4422WE SEALCO EPIROOF® & EPISPAN® EPDM MEMBRANES

1.   GENERAL

This section relates to **Sealco Waterproofing Systems Ltd** epiROOF® / epiSPAN® membrane roofing, bonded to:
- construction plywood, including all underlays and accessories
- concrete, including all underlays and accessories.

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:
EPDM   Ethylene Propylene Diene Monomer

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/NZS 2269.0   Plywood - Structural - Specifications

1.4   MANUFACTURER/SUPPLIER DOCUMENTS
Manufacturer's and supplier's documents relating to this part of the work:
epiROOF® Product Manual (3rd Edition October 2006)
Standard detailed drawings
BRANZ Appraisal 533 - epiROOF® and epiSPAN Roof Membranes

Manufacturer/supplier contact details
Company: **Sealco Waterproofing Systems Ltd**
Web: www.sealco.co.nz
Email: admin@sealco.co.nz
Telephone: 03 366 9495 (head office) or 0508 (SEALCO)
Mobile   027 544-5532

Warranties

1.5   WARRANTY - MANUFACTURER/SUPPLIER
Provide a materials warranty in the suppliers standard form.
Warranty period: 20 years for materials
From: Date of completion of application

1.6   WARRANTY - INSTALLER/APPLICATOR
Installer's warranty for the system under normal environmental and use conditions against failure.

Execution warranty: 5 years

Provide this warranty on the installer's standard form.

Requirements

1.7   QUALIFICATIONS
Roofing work to be carried out by Licensed Building Practitioners who are also licensed applicators approved by Sealco Waterproofing Systems Ltd.

1.8   NO SUBSTITUTIONS
Substitutions are not permitted to any specified Sealco Waterproofing Systems Ltd system, or associated components and products.

1.9　　　　PROJECT REGISTRATION
　　　　　Contact Sealco Waterproofing Systems Ltd to confirm that the project has been
　　　　　registered.
　　　　　Web:　　　　　www.sealco.co.nz/register
　　　　　Telephone:　　　03 - 366 9495 or 0508 (SEALCO)
　　　　　If the project has not been registered, telephone and provide all required details.

Performance

1.10　　　PRE INSTALLATION MEETING
　　　　　Convene a meeting between the applicator, contractor, all associated consultants and
　　　　　Sealco Waterproofing Systems Ltd to ensure all parties know what is required for
　　　　　effective performance of the system.

1.11　　　SPECIAL DETAILS
　　　　　Where a standard detail does not exist, or if a standard detail cannot be applied, an
　　　　　approved alternative must be obtained from Sealco Waterproofing Systems Ltd before
　　　　　proceeding with the installation.

1.12　　　TEST
　　　　　Flood test horizontal applications with a minimum 50mm depth of water for 24 hours.
　　　　　Make good any lack of water tightness when the surface is completely dry.

1.13　　　PERFORMANCE
　　　　　Accept responsibility for the weather-tight performance of the completed roofing system,
　　　　　including all penetrations through the roof and junctions with walls and parapets. All
　　　　　penetrations to comply with NZBC E2/AS1 and Sealco Waterproofing Systems Ltd
　　　　　recommendations.

1.14　　　QUALITY ASSURANCE
　　　　　Maintain quality necessary to assure that work is performed in accordance with this
　　　　　specification and the qualifying requirements of Sealco Waterproofing Systems Ltd.

　　　　　Ensure that Sealco Waterproofing Systems Ltd's Quality Control sheets are completed
　　　　　fully and faithfully for each installation area.

2.　　　　PRODUCTS

Materials

2.1　　　　EPIROOF® EPDM SHEET
　　　　　Single ply EPDM rubber membrane bearing the manufacturer's mark. Refer to
　　　　　SELECTIONS for type and thickness.

2.2　　　　EPISPAN® EPDM SHEET
　　　　　Single ply EPDM rubber membrane bearing the manufacturer's mark. Refer to
　　　　　SELECTIONS for type and thickness.

2.3　　　　EPITAPE® SEAM TAPE
　　　　　Sealco Waterproofing Systems Ltd butyl type non-cured seam tape for forming side and
　　　　　end laps.

2.4　　　　PRIMER
　　　　　EpiBOND® EPDM adhesive cut back 50/50 with epiROOF® solvent.

2.5　　　　EPISEAL SEALANT
　　　　　Sealco Waterproofing Systems Ltd butyl-type sealant for general purpose flashing and 3-
　　　　　way laps and termination bars.

2.6　　　　EPIROOF® UNDER FLASHING TAPE
　　　　　Sealco Waterproofing Systems Ltd flashing tape for under flashing upstands, corners and
　　　　　penetrations.

2.7 EPIROOF® COVER TAPE
Sealco Waterproofing Systems Ltd cover flashing seal tape used to over flash in designated areas.

2.8 EPIBOND® ADHESIVE
Sealco Waterproofing Systems Ltd EPDM adhesive system.

Components

2.9 EDGE TRIM
Metal or timber to Sealco Waterproofing Systems Ltd details designed to suit the specific location.

2.10 OUTLETS
WPS roof drains, overflows and WPS drainRite sumps as supplied and required by Sealco Waterproofing Systems Ltd.

2.11 ROOF VENTS
WPS ventRite air vents as supplied and required by Sealco Waterproofing Systems Ltd.

2.12 CLAMP GRATE DROPPER
WPS drainRite clamp grate dropper as supplied and required by Sealco Waterproofing Systems Ltd.

2.13 SCUPPERS
WPS drainRite Scuppers in 65mm, 100mm and 200mm widths as supplied and required by Sealco Waterproofing Systems Ltd.

2.14 PIPE BOOTS
WPS flashRite moulded unreinforced pipe boot as supplied and required by Sealco Waterproofing Systems Ltd. Designed to fit 20mm-150mm penetrations. Boots are welded to substrate and mechanically clamped and sealed around pipes.

Accessories

2.15 PAVER SUPPORTS - ADJUSTABLE WITH LEVELLING HEAD
WPS ecoJack Adjustable Paver Supports with levelling head, comprised of a base, height control ring, a threaded top and a 3mm high levelling disc. Extension ring provides adjustable height from 42mm to 451mm. Levelling head provides up to 5% slope justification. Refer to SELECTIONS for sizes.

Finishes

2.16 EPICOAT EXPOSED
Sealco Waterproofing Systems Ltd Sungard bituminous aluminium or epiCOAT coloured coating system used to provide a reflective heat-reducing or decorative finish to the membrane as required. (EpiCOAT system requires epiPRIME primer system).

3. EXECUTION

Conditions

3.1 GENERALLY
Work and materials to NZBC E2/AS1, and BRANZ Appraisal 533 - epiROOF® Roof Membrane.

3.2 STORAGE
Take delivery of Sealco Waterproofing Systems Ltd epiROOF® / epiSPAN® branded rolls, undamaged and allow for site handling facilities where required. Store membranes and accessory materials under conditions that ensure no deterioration of damage. Ensure all tapes and adhesives are within their expiry dates. Note: Some of the epiROOF® / epiSPAN® materials are Class 3 flammable goods.

3.3   CONFIRM LAYOUT
        Confirm layout as detailed on drawings. If not detailed on the drawings, confirm the
        layout to suit site conditions, and Sealco Waterproofing Systems Ltd specification.

3.4   WEATHER
        Apply epiROOF® / epiSPAN® membrane system in dry atmospheric conditions and only
        when the air or substrate temperature is 6º C and above.

        Application - preparation

3.5   PRELIMINARY WORK
        Ensure that preliminary work, including formation of falls, flashing rebates, grooves,
        ducts, provision of battens and fillets and fixing of vents and outlets to levels, is complete
        and properly constructed to enable the system to work as intended. Ensure timber fillets
        fit neatly and that mitres are neatly formed. This work and the substrate to be smooth,
        clean and dry.

3.6   ACCEPTANCE OF SUBSTRATE
        Confirm that the substrate complies with the NZBC E2/AS1 for the relevant substrates
        and Sealco Waterproofing Systems Ltd documents, including fillets, sumps, outlets and
        projections, and ensure work is of the required standard. Ensure the fall complies with
        E2/AS1 including correct fall to rainwater outlets to avoid ponding,
        - 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.

3.7   CONCRETE SUBSTRATE
        Ensure concrete substrate has been allowed to cure for at least 28 days and has a
        moisture content of less than 75% RH before commencing application. Prepare the
        surface, including vacuum cleaning and acid etching as necessary to leave smooth,
        clean, dry and free of debris. Where moisture is suspected allow to install grid tapes for
        venting.

3.8   PLYWOOD SUBSTRATE
        Plywood to be minimum 17.5mm thick square-edged sheets and complying to AS/NZS
        2269.0, minimum CD structural grade with the sanded C side upwards. Treated H3 with
        waterborne CCA treatment and kiln dried after treatment. Lay with staggered joints (brick
        bond) with all edges of the sheets to have a 3mm gap and be fully supported. Provide
        20mm timber fillets at the base of all upstands and chamfer all external edges with a
        minimum radius of 5mm. Fix with 10 gauge x 50mm stainless steel countersunk head
        screws with all sheets tight butted. Fit internal corner fillets. Fix at 150mm centres on
        edges and 200mm in the body of the sheets. Plywood and the timber substructure to
        have a maximum moisture content of 20% when the membrane is installed. Plywood
        must not be LOSP treated.

        Application

3.9   GENERAL - PLYWOOD SUBSTRATE
        Tape plywood joints using a polyethylene bond-breaker 36mm tape. Run out the
        epiROOF® / epiSPAN® membrane and allow to relax for 20 minutes before laying. Do not
        stretch sheets or tapes when laying.

3.10   GENERAL - CONCRETE SUBSTRATE
        Run out the epiROOF® / epiSPAN® membrane and allow to relax for 20 minutes before
        laying. Do not stretch sheets or tapes when laying. Apply grid tapes to concrete
        substrate (for venting purposes) to Sealco Waterproofing Systems Ltd installation
        requirements.

3.11   SET-OUT
        Neatly set out rolls starting at the lowest point of the roof and run perpendicular to the roof
        pitch. Allow for 80mm side laps and end laps. Pre-plan the work to keep the number of
        membrane laps to a minimum.

3.12   APPLY ADHESIVE
       Open the epiBOND container and mix well with a hand stirrer. Apply adhesive to the
       epiROOF® / epiSPAN® and substrate at a rate 1.0 litres per 1.5sqm (of applied area) by
       brush, roller or sprayer. Leave to tack dry before bonding the 2 surfaces together. Take
       care to ensure good even coverage of the adhesive.

3.13   BONDING LAPS
       Form all laps to Sealco Waterproofing Systems Ltd requirements using the epiTAPE® lap
       system. Ensure all laps are a minimum of 80mm wide.

3.14   MINOR MOVEMENT JOINTS
       Lay membrane across joint but leave unbonded on both sides.
       Unbonded width: ~mm

3.15   INSPECT
       Inspect and test lap joints on completion ensuring the lap is fully bonded with the
       epiTAPE®.

3.16   PENETRATIONS
       Form and finish upstands, downturns, penetrations, sumps and vents to conform to the
       epiROOF® Product Manual and NZBC E2/AS1.

3.17   PENETRATIONS AND JUNCTIONS
       Check that adjoining walls and parapets are prepared ready for the installation of the
       roofing. Confirm that openings have been prepared ready for the installation of skylights
       and other penetrations through the roof. Required work includes the following:
       - roofing installation neatly finished to all sides of openings and to all wall and parapet
         junctions.
       - installation of flashings (those required to be installed prior to installation of penetrating
         elements and/or wall linings).

3.18   INSTALL OVERFLOWS AND SUMPS
       Install WPS flowRite overflows and drainRite sumps to Sealco Waterproofing Systems
       Ltd installation details.

3.19   INSTALL ROOF VENTS
       Install WPS ventRite roof vents for roof space/moisture venting to Sealco Waterproofing
       Systems Ltd installation details.

3.20   INSTALL CLAMP GRATE DROPPER
       Install WPS drainRite clamp grate dropper to Sealco Waterproofing Systems Ltd
       installation details.

3.21   INSTALL SCUPPERS
       Install WPS flowRite Scuppers to Sealco Waterproofing Systems Ltd installation details.

3.22   INSTALL PIPE BOOT
       Install WPS flashRite pipe boots to Sealco Waterproofing Systems Ltd installation details.

3.23   MOVEMENT JOINTS
       Install required movement joints to Sealco Waterproofing Systems Ltd details.

       Accessories

3.24   INSTALL PAVER SUPPORTS - ADJUSTABLE WITH LEVELLING HEAD
       Install WPS ecoJack Adjustable Paver Supports with levelling head to Sealco
       Waterproofing Systems Ltd installation details. Install 1.5mm thick EPDM rubber as
       impact isolation pads to prevent wear on epiROOF® and epiSPAN® membrane systems.

       Finishing

3.25   APPLY EPICOAT COATING
        If required, apply to the paint manufacturer and to Sealco Waterproofing Systems Ltd
        recommendations.

3.26   FOOT TRAFFIC
        Foot traffic is to be limited during and after laying. Provide access boards for later
        operations and remove when no longer needed. Protect and maintain roofing until
        completion of the contract works.

3.27   ACCEPTANCE
        Sign off acceptance of completed areas using the Sealco Waterproofing Systems Ltd
        Quality Control sheets.

3.28   SUBSEQUENT WORK
        Make good any damage caused by later work by inserting a new whole or part infill sheet
        to maintain the appearance of the covering as originally laid.

        Completion

3.29   CLEAN UP
        Clean up as the work proceeds.

3.30   LEAVE
        Leave work to the standard required by following procedures.

3.31   REMOVE
        Remove debris, unused materials and elements from the site.

4.   SELECTIONS
        For further details on selections go to www.sealco.co.nz.
        Substitutions are not permitted to the following, unless stated otherwise.

        Materials

4.1   EPIROOF® EPDM ROOFING MEMBRANE
        Location: ~
        Manufacturer: Sealco Waterproofing Systems Ltd
        Type/brand: epiROOF®
        Thickness: ~
        Width: 1.60m
        Colour: ~

4.2   EPISPAN® EPDM ROOFING MEMBRANE
        Location: ~
        Manufacturer: Sealco Waterproofing Systems Ltd
        Brand: epiSPAN®
        Thickness: ~
        Width: up to 15m
        Colour: Black only

4.3   EPISPAN® EPDM DECKING MEMBRANE
        Location: ~
        Manufacturer: Sealco Waterproofing Systems Ltd
        Brand: epiSPAN®
        Thickness: 1.5mm
        Width: up to 15m
        Colour: Black only

        Coatings

4.4   MEMBRANE COATING
        Location: ~
        Manufacturer: Sealco Waterproofing Systems Ltd

Type/brand: epiCOAT
Primer: epiPRIME
Number of coats: ~
Colour: ~

Accessories

4.5   PAVER SUPPORTS - ADJUSTABLE WITH LEVELLING HEAD
           Location: ~
           Supplier: Sealco Waterproofing Systems Ltd
           Brand: WPS ecoJack Adjustable Paver Supports with levelling heads
           Type: ~
           Size: ~