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| Please find below our current Masterspec Specification for Viking Enviroclad FBS.Our focus is to ensure that you have the right information and technical support required to make specifying our roofing and waterproofing solutions easy.If you require any of our CAD details you can find them on our website [www.vikingroofspec.co.nz](http://www.vikingroofspec.co.nz)For any further support please do not hesitate to contact us on 0800 729 799.Kind Regards,The team at Viking RoofspecVK_ROFS_4C_SL_TCD T: 0800 729 799 F: 0800 729 788info@vikingroofspec.co.nz[www.vikingroofspec.co.nz](http://www.vikingroofspec.co.nz) |

**4422VE VIKING ENVIROCLAD FBS MEMBRANE**

1. **GENERAL**

This section relates to Viking **Enviroclad FBS** (fleece backed) membrane system. It includes **Enviroclad FBS** applied as a single layer membrane -suitable for industrial, commercial and residential roofing and decking applications

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:

 TPO Thermoplastic polyolefin

 FBS Fleece-back system

 **Documents**

1.3 DOCUMENTS

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

 NZBC E2 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:

 Viking Waterproofing Membrane Systems manual

 Viking **Enviroclad** Plywood Substrate Checklist

 Viking Concrete Substrate Checklist

 Viking **Enviroclad** Standard Details

 Viking **Enviroclad** Applicator Manual

 BRANZ Appraisal 656 - **Enviroclad** Roofing Membrane

 Copies of the above literature are available from Viking Roofspec

 Web: <http://www.vikingroofspec.co.nz/>

 Email: info@vikingroofspec.co.nz

 Telephone: 0800 729 799

 Facsimile: 0800 729 788

 Warranties

1.5 WARRANTY - MANUFACTURER/SUPPLIER

 Provide a material manufacturer/supplier warranty:

 20 years: For Viking **Enviroclad FBS** Membrane

 - Provide this warranty on the Viking Roofing standard form.

 - Commence the warranty from the date of completion of fixing.

 Refer to the section 1237 WARRANTIES for additional requirements.

1.6 WARRANTY - INSTALLER/APPLICATOR

 Provide an installer/applicator warranty:

 5 years: For **Enviroclad** membrane when installed by Viking approved applicator

 5 years: For **Enviroclad FBS** membrane when installed by Viking approved applicator

- Provide this warranty in the Viking **Enviroclad** Membrane Product Warranty on standard form.

 - Commence the warranty from the date of completion of fixing.

 Refer to the section 1237 WARRANTIES for additional requirements.

1.7 WARRANTY - VIKING FULL SYSTEM WARRANTY

 \* Available only upon application\*

 Provide a Viking Full System Warranty for materials and installation:

 20 years: For Viking **Enviroclad** Membrane

 - Apply for when the project consists of over 300m² of membrane.

 - Approved Applicator must hold a current Stage 3 Viking Roofspec Licence.

 - Provide this warranty on the Viking Full System Warranty job completion form.

 - Commence the warranty from the date of completion of fixing.

 Refer to the section 1237 WARRANTIES for additional requirements.

 Requirements

1.8 QUALIFICATIONS

Installation of the membrane to be carried out by Viking Approved Applicators. Installation of substrates must be completed by suitably qualified persons in accordance with instructions given in Manufacturers Technical Literature and BRANZ Appraisal 656 - **Enviroclad** Roofing Membrane.

1.9 NO SUBSTITUTIONS

Substitutions are not permitted to any specified Viking membrane waterproofing materials, or associated products, components or accessories.

 Performance

1.10 TEST

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

1.11 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, and Viking Roofspec specifications and Standard Details.

2. **PRODUCTS**

 **Materials**

2.1 **ENVIROCLAD** **FBS** WATERPROOFING MEMBRANE

 Polyester reinforced thermoplastic polyolefin (TPO) membrane, incorporating a polyester fibre fleece-backing. Refer to SELECTIONS for size and colour options.

 **Components**

2.3 ADHESIVE - **ENVIROCLAD FBS** ONLY

 Fast Adhesive Dual Cartridge**-** polyurethane 2-pack adhesive.

2.5 **ENVIROCLAD** CUT EDGE SEALANT (CLEAR)

 Proprietary sealant for sealing exposed scrim on cut edges.

2.6 WATER CUT-OFF MASTIC

 Mastic Sealant for use at compression terminations, drains and beneath metal edging.

2.7 PT 304 SEALANT

 Universal UV stable sealant for use in exposed terminations. (e.g. chase sealing)

2.8 **ENVIROCLAD** WEATHERED MEMBRANE CLEANER

 Proprietary membrane cleaner.

2.9 **ENVIROCLAD** OUTSIDE AND INSIDE CORNERS

Proprietary unreinforced moulded TPO flashings to be welded as internal and external corners.

2.10 **ENVIROCLAD** UNREINFORCED MEMBRANE

 Proprietary unreinforced TPO membrane. 300mm x 15.2m.

2.11 **ENVIROCLAD** T-JOINT COVERS

 Proprietary unreinforced TPO disks

2.12 **ENVIROCLAD** PIPE FLASHINGS

 Proprietary unreinforced moulded TPO flashings for sealing pipe penetrations.

2.13 **ENVIROCLA**D POURABLE POCKETS

 Proprietary unreinforced moulded TPO surrounds for encasing pipe penetrations.

2.14 **ENVIROCLAD** THERMOPLASTIC POURABLE SEALER

 Proprietary thermoplastic pourable sealer for filling of pourable pocket.

2.15 SPLICE WIPES

 Proprietary wipes for cleaning and drying membrane prior to welding.

 **Accessories**

2.16 VENTS

 Aluminium vent

2.17 **ENVIROCLAD** WALKWAY ROLLS

 Proprietary non-slip TPO walkway mat. 792mm x 15m

 (Apply and weld in 3m sections)

2.19 LEAF AND GRAVEL GRATES

 For drains and scuppers.

2.20 CLAMP RING ROOF DRAINS OR OVERFLOWS

 80mm, 100mm or 150mm clamp sealed drains and overflows

2.23 **ENVIROCLAD** DROPPER OUTLETS

 Proprietary 80mm or 100mm TPO droppers

3. **EXECUTION**

 **Conditions**

3.1 GENERALLY

All work and materials to comply with current Viking **Enviroclad** technical literature and standard details; and NZBC.

3.2 STORAGE

Take delivery of **Enviroclad** membrane in rolls undamaged and include for site handling facilities where required. Store rolls horizontally only. Provide dry storage for all products. Stack off the ground on a level surface and with accessories.

3.3 WEATHER

 Lay **Enviroclad** membrane in fair weather, with ambient air temperature no less than 7°C.

3.4 EQUIPMENT

 Viking Roofspec Approved Applicators use the following equipment:

 - Hand welding machine

 - Robotic welding machine

 - Hand roller

 - Fast adhesive Caulking Gun (FBS only) battery powered or pneumatic

 - Roller (up to 75kg)

 Application - preparation

3.5 PRELIMINARY WORK

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

properly constructed to enable the system to work as intended. The substrate to be smooth, clean, dry and stable.

3.6 ACCEPTANCE OF SUBSTRATE

Confirm that the substrate, including outlets and projections, meets design specification, and Viking Roofspec conditions. Ensure the fall complies with NZBC E2.

 **Application - laying**

3.9 GENERAL

Install to current application standards as detailed in Viking Roofspec Technical literature and Viking **Enviroclad** Applicators Manual.

3.10 PLYWOOD SUBSTRATE PREPARATION

 Plywood to be clean and dry before application of the waterproofing membrane.

3.11 POSITION & RELAX

Membrane to be unrolled onto the prepared substrate and allowed to relax for 20 minutes prior to installation. Position membrane over acceptable substrate and fold membrane back to expose half of the underside.

3.12 APPLY ADHESIVE – **ENVIROCLAD FBS**

 Apply Fast Adhesive Dual Cartridge to the substrate only in sweeping ribbons, 150mm apart, using a Carlisle proprietary automated caulking gun (battery or pneumatically powered). Do not apply adhesive to the membrane.

3.15 INSTALL MEMBRANE SHEETS – **ENVIROCLAD FBS**

Wait until the adhesive has foamed up. Test to establish a stringy viscosity before laying membrane on top. Roll the **Enviroclad FBS** membrane into the adhesive using a heavy (minimum 50 kg) roller; perpendicular to the direction of adhesive ribbons until the adhesive has stopped expanding. Fold back the unglued half of the sheet and repeat procedure.

3.16 LAP JOINTS

Install adjoining **Enviroclad** membrane sheets in the same manner, overlapping edges to provide a minimum 40mm hot air weld.

3.17 HOT AIR WELD

Clean all weld areas with Weathered Membrane Cleaner. Then weld the adjoining **Enviroclad** membrane sheets (minimum width of weld is 40mm).

3.18 MEMBRANE CLEANER

Ensure that all membrane, including accessories, to be welded is cleaned using Weathered Membrane Cleaner. Wipe the surface where the **Enviroclad** membrane cleaner has been applied with a clean, dry HP Splice Wipe to remove cleaner residue prior to welding.

3.19 INSPECT

Inspect and test joints all welds using a seam probe. Seal all cut reinforced membrane edges using Cut Edge Sealer, or a rolled membrane edge. Flood test with a minimum 50mm depth of water for 24 hours.

3.20 PENETRATIONS & JUNCTIONS

Form and finish upstands, downturns, penetrations, outlets and vents to conform to current Viking Roofspec Standard Details. Confirm installation of all required flashings and terminations, to leave membrane watertight upon project completion.

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3.21 VENTING – ROOF/DECK CAVITIES

Provide adequate ventilation per E2/AS1. If applying roof mounted proprietary vents, install a minimum one Viking roof vent for the first 40m² of flat roof area and one vent per 90m² thereafter. Check that the cavity is cross ventilated to allow air movement across the entire cavity.

 **Finishing**

3.22 FOOT TRAFFIC

Keep foot traffic to a minimum after laying the membrane. Lay protection as required for foot traffic or later works.

3.23 ACCESS BOARDS

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

3.24 ACCEPTANCE

Inspect the completed work. Protect and maintain roofing until completion of the contract works.

3.25 SUBSEQUENT WORK

 Make good any damage. Repair to specification.

 **Completion**

3.26 CLEAN UP

 Clean up as the work proceeds.

3.27 LEAVE

 Leave work to the standard required by following procedures.

3.28 REMOVE

 Remove debris, unused materials and elements from the site.

4. **SELECTIONS**

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

### 4.2 **ENVIROCLAD FBS** MEMBRANE

 Location: Roof

 Substrate: Existing torch-on membrane on plywood

 Brand/type: **Viking Enviroclad FBS**

 Thickness: 2.34mm (1.14mm thick with a 1.2mm thick polyester fleece backing)

 Size: 3.6 metres wide x 30.4 metres long

 Colour: Grey

 Accessories: as required

 Options:

 Thickness: 1.14mm or 1.5mm

 Colour: Grey or white

 Accessories: Viking Scupper

 Walkway rolls

 Viking Gravel/ Leaf Grates

 Roof outlets:- Surefix Roof Outlets, available with a clamping ring and grate or without

 - PVC roof drainage outlets, with grill or dome,

 - Enviroclad heat weldable TPO dropper 80mm

 Spun aluminium (Jetson) vent