



ARDEX Shelterbit Membranes

Torch Applied Membranes

BRANZ Appraised E2/AS1 Alternative Solution

This manual conforms to the Code of Practice for the Selection, Design and Installation of Torch-on Membrane Systems.

This Code of Practice has been developed and prepared by the 12 member companies of the Membrane Group, Roofing Association of New Zealand (RANZ) and utilises the collective experience of Torch-on Membrane Suppliers, Contractors and Specifiers in New Zealand.

Ardex NZ Ltd is one of the member companies of the Membrane Group.

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Installation Specification

This recommendation has been prepared for the general installation of a Shelterbit Membrane System. Each project can have its own special conditions and idiosyncrasies that may require special conditions and/or processes of installation. Confirmation of the suitability for this recommendation in relation to any project should be sought from the Ardex Representative prior to specifying.

The application of Shelterbit membranes should be carried out by an approved Applicator of Ardex waterproofing membranes. Installation shall be strictly in accordance with the Manufacturer's recommendations. All materials used in conjunction with the Shelterbit Systems must be approved by Ardex.

STORAGE AND HANDLING

Rolls of membrane delivered to the site are to be stored in a covered area or be covered with a protective sheet until required for installation. Rolls are to be stored vertically taking care to prevent damage to the ends. Rolls are not to be dropped or mishandled.

SURFACE PREPARATION

Concrete

Surfaces to which the Shelterbit systems are installed must be properly prepared prior to installation. All surfaces must be clean, dry, smooth, free of sharp edges, fines, loose or foreign materials, oil, grease and other materials which may damage the membrane.

Sand/cement fillets are recommended at all change in direction of substrate (from horizontal to vertical).

SUBSTRATE SPECIFICATION (Plywood)

To conform with Acceptable Solution E2/AS1 plywood shall be:

A minimum of 17mm complying with AS/NZS 2269, at least CD Structural Grade plywood with the sanded C face upwards, and H3.2 with Waterborne CCA treatment and kiln dried after treatment.

Substrates must be dry when Ardex WPM 116 (Fibre Backed Base Sheet) is applied. The plywood and the timber substructure shall have a maximum moisture content of 20% when Shelterbit is adhered.

Plywood panels shall be laid with staggered joints (brick bond), the edge of sheets shall be supported with dwangs or framing, unless a structurally tested tongue-in-groove edge provides equivalent support. The maximum recommended span in E2/AS1 is 400mm in each direction. However specific design may allow 17.5mm plywood or greater to be laid on 400mm purlins with nogs or dwangs at 600mm or even 1200mm centres. Plywood shall be laid with the face grain at right angles to the supports. A 20mm triangular fillet shall be used at the base of any 90° upstand.

External edges shall be chamfered with a minimum radius of 5mm.

Plywood shall be fixed with 10 gauge x 50mm stainless steel countersunk head screws eg Hylton Parker No 24639, with 3mm gaps between all sheets, at 150mm centres on edges, and 200mm in the body of the sheets.

All joints in the plywood and junctions of plywood with other materials shall have 25mm polyethylene release tape applied before application of Ardex WPM 116 (Fibre Backed Base Sheet).

Closed-in construction spaces under Shelterbit roofs and decks shall have adequate ventilation to prevent the accumulation of moisture under Shelterbit. There should be a minimum gap of 20mm between the underside of the substrate and any insulation.

Commencement of laying shall be taken as acceptance of the substrate by the approved Applicator.

PRIMING

Prior to the application of the Shelterbit all prepared surfaces shall be primed with Shelterbit Primer at a rate of 5-6m² per litre and allowed to dry.

Coverage of primer may vary depending on the density or porosity of the substrate. Primer may be applied by brush, roller or spray equipment. Coverage must be uniform.

Note that priming is not required for the installation of Ardex WPM 116 (Fibre Backed Base Sheet) when used on Plywood.

MEMBRANE SYSTEM COMBINATION

Shelterbit can be used in various combinations, refer to Shelterbit System Recommendations in this section for your individual waterproofing requirement.

TESTING

After installation, it is recommended, where possible, a water test be carried out for 24 hours.

PROTECTION

A protection layer should be used when backfilling or a topping is required, (Protection board or drainage cell for back filling or slip sheet for topping).

SAFETY

Shelterbit is not classified as dangerous goods. However, during installation, exercise extreme caution when working with open flame.

Do not use open flame directly on highly combustible material. Follow all local fire codes.

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System Recommendations

Shelterbit Torch-on waterproofing membranes can be used in a wide variety of combinations to suit the requirements of a specific waterproofing application. The following table outlines most of the acceptable alternatives for a range of common situations encountered. Please consult with your Ardex representative to select the most appropriate solution.

Spec. No. System

Systems for concrete or topping substrates:

Single Layer Non Exposed Systems

- | | |
|----|---|
| 01 | One layer of 2.5 - 5.0mm sand/torchable film finished APP/SBS Shelterbit Torch-on membrane. |
|----|---|

Two Layer Non Exposed Systems

- | | |
|----|---|
| 02 | First layer of SBS 2.5 - 4.0mm sand/torchable film finished APP/SBS Shelterbit Torch-on membrane.
Second layer of 2.5 - 4.0mm sand/torchable film finished APP/SBS Shelterbit Torch-on membrane. |
| 03 | First layer of SBS 2.5 - 4.0mm sand/torchable film finished Shelterbit Torch-on membrane.
Second layer of Shelterbit SBS Cold Climate membrane. |
| 04 | First layer Peel and Stick base sheet 3.0mm torchable film finish.
Second layer of 2.5 - 4.0mm sand/torchable film finished APP/SBS Shelterbit Torch-on membrane. |

Three Layer Vented Non Exposed System

- | | |
|----|--|
| 05 | First layer APP Shelterbit Vented Base Sheet not counted as waterproof layer.
Second layer of 2.5 - 4.0mm sand/torchable film finished APP/SBS Shelterbit Torch-on membrane.
Third layer of 2.5 - 4.0mm sand/torchable film finished APP/SBS Shelterbit Torch-on membrane. |
|----|--|

Two Layer Exposed Systems

- | | |
|----|---|
| 06 | First layer of 2.5 - 4.0mm sand/torchable film finished APP Shelterbit Torch-on membrane.
Second layer of 4.0mm or greater mineral chip finished APP Shelterbit Torch-on membrane. |
|----|---|

Three Layer Vented Exposed Systems

- | | |
|----|---|
| 07 | First layer APP Shelterbit Vented Base Sheet not counted as waterproof layer.
Second layer 2.5 - 4.0mm sand/torchable film finished APP/SBS Shelterbit Torch-on membrane.
Third layer of 4.0mm or greater mineral chip finished APP Shelterbit Torch-on membrane. |
|----|---|

Systems for Plywood substrates:

Two Layer Non Exposed Systems

- | | |
|----|--|
| 08 | First layer of APP Shelterbit Fibre Backed Base Sheet glued in place.
Second layer 2.5 - 4.0mm sand/torchable film finished APP/SBS Shelterbit Torch-on membrane. |
| 09 | First layer Peel and Stick base sheet 3.0mm torchable film finish.
Second layer 2.5 - 4.0mm sand/torchable film finished APP/SBS Shelterbit Torch-on membrane. |

Two Layer Exposed Systems

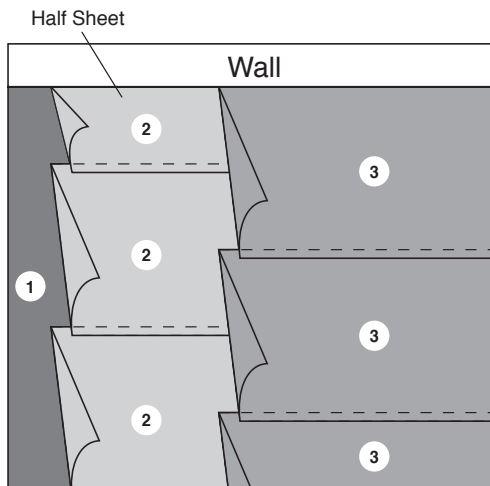
- | | |
|-----|---|
| 010 | First layer of APP Shelterbit Fibre Backed Base Sheet glued in place.
Second layer of 4.0mm or greater mineral chip finished APP Shelterbit Torch-on membrane. |
| 011 | First layer Peel and Stick base sheet 3.0mm torchable film finish.
Second layer of 4.0mm or greater mineral chip finished APP Shelterbit Torch-on membrane. |

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Installation Details

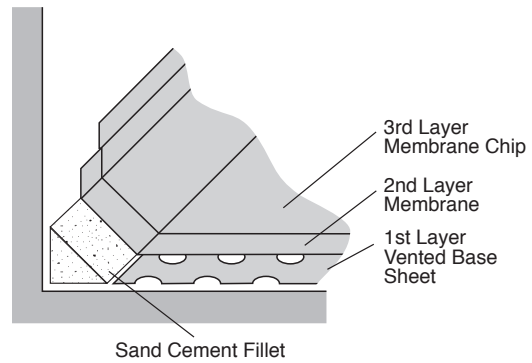
SHEET LAYOUT

Application Details Two Waterproofing Layers
Staggered Layout for Finish Membrane

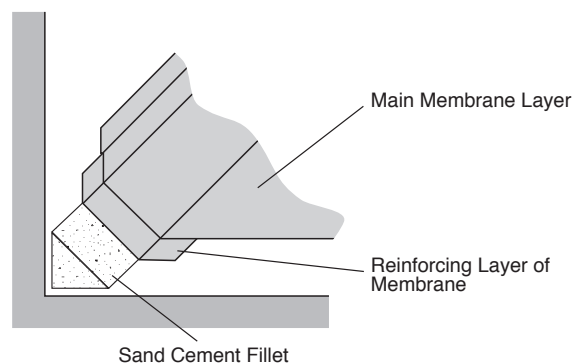
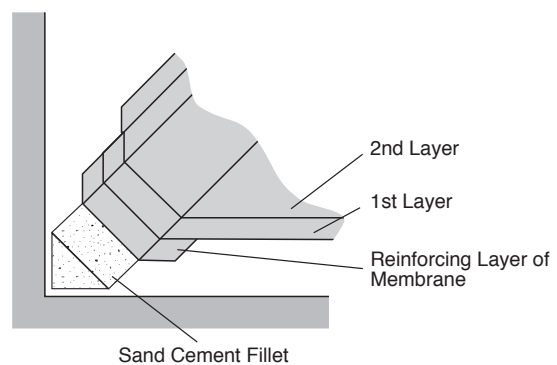
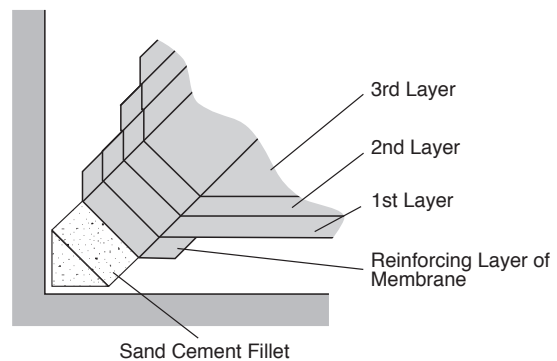


- 1 Primer
- 2 2nd Layer
- 3 3rd Layer

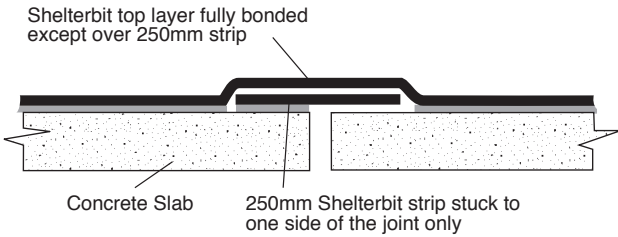
TYPICAL TURN UP DETAILS - EXPOSED MEMBRANE



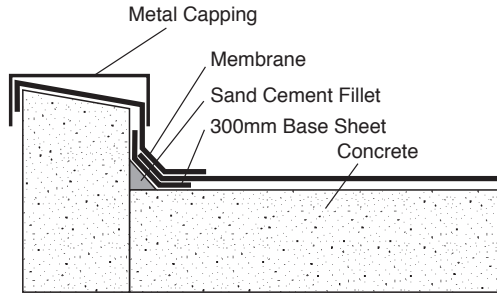
TYPICAL TURN UP DETAILS - NON-EXPOSED MEMBRANE



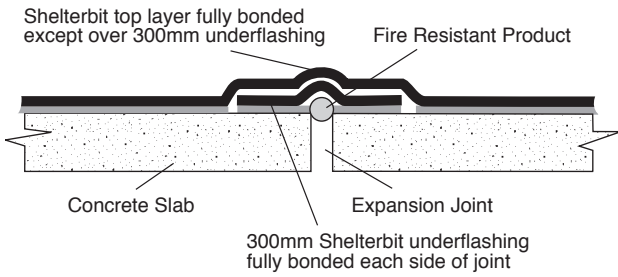
CONSTRUCTION JOINT



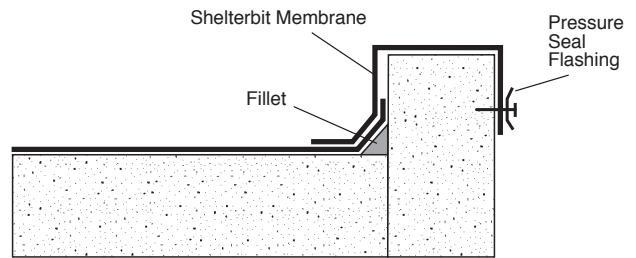
CAPPING DETAIL



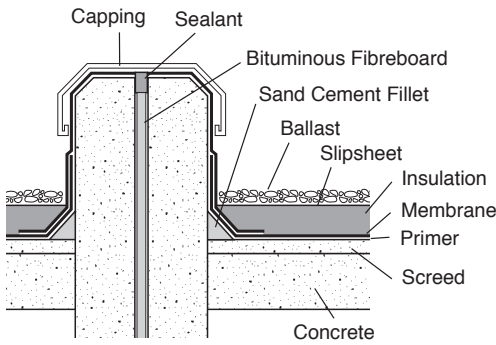
EXPANSION JOINT



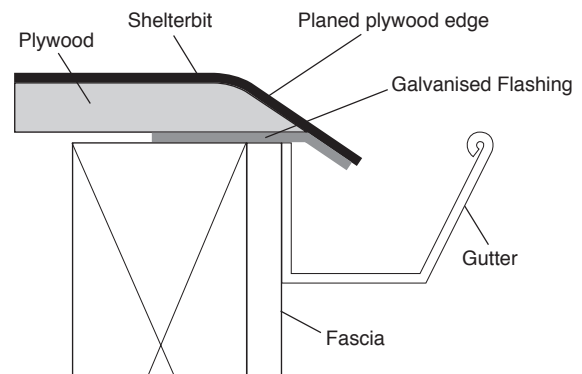
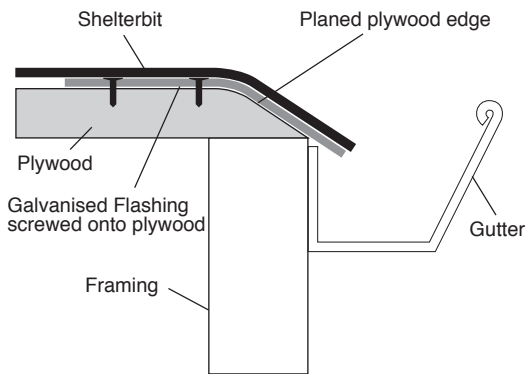
PRESSURE SEAL CAPPING DETAIL



ALTERNATIVE EXPANSION JOINT



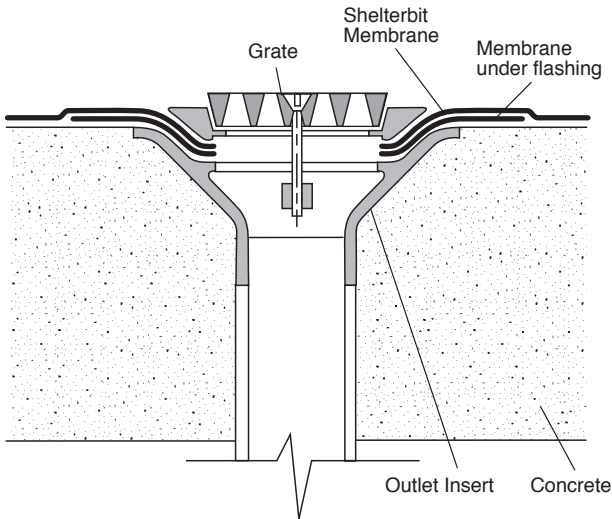
TWO METHODS FOR FINISHING OVER A GUTTER



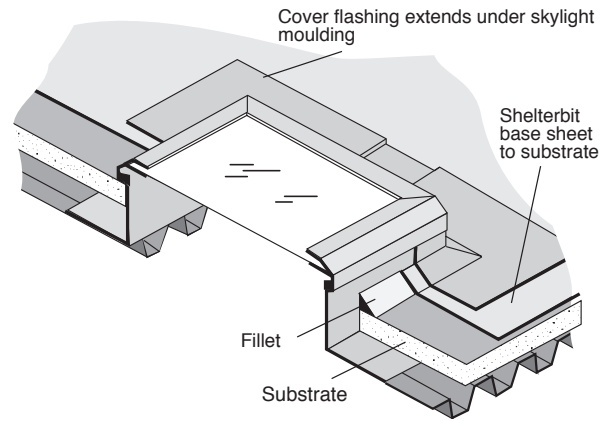
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Installation Details

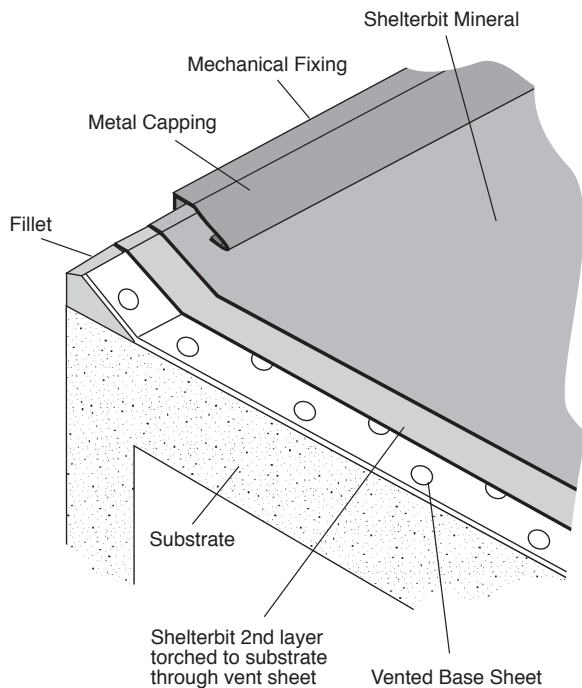
TYPICAL OUTLET DETAIL



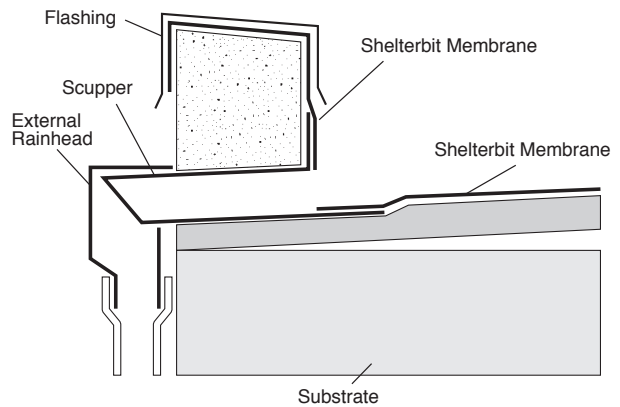
SKYLIGHT FLASHING



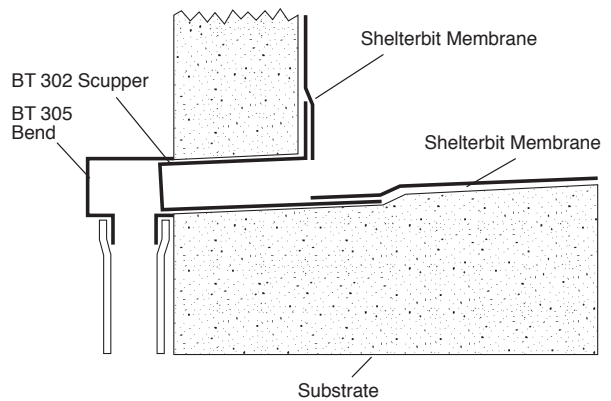
ROOF EDGE - MECHANICALLY FIXED



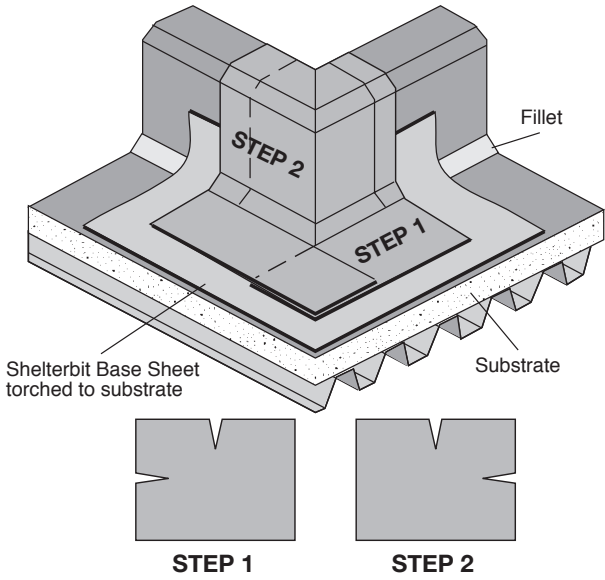
SCUPPER OUTLET



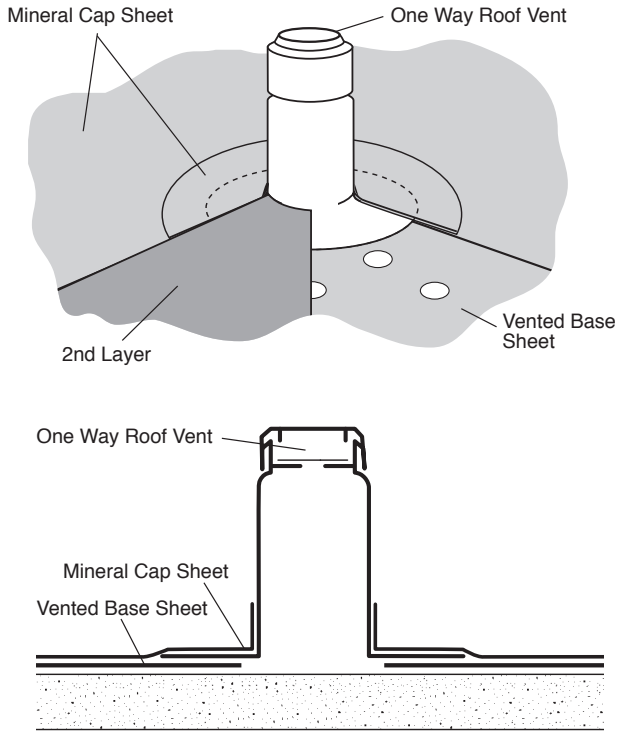
SCUPPER OUTLET



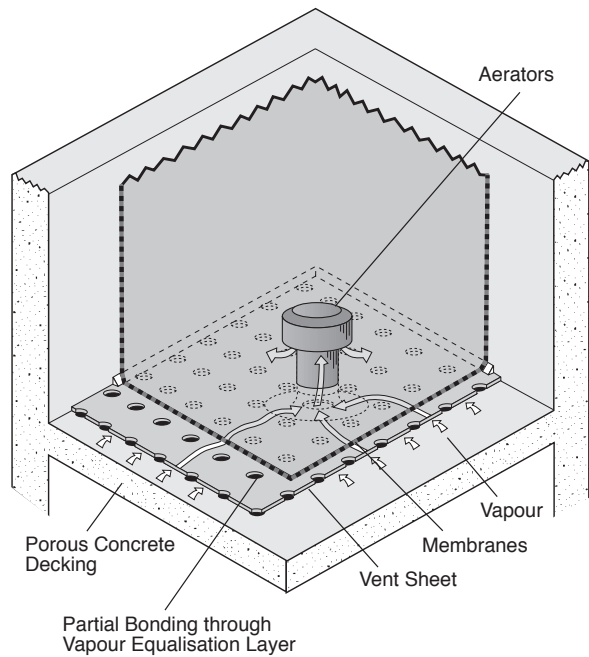
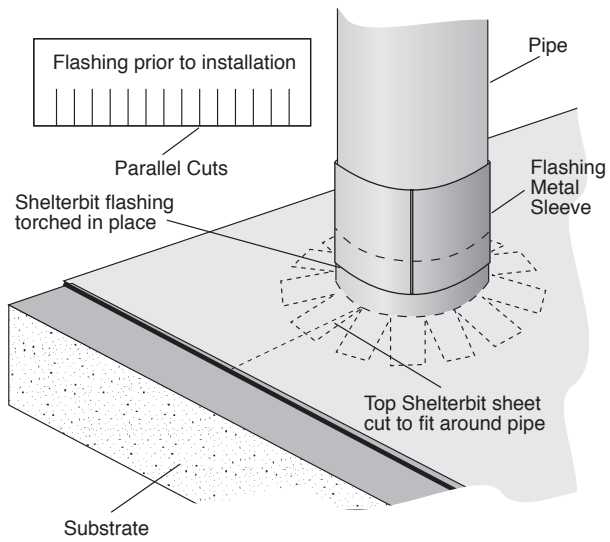
OUTSIDE CORNER



ONE WAY VENT INSTALLATION



PIPE FLASHING

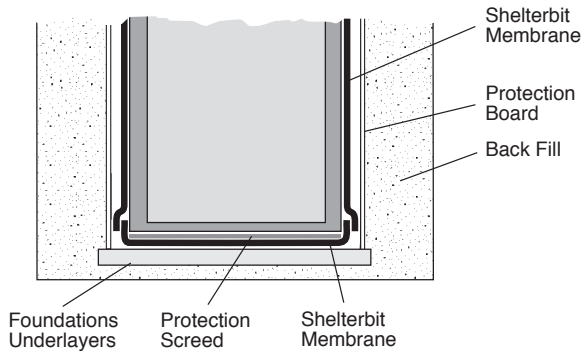


Typical details do not indicate number of layers required

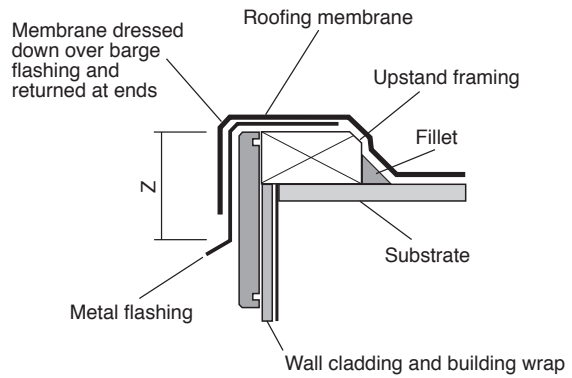
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Installation Details

TANKING OF LIFT PIT BELOW WATER TABLE

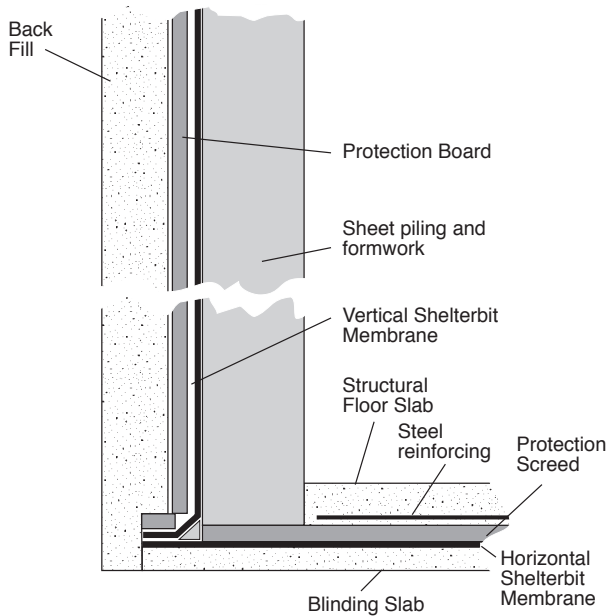


EAVE AND VERGES IN SHELTERBIT

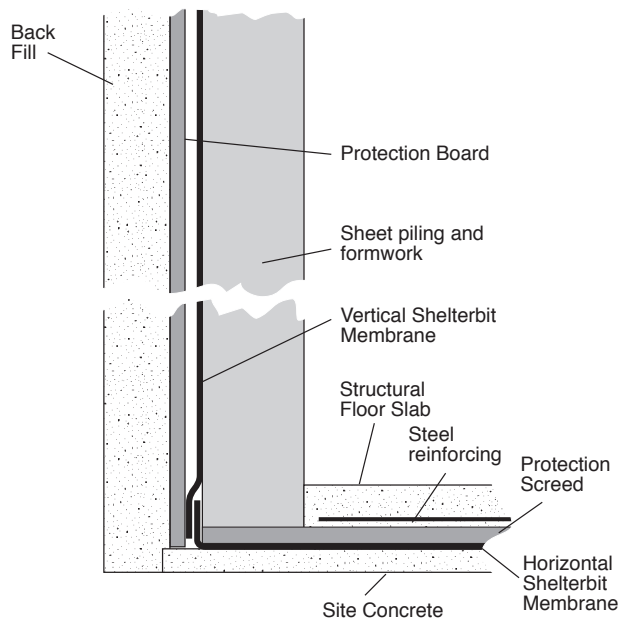


NOTE: Z = variable according to wind zone

BELOW GROUND DETAIL



ALTERNATIVE OPTION



Typical details do not indicate number of layers required