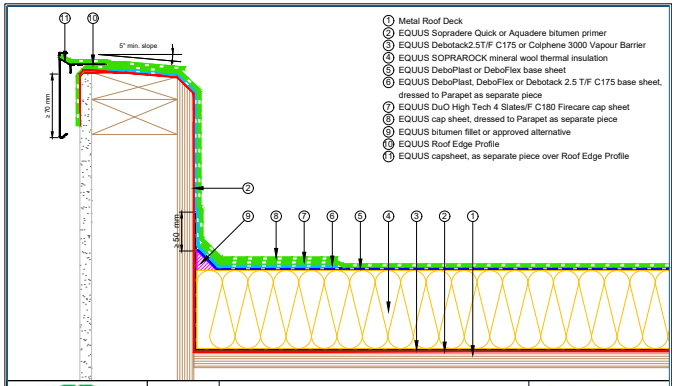
1. Plywood Deck
2. EQUUS Sopradere Quick or Aquadere bitumen primer
3. EQUUS Debotack2.5T/F C175 or Colphene 3000 Vapour Barrier
4. EQUUS PIR thermal insulation
5. EQUUS Debotack 2.5 T/F C175 Aero base sheet
6. EQUUS DeboPlast, DeboFlex or Debotack 2.5 T/F C175 base sheet, dressed to Parapet as separate piece
7. EQUUS DuO High Tech 4 Slates/F C180 Firecare cap sheet
8. EQUUS cap sheet, dressed to Parapet as separate piece
9. EQUUS bitumen fillet or approved alternative
10. EQUUS Roof Edge Profile
11. EQUUS capsheet, as separate piece over Roof Edge Profile

PROJECT :	Warm Roof on Plywood Standard Detail				
TITLE :	Plywood parapet detail with roof edge profile (PIR insulation)				
NUMBER :	SDWRP-D2b			SCALE :	1 : 3 @ A4
DRAWN BY :	NKT	DATE :	26-Apr-2022	REVISED :	



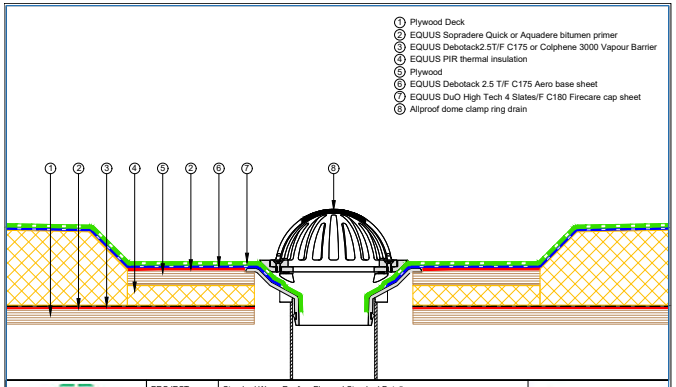
1. Plywood Deck
2. EQUUS Sopradere Quick or Aquadere bitumen primer
3. EQUUS Debotack2.5T/F C175 or Colphene 3000 Vapour Barrier
4. EQUUS SOPRAROCK mineral wool thermal insulation
5. EQUUS DeboPlast or DeboFlex base sheet
6. EQUUS DeboPlast, DeboFlex or Debotack 2.5 T/F C175 base sheet, dressed to parapet as separate piece
7. EQUUS DuO High Tech 4 Slates/F C180 Firecare cap sheet
8. EQUUS cap sheet, dressed to Parapet as separate piece
9. EQUUS bitumen fillet or approved alternative
10. Approved capping (by others)

PROJECT :	Warm Roof on Plywood Standard Detail				
TITLE :	Plywood parapet detail with roof cap flashing (Mineral insulation)				
NUMBER :	SDWRP-D2c			SCALE :	1 : 3 @ A4
DRAWN BY :	NKT	DATE :	26-Apr-2022	REVISED :	



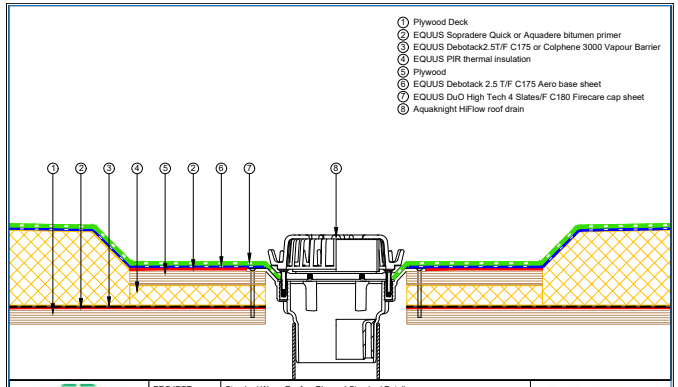
1. Metal Roof Deck
2. EQUUS Sopradere Quick or Aquadere bitumen primer
3. EQUUS Debotack2.5T/F C175 or Colphene 3000 Vapour Barrier
4. EQUUS SOPRAROCK mineral wool thermal insulation
5. EQUUS DeboPlast or DeboFlex base sheet
6. EQUUS DeboPlast, DeboFlex or Debotack 2.5 T/F C175 base sheet, dressed to Parapet as separate piece
7. EQUUS DuO High Tech 4 Slates/F C180 Firecare cap sheet
8. EQUUS cap sheet, dressed to Parapet as separate piece
9. EQUUS bitumen fillet or approved alternative
10. EQUUS Roof Edge Profile
11. EQUUS capsheet, as separate piece over Roof Edge Profile

PROJECT :	Warm Roof on Plywood Standard Detail				
TITLE :	Plywood parapet detail with roof edge profile (Mineral wool insulation)				
NUMBER :	SDWRP-D2d			SCALE :	1 : 3 @ A4
DRAWN BY :	NKT	DATE :	26-Apr-2022	REVISED :	



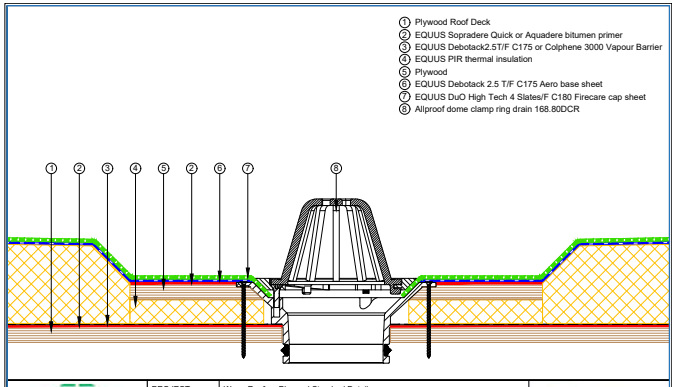
1. Plywood Deck
2. EQUUS Sopradere Quick or Aquadere bitumen primer
3. EQUUS Debotack2.5T/F C175 or Colphene 3000 Vapour Barrier
4. EQUUS PIR thermal insulation
5. Plywood
6. EQUUS Debotack 2.5 T/F C175 Aero base sheet
7. EQUUS DuO High Tech 4 Slates/F C180 Firecare cap sheet
8. Allproof dome clamp ring drain

PROJECT :	Standard Warm Roof on Plywood Standard Detail				
TITLE :	Allproof dome clamp ring drain				
NUMBER :	SDWRP-D3a			SCALE :	1 : 3
DRAWN BY :	NKT	DATE :	27-Apr-2022	REVISED :	



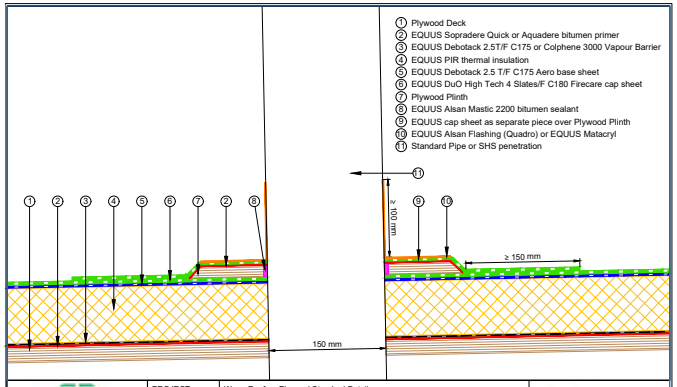
1. Plywood Deck
2. EQUUS Sopradere Quick or Aquadere bitumen primer
3. EQUUS Debotack2.5T/F C175 or Colphene 3000 Vapour Barrier
4. EQUUS PIR thermal insulation
5. Plywood
6. EQUUS Debotack 2.5 T/F C175 Aero base sheet
7. EQUUS DuO High Tech 4 Slates/F C180 Firecare cap sheet
8. Aquaknight HiFlow roof drain

PROJECT :	Standard Warm Roof on Plywood Standard Detail				
TITLE :	Aquaknight HiFlow roof drain				
NUMBER :	SDWRP-D3b			SCALE :	1 : 3
DRAWN BY :	NKT	DATE :	27-Apr-2022	REVISED :	



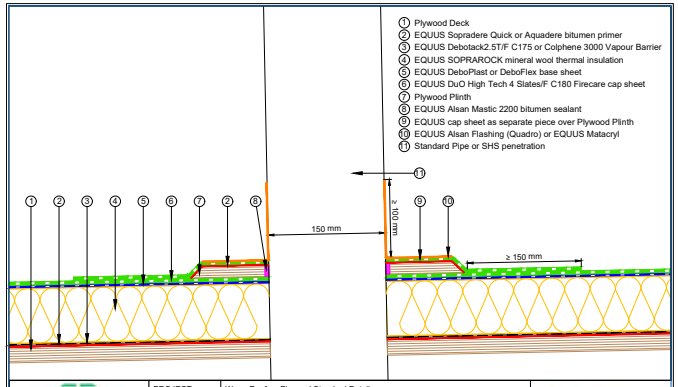
1. Plywood Roof Deck
2. EQUUS Sopradere Quick or Aquadere bitumen primer
3. EQUUS Debotack2.5T/F C175 or Colphene 3000 Vapour Barrier
4. EQUUS PIR thermal insulation
5. Plywood
6. EQUUS Debotack 2.5 T/F C175 Aero base sheet
7. EQUUS DuO High Tech 4 Slates/F C180 Firecare cap sheet
8. Allproof dome clamp ring drain 168.80DCR

PROJECT :	Warm Roof on Plywood Standard Detail				
TITLE :	Allproof dome clamp ring drain 168.80DCR				
NUMBER :	SDWRP-D3c			SCALE :	NTS
DRAWN BY :	NKT	DATE :	6-Apr-2022	REVISED :	



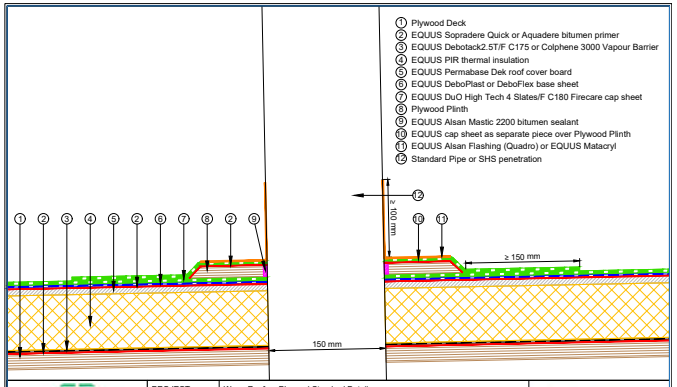
1. Plywood Deck
2. EQUUS Sopradere Quick or Aquadere bitumen primer
3. EQUUS Debotack2.5T/F C175 or Colphene 3000 Vapour Barrier
4. EQUUS PIR thermal insulation
5. EQUUS Debotack 2.5 T/F C175 Aero base sheet
6. EQUUS DuO High Tech 4 Slates/F C180 Firecare cap sheet
7. Plywood Plinth
8. EQUUS Alsan Mastic 2200 bitumen sealant
9. EQUUS cap sheet as separate piece over Plywood Plinth
10. EQUUS Alsan Flashing (Quadro) or EQUUS Matacryl
11. Standard Pipe or SHS penetration

PROJECT :	Warm Roof on Plywood Standard Detail				
TITLE :	Standard Pipe or SHS penetration (PIR insulation)				
NUMBER :	SDWRP-D5a			SCALE :	1 : 3
DRAWN BY :	NKT	DATE :	27-Apr-2022	REVISED :	



1. Plywood Deck
2. EQUUS Sopradere Quick or Aquadere bitumen primer
3. EQUUS Debotack2.5T/F C175 or Colphene 3000 Vapour Barrier
4. EQUUS SOPRAROCK mineral wool thermal insulation
5. EQUUS DeboPlast or DeboFlex base sheet
6. EQUUS DuO High Tech 4 Slates/F C180 Firecare cap sheet
7. Plywood Plinth
8. EQUUS Alsan Mastic 2200 bitumen sealant
9. EQUUS cap sheet as separate piece over Plywood Plinth
10. EQUUS Alsan Flashing (Quadro) or EQUUS Matacryl
11. Standard Pipe or SHS penetration

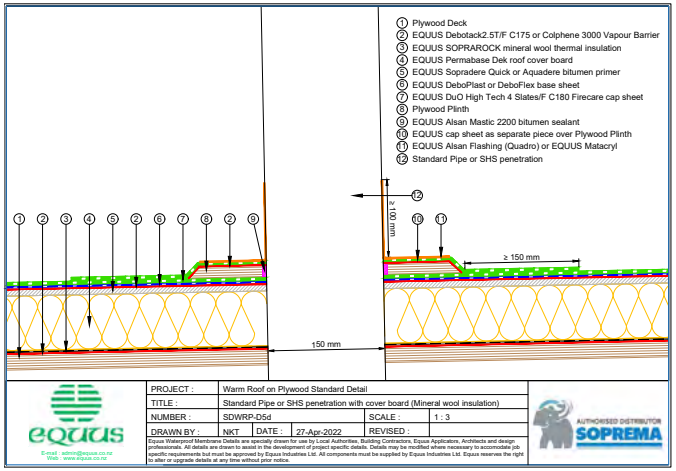
PROJECT :	Warm Roof on Plywood Standard Detail				
TITLE :	Standard Pipe or SHS penetration (Mineral wool insulation)				
NUMBER :	SDWRP-D5b			SCALE :	1 : 3
DRAWN BY :	NKT	DATE :	27-Apr-2022	REVISED :	

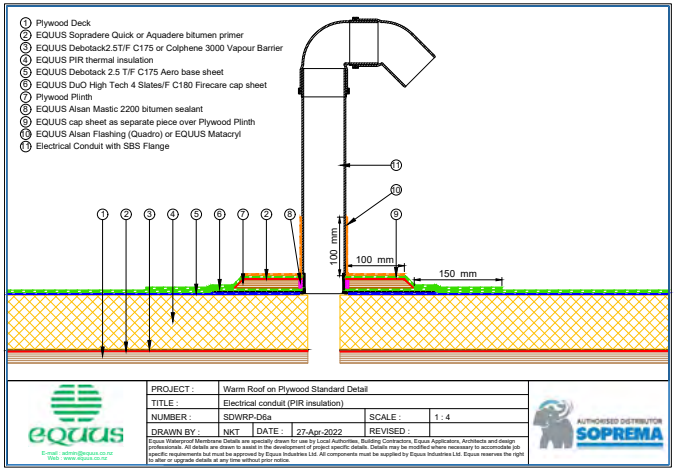


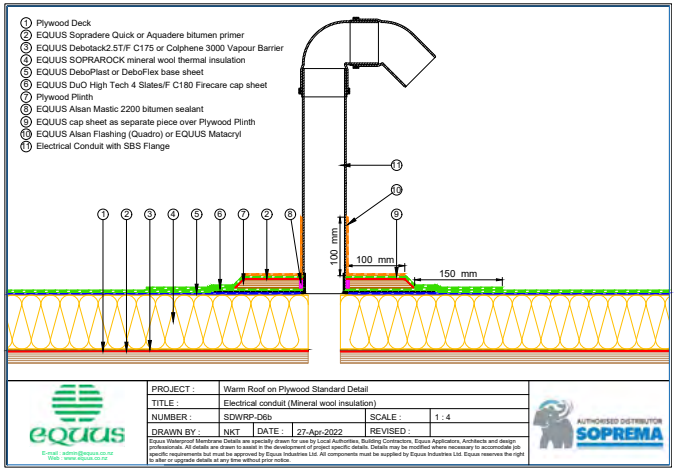
1. Plywood Deck
2. EQUUS Sopradere Quick or Aquadere bitumen primer
3. EQUUS Debotack2.5T/F C175 or Colphene 3000 Vapour Barrier
4. EQUUS PIR thermal insulation
5. EQUUS Permabase Dek roof cover board
6. EQUUS DeboPlast or DeboFlex base sheet
7. EQUUS DuO High Tech 4 Slates/F C180 Firecare cap sheet
8. Plywood Plinth
9. EQUUS Alsan Mastic 2200 bitumen sealant
10. EQUUS cap sheet as separate piece over Plywood Plinth
11. EQUUS Alsan Flashing (Quadro) or EQUUS Matacryl
12. Standard Pipe or SHS penetration

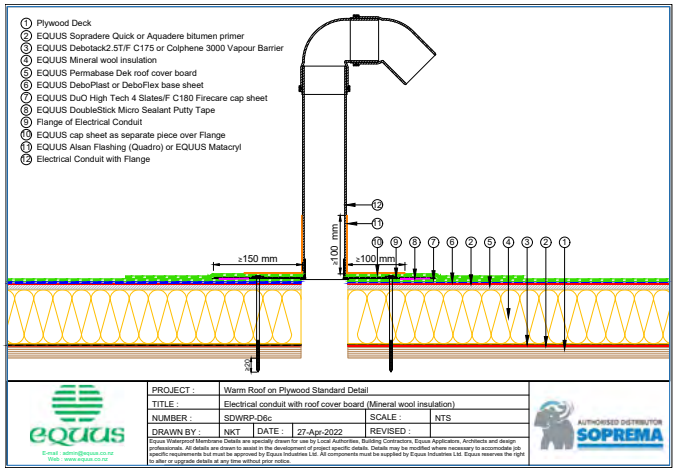
PROJECT :	Warm Roof on Plywood Standard Detail				
TITLE :	Standard Pipe or SHS penetration with cover board (PIR insulation)				
NUMBER :	SDWRP-D5c			SCALE :	1 : 3
DRAWN BY :	NKT	DATE :	27-Apr-2022	REVISED :	

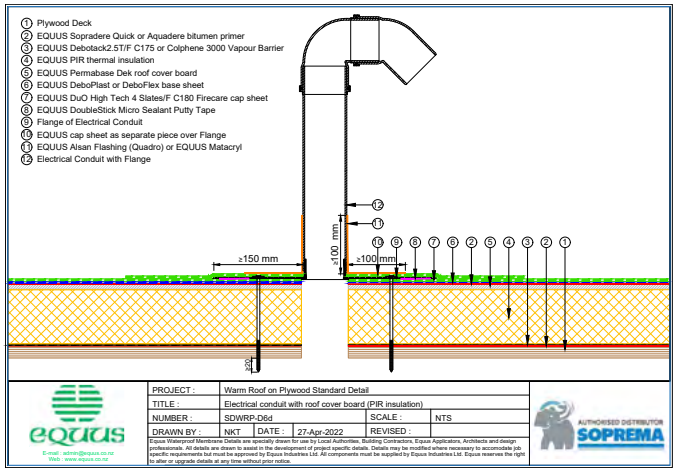
To see or download full size details click here

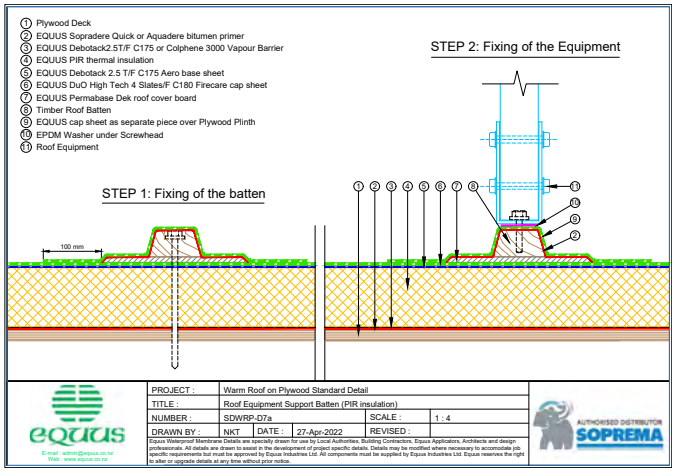


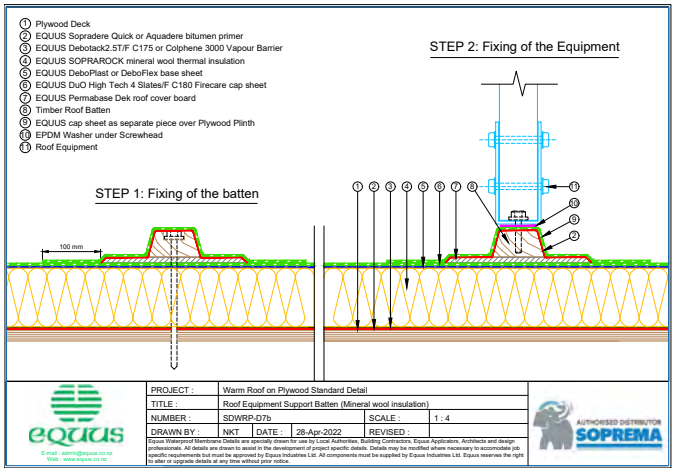


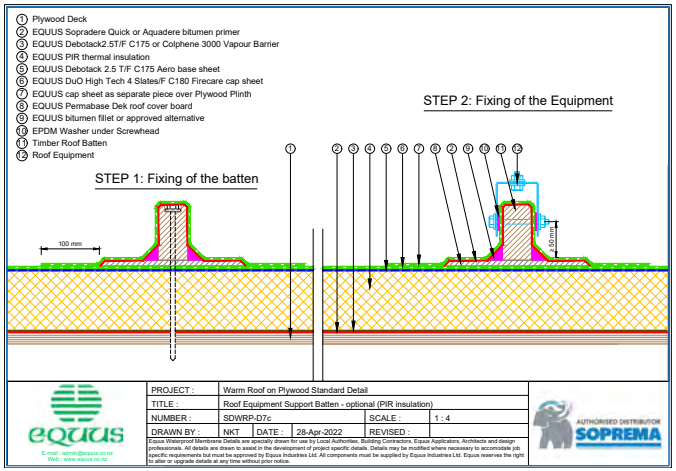


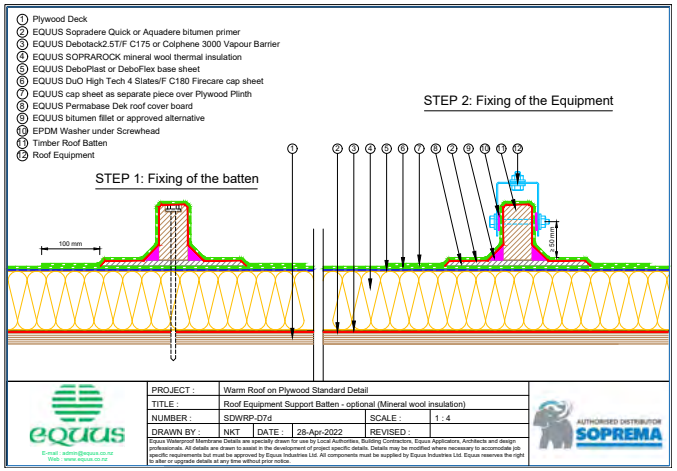






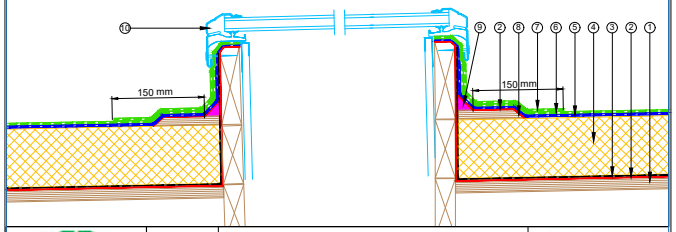






To see or download full size details click here

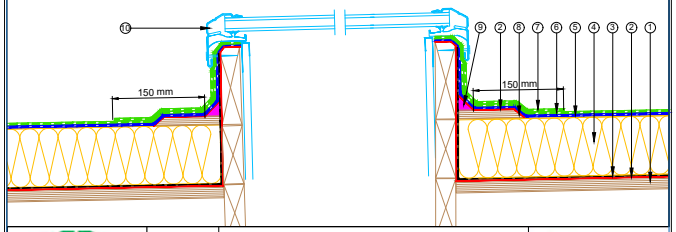
1. Plywood Deck
2. EQUUS Sopradere Quick or Aquadere bitumen primer
3. EQUUS Debotack2.5T/F C175 or Colphene 3000 Vapour Barrier
4. EQUUS PIR thermal insulation
5. EQUUS Debotack 2.5 T/F C175 Aero base sheet
6. EQUUS DuO High Tech 4 Slates/F C180 Firecare cap sheet
7. EQUUS cap sheet as separate piece over Plywood Plinth
8. Plywood Plinth
9. EQUUS bitumen fillet or approved alternative
10. Skylight Joinery



PROJECT :	Warm Roof on Plywood Standard Detail				
TITLE :	Skylight (PIR insulation)				
NUMBER :	SDWRP-D8a			SCALE :	1 : 4
DRAWN BY :	NKT	DATE :	28-Apr-2022	REVISED :	

Equus Waterproof Membrane Details are specially drawn for use by Local Authorities, Building Contractors, Equus Applicators, Architects and design professionals. All details are drawn to assist in the development of project specific details. Details may be modified where necessary to accomodate job specific requirements but must be approved by Equus Industries Ltd. All components must be supplied by Equus Industries Ltd. Equus reserves the right to alter or upgrade details at any time without prior notice.

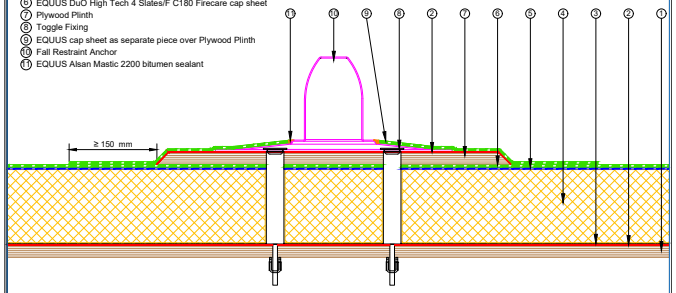
1. Plywood Deck
2. EQUUS Sopradere Quick or Aquadere bitumen primer
3. EQUUS Debotack2.5T/F C175 or Colphene 3000 Vapour Barrier
4. EQUUS SOPRAROCK mineral wool thermal insulation
5. EQUUS Debotack 2.5 T/F C175 Aero base sheet
6. EQUUS DuO High Tech 4 Slates/F C180 Firecare cap sheet
7. EQUUS cap sheet as separate piece over Plywood Plinth
8. Plywood Plinth
9. EQUUS bitumen fillet or approved alternative
10. Skylight Joinery



PROJECT :	Warm Roof on Plywood Standard Detail				
TITLE :	Skylight (Mineral insulation)				
NUMBER :	SDWRP-D8b			SCALE :	1 : 4
DRAWN BY :	NKT	DATE :	28-Apr-2022	REVISED :	

Equus Waterproof Membrane Details are specially drawn for use by Local Authorities, Building Contractors, Equus Applicators, Architects and design professionals. All details are drawn to assist in the development of project specific details. Details may be modified where necessary to accomodate job specific requirements but must be approved by Equus Industries Ltd. All components must be supplied by Equus Industries Ltd. Equus reserves the right to alter or upgrade details at any time without prior notice.

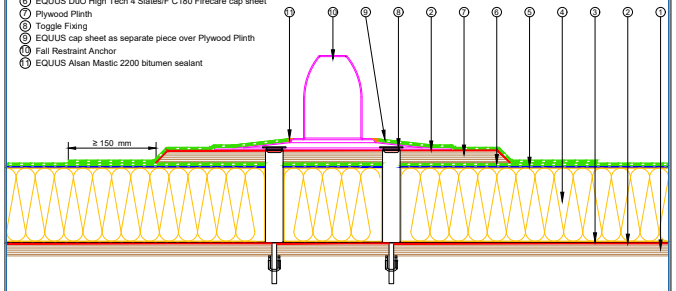
1. Plywood Deck
2. EQUUS Sopradere Quick or Aquadere bitumen primer
3. EQUUS Debotack2.5T/F C175 or Colphene 3000 Vapour Barrier
4. EQUUS PIR thermal insulation
5. EQUUS Debotack 2.5 T/F C175 Aero base sheet
6. EQUUS DuO High Tech 4 Slates/F C180 Firecare cap sheet
7. Plywood Plinth
8. Toggle Fixing
9. EQUUS cap sheet as separate piece over Plywood Plinth
10. Fall Restraint Anchor
11. EQUUS Alsan Mastic 2200 bitumen sealant



PROJECT :	Warm Roof on Plywood Standard Detail				
TITLE :	Fall restraint (PIR insulation)				
NUMBER :	SDWRP-D9a			SCALE :	1 : 4
DRAWN BY :	NKT	DATE :	28-Apr-2022	REVISED :	

Equus Waterproof Membrane Details are specially drawn for use by Local Authorities, Building Contractors, Equus Applicators, Architects and design professionals. All details are drawn to assist in the development of project specific details. Details may be modified where necessary to accomodate job specific requirements but must be approved by Equus Industries Ltd. All components must be supplied by Equus Industries Ltd. Equus reserves the right to alter or upgrade details at any time without prior notice.

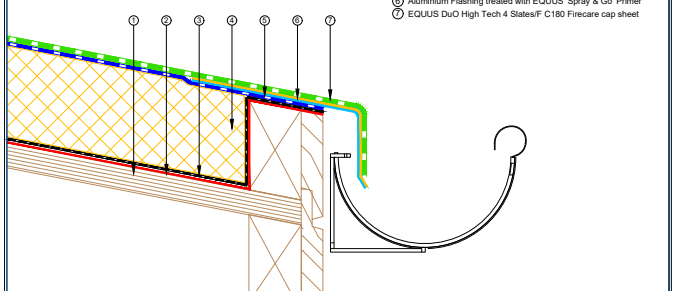
1. Plywood Deck
2. EQUUS Sopradere Quick or Aquadere bitumen primer
3. EQUUS Debotack2.5T/F C175 or Colphene 3000 Vapour Barrier
4. EQUUS SOPRAROCK mineral wool thermal insulation
5. EQUUS Debotack 2.5 T/F C175 Aero base sheet
6. EQUUS DuO High Tech 4 Slates/F C180 Firecare cap sheet
7. Plywood Plinth
8. Toggle Fixing
9. EQUUS cap sheet as separate piece over Plywood Plinth
10. Fall Restraint Anchor
11. EQUUS Alsan Mastic 2200 bitumen sealant



PROJECT :	Warm Roof on Plywood Standard Detail				
TITLE :	Fall restraint (Mineral wool insulation)				
NUMBER :	SDWRP-D9b			SCALE :	1 : 4
DRAWN BY :	NKT	DATE :	28-Apr-2022	REVISED :	

Equus Waterproof Membrane Details are specially drawn for use by Local Authorities, Building Contractors, Equus Applicators, Architects and design professionals. All details are drawn to assist in the development of project specific details. Details may be modified where necessary to accomodate job specific requirements but must be approved by Equus Industries Ltd. All components must be supplied by Equus Industries Ltd. Equus reserves the right to alter or upgrade details at any time without prior notice.

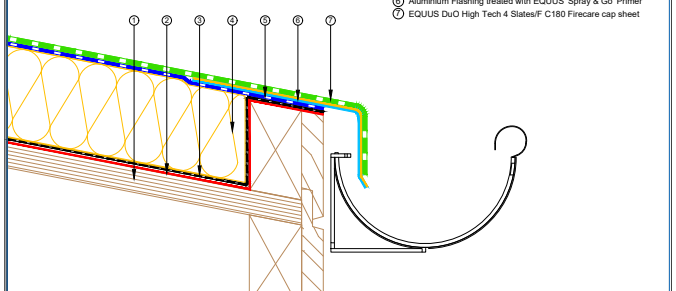
1. Plywood Deck
2. EQUUS Sopradere Quick or Aquadere bitumen primer
3. EQUUS Debotack2.5T/F C175 or Colphene 3000 Vapour Barrier
4. EQUUS PIR thermal insulation
5. EQUUS DeboPlast or DeboFlex base sheet
6. Aluminium Flashing treated with EQUUS 'Spray & Go' Primer
7. EQUUS DuO High Tech 4 Slates/F C180 Firecare cap sheet



PROJECT :	Warm Roof on Plywood Standard Detail - DuO				
TITLE :	Connection to External Gutter (PIR insulation)				
NUMBER :	SDWRP-D10a			SCALE :	1 : 2
DRAWN BY :	NKT	DATE :	27-Aug-2022	REVISED :	

Equus Waterproof Membrane Details are specially drawn for use by Local Authorities, Building Contractors, Equus Applicators, Architects and design professionals. All details are drawn to assist in the development of project specific details. Details may be modified where necessary to accomodate job specific requirements but must be approved by Equus Industries Ltd. All components must be supplied by Equus Industries Ltd. Equus reserves the right to alter or upgrade details at any time without prior notice.

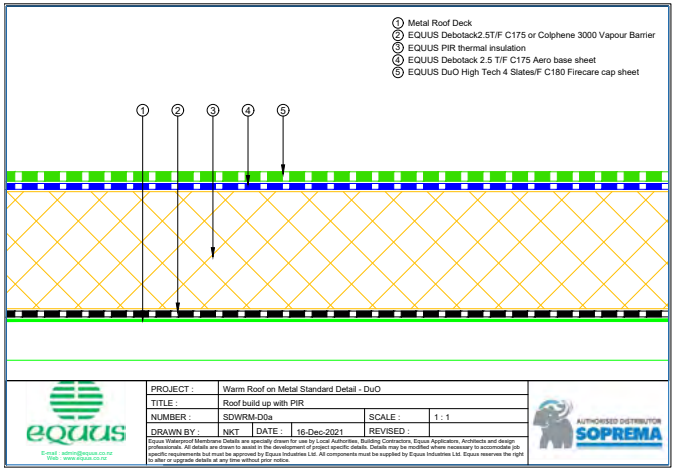
1. Plywood Deck
2. EQUUS Sopradere Quick or Aquadere bitumen primer
3. EQUUS Debotack2.5T/F C175 or Colphene 3000 Vapour Barrier
4. EQUUS SOPRAROCK mineral wool thermal insulation
5. EQUUS DeboPlast or DeboFlex base sheet
6. Aluminium Flashing treated with EQUUS 'Spray & Go' Primer
7. EQUUS DuO High Tech 4 Slates/F C180 Firecare cap sheet

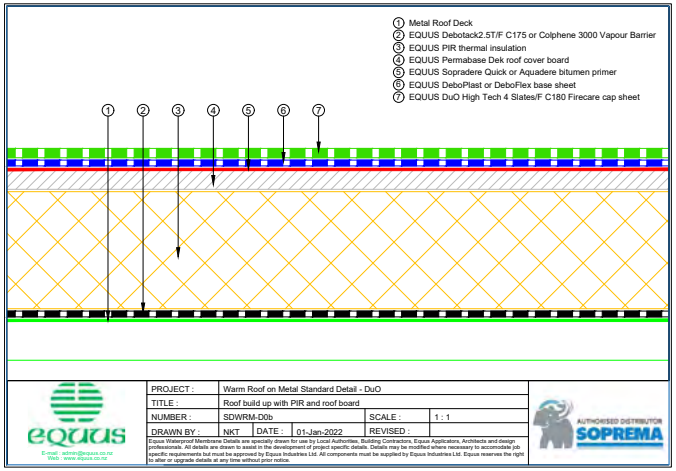


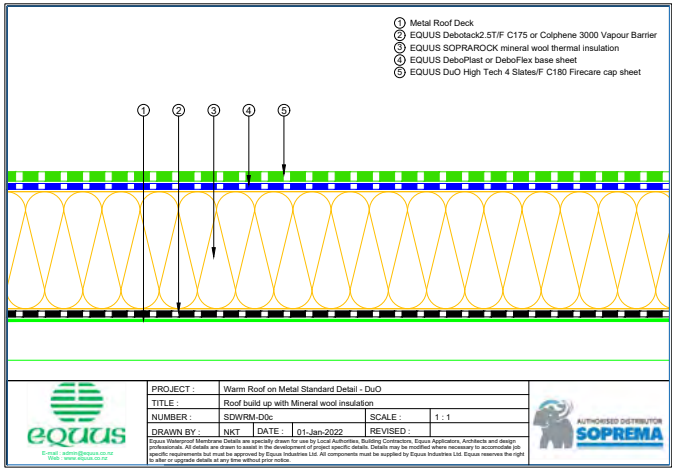
PROJECT :	Warm Roof on Plywood Standard Detail - DuO				
TITLE :	Connection to External Gutter (Mineral wool insulation)				
NUMBER :	SDWRP-D10b			SCALE :	1 : 2
DRAWN BY :	NKT	DATE :	27-Aug-2022	REVISED :	

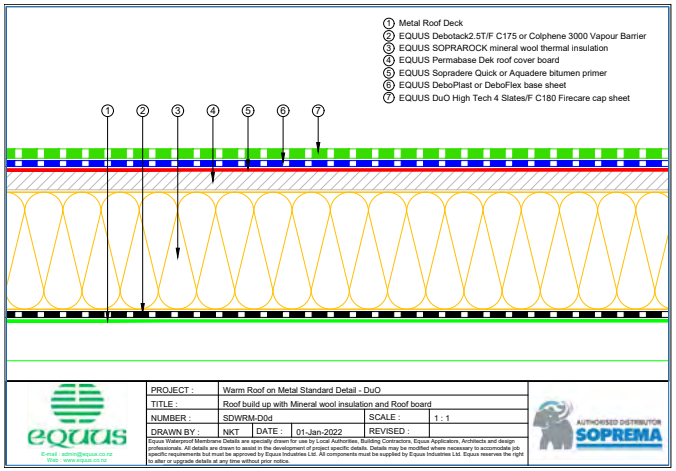
Equus Waterproof Membrane Details are specially drawn for use by Local Authorities, Building Contractors, Equus Applicators, Architects and design professionals. All details are drawn to assist in the development of project specific details. Details may be modified where necessary to accomodate job specific requirements but must be approved by Equus Industries Ltd. All components must be supplied by Equus Industries Ltd. Equus reserves the right to alter or upgrade details at any time without prior notice.

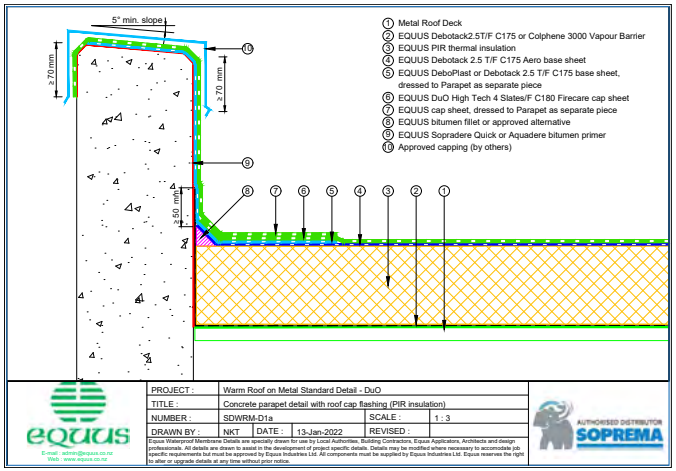
To see or download full size details click here

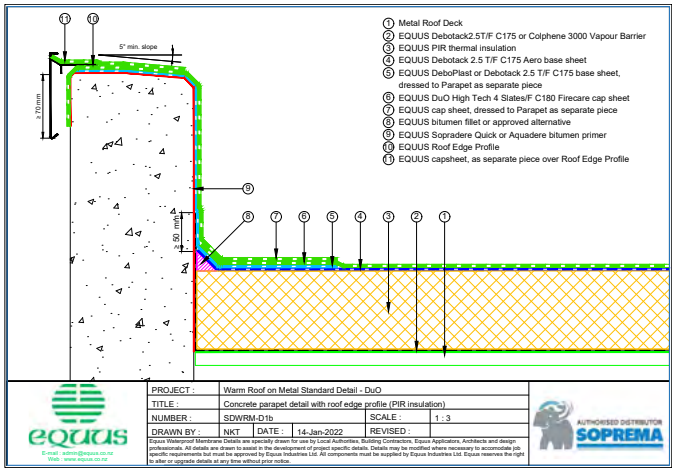


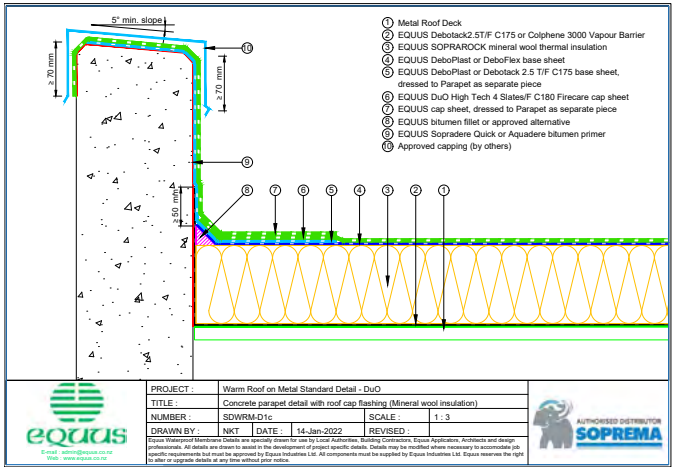


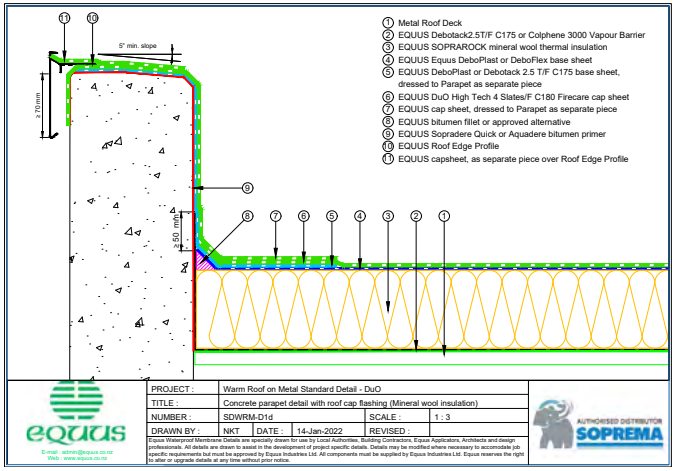


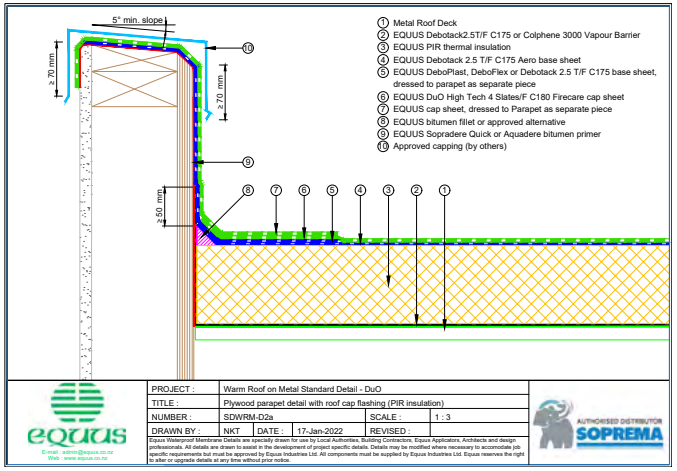




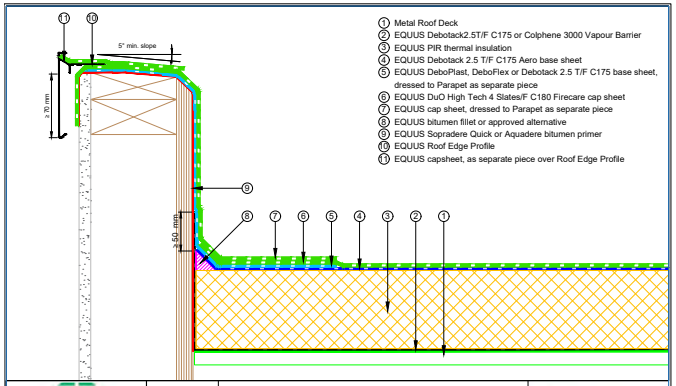






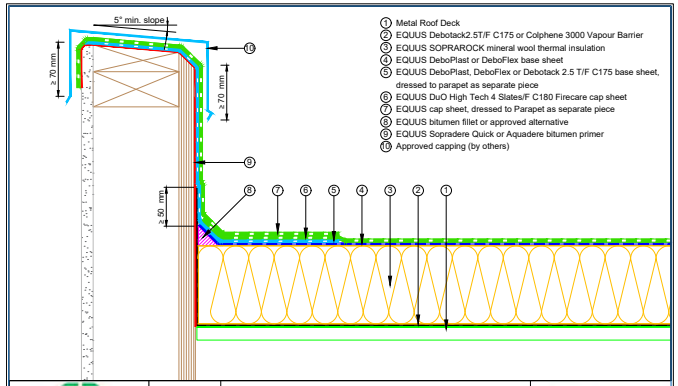


To see or download full size details click here



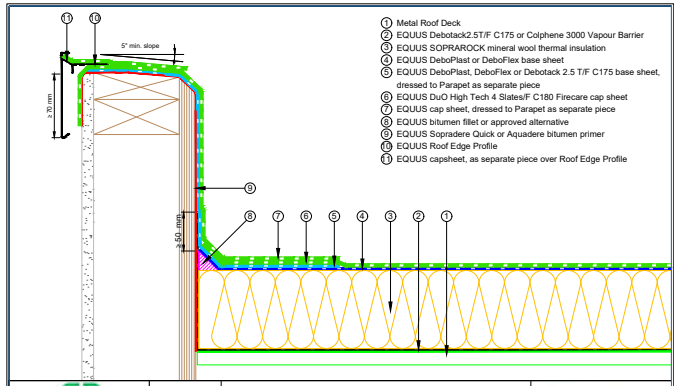
1. Metal Roof Deck
2. EQUUS Debotack2.5T/F C175 or Colphene 3000 Vapour Barrier
3. EQUUS PIR thermal insulation
4. EQUUS Debotack 2.5 T/F C175 Aero base sheet
5. EQUUS DeboPlast, DeboFlex or Debotack 2.5 T/F C175 base sheet, dressed to Parapet as separate piece
6. EQUUS DuO High Tech 4 Slates/F C180 Firecare cap sheet
7. EQUUS cap sheet, dressed to Parapet as separate piece
8. EQUUS bitumen fillet or approved alternative
9. EQUUS Sopradere Quick or Aquadere bitumen primer
10. EQUUS Roof Edge Profile
11. EQUUS capsheet, as separate piece over Roof Edge Profile

PROJECT :	Warm Roof on Metal Standard Detail - DuO
TITLE :	Plywood parapet detail with roof edge profile (PIR insulation)
NUMBER :	SDWRM-D2b
SCALE :	1 : 3
DRAWN BY :	NKT
DATE :	18-Jan-2022
REVISED :	



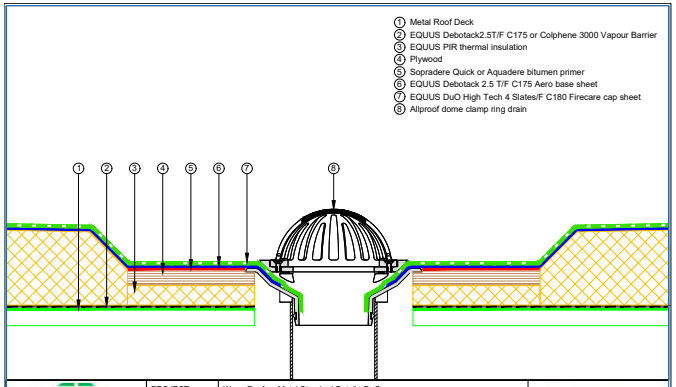
1. Metal Roof Deck
2. EQUUS Debotack2.5T/F C175 or Colphene 3000 Vapour Barrier
3. EQUUS SOPRAROCK mineral wool thermal insulation
4. EQUUS DeboPlast or DeboFlex base sheet
5. EQUUS DeboPlast, DeboFlex or Debotack 2.5 T/F C175 base sheet, dressed to parapet as separate piece
6. EQUUS DuO High Tech 4 Slates/F C180 Firecare cap sheet
7. EQUUS cap sheet, dressed to Parapet as separate piece
8. EQUUS bitumen fillet or approved alternative
9. EQUUS Sopradere Quick or Aquadere bitumen primer
10. Approved capping (by others)

PROJECT :	Warm Roof on Metal Standard Detail - DuO
TITLE :	Plywood parapet detail with roof cap flashing (Mineral insulation)
NUMBER :	SDWRM-D2c
SCALE :	1 : 3
DRAWN BY :	NKT
DATE :	17-Jan-2022
REVISED :	



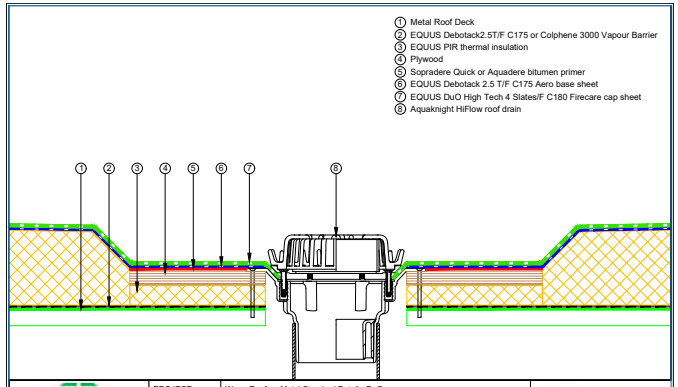
1. Metal Roof Deck
2. EQUUS Debotack2.5T/F C175 or Colphene 3000 Vapour Barrier
3. EQUUS SOPRAROCK mineral wool thermal insulation
4. EQUUS DeboPlast or DeboFlex base sheet
5. EQUUS DeboPlast, DeboFlex or Debotack 2.5 T/F C175 base sheet, dressed to Parapet as separate piece
6. EQUUS DuO High Tech 4 Slates/F C180 Firecare cap sheet
7. EQUUS cap sheet, dressed to Parapet as separate piece
8. EQUUS bitumen fillet or approved alternative
9. EQUUS Sopradere Quick or Aquadere bitumen primer
10. EQUUS Roof Edge Profile
11. EQUUS capsheet, as separate piece over Roof Edge Profile

PROJECT :	Warm Roof on Metal Standard Detail - DuO
TITLE :	Plywood parapet detail with roof edge profile (Mineral wool insulation)
NUMBER :	SDWRM-D2d
SCALE :	1 : 3
DRAWN BY :	NKT
DATE :	18-Jan-2022
REVISED :	



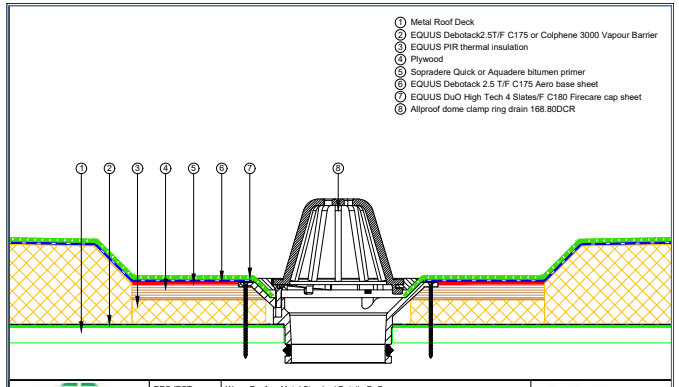
1. Metal Roof Deck
2. EQUUS Debotack2.5T/F C175 or Colphene 3000 Vapour Barrier
3. EQUUS PIR thermal insulation
4. Plywood
5. Sopradere Quick or Aquadere bitumen primer
6. EQUUS Debotack 2.5 T/F C175 Aero base sheet
7. EQUUS DuO High Tech 4 Slates/F C180 Firecare cap sheet
8. Allproof dome clamp ring drain

PROJECT :	Warm Roof on Metal Standard Detail - DuO
TITLE :	Allproof dome clamp ring drain
NUMBER :	SDWRM-D3a
SCALE :	1 : 3
DRAWN BY :	NKT
DATE :	19-Jan-2022
REVISED :	



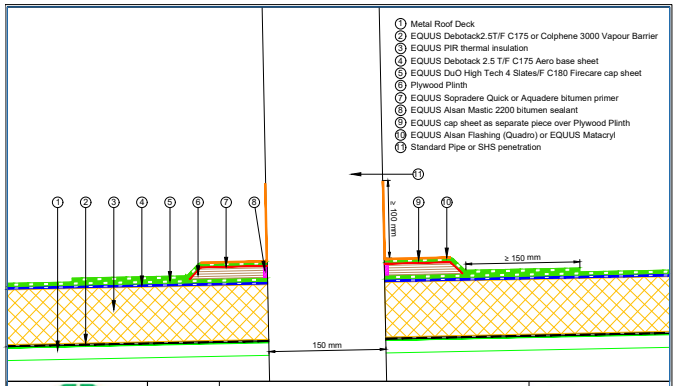
1. Metal Roof Deck
2. EQUUS Debotack2.5T/F C175 or Colphene 3000 Vapour Barrier
3. EQUUS PIR thermal insulation
4. Plywood
5. Sopradere Quick or Aquadere bitumen primer
6. EQUUS Debotack 2.5 T/F C175 Aero base sheet
7. EQUUS DuO High Tech 4 Slates/F C180 Firecare cap sheet
8. Aquaknight HiFlow roof drain

PROJECT :	Warm Roof on Metal Standard Detail - DuO
TITLE :	Aquaknight HiFlow roof drain
NUMBER :	SDWRM-D3b
SCALE :	1 : 3
DRAWN BY :	NKT
DATE :	19-Jan-2022
REVISED :	



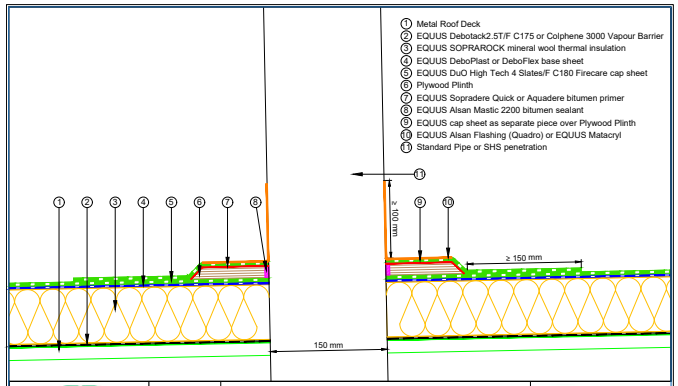
1. Metal Roof Deck
2. EQUUS Debotack2.5T/F C175 or Colphene 3000 Vapour Barrier
3. EQUUS PIR thermal insulation
4. Plywood
5. Sopradere Quick or Aquadere bitumen primer
6. EQUUS Debotack 2.5 T/F C175 Aero base sheet
7. EQUUS DuO High Tech 4 Slates/F C180 Firecare cap sheet
8. Allproof dome clamp ring drain 168.80DCR

PROJECT :	Warm Roof on Metal Standard Detail - DuO
TITLE :	Allproof dome clamp ring drain 168.80DCR
NUMBER :	SDWRM-D3c
SCALE :	NTS
DRAWN BY :	NKT
DATE :	6-Apr-2022
REVISED :	



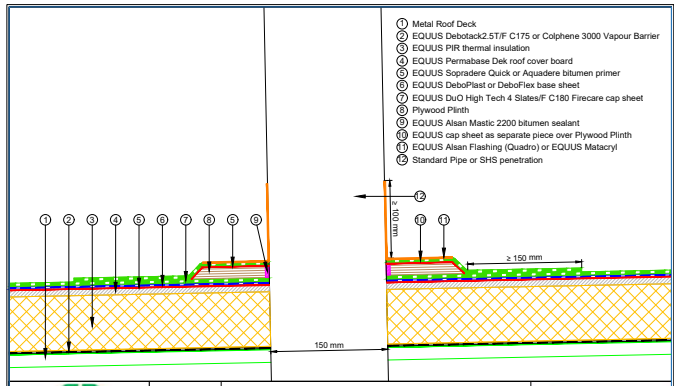
1. Metal Roof Deck
2. EQUUS Debotack2.5T/F C175 or Colphene 3000 Vapour Barrier
3. EQUUS PIR thermal insulation
4. EQUUS Debotack 2.5 T/F C175 Aero base sheet
5. EQUUS DuO High Tech 4 Slates/F C180 Firecare cap sheet
6. Plywood Plinth
7. EQUUS Sopradere Quick or Aquadere bitumen primer
8. EQUUS Alsan Mastic 2200 bitumen sealant
9. EQUUS cap sheet as separate piece over Plywood Plinth
10. EQUUS Alsan Flashing (Quadro) or EQUUS Matacryl
11. Standard Pipe or SHS penetration

PROJECT :	Warm Roof on Metal Standard Detail - DuO
TITLE :	Standard Pipe or SHS penetration (PIR insulation)
NUMBER :	SDWRM-D5a
SCALE :	1 : 3
DRAWN BY :	NKT
DATE :	20-Jan-2022
REVISED :	



1. Metal Roof Deck
2. EQUUS Debotack2.5T/F C175 or Colphene 3000 Vapour Barrier
3. EQUUS SOPRA/ROCK mineral wool thermal insulation
4. EQUUS DeboPlast or DeboFlex base sheet
5. EQUUS DuO High Tech 4 Slates/F C180 Firecare cap sheet
6. Plywood Plinth
7. EQUUS Sopradere Quick or Aquadere bitumen primer
8. EQUUS Alsan Mastic 2200 bitumen sealant
9. EQUUS cap sheet as separate piece over Plywood Plinth
10. EQUUS Alsan Flashing (Quadro) or EQUUS Matacryl
11. Standard Pipe or SHS penetration

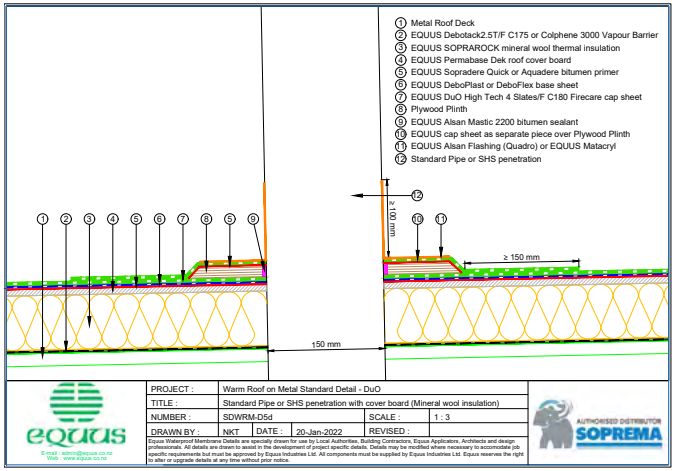
PROJECT :	Warm Roof on Metal Standard Detail - DuO
TITLE :	Standard Pipe or SHS penetration (Mineral wool insulation)
NUMBER :	SDWRM-D5b
SCALE :	1 : 3
DRAWN BY :	NKT
DATE :	20-Jan-2022
REVISED :	

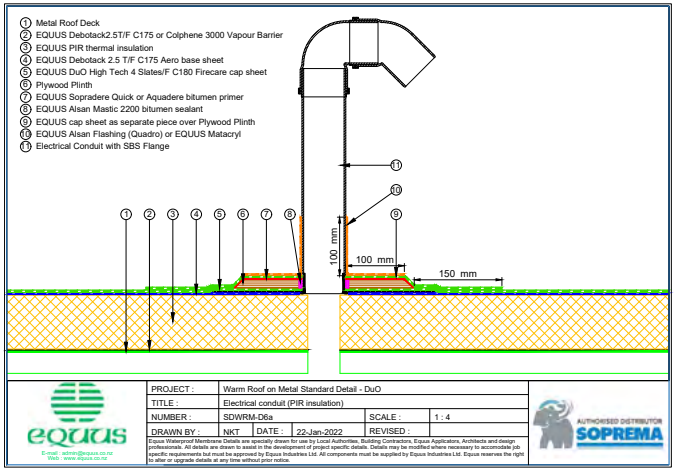


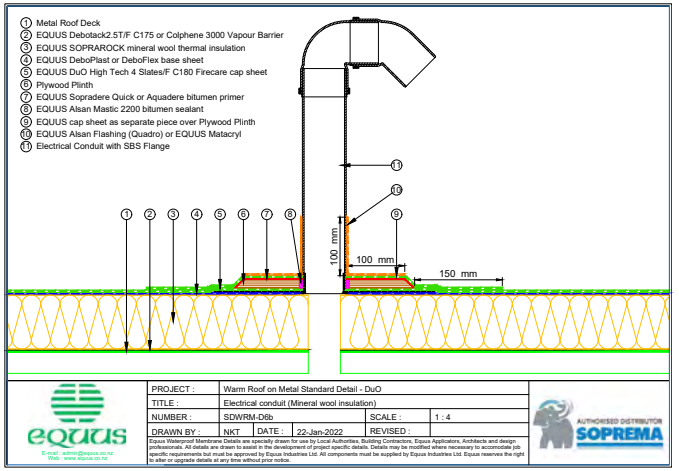
1. Metal Roof Deck
2. EQUUS Debotack2.5T/F C175 or Colphene 3000 Vapour Barrier
3. EQUUS PIR thermal insulation
4. EQUUS Permabase Dek roof cover board
5. EQUUS Sopradere Quick or Aquadere bitumen primer
6. EQUUS DeboPlast or DeboFlex base sheet
7. EQUUS DuO High Tech 4 Slates/F C180 Firecare cap sheet
8. Plywood Plinth
9. EQUUS Alsan Mastic 2200 bitumen sealant
10. EQUUS cap sheet as separate piece over Plywood Plinth
11. EQUUS Alsan Flashing (Quadro) or EQUUS Matacryl
12. Standard Pipe or SHS penetration

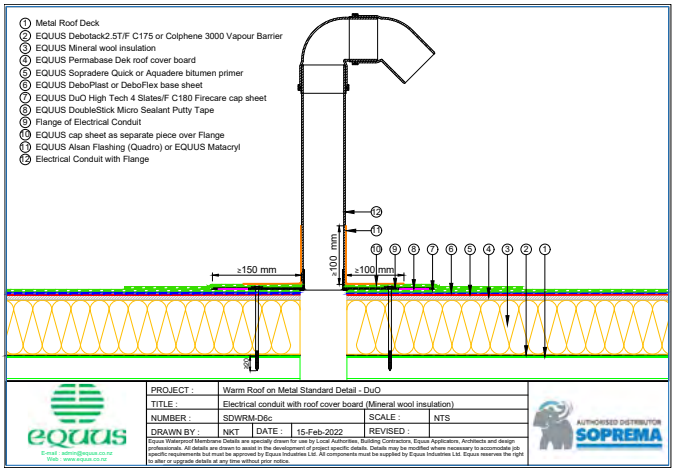
PROJECT :	Warm Roof on Metal Standard Detail - DuO
TITLE :	Standard Pipe or SHS penetration with cover board (PIR insulation)
NUMBER :	SDWRM-D5c
SCALE :	1 : 3
DRAWN BY :	NKT
DATE :	20-Jan-2022
REVISED :	

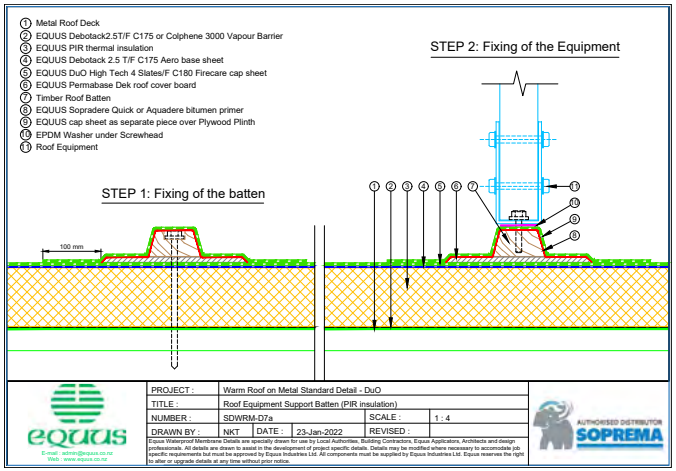
To see or download full size details click here

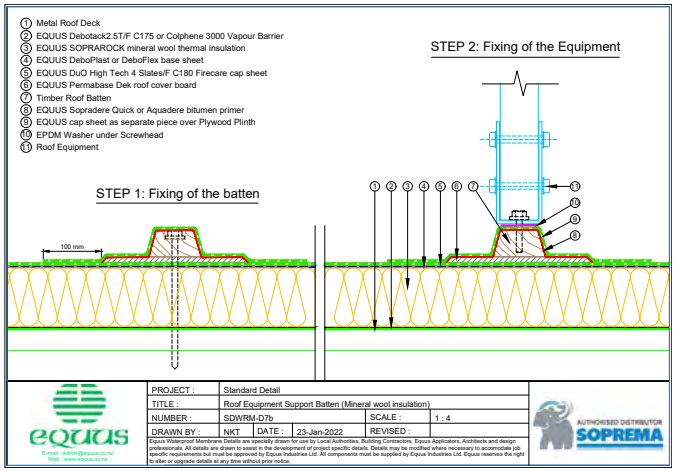


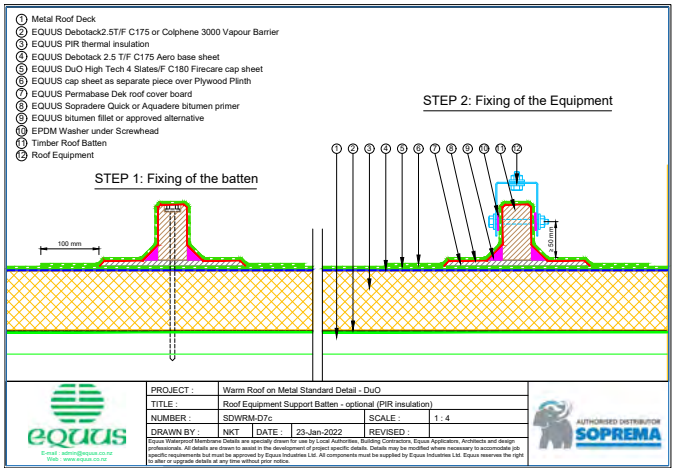


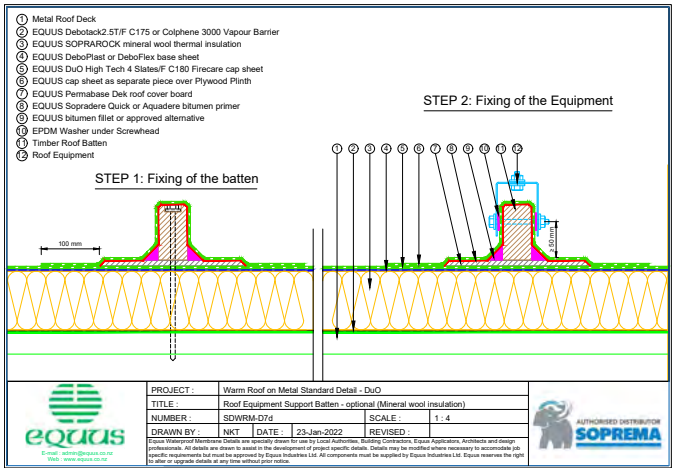


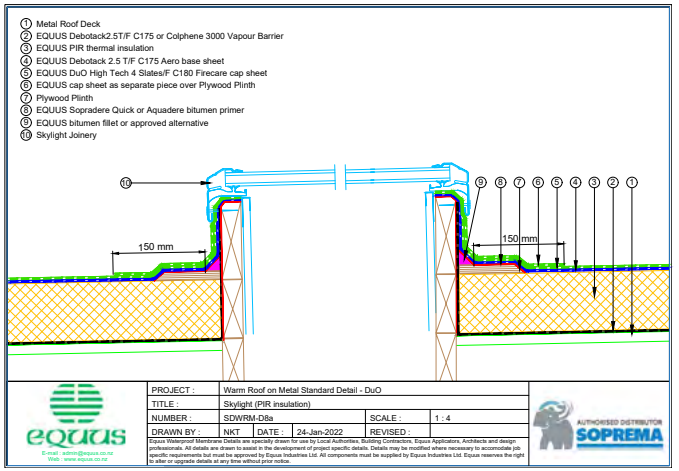






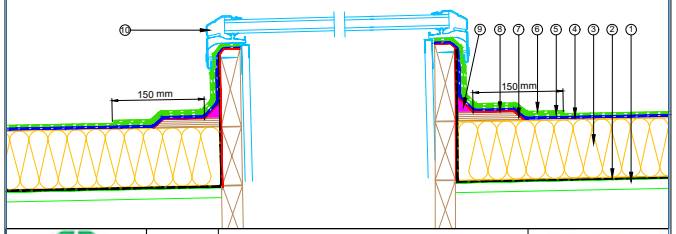






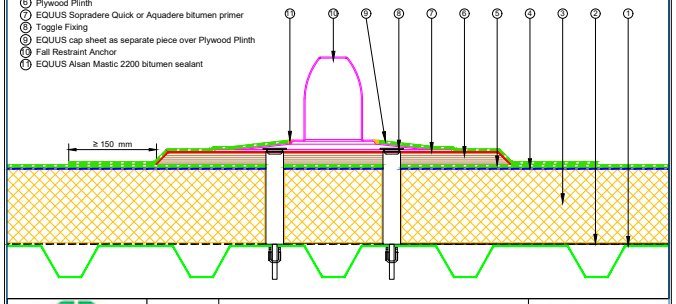
To see or download full size details click here

1. Metal Roof Deck
2. EQUUS Debotack2.5T/F C175 or Colphene 3000 Vapour Barrier
3. EQUUS SOPRAROCK mineral wool thermal insulation
4. EQUUS DeboPlast or DeboFlex base sheet
5. EQUUS DuO High Tech 4 Slates/F C180 Firecare cap sheet
6. EQUUS cap sheet as separate piece over Plywood Plinth
7. Plywood Plinth
8. EQUUS Sopradere Quick or Aquadere bitumen primer
9. EQUUS bitumen fillet or approved alternative
10. Skylight Joinery



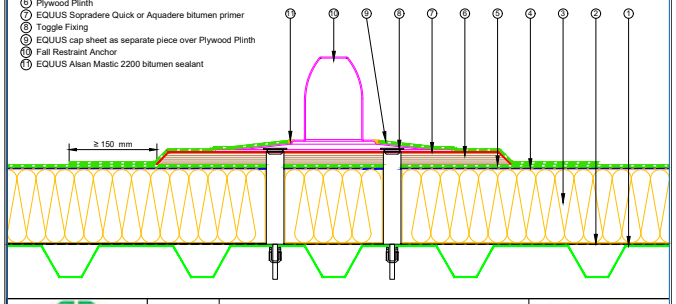
PROJECT :	Warm Roof on Metal Standard Detail - DuO				
TITLE :	Skylight (Mineral wool insulation)				
NUMBER :	SDWRM-D8b			SCALE :	1 : 4
DRAWN BY :	NKT	DATE :	24-Jan-2022	REVISED :	

1. Metal Roof Deck
2. EQUUS Debotack2.5T/F C175 or Colphene 3000 Vapour Barrier
3. EQUUS PIR thermal insulation
4. EQUUS Debotack 2.5 T/F C175 Aero base sheet
5. EQUUS DuO High Tech 4 Slates/F C180 Firecare cap sheet
6. Plywood Plinth
7. EQUUS Sopradere Quick or Aquadere bitumen primer
8. Toggle Fixing
9. EQUUS cap sheet as separate piece over Plywood Plinth
10. Fall Restraint Anchor
11. EQUUS Alsan Mastic 2200 bitumen sealant



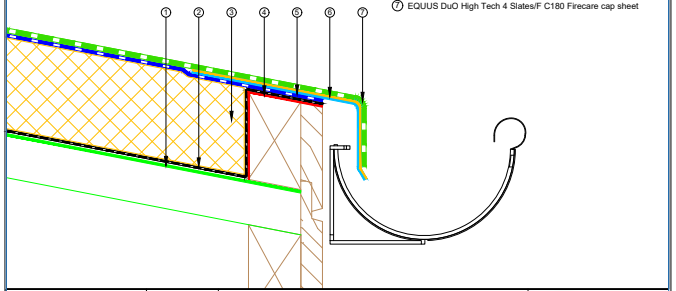
PROJECT :	Warm Roof on Metal Standard Detail - DuO				
TITLE :	Fall restraint (PIR insulation)				
NUMBER :	SDWRM-D9a			SCALE :	1 : 4
DRAWN BY :	NKT	DATE :	24-Jan-2022	REVISED :	

1. Metal Roof Deck
2. EQUUS Debotack2.5T/F C175 or Colphene 3000 Vapour Barrier
3. EQUUS SOPRAROCK mineral wool thermal insulation
4. EQUUS DeboPlast or DeboFlex base sheet
5. EQUUS DuO High Tech 4 Slates/F C180 Firecare cap sheet
6. Plywood Plinth
7. EQUUS Sopradere Quick or Aquadere bitumen primer
8. Toggle Fixing
9. EQUUS cap sheet as separate piece over Plywood Plinth
10. Fall Restraint Anchor
11. EQUUS Alsan Mastic 2200 bitumen sealant



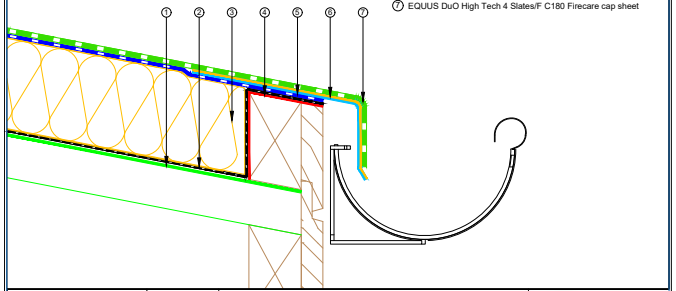
PROJECT :	Warm Roof on Metal Standard Detail - DuO				
TITLE :	Fall restraint (Mineral wool insulation)				
NUMBER :	SDWRM-D9b			SCALE :	1 : 4
DRAWN BY :	NKT	DATE :	24-Jan-2022	REVISED :	

1. Metal Roof Deck
2. EQUUS Debotack2.5T/F C175 or Colphene 3000 Vapour Barrier
3. EQUUS PIR thermal insulation
4. EQUUS Sopradere Quick or Aquadere bitumen primer
5. EQUUS DeboPlast or DeboFlex base sheet
6. Aluminium Flashing treated with EQUUS 'Spray & Go' Primer
7. EQUUS DuO High Tech 4 Slates/F C180 Firecare cap sheet



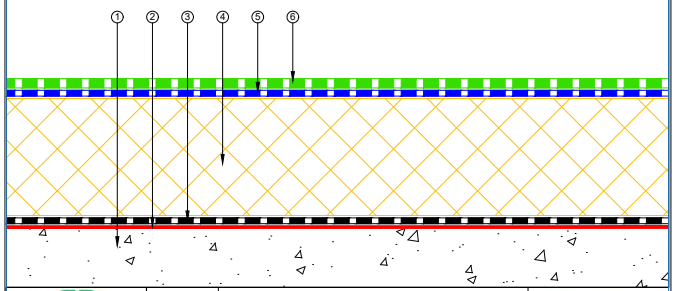
PROJECT :	Warm Roof on Metal Standard Detail - DuO				
TITLE :	Connection to External Gutter (PIR insulation)				
NUMBER :	SDWRM-D10a			SCALE :	1 : 2
DRAWN BY :	NKT	DATE :	27-Aug-2022	REVISED :	

1. Metal Roof Deck
2. EQUUS Debotack2.5T/F C175 or Colphene 3000 Vapour Barrier
3. EQUUS SOPRAROCK mineral wool thermal insulation
4. EQUUS Sopradere Quick or Aquadere bitumen primer
5. EQUUS DeboPlast or DeboFlex base sheet
6. Aluminium Flashing treated with EQUUS 'Spray & Go' Primer
7. EQUUS DuO High Tech 4 Slates/F C180 Firecare cap sheet



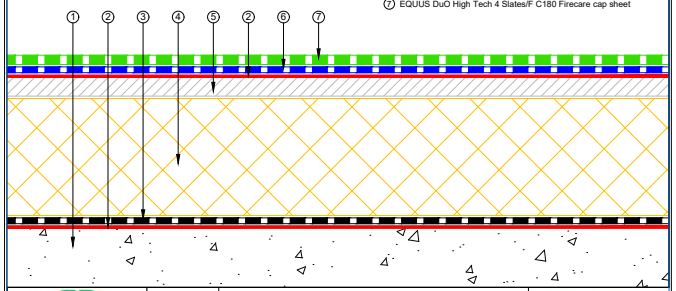
PROJECT :	Warm Roof on Metal Standard Detail - DuO				
TITLE :	Connection to External Gutter (Mineral wool insulation)				
NUMBER :	SDWRM-D10b			SCALE :	1 : 2
DRAWN BY :	NKT	DATE :	27-Aug-2022	REVISED :	

1. Concrete Roof Slab laid to Fall
2. EQUUS Sopradere Quick or Aquadere bitumen primer
3. EQUUS Debotack2.5T/F C175 or Colphene 3000 Vapour Barrier
4. EQUUS PIR thermal insulation
5. EQUUS Debotack 2.5 T/F C175 Aero base sheet
6. EQUUS DuO High Tech 4 Slates/F C180 Firecare cap sheet



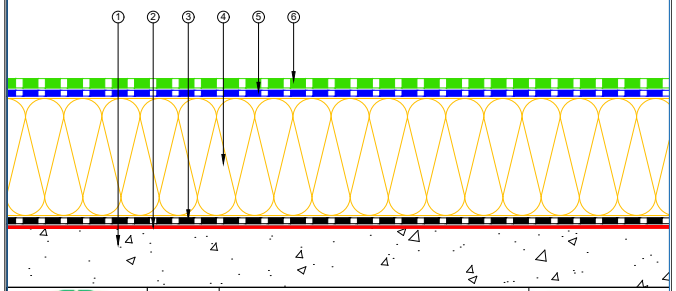
PROJECT :	Warm Roof on Concrete Standard Detail - DuO				
TITLE :	Roof build up with PIR				
NUMBER :	SDWRC-D0a			SCALE :	1 : 1 @A4
DRAWN BY :	NKT	DATE :	31-Aug-2022	REVISED :	

1. Concrete Roof Slab laid to Fall
2. EQUUS Sopradere Quick or Aquadere bitumen primer
3. EQUUS Debotack2.5T/F C175 or Colphene 3000 Vapour Barrier
4. EQUUS PIR thermal insulation
5. EQUUS Permabase Dek roof cover board
6. EQUUS DeboPlast or DeboFlex base sheet
7. EQUUS DuO High Tech 4 Slates/F C180 Firecare cap sheet



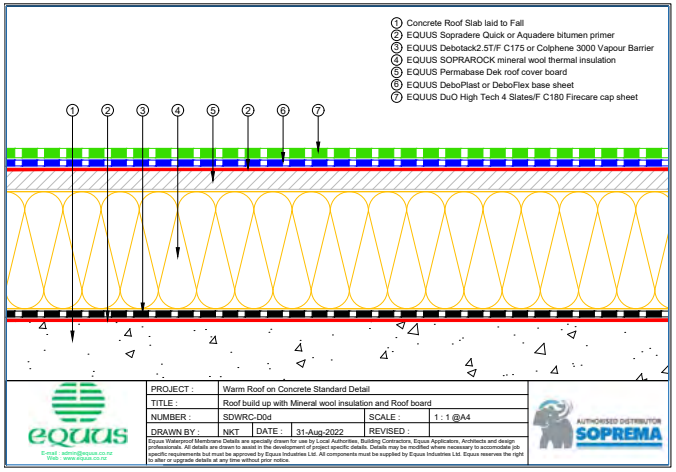
PROJECT :	Warm Roof on Concrete Standard Detail - DuO				
TITLE :	Roof build up with PIR and roof board				
NUMBER :	SDWRC-D0b			SCALE :	1 : 1 @A4
DRAWN BY :	NKT	DATE :	31-Aug-2022	REVISED :	

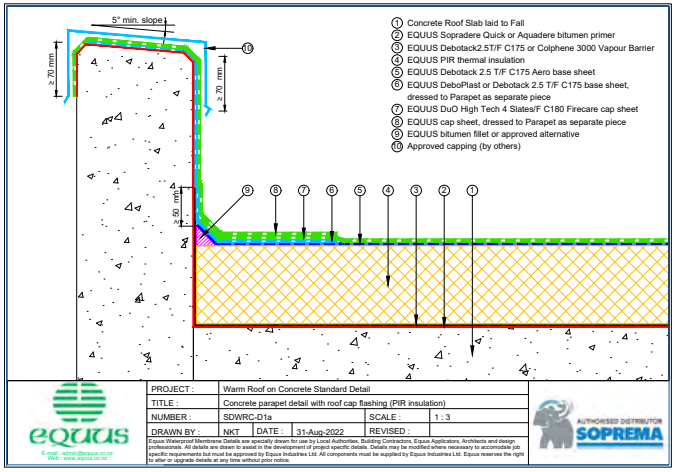
1. Concrete Roof Slab laid to Fall
2. EQUUS Sopradere Quick or Aquadere bitumen primer
3. EQUUS Debotack2.5T/F C175 or Colphene 3000 Vapour Barrier
4. EQUUS SOPRAROCK mineral wool thermal insulation
5. EQUUS DeboPlast or DeboFlex base sheet
6. EQUUS DuO High Tech 4 Slates/F C180 Firecare cap sheet

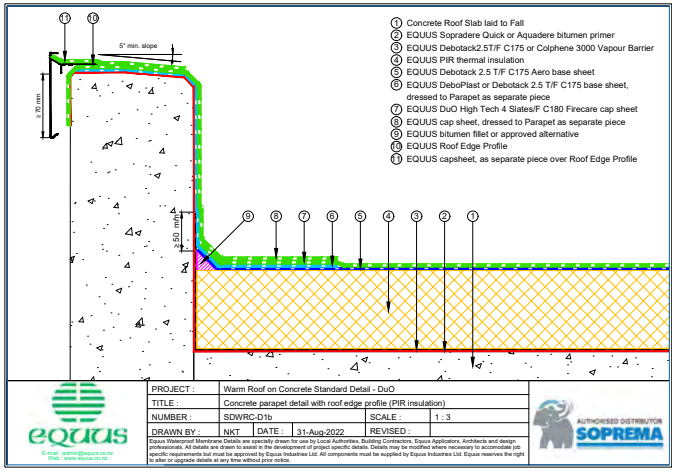


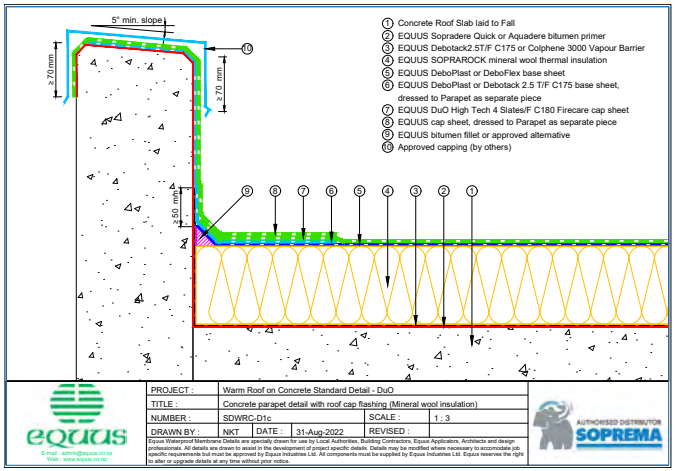
PROJECT :	Warm Roof on Concrete Standard Detail				
TITLE :	Roof build up with Mineral wool insulation				
NUMBER :	SDWRC-D0c			SCALE :	1 : 1 @A4
DRAWN BY :	NKT	DATE :	31-Aug-2022	REVISED :	

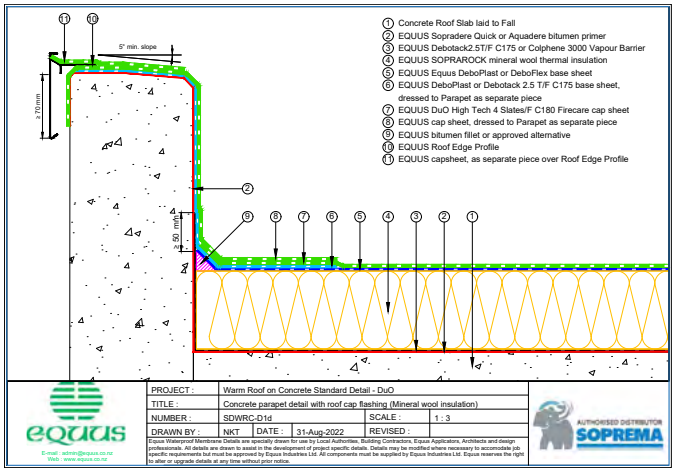
To see or download full size details click here

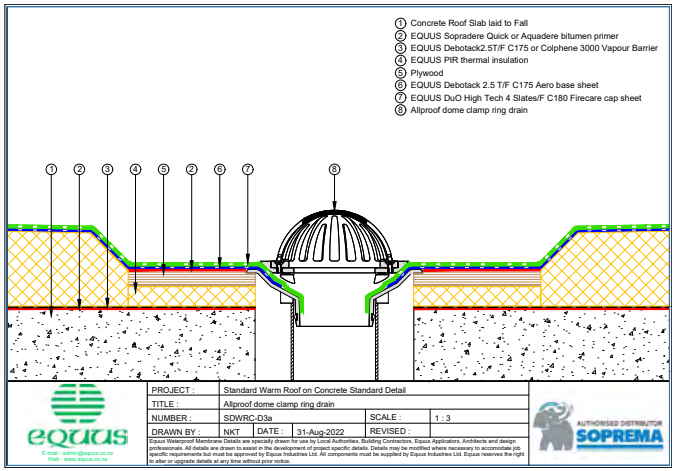


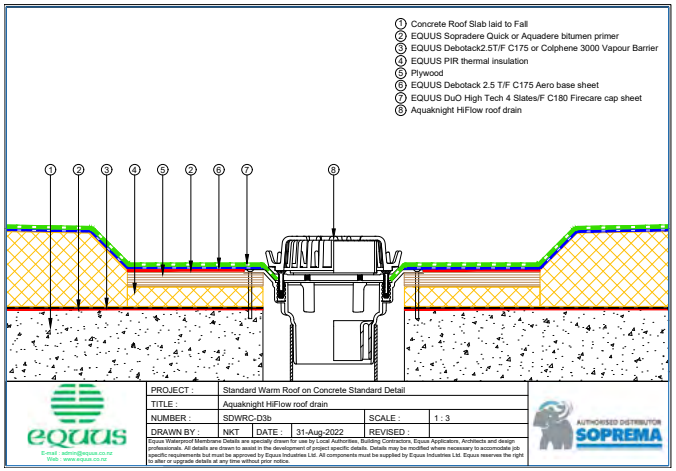


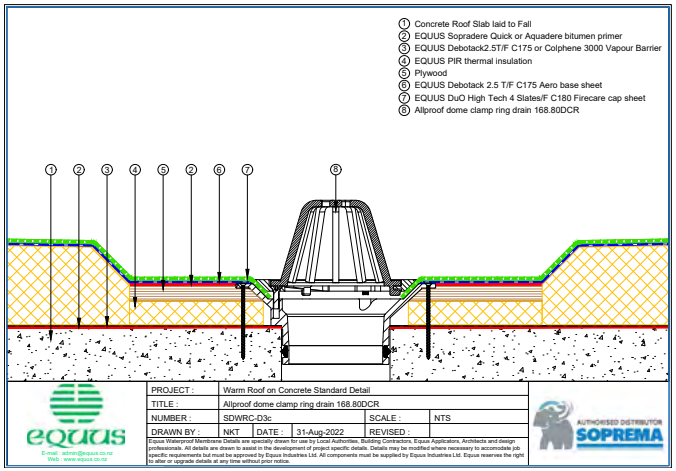


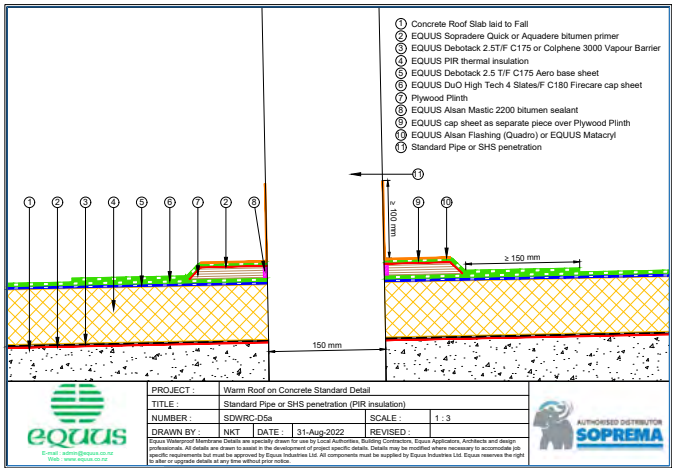




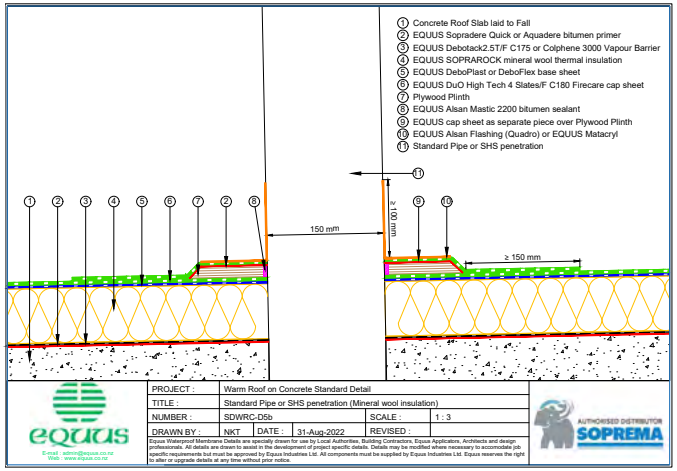


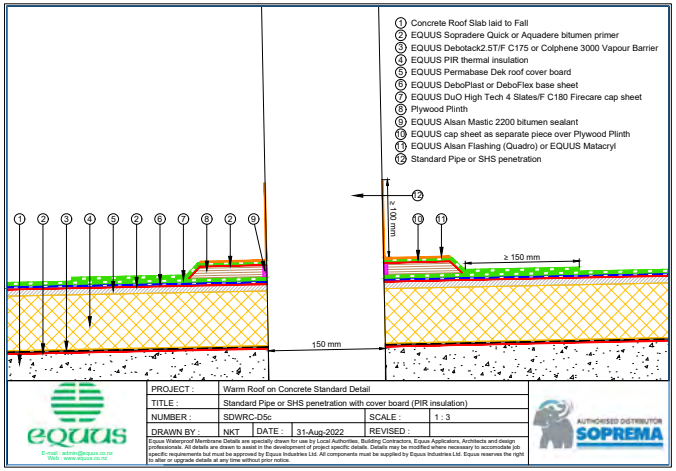


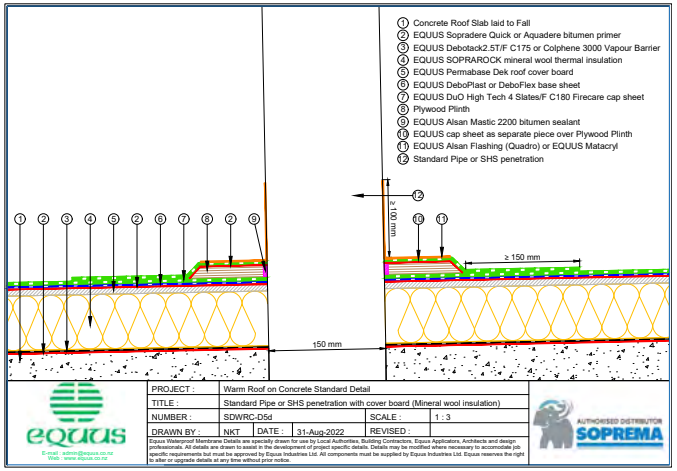


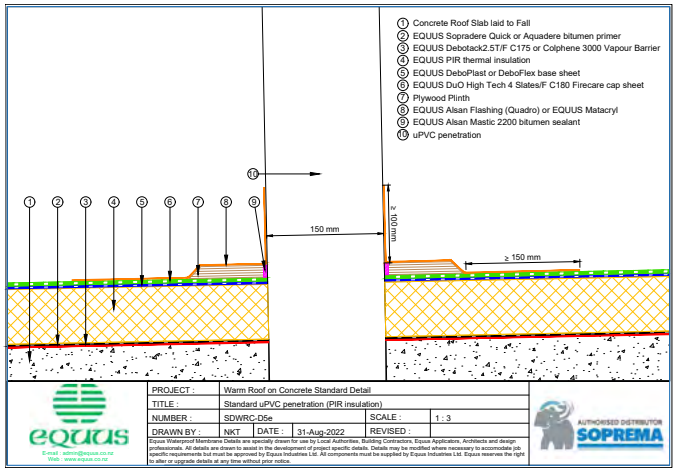


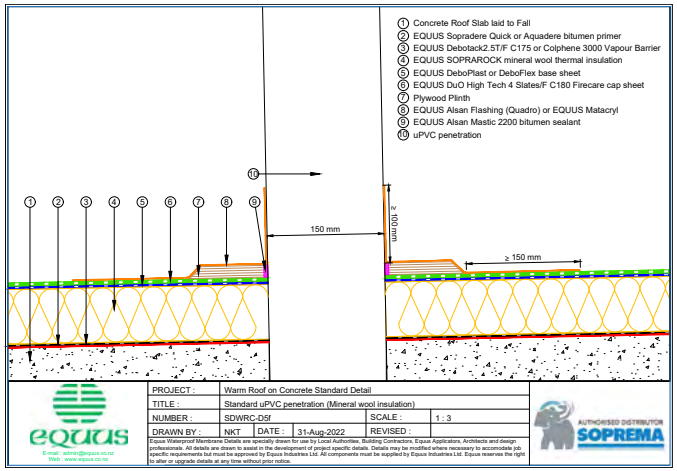
To see or download full size details click here

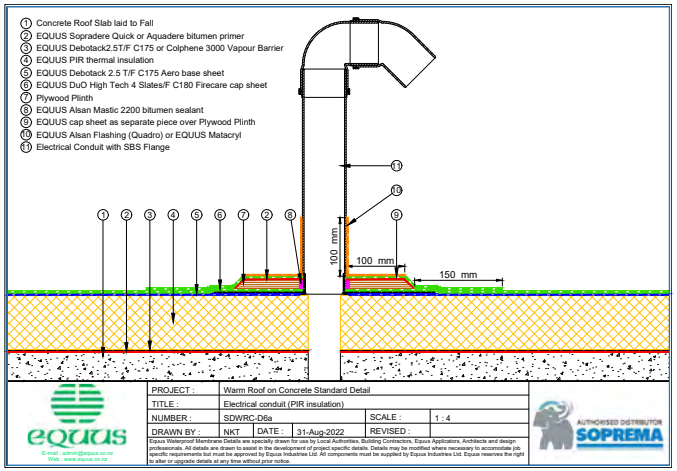


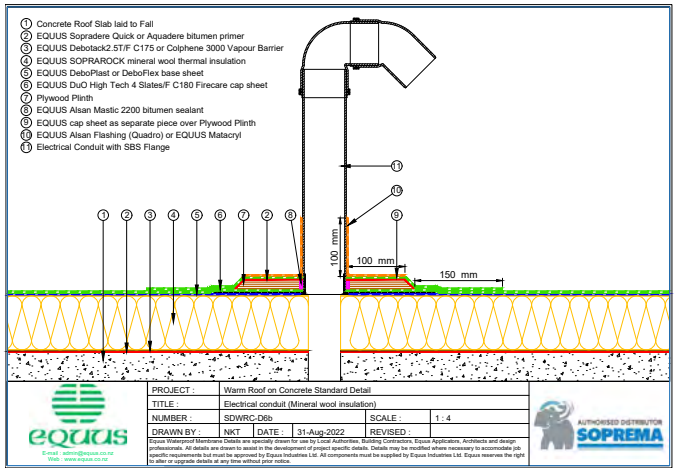


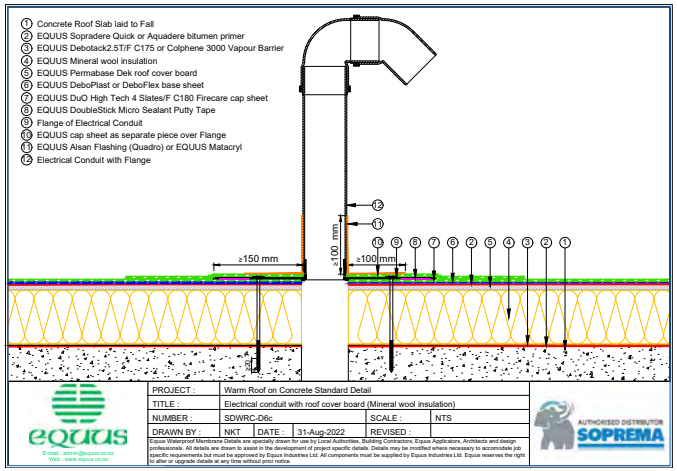


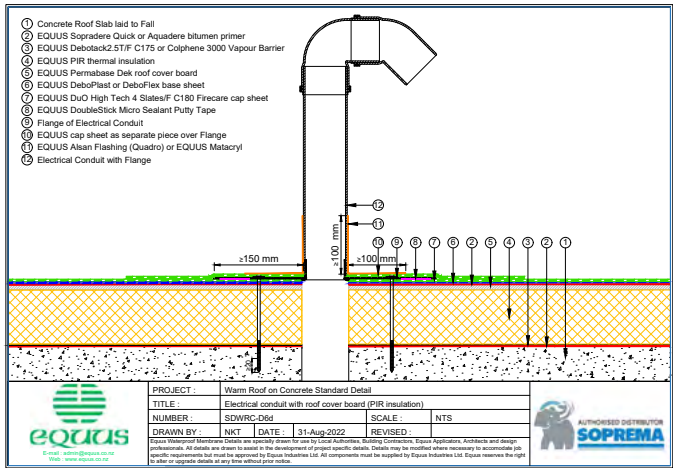












To see or download full size details click here

1. Concrete Roof Slab laid to Fall
2. EQUUS Sopradere Quick or Aquadere bitumen primer
3. EQUUS Debotack2.5T/F C175 or Colphene 3000 Vapour Barrier
4. EQUUS PIR thermal insulation
5. EQUUS Debotack 2.5 T/F C175 Aero base sheet
6. EQUUS DuO High Tech 4 Slates/F C180 Firecare cap sheet
7. EQUUS Permabase Dek roof cover board
8. Timber Roof Batten
9. EQUUS cap sheet as separate piece over Plywood Plinth
10. EPDM Washer under Screwhead
11. Roof Equipment

STEP 2: Fixing of the Equipment

STEP 1: Fixing of the batten

100 mm

PROJECT :	Warm Roof on Concrete Standard Detail				
TITLE :	Roof Equipment Support Batten (PIR insulation)				
NUMBER :	SDWRC-D7a			SCALE :	1 : 4
DRAWN BY :	NKT	DATE :	31-Aug-2022	REVISED :	

1. Concrete Roof Slab laid to Fall
2. EQUUS Sopradere Quick or Aquadere bitumen primer
3. EQUUS Debotack2.5T/F C175 or Colphene 3000 Vapour Barrier
4. EQUUS SOPRAROCK mineral wool thermal insulation
5. EQUUS DeboPlast or DeboFlex base sheet
6. EQUUS DuO High Tech 4 Slates/F C180 Firecare cap sheet
7. EQUUS Permabase Dek roof cover board
8. Timber Roof Batten
9. EQUUS cap sheet as separate piece over Plywood Plinth
10. EPDM Washer under Screwhead
11. Roof Equipment

STEP 2: Fixing of the Equipment

STEP 1: Fixing of the batten

100 mm

PROJECT :	Warm Roof on Concrete Standard Detail				
TITLE :	Roof Equipment Support Batten (Mineral wool insulation)				
NUMBER :	SDWRC-D7b			SCALE :	1 : 4
DRAWN BY :	NKT	DATE :	31-Aug-2022	REVISED :	

1. Concrete Roof Slab laid to Fall
2. EQUUS Sopradere Quick or Aquadere bitumen primer
3. EQUUS Debotack2.5T/F C175 or Colphene 3000 Vapour Barrier
4. EQUUS PIR thermal insulation
5. EQUUS Debotack 2.5 T/F C175 Aero base sheet
6. EQUUS DuO High Tech 4 Slates/F C180 Firecare cap sheet
7. EQUUS cap sheet as separate piece over Plywood Plinth
8. EQUUS Permabase Dek roof cover board
9. EQUUS bitumen fillet or approved alternative
10. EPDM Washer under Screwhead
11. Timber Roof Batten
12. Roof Equipment

STEP 2: Fixing of the Equipment

STEP 1: Fixing of the batten

100 mm

PROJECT :	Warm Roof on Concrete Standard Detail				
TITLE :	Roof Equipment Support Batten - optional (PIR insulation)				
NUMBER :	SDWRC-D7c			SCALE :	1 : 4
DRAWN BY :	NKT	DATE :	31-Aug-2022	REVISED :	

1. Concrete Roof Slab laid to Fall
2. EQUUS Sopradere Quick or Aquadere bitumen primer
3. EQUUS Debotack2.5T/F C175 or Colphene 3000 Vapour Barrier
4. EQUUS SOPRAROCK mineral wool thermal insulation
5. EQUUS DeboPlast or DeboFlex base sheet
6. EQUUS DuO High Tech 4 Slates/F C180 Firecare cap sheet
7. EQUUS cap sheet as separate piece over Plywood Plinth
8. EQUUS Permabase Dek roof cover board
9. EQUUS bitumen fillet or approved alternative
10. EPDM Washer under Screwhead
11. Timber Roof Batten
12. Roof Equipment

STEP 2: Fixing of the Equipment

STEP 1: Fixing of the batten

100 mm

PROJECT :	Warm Roof on Concrete Standard Detail				
TITLE :	Roof Equipment Support Batten - optional (Mineral wool insulation)				
NUMBER :	SDWRC-D7d			SCALE :	1 : 4
DRAWN BY :	NKT	DATE :	31-Aug-2022	REVISED :	

1. Concrete Roof Slab laid to Fall
2. EQUUS Sopradere Quick or Aquadere bitumen primer
3. EQUUS Debotack2.5T/F C175 or Colphene 3000 Vapour Barrier
4. EQUUS SOPRAROCK mineral wool thermal insulation
5. EQUUS Debotack 2.5 T/F C175 Aero base sheet
6. EQUUS DuO High Tech 4 Slates/F C180 Firecare cap sheet
7. EQUUS cap sheet as separate piece over Plywood Plinth
8. Plywood Plinth
9. EQUUS bitumen fillet or approved alternative
10. Skylight Joinery

150 mm

150 mm

PROJECT :	Warm Roof on Concrete Standard Detail				
TITLE :	Skylight (PIR insulation)				
NUMBER :	SDWRC-D8a			SCALE :	1 : 4
DRAWN BY :	NKT	DATE :	31-Aug-2022	REVISED :	

1. Concrete Roof Slab laid to Fall
2. EQUUS Sopradere Quick or Aquadere bitumen primer
3. EQUUS Debotack2.5T/F C175 or Colphene 3000 Vapour Barrier
4. EQUUS SOPRAROCK mineral wool thermal insulation
5. EQUUS Debotack 2.5 T/F C175 Aero base sheet
6. EQUUS DuO High Tech 4 Slates/F C180 Firecare cap sheet
7. EQUUS cap sheet as separate piece over Plywood Plinth
8. Plywood Plinth
9. EQUUS bitumen fillet or approved alternative
10. Skylight Joinery

150 mm

150 mm

PROJECT :	Warm Roof on Concrete Standard Detail				
TITLE :	Skylight (Mineral insulation)				
NUMBER :	SDWRC-D8b			SCALE :	1 : 4
DRAWN BY :	NKT	DATE :	31-Aug-2022	REVISED :	

1. Concrete Roof Slab laid to Fall
2. EQUUS Sopradere Quick or Aquadere bitumen primer
3. EQUUS Debotack2.5T/F C175 or Colphene 3000 Vapour Barrier
4. EQUUS PIR thermal insulation
5. EQUUS Debotack 2.5 T/F C175 Aero base sheet
6. EQUUS DuO High Tech 4 Slates/F C180 Firecare cap sheet
7. Plywood Plinth
8. EQUUS Alsan Flashing (Quadro) or Equus Matacryl
9. 3 MM Foam tape on the underside of Baseplate
10. Fixing Screw
11. Neoprene Washer
12. Fall Restraint Anchor

≥ 150 mm

PROJECT :	Warm Roof on Concrete Standard Detail				
TITLE :	Fall restraint (PIR insulation)				
NUMBER :	SDWRC-D9a			SCALE :	1 : 3
DRAWN BY :	NKT	DATE :	31-Aug-2022	REVISED :	

1. Concrete Roof Slab laid to Fall
2. EQUUS Sopradere Quick or Aquadere bitumen primer
3. EQUUS Debotack2.5T/F C175 or Colphene 3000 Vapour Barrier
4. EQUUS SOPRAROCK mineral wool thermal insulation
5. EQUUS Debotack 2.5 T/F C175 Aero base sheet
6. EQUUS DuO High Tech 4 Slates/F C180 Firecare cap sheet
7. Plywood Plinth
8. EQUUS Alsan Flashing (Quadro) or Equus Matacryl
9. 3 MM Foam tape on the underside of Baseplate
10. Fixing Screw
11. Neoprene Washer
12. Fall Restraint Anchor

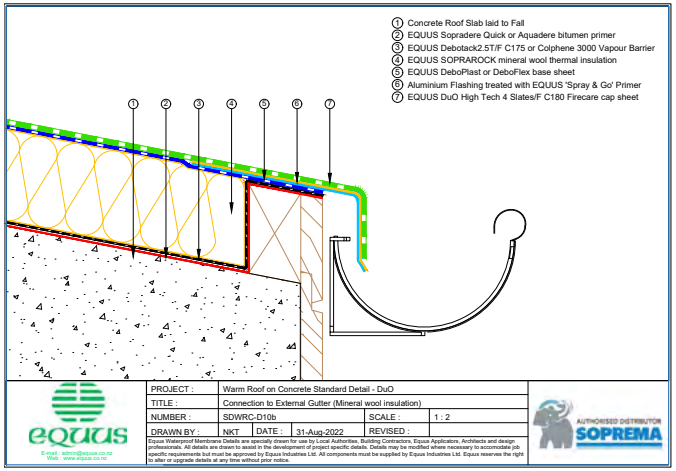
≥ 150 mm

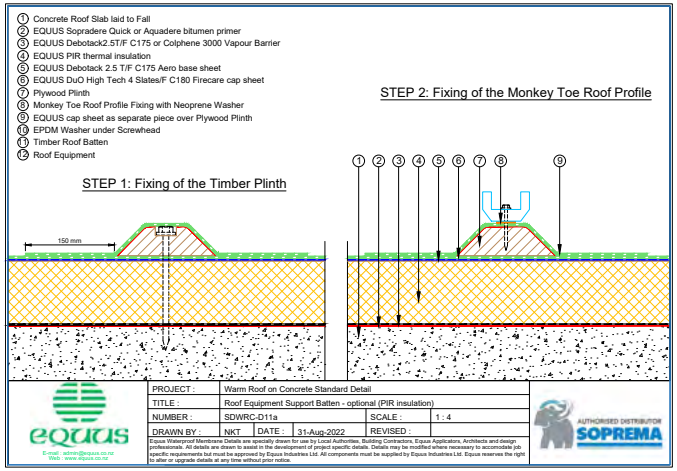
PROJECT :	Warm Roof on Concrete Standard Detail				
TITLE :	Fall restraint (Mineral wool insulation)				
NUMBER :	SDWRC-D9b			SCALE :	1 : 3
DRAWN BY :	NKT	DATE :	31-Aug-2022	REVISED :	

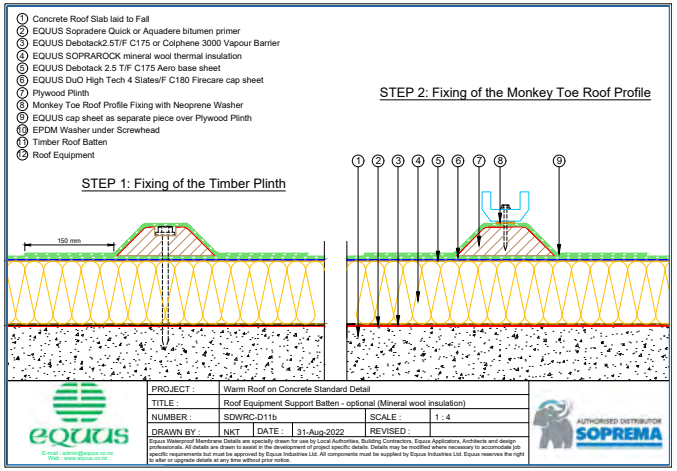
1. Concrete Roof Slab laid to Fall
2. EQUUS Sopradere Quick or Aquadere bitumen primer
3. EQUUS Debotack2.5T/F C175 or Colphene 3000 Vapour Barrier
4. EQUUS PIR thermal insulation
5. EQUUS DeboPlast or DeboFlex base sheet
6. Aluminium Flashing treated with EQUUS 'Spray & Go' Primer
7. EQUUS DuO High Tech 4 Slates/F C180 Firecare cap sheet

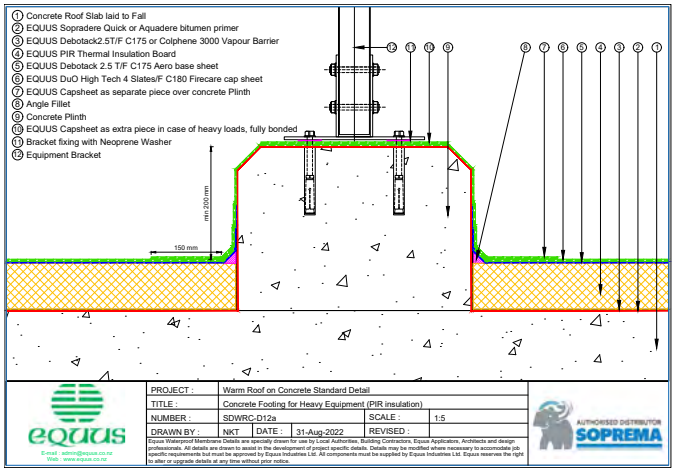
PROJECT :	Warm Roof on Concrete Standard Detail - DuO				
TITLE :	Connection to External Gutter (PIR insulation)				
NUMBER :	SDWRC-D10a			SCALE :	1 : 2
DRAWN BY :	NKT	DATE :	31-Aug-2022	REVISED :	

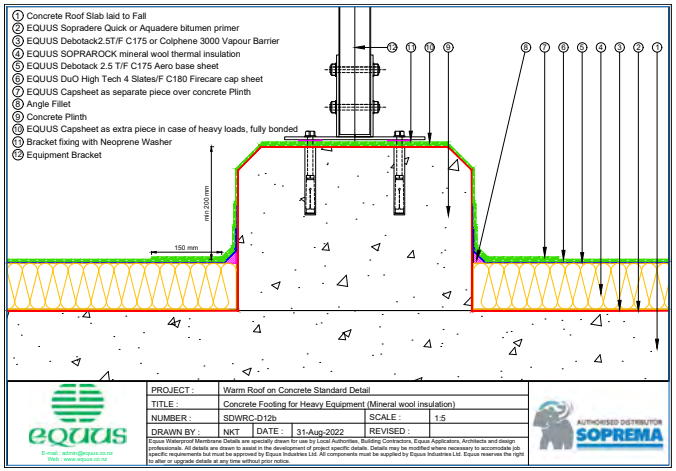
To see or download full size details click here

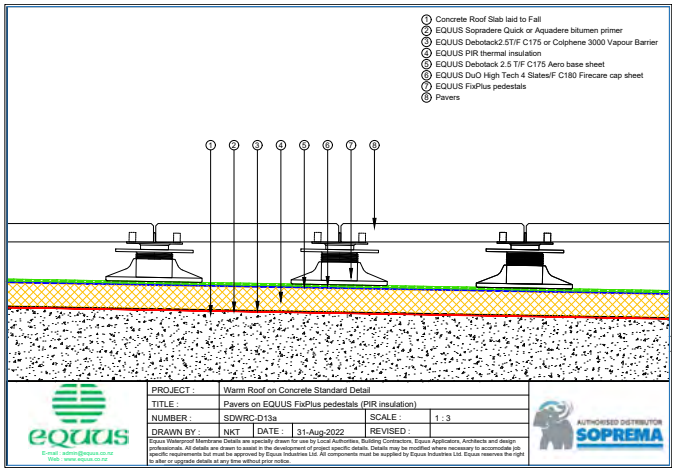


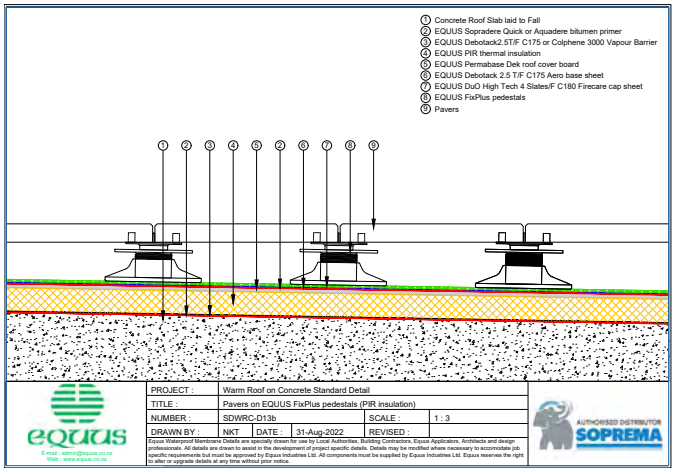


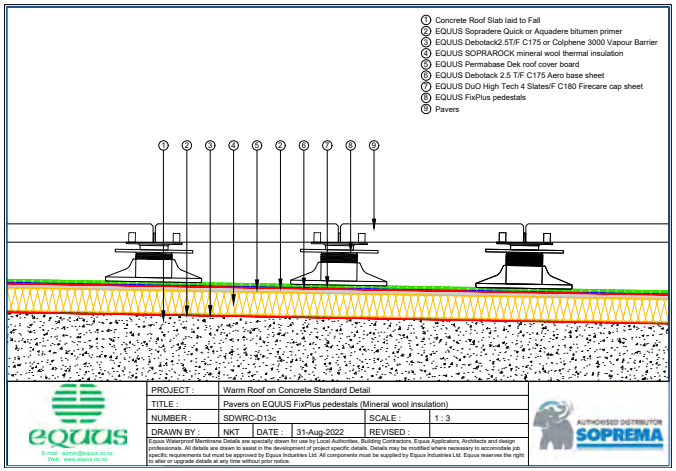












WHO ARE WE?

Equus Industries provides technical waterproofing solutions for Architects, Engineers, Property Managers, and Contractors in the building industry. One system does not fit all.

Equus can provide complete solutions, systems, specifications, technical support and warranties.

Equus is the Authorised Distributor for SOPREMA in New Zealand. SOPREMA was founded in 1908 in France and has over 100 factories worldwide producing waterproofing materials and thermal insulation.

AUTHORISED DISTRIBUTOR SOPREMA

Equus Southern

Unit 6/100 Fitzgerald Ave,
Christchurch

PO Box 19 846
Christchurch

Ph: 03 353 2434

southern@equus.nz

Equus Central

45 Hutt Rd, Petone,
Wellington

PO Box 38 636
Wellington Mail Centre

Ph: 04 576 0333

central@equus.nz

Equus Northern

211 Archers Rd, Wairau Valley,
Glenfield, Auckland

PO Box 101 423
North Shore Mail Centre

Ph: 09 415 4314

northern@equus.nz