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4131EB EQUUS SOPREMA COLPHENE TANKING MEMBRANE

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4131EB EQUUS SOPREMA COLPHENE TANKING MEMBRANE

1 GENERAL

This section relates to the application of Equus Industries Ltd COLPHENE BSW tanking membrane system pre-applied or post-applied to below ground concrete structures and screed protected areas in construction.

It includes:

- waterproof tanking membranes
- components and accessories to complete application

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:

SBS Styrene-Butadiene-Styrene

The following definitions apply specifically to this section:

SBS modified bitumen Modified bitumen (SBS) is an elastomeric additive to bitumen that, when cooled, exhibits rubber-like properties

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
[NZS 3114](#) Specification for concrete surface finishes
[NZS 3604](#) Timber-framed buildings

1.4 MANUFACTURER/SUPPLIER DOCUMENTS

Manufacturer's and supplier's documents relating to this part of the work:
 Equus Product Technical Data Sheets and Safety Data Sheets
 Equus SOPREMA COLPHENE BSW standard detail drawings
 Equus SOPREMA Quality Assurance (QA) Checklist
[BRANZ Appraisal 1037 COLPHENE BSW TANKING MEMBRANE SYSTEM](#)
 WMAI Code of Practice for Below-Grade Tanking Membranes

Manufacturer/supplier contact details

Company: Equus Industries Ltd
 Web: www.equus.nz
 Email: info@equus.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 manufacturer/supplier warranty:

20 years For Equus SOPREMA COLPHENE BSW and COLPHENE 3000 tanking membranes. It includes an appropriate Maintenance Statement.

- 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.

1.6 WARRANTY - INSTALLER/APPLICATOR

Provide an Equus certified applicator warranty:

10 years For application of Equus SOPREMA COLPHENE BSW and COLPHENE 3000 tanking membranes.

- 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 SOPREMA COLPHENE BSW and COLPHENE 3000 tanking membranes or associated components and products.

1.8 QUALIFICATIONS

Waterproofing work to be carried out by approved applicators certified by Equus Industries Ltd.

Refer to the general section 1270 CONSTRUCTION for additional requirements relating to qualifications. Contact Equus Industries Ltd for list of approved applicators.

1.9 MAINTENANCE CONTRACT PROPOSAL

Provide a proposed contract for the annual inspection of the tanking membrane by the certified installer, to ensure weather tightness and durability of:

- the top edge of the membrane sheet
- the sheet protection at that top edge
- the subsoil drainage is not blocked and is free draining to an approved outlet
- check all associated building elements that could impact on the durability of the membrane

Compliance information

1.10 INFORMATION REQUIRED FOR CODE COMPLIANCE

Provide the following compliance documentation: -

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

Performance

1.11 PRE-INSTALLATION MEETING

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

1.12 PROJECT SPECIFIC DETAILS

Where a standard Equus SOPREMA COLPHENE BSW or COLPHENE 3000 detail does not exist, or if a standard detail cannot be applied, an approved alternative must be obtained from Equus before proceeding with the installation.

1.13 PRESSURE RATING

Obtain a written assurance from Equus that the waterproofing system, comprising membrane and jointing methods, is capable of sustaining the designated water pressure head. Refer to SELECTIONS for the designated water pressure head.

1.14 INSPECTIONS AND QUALITY ASSURANCE

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

2 PRODUCTS

Materials

- 2.1 COLPHENE BSW H WATERPROOFING TANKING MEMBRANE
3.5mm thick SBS modified bitumen waterproofing membrane with non-woven polyester reinforcement. Upper surface adheres to in-situ poured concrete and underside is covered with thermofusible plastic film.
- 2.2 COLPHENE BSW V SELF-ADHERED WATERPROOFING TANKING MEMBRANE
3.0mm thick self-adhesive SBS modified bitumen waterproofing membrane with composite reinforcement. Upper surface adheres to in-situ concrete and underside is covered with silicone release film.
- 2.3 COLPHENE 3000 SELF-ADHERED WATERPROOFING TANKING MEMBRANE
1.5mm thick self-adhesive SBS modified bitumen waterproofing membrane with tri-laminated woven polyethylene facer. The underside is covered with silicone release film.

Components

- 2.4 PRIMER
Equus Peel and Stick Primer rubber based adhesive primer.
- 2.5 SELF-ADHESIVE REINFORCING STRIP - COLPHENE BSW V
3.0mm thick self-adhesive SBS modified bitumen waterproofing membrane reinforcing strip for reinforcement of internal and external corners.
- 2.6 SELF-ADHERED REINFORCING STRIP - COLPHENE 3000
1.5mm thick self-adhesive SBS modified bitumen waterproofing membrane reinforcing strip with tri-laminated woven polyethylene facer for reinforcement of internal and external corners.
- 2.7 LIQUID APPLIED WATERPROOFING MEMBRANE - ALSAN FLASHING
One-component polyurethane bitumen resin liquid applied waterproofing membrane for detailing of penetrations and other details.
- 2.8 LIQUID APPLIED WATERPROOFING MEMBRANE - MATACRYL THIX
Viscous, urethane-modified, pre-reacted 100% solid membrane system based on acrylic monomers for detailing of penetrations and other details.
- 2.9 EQUUS BITUMEN ANGLE FILLETS
Triangular angle fillet of rubber modified bitumen.
- 2.10 LIGHTWEIGHT PROTECTION AND DRAINAGE LAYER
Equus protection & drainage layer, high density polypropylene nodular sheet with laminated geotextile layer.
- 2.11 EQUUS TERMINATION BAR
Extruded aluminium profile, 2mm thick x 110mm high x 2.4m long.
- 2.12 EQUUS FIXINGS
Galvanized screws and pressure plates for mechanical fastening of the waterproofing membrane where required.
- 2.13 SEALANT - ALSAN MASTIC 2200
Bitumen and synthetic rubber flexible mastic sealant.
- 2.14 SEALANT - SOPRASEAL
Elastomeric, solvent-free, low VOC moisture cure polyether sealant.

Accessories

- 2.15 UNDERSLAB INSULATION
Equus XPS thermal insulation board. Refer to SELECTIONS.

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 products. Take delivery of rolls undamaged and include for site handling facilities where required. Store membranes and accessory materials under conditions that ensure no deterioration or damage.

3.2 ROUTINE MATTERS

Refer to the general section 1250 TEMPORARY WORKS & SERVICES for protection requirements. Refer to the general section 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.

3.4 DE-WATERING

Maintain water level at not less than 300mm below the level of the base concrete during the progress of the tanking work.

3.5 DRAINAGE

Install approved drainage system to remove water from foundations. Ensure drain is protected with geotextile cloth to prevent it clogging with fines, and that it is correctly located, 150mm from the membrane and below the footing.

Application - generally**3.6 GENERALLY**

All work and materials to comply with Equus Industries Ltd installation instructions.

3.7 WEATHER CONDITIONS

Install Equus SOPREMA COLPHENE BSW membranes only in fair weather with air temperature above 7°C. Install COLPHENE 3000 membranes only in fair weather with air temperature above 10°C.

3.8 STANDARDS AND TOLERANCES

Refer to the general section 1270 CONSTRUCTION for general requirements

Application Requirements - substrate**3.9 CONCRETE SUBSTRATE - GENERALLY**

Concrete to be finished to [NZS 3114](#), U3 with a light trowel texture with all ridges removed and protrusions ground flush. Finish pile edges and fill tie holes with a non-shrink mortar. Confirm all surfaces are smooth, clean, dry and free from dust, dirt and oil. Equus do not recommend the use of curing compounds; however, when used ensure all traces of compound are gone or removed.

3.10 TURN UPS

Where tanking is turned up against hardened concrete, ensure the surface is smooth and free of all sharp projections. Fill internal corners with an Equus bituminous fillet or modified cement mortar or epoxy mortar.

3.11 TURN DOWNS

Where tanking is turned over an external corner, first grind the corner to produce a smooth 5mm radius or chamfer.

3.12 LEAN CONCRETE SUBSTRATE

Clean lean concrete by brush or air compressor.

3.13 COMPACTED HARD-FILL SURFACE

Confirm that the maximum non-specific design of hard-fill is up to 600mm in depth. Ensure granular fill, sand blinding and compaction to comply with the requirements of [NZS 3604](#). Dress off surface of hard-fill with a 15mm layer of fine, clean sand roll-compacted to a smooth surface.

3.14 REMOVE OTHER FORMWORK

Ensure that formwork has been removed or partially removed from the other face(s) to the membrane face, to the extent that it allows moisture to escape from the concrete to ensure no vapour pressure develops beneath the membrane.

Application - loose laid under slab waterproofing membrane

3.15 INSTALL INSULATION

Install Equus XPS insulation boards in brick bond pattern over compacted hard-fill with sand blinding or over lean concrete.

3.16 LOOSE LAY COLPHENE BSW H

Unroll Equus SOPREMA COLPHENE BSW H membrane and align the first roll, loose laid over substrate and cut to length. Lay subsequent rolls ensuring membrane is flat and laps are aligned. Lap roll edges 100mm minimum and end laps 150mm minimum, offset in adjacent runs. Press self-adhesive DUO SELVEDGE laps closed and fully heat weld with gas torch. Take care when placing reinforcing steel to avoid puncture or damage to the membrane.

Application - pre-applied self-adhesive membrane against lost formwork

3.17 INSTALL INSULATION

Install Equus thermal insulation against the lost formwork before installing the Equus drainage layer. Insulation can be held in place with Equus DOUBLESTICK double-sided tape or Equus SOPREMA fixings.

3.18 INSTALL EQUUS PROTECTION & DRAINAGE LAYER

Fix Equus drainage layer to the lost formwork with the geotextile layer facing the formwork, using Equus SOPREMA fixings.

3.19 INSTALL SELF-ADHERED COLPHENE BSW V

Remove silicone backing and apply COLPHENE BSW V self-adhesive membrane to drainage layer with edge laps 100mm minimum and end laps 150mm minimum, offset in adjacent runs. Seal laps and mechanically fix membrane at the top to secure during concrete installation.

Application - post-applied self-adhered membrane on concrete or masonry walls

3.20 APPLY PRIMER

Apply Equus Peel and Stick Primer evenly at a spreading rate of 6 to 8 m²/litre to all vertical wall surfaces to which self-adhered membrane is to be adhered to. Allow to dry for minimum 1 hour depending upon prevailing weather conditions.

3.21 REINFORCE CORNERS - COLPHENE BSW V

Reinforce internal and external corners to vertical areas with a self-adhered strip of COLPHENE BSW V membrane.

3.22 REINFORCE CORNERS – COLPHENE 3000

Reinforce internal and external corners to vertical areas with a self-adhered strip of COLPHENE 3000 membrane.

3.23 INSTALL SELF-ADHERED COLPHENE BSW V

Remove silicone backing and apply a reinforcing strip of COLPHENE BSW V self-adhesive membrane at the connection between the vertical COLPHENE BSW V membrane and the horizontal COLPHENE BSW H membrane, fully pressing in place. Apply COLPHENE BSW V vertically aligned to wall, pressing evenly and using a soft broom or roller to prevent trapped air bubbles. Lap roll edges 100mm minimum and end laps 150mm minimum, offset in adjacent runs. Press laps closed and fully heat weld with gas torch or hot air gun.

3.24 INSTALL SELF-ADHERED COLPHENE 3000

Remove silicone backing and apply a reinforcing strip of COLPHENE 3000 self-adhesive membrane at the connection between the vertical COLPHENE 3000 membrane and the horizontal COLPHENE BSW H membrane, fully pressing in place. Apply COLPHENE 3000 vertically aligned to wall, pressing evenly and using a soft broom or roller to prevent trapped air bubbles. Lap roll edges 100mm minimum and end laps 150mm minimum, offset in adjacent runs. Press laps closed and fully heat weld with gas torch or hot air gun.

3.25 INSTALL INSULATION

Install Equus XPS insulation boards against membrane, fixed using dots of Equus DOUBLESTICK double-sided tape.

Application - detailing & membrane termination

3.26 DETAILING

All detailing including outlets and pipe penetrations to be in accordance with Equus technical literature and detail drawings using ALSAN FLASHING or MATACRYL THIX. Seal membrane edges and termination bars using ALSAN MASTIC 2200 or SOPRASEAL.

Application - protection and backfilling

3.27 QUALITY ASSURANCE (QA) & QUALITY CONTROL

As sections of the tanking are completed, arrange for inspection of the work before covering with protective sheets, walls, slabs or back fill. Complete Equus QA Checklist and return to Equus Industries Ltd for warranty purposes.

3.28 INSTALL EQUUS PROTECTION & DRAINAGE LAYER TO VERTICAL MEMBRANE

Protect the vertical tanking from damage by abrasive materials, expansive soils and during back filling by installing Equus protection and drainage layer. Secure drainage layer in place using Equus termination bar and ALSAN MASTIC 2200 sealant to spot stick the drainage layer to the membrane and seal top of the termination bar.

3.29 PROTECT HORIZONTAL MEMBRANE

After laying is complete the membrane can be protected until the floor slab is poured by covering the tanking with a 50mm layer of 15MPa blinding concrete or compressed cement fibre sheets or similar protective boards suitable for the intended purpose or weight of traffic. This situation arises when there is an extended delay between the membrane installation and the placement of the floor slab or where vehicles and other construction machinery are being taken over the membrane.

Remove protective boards prior to placement of reinforcement steel and concrete pour.

3.30 BACKFILLING

Provide a drain coil with a minimum diameter of 100mm (incorporating a filter material) to the base of the foundation. The outlet must discharge to an approved outlet. Install to [NZBC E2/AS1](#). Place free draining granular backfill behind the tanked wall and around the drain coil. An impervious top coating is required above the free draining granular backfill to manage the surface water away from the building with a minimum fall of 1:30.

Application - Repairs

3.31 REPAIRS TO DAMAGED AREAS

Heat weld a piece of COLPHENE BSW H of suitable size to cover the damaged area with a minimum overlap of 130mm on all sides on the exterior surface.

NOTE: Contractor to notify the waterproofing applicator if any damage occurs.

Completion

3.32 COMPLETION MATTERS

Refer to 1270 CONSTRUCTION for completion requirements and if required commissioning requirements.

4 SELECTIONS

For further details on selections go to www.equus.nz.

Substitutions are not permitted to the following Equus product, unless stated otherwise.

4.1 PRESSURE RATING

Designated water pressure head: ~ metres

Tanking waterproofing membrane

4.2

COLPHENE BSW H WATERPROOFING MEMBRANE - LOOSE-LAID APPLICATION UNDER FLOOR SLAB

Location: ~
 Supplier: Equus
 Brand: SOPREMA COLPHENE BSW H
 Thickness: 3.5mm
 Insulation: ~

4.3

COLPHENE BSW V SELF-ADHESIVE WATERPROOFING MEMBRANE - PRE-APPLIED TO LOST WALL FORMWORK

Location: ~
 Supplier: Equus
 Brand: SOPREMA COLPHENE BSW V
 Thickness: 3.0mm
 Protection Board: Equus protection & drainage layer
 Insulation: ~

4.4

COLPHENE BSW V SELF-ADHESIVE WATERPROOFING MEMBRANE - POST-APPLIED TO WALL

Location: ~
 Supplier: Equus
 Brand: SOPREMA COLPHENE BSW V
 Thickness: 3.0mm
 Primer: Equus Peel and Stick Primer
 Reinforcement strip: SOPREMA COLPHENE BSW V
 Protection Board: Equus protection & drainage layer
 Insulation: ~

4.5

COLPHENE 3000 SELF-ADHESIVE WATERPROOFING MEMBRANE - POST-APPLIED TO WALL

Location: ~
 Supplier: Equus
 Brand: SOPREMA COLPHENE 3000
 Thickness: 3.0mm
 Primer: Equus Peel and Stick Primer
 Reinforcement strip: SOPREMA COLPHENE 3000
 Protection Board: Equus protection & drainage layer
 Insulation: ~

Detailing

4.6

LIQUID APPLIED MEMBRANE

Location: All detailing including outlets and pipe penetrations
 Supplier: Equus
 Brand: ~

4.7

SEALANT

Location: Detailing membrane edges and termination bars
 Supplier: Equus
 Brand: ~