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4422EF EQUUS SOPREMA FLAGON TPO ROOF & DECK MEMBRANE

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4422EF EQUUS SOPREMA FLAGON TPO ROOF & DECK MEMBRANE

1 GENERAL

This section relates to **Flagon TPO Waterproofing Membrane** roofing and deck waterproof membrane by **SOPREMA**. It includes:

- **Flagon TPO Waterproofing Membrane** applied as a single layer membrane, adhesive fixed or mechanically fixed to plywood, concrete or sandwich panels substrate.
- **Flagon TPO Waterproofing Membrane** applied as a single layer membrane, adhesive fixed or mechanically fixed to rigid insulation board over plywood, concrete or corrugated steel substrate to create a warm 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:

Equus	Equus Industries Limited
PIR	Polyisocyanurate insulation board

The following definitions apply specifically to this section:

TPO	Thermo Plastic Poly-Olefin - modified polyolefin synthetic membrane obtained by co-extrusion with polyester fibre, coupled with a non-woven felt.
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Documents

1.3 DOCUMENTS

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

NZBC E2/AS1	External moisture
AS 2122.1	Combustion Propagation Characteristics of Plastics - Part 1: Determination of flame propagation following surface ignition of vertically oriented specimens of cellular plastics.
AS/NZS 1604.1	Preservative-treated wood-based products - Part 1: Products and treatment
AS/NZS 2269.0	Plywood - Structural - Specifications
NZS 3114	Specification for concrete surface finishes

1.4 MANUFACTURER/SUPPLIER DOCUMENTS

Manufacturer and supplier documents relating to this part of the work:

Flagon EP/PV-F 1.5 Technical Data Sheet and specification

Flagon EP/PV-F 1.5 Safety Data Sheet

Vapour Barrier Technical Data Sheet and specification

Vapour Barrier Safety Data Sheet

Flagon BBA Certificate 00-3750

Flagon Installation Manual

[BRANZ Appraisal 1157](#) - SOPREMA Flagon TPO Waterproofing Membrane

[BRANZ Appraisal 1169](#) - Equus SOPREMA Warm Roof System

Copies of the above literature are available from **Equus Industries Limited**

Web: <https://equus.nz/>

Email: tech.support@equus.co.nz

Telephone: +64 (0)3 578 0214

Warranties

1.5 WARRANTY - MANUFACTURER/SUPPLIER

Provide a material supplier warranty:

20 years

For **Flagon TPO Waterproofing Membrane** by **SOPREMA** and associated product.

- Provide this warranty on **Equus** standard form (if unavailable, use the standard form in the general section 1237WA WARRANTY AGREEMENT)
- Include the appropriate Maintenance Statement and schedule.
- Commence the warranty from the date of Practical Completion of the contract works.

Refer to the general section 1237 WARRANTIES for additional requirements.

1.6 WARRANTY - INSTALLER/APPLICATOR

Provide an installer applicator warranty

10 years

For **Flagon TPO Waterproofing Membrane** by **SOPREMA** when installed by an **Equus** approved installer.

- Provide this warranty on the installer/applicator standard form (if unavailable, use the standard form in the general section 1237WA WARRANTY AGREEMENT)
- Commence the warranty from the date of installation.

Refer to the general section 1237 WARRANTIES for additional requirements.

Requirements

1.7 QUALIFICATIONS WORKERS - MANUFACTURER / SUPPLIER REQUIREMENTS

Installers to be approved by **Equus Industries Limited**. Refer to the general section 1270 CONSTRUCTION for additional requirements relating to qualifications.

1.8 PROJECT NOTIFICATION

Prior to installation of **Flagon TPO Waterproofing Membrane** by **SOPREMA**, approved installers to return project notification on the standard Project Notification Form to **Equus Industries Limited**.

1.9 NO SUBSTITUTIONS

Substitutions are not permitted to any specified **Equus Industries Limited** membrane waterproofing materials, or associated product, components or accessories.

Performance

1.10 TESTING - FLOOD

Flood test horizontal applications with a minimum 50mm depth of water for 48 hours to **Equus Industries Limited** requirements. Repeat water test process after making any necessary repairs.

1.11 TESTING - ALTERNATIVE FORMS OF LEAK DETECTION

Contact **Equus Industries Limited** and/or **Soprema** for appropriate methods of leak detection.

1.12 PERFORMANCE

Accept responsibility for the weather-tight performance of the completed **Flagon TPO Waterproofing Membrane** by **SOPREMA**, including all penetrations through the roof and junctions with walls and parapets. Installation of all penetrations to comply with **Equus Industries Limited** requirements.

Compliance information

1.13 INFORMATION REQUIRED FOR CODE COMPLIANCE

Provide the following compliance documentation:

- Applicator approval certificate from the product supplier
- Product supplier warranty
- Applicator warranty (or combined with supplier's warranty)
- Producer Statement - Construction (PS3) from the approved applicator
- Other information required by the BCA in the Building Consent Approval documents.

Quality control and assurance

1.14 INSPECTIONS

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1.15 INFORMATION FOR OPERATION AND MAINTENANCE

Refer to the general section 1239 OPERATION & MAINTENANCE for provision of the following general operation and maintenance information as electronic PDF format documents:
Equus Industries Limited recommends as normal maintenance, the finished roof areas are inspected every 12 months for cleaning and/or bi-annually by a Certified Installer to ensure weather tightness and durability.

Ensure the roof and all outlets are free of blockages and clear of unwanted debris, the general condition of the membrane, all associated flashing and capping are sound, the membrane is free from surface moss, mould or lichen.

Check all associated building elements that can impact on the durability of the membrane.

Higher risk areas such as sheet joints, substrate movement, edging, gutters, penetrations, corners, upstands, outlets and overflows require a thorough weather tight inspection on an annual basis. SOPREMA

Provide this information prior to Practical Completion.

2 PRODUCTS

Materials - Standard Cold Roof

2.1 FLAGON TPO FLEECE BACKED WATERPROOFING MEMBRANE

Flagon EP/PV-F 1.5 TPO, flexible TPO modified polyolefin synthetic single-ply membrane reinforced by glass fibre and coupled on the back sheet with non-woven felt adhesive fixed or mechanically fixed to plywood, concrete or sandwich panels substrate. 1.5mm thick x 2.1m wide x 20m long.

Materials – Warm Roof

2.2 FLAGON TPO FLEECE BACKED WATERPROOFING MEMBRANE

Flagon EP/PV-F 1.5 TPO, flexible TPO modified polyolefin synthetic single-ply membrane reinforced by glass fibre, and coupled on the back sheet with non-woven felt adhesive fixed or mechanically fixed to rigid insulation board. 1.5mm thick x 2.1m wide x 20m long.

2.3 PIR 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. The boards comply with AS 2122.1 'Determination of flame propagation following surface ignition of vertically oriented specimens of cellular plastics', and have zero Ozone Depletion Potential (ODP) and low Global Warming Potential (GWP). Available in several thicknesses. Standard board size 1200mm x 2400mm.

2.4 MINERAL WOOL THERMAL INSULATION BOARD

Soprema Soprarock is a non-flammable, water-repellent, mineral wool thermal and sound insulation board. Available in several thicknesses. Standard board size is 1200mm x 2400mm.

2.5 VAPOUR BARRIER

Equus Vapour Barrier laid between substrate and thermal insulation. Type and thickness dependent on type of substrate, concrete, plywood or metal. Selection of vapour barrier is based on results of the **Equus** job-specific condensation risk analysis (CRA) by **SOPREMA**.

Components

2.6 MEMBRANE ADHESIVE - FLEXOCOL A89

FLEXCOL A89 TPO solvent-free, moisture-curing, polyurethane adhesive, for application by brush, roller or notched trowel.

2.7 FIXINGS - EQUUS FIXINGS BY SOPREMA

Mechanical fixings suitable for the substrate on which the **Flagon TPO Waterproofing Membrane** will be installed.

2.8 CLEANER - TPO MEMBRANE CLEANER

Proprietary cleaner to clean **Flagon TPO Waterproofing Membrane** prior to adhesive application.

2.9 DETAIL MEMBRANE - FLAGON EP/S

Non-reinforced TPO membrane for detail application.

- 2.10 INTERNAL & EXTERNAL CORNERS - FLAGON CORNERS
Proprietary non-reinforced moulded TPO corners for welding over internal and external corners
- 2.11 TERMINATIONS - FLAGMETAL TERMINATION PROFILE
Proprietary TPO coated metal sheet 166mm x 3m for forming edge profiles to welded membrane
- 2.12 TERMINATIONS - FLAGMETAL TERMINATION STRIP
Proprietary TPO coated metal termination strip of 70mm x 2m
- 2.13 VENTS - TPO AERATOR
Proprietary vents compatible with **Flagon TPO Waterproofing Membrane** for venting roof cavities.
- 2.14 PIPE FLASHINGS - TPO PIPE COLLARS
Proprietary pipe collars in sizes 80mm and 100mm compatible with **Flagon TPO Waterproofing Membrane** for flashing of pipe penetrations.
- 2.15 PRIMER - SOPRADERE
Sopradere® Quick primer for adhesion of torch-applied vapour barrier in warm roof system only.
- 2.16 PRIMER - PEEL & STICK
Equus Peel & Stick primer, for adhesion of self-adhesive vapour barrier in warm roof system only.
- 2.17 THERMAL INSULATION BOARD ADHESIVE
Equus Easy Foam PU rapid curing, gun grade polyurethane adhesive for adhesion of thermal insulation boards in warm roof system only.

Accessories

- 2.18 ROOF OUTLETS AND OVERFLOWS
Roof drains, **Equus** moulded outlet pipe in flange sizes 40mm to 200mm for welding to **Flagon TPO Waterproofing Membrane**. Refer to SELECTIONS.
- 2.19 SCUPPER OUTLETS
Flagon TPO moulded rectangular wall outlets, 200mm x 75mm for welding to **Flagon TPO Waterproofing Membrane**. (Other sizes can be pre-fabricated in **Equus FlagMetal Sheet**).
- 2.20 FLAGON TPO STANDING SEAM PROFILE
Extruded TPO batten 27mm high, tapered for welding to the membrane to give the appearance of a standing seam profile roof.
- 2.21 LEAF AND GRAVEL GRATES
Flagon TPO leaf and gravel grates to suit outlets and pipes 40mm to 200mm
- 2.22 WALKWAY - FLAGON TPO WALKWAY
Non-slip TPO walkway rolls 1.0m x 20metres which are heat welded to the **Flagon TPO Waterproofing Membrane**.
- 2.23 ROOF COVER BOARD
High performance roof board to add extra load resistance to the warm roof or green roof system.
- 2.24 PEDESTALS
Equus Fixplus range of pedestals and tile supports. Pedestals are customisable to be compatible with a range of flooring materials. Refer to SELECTIONS for options.

3 EXECUTION

Conditions

- 3.1 DELIVERY, STORAGE & HANDLING OF PRODUCTS
Refer to the general section 1270 CONSTRUCTION for requirements relating to delivery, storage and handling of product.
- 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.

Moisture content:	Timber substrate - 18% maximum Concrete substrate: 75% RH
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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 PRE-COATING/FINISHING REQUIREMENTS

Check work previously carried out and confirm it is of the required standard for specified finish. Carry out such additional preparatory work as required in bringing the substrate to suitable condition.

3.5 WEATHER

Lay **Flagon TPO Waterproofing Membrane** in fair weather, with ambient air temperature no less than 5°C and no greater than 40°C

3.6 EQUIPMENT

Equus Industries Limited requires the approved applicator to use the following equipment:

- Techspan or Leister TRIAC PID hand welding machine
- Techspan or Leister Varimat automatic seam welding machine
- 40mm hot air nozzle for general welding
- 20mm hot air nozzle for detail work
- 28mm blue Teflon roller for seam welding
- 6mm brass roller for detail work
- Seam probe weld tester
- Vinyl roller 50kg
- Scissors and cutter

3.7 STANDARDS AND TOLERANCES

Refer to the general section 1270 CONSTRUCTION for general requirements.

Application

3.8 PRELIMINARY WORK

Ensure that preliminary work, including formation of falls, flashing rebates, grooves, ducts, provision of battens and fillets, fixing of vents and outlets to levels, 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.

Preparation - Standard Cold Roof to Concrete Substrate

3.9 CONCRETE SUBSTRATE

Ensure concrete substrate has been finished to [NZS 3114](#) 'Specification for concrete surface finishes' and 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. Prepare the surface, including vacuum cleaning and acid etching as necessary to leave smooth, clean, dry and free of debris. Fill depressions with **Equus Thermexx** or **Equus Chevacryl Admix**.

For fully cured concrete apply single layer of compatible liquid waterproofing concrete sealer to seal the surface before applying membrane.

Minimum falls generally;

- Lay roofs to a minimum fall of 1:30 (2°) to [NZBC E2/AS1, 8.5.1 a.](#)
- Lay decks to a minimum of 1:40 (1.5°) to [NZBC E2/AS1, 8.5.1 b.](#)
- Lay gutters to a minimum fall of 1:100 (0.57°) to [NZBC E2/AS1, 8.5.1 c.](#)

Roof and Deck outlets are to be installed to [NZBC E2](#) Clause 8.5.6,

Preparation – Standard Cold Roof to Plywood Substrate

3.10 PLYWOOD SUBSTRATE

H3 plywood, treated to AS/NZS 1604.1, to be a minimum of 18mm thick and complying with [AS/NZS 2269.0](#)'Plywood-Structural-Specifications', minimum CD structural grade with the sanded 'C' side upwards.

- LOSP treated plywood must not be used.
- Lay with staggered joints (brick bond) with all edges of the sheets fully supported.
- Ensure sheet edges of adjoining sheets are fixed to a common joist where double joists are employed.
- External edges chamfered with a minimum radius of 5mm where the membrane is to be wrapped over.
- Where condensation is likely, prepare sheet edges and underside with **Equus Chevaprime PBT**.
- Fixed with 10 gauge x 50mm stainless steel countersunk head screws, sheets butt jointed and glued with a 4mm gap to abutments.

Control joints where required, fixed:

- 50mm from the corners
- 150mm centres on perimeter
- 200mm centres on intermediate supports.

Plywood and the timber substructure to have maximum moisture content of 20%, and be clean, dry and dust free when the membrane is adhered.

Minimum falls:

- Lay roofs to a minimum fall of 1:30 (2°) to [NZBC E2/AS1](#), 8.5.1 a.
- Lay decks to a minimum of 1:40 (1.5°) to [NZBC E2/AS1](#), 8.5.1 b.
- Lay gutters to a minimum fall of 1:100 (0.57°) to [NZBC E2/AS1](#), 8.5.1 c.

Roof and Deck outlets are to be installed to [NZBC E2](#) Clause 8.5.6,

Preparation – Warm Roof to Insulated Panel Substrate

3.11 INSULATED COOL STORE PANEL

Insulated Cool Store panel to be installed as per the manufacturer's instructions.

- Substrate to be flat-steel finished insulated panel, free from oil, grease and other contaminants.
- Although the membrane can be installed on flat roofs, good roofing practice requires minimal falls be provided below the membrane
- Sufficient roof and deck outlets to be installed to prevent damage to the roof.

Preparation – Warm Roof to Concrete Substrate

3.12 CONCRETE SUBSTRATE

Ensure concrete substrate has been finished to [NZS 3114](#)'Specification for concrete surface finishes', and 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. Prepare the surface, including vacuum cleaning and acid etching as necessary to leave smooth, clean, dry and free of debris. Fill depressions with **Equus Thermexx** or **Equus Chevacrly Admix**.

For fully cured concrete apply single layer of compatible liquid waterproofing concrete sealer to seal the surface before applying membrane

Minimum falls generally;

- Lay roofs to a minimum fall of 1:30 (2°) to [NZBC E2/AS1](#), 8.5.1 a.
- Lay decks to a minimum of 1:40 (1.5°) to [NZBC E2/AS1](#), 8.5.1 b.
- Lay gutters to a minimum fall of 1:100 (0.57°) to [NZBC E2/AS1](#), 8.5.1 c.

Roof and Deck outlets are to be installed to [NZBC E2](#) Clause 8.5.6,

3.13 PRIME SUBSTRATE - CONCRETE

Prime the dried and prepared surface with **Sopradere® Quick** primer or **Equus** system approved primer by roller or brush, at a spreading rate of 5m² per litre, ensuring a good even coverage and penetration as recommended by **Equus Industries Ltd**. Application to include upstands to a minimum height of 150mm above the PIR finished level. Consumption rates will depend on surface profile and porosity.

3.14 ALLOW PRIMER TO DRY

Allow the primer to fully dry for 4 to 24 hours depending on prevailing weather conditions. Prevent contamination of the primed surface prior to application of the **Equus** vapour barrier.

3.15 APPLY VAPOUR BARRIER

Unroll **Equus** vapour barrier onto the concrete in accordance with the manufacturer's instructions. Vapour barrier is self-adhered or installed by torch-on application depending on the type. Discard all packaging prior to installation.

3.16 INSTALL THERMAL INSULATION BOARD

Install insulation boards over the vapour barrier in a brick-lay pattern. Secure boards using **Equus Easy Foam** adhesive in accordance with manufacturer's instructions. Note no foot traffic is permissible on PIR insulation for 30 mins while adhesive cures.

Mechanically fastened options available with **Equus Fasteners** for concrete. Contact local **Equus** representative for specification options.

Where **Equus** roof cover board is required, mechanically fasten thermal insulation and roof cover board in accordance with manufacturer's instructions.

Preparation – Warm Roof to Plywood Substrate

3.17 PLYWOOD SUBSTRATE

H3 plywood, treated to AS/NZS 1604.1, to be a minimum of 18mm thick and complying with [AS/NZS 2269.0](#), minimum CD structural grade with the sanded 'C' side upwards.

- LOSP treated plywood must not be used.
- Lay with staggered joints (brick bond) with all edges of the sheets fully supported.
- Ensure sheet edges of adjoining sheets are fixed to a common joist where double joists are employed.
- External edges chamfered with a minimum radius of 5mm where the membrane is to be wrapped over.
- Where condensation is likely, prepare sheet edges and underside with **Equus Chevaprime PBT**.
- Fixed with 10 gauge x 50mm stainless steel countersunk head screws, sheets butt jointed and glued with a 4mm gap to abutments.
- Control joints as/where required, fixed:
 - 50mm from the corners
 - 150mm centres on perimeter
 - 200mm centres on intermediate supports.

Plywood and the timber substructure to have maximum moisture content of 20%, and be clean, dry and dust free when the membrane is adhered.

Minimum falls:

- Lay roofs to a minimum fall of 1:30 (2°) to [NZBC E2/AS1](#), 8.5.1 a.
- Lay decks to a minimum of 1:40 (1.5°) to [NZBC E2/AS1](#), 8.5.1 b.
- Lay gutters to a minimum fall of 1:100 (0.57°) to [NZBC E2/AS1](#), 8.5.1 c.

Roof and Deck outlets are to be installed to [NZBC E2](#) Clause 8.5.6,

3.18 PRIME SUBSTRATE - PLYWOOD

Prime all dried and prepared plywood surfaces with **Sopradere® Quick** primer or **Equus** system approved primer, by brush or roller at a spreading rate of 5m² per litre, before membrane application. A double-prime system may be needed in certain cases.

3.19 ALLOW PRIMER TO DRY

Allow the primer to fully dry for 4 to 24 hours depending on prevailing weather conditions. Prevent contamination of the primed surface prior to application of the membrane.

3.20 APPLY VAPOUR BARRIER

Unroll **Equus** vapour barrier onto the plywood in accordance with the manufacturer's instructions. Discard all packaging prior to installation

3.21 INSTALL THERMAL INSULATION BOARD

Install insulation boards over the vapour barrier in a brick-lay pattern. Secure boards using **Equus Easy Foam** adhesive and install in accordance with manufacturer's instructions. Note no foot traffic is permissible on PIR insulation for 30 mins while adhesive cures.

Mechanically fastened options available with **Equus Fasteners** for plywood. Contact local **Equus** representative for specification options

Where **Equus** roof cover board is required, mechanically fasten thermal insulation and roof cover board in accordance with manufacturer's instructions.

Preparation – Warm Roof to Steel Substrate

3.22 METAL TRAY SUBSTRATE

Confirm that the metal tray roofing and supporting structure has been installed in accordance with AS 1562.1, HB39-1997 and to the metal tray roofing manufacturer requirements and specifications.

Metal tray thickness to be a minimum of 0.75mm BMT.

Remove all swage leaving the surface dust-free, oil-free, grease-free and clean, with nothing that could diminish the adhesion of primer.

Note that compliance with **NZBC E2/AS1** for falls and drainage on metal tray roofs is achieved using specific design criteria to suit the project. Assistance is available from **Equus**.

Generally, default criteria are as follows:

-Lay roofs to a minimum fall of 1:30 (2°) to **NZBC E2/AS1**, 8.5.1 a.

-Lay decks to a minimum of 1:40 (1.5°) to **NZBC E2/AS1**, 8.5.1 b.

-Lay gutters to a minimum fall of 1:100 (0.57°) to **NZBC E2/AS1**, 8.5.1 c.

Sufficient roof and deck outlets to be installed to prevent damage to the roof.

3.23 APPLY VAPOUR BARRIER

Unroll **Equus** vapour barrier onto the metal tray in accordance with the manufacturer's instructions.

Discard all packaging prior to installation

3.24 INSTALL THERMAL INSULATION BOARD

Install insulation boards over the vapour barrier in a brick-lay pattern. Secure boards using **Equus** fasteners for metal substrates and install in accordance with manufacturer's instructions.

Where **Equus** roof cover board is required, mechanically fasten in accordance with manufacturer's instructions.

Application – Flagon TPO Fleece Backed Waterproofing Membrane

3.25 POSITION

Position **Flagon TPO EP/PV-F 1.5mm** fleece backed membrane over acceptable substrate and fold membrane back to expose half of the underside.

3.26 APPLY ADHESIVE - FLEXOCOL A89 ADHESIVE

Apply **Flexocol A89** adhesive, to the corresponding substrate. Distribute adhesive uniformly to substrate using squeegee in a tight fashion at approx. 150-200gsm per m² or to **Equus Industries Limited** requirements. Allow to turn to a milky consistency.

3.27 INSTALL MEMBRANE SHEETS - FLAGON TPO FLEECE BACKED MEMBRANE

Apply **Flagon TPO EP/PV-F 1.5mm** fleece backed membrane sheet to substrate and press uniformly with a roller (200Kg+) to **Equus Industries Limited** requirements. Ballast edges of membrane while adhesive is curing.

Mechanically fastened options available with **Equus** fasteners. Contact local **Equus** representative for specification options.

3.28 LAP JOINTS

Install adjoining **Flagon TPO EP/PV-F 1.5mm** fleece backed membrane sheets by overlapping edges a minimum of 50mm to provide for a minimum 30mm hot air weld in a fully adhered system.

Overlap edges a minimum of 120mm to provide for a minimum 40mm hot air weld in a mechanically fastened system.

3.29 LAP PREPARATION - TPO CLEANER

Wipe lap surfaces clean and dry using TPO cleaner and clean/dry cotton cloth.

3.30 AUTOMATIC WELDING

The basic setting temperature and speed for automatic welding **Flagon TPO Waterproofing Membrane** is 380° - 470°C at 2m per minute.

3.31 HAND WELDING

Basic setting temperature for hand welding **Flagon TPO Waterproofing Membrane** is 300°C for 20mm nozzle and 350°C for 40mm nozzle

3.32 PENETRATIONS AND JUNCTIONS

Form and finish upstands, downturns, penetrations, sumps and vents to conform to the **Equus Industries Limited** required details.

3.33 INSPECT

Inspect and test all joints in **Flagon TPO Waterproofing Membrane** on completion

Testing Procedure

3.34 FLOOD TESTING

Where practical, flood test all horizontal applications with a minimum 50mm depth of water for 48 hours. Make good any lack of water tightness when the surface is completely dry. Ensure that an overflow is incorporated during the flood testing and that there are no load limitations that might prevent testing.

3.35 TESTING - ALTERNATIVE TEST METHODS

Consult with **Equus Industries Ltd / Soprema** regarding alternative test methods.

Finishing

3.36 INSTALL PEDESTALS

For balconies, walkways and roofing applications with raised floors, install **Fixplus Pedestals** as per manufacturer's instructions.

3.37 FOOT TRAFFIC

Keep foot traffic to a minimum after laying the **Flagon TPO Waterproofing Membrane**. Lay protection at all traffic concentration points.

3.38 ACCESS BOARDS

Provide access boards for later operations and remove when no longer needed.

3.39 ACCEPTANCE

Arrange for an inspection of the completed work. Protect and maintain roofing until completion of the contract works.

3.40 SUBSEQUENT WORK

Make good any **Flagon TPO Waterproofing Membrane** cut or deformed by later work. Making good to take the form of inserting a new whole or part infill sheet to maintain the appearance of the covering as originally laid.

Completion & Commissioning

3.41 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 product, unless stated otherwise.

4.1 FLAGON TPO MEMBRANE BY SOPREMA - SINGLE LAYER ON CONCRETE

Location:	~
Manufacturer:	SOPREMA
Distributor:	Equus
Substrate:	Concrete
Membrane:	Flagon EP/PV-F 1.5mm TPO Membrane
Colour:	Basalt Grey
Finish:	Smooth
Membrane adhesive:	Flexocol A89
Accessories:	~

4.2 FLAGON TPO MEMBRANE BY - SOPREMA SINGLE LAYER ON PLYWOOD

Location: ~
 Manufacturer: SOPREMA
 Distributor: Equus
 Substrate: Plywood
 Membrane: Flagon EP/PV-F 1.5mm TPO Membrane
 Colour: Basalt Grey
 Finish: Smooth
 Membrane adhesive: Flexocol A89
 Accessories: ~

4.3 FLAGON TPO MEMBRANE BY SOPREMA ON INSULATED COOL STORE PANEL - WARM ROOF

Location: ~
 Manufacturer: SOPREMA
 Distributor: Equus
 Substrate: Insulated cool store panel
 Insulation thickness: ~mm
 Membrane: Flagon EP/PV-F 1.5mm TPO Membrane
 Colour: Basalt Grey
 Finish: Smooth
 Membrane adhesive: Flexocol A89
 Accessories: ~

4.4 FLAGON TPO MEMBRANE BY SOPREMA ON INSULATION OVER CONCRETE - WARM ROOF

Location: ~
 Manufacturer: SOPREMA
 Distributor: Equus
 Substrate: Concrete
 Primer: Sopradere Quick
 Vapour barrier: Equus Vapour Barrier
 Insulation: ~
 Insulation thickness: ~mm
 TPO Membrane: Flagon EP/PV-F 1.5mm TPO
 Colour: Basalt Grey
 Finish: Smooth
 Membrane adhesive: Flexocol A89
 Insulation adhesive: PU Easy Foam adhesive
 Accessories: ~

4.5 FLAGON TPO MEMBRANE BY SOPREMA ON INSULATION OVER PLYWOOD - WARM ROOF

Location: ~
 Manufacturer: SOPREMA
 Distributor: Equus
 Substrate: Plywood 18mm H3
 Primer: Sopradere Quick
 Vapour barrier: Equus Vapour Barrier
 Insulation: ~
 Insulation thickness: ~mm
 Membrane: Flagon EP/PV-F 1.5mm TPO
 Colour: Basalt Grey
 Finish: Smooth
 Membrane adhesive: Flexocol A89
 Insulation adhesive: PU Easy Foam
 Accessories: ~

4.6 FLAGON TPO MEMBRANE BY SOPREMA ON INSULATION OVER STEEL - WARM ROOF

Location: ~
 Manufacturer: SOPREMA

Distributor:	Equus
Substrate:	Zincalume 0.75 gauge G550 or other
Vapour barrier:	Equus Vapour Barrier
Insulation:	~
Insulation thickness:	~mm
Membrane:	Flagon EP/PV-F 1.5mm TPO
Colour:	Basalt Grey
Finish:	Smooth
Membrane adhesive:	Flexocol A89
Insulation adhesive:	Easy Foam
Accessories:	~

Components

4.7 ADHESIVE - MEMBRANE

Location:	~
Manufacturer:	SOPREMA
Distributor:	Equus
Type:	Flexocol A89

4.8 ADHESIVE - INSULATION

Location:	~
Manufacturer:	SOPREMA
Distributor:	Equus
Type:	Easy Foam PU

4.9 WARM ROOF INSULATION

Location:	
Manufacturer:	
Distributor:	Equus
Type:	~
Thickness:	~mm
R-Value:	~

Accessories

4.10 ROOF VENTS

Location;	~
Manufacturer;	~
Distributor:	Equus
Type;	Flagon Aerator
Dimensions:	~mm dia

4.11 PIPE COLLARS

Location;	~
Manufacturer;	~
Distributor:	Equus
Type;	Flagon TPO pipe collars
Dimensions;	~mm dia

4.12 TERMINATIONS

Location;	~
Manufacturer;	SOPREMA
Distributor:	Equus
Type;	Equus Flagmetal Termination ~
Dimensions;	~mm

4.13 STANDING SEAM

Location;	~
Manufacturer/supplier;	SOPREMA

	Distributor:	Equus
	Type;	Flagon TPO Batten
	Dimensions;	27mm
4.14	NON-SLIP WALKWAY	
	Location;	~
	Manufacturer;	SOPREMA
	Distributor:	Equus
	Type;	Flagon TPO Walkway
	Dimensions;	1m x 20m
4.15	DRAINAGE OUTLETS	
	Location;	~
	Manufacturer;	~
	Distributor:	Equus
	Type;	~
	Material;	~
	Dia/dim;	~
4.16	LEAF & GRAVEL GRATES	
	Location:	~
	Manufacturer:	~
	Distributor:	Equus
	Type:	~
	Dimensions:	~mm
4.17	ROOF COVER BOARDS	
	Location:	~
	Manufacturer:	SOPREMA
	Distributor:	Equus
	Type:	Roof cover boards
	Dimensions:	~mm
4.18	PAVER PEDESTALS	
	Location:	~
	Manufacturer:	~
	Distributor:	Equus
	Brand/type:	Fixplus ~
	Material:	~
	Height:	~