Please find below our current Masterspec Specification for Viking General Membrane.

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 Roofspec



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# 4421VB VIKING GENERAL MEMBRANE TORCH-ON ROOFING

## 1. GENERAL

 If you have pre-customised this work section using the "questions and answers" provided as part of the downloading process, it may be necessary to amend some clauses to suit the final project-specific version.

 The section must still be checked and customised to suit the project being specified, by removing any other irrelevant details and adding project-specific details and selections.

 This section relates to **Viking General Membrane** modified bitumen membranes installed as two layer external waterproof membrane systems:

 It includes:

 - **Viking GM Gemini** APP hard wearing system

 - **Viking GM Lybra** SBS system for greater temperature extremes. Use in Climate Zone 3 (the South Island and the North Island's volcanic plateau)

 - applied as a torch on membrane

 - in conjunction with a vent sheet where required

 - suitable for industrial, commercial and residential roofing and decking applications

 Modify or extend the above description to suit the project being specified. Viking Roofspec recommend a minimum of two layers for any waterproofing application. The vent sheet is used where required with the double layer system to act as a diffusion layer for water vapour present in the system. For specific technical information refer to Viking Roofspec on 0800 729799.

 This is an Alternative Solution in terms of [NZBC E2](http://www.masterspec.co.nz/redirect.aspx?pl=347)/AS1 due to the membrane being an APP modified bitumen membrane system.

 NOTE: SBS modified bitumen membranes are for use in Climate Zone 3, being the South Island and the North Island’s volcanic plateau. Climate zone boundaries are shown in Appendix B of [NZS 4218](http://www.masterspec.co.nz/redirect.aspx?pl=317).

### 1.1 RELATED WORK

 Refer to 7411 RAINWATER SPOUTING SYSTEMS for rainwater disposal.

 Include cross references to other sections where these contain related work.

 This section does not include for rainwater gutters, spouting and pipework. Some flashing work is also often covered elsewhere.

### 1.2 ABBREVIATIONS AND DEFINITIONS

 The following abbreviations apply specifically to this section:

 WMAI Waterproofing Membrane Association Inc. (formally Membrane Group NZ Inc)

 **Documents**

### 1.3 DOCUMENTS

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

 [NZBC E2](http://www.masterspec.co.nz/redirect.aspx?pl=347)/AS1 External moisture

 [AS/NZS 2269.0](http://www.masterspec.co.nz/redirect.aspx?pl=1046) Plywood - Structural - Specifications

 [WMAI CoPTM](http://www.masterspec.co.nz/redirect.aspx?pl=1343) Code of Practice for Torch-on Membrane Systems for Roofs and Decks

 Delete from the DOCUMENTS clause any document not cited. List any additional cited documents.

 The following are related documents and if referred to in the work section need to be added to the list of DOCUMENTS.

 [NZBC B2](http://www.masterspec.co.nz/redirect.aspx?pl=223)/AS1 Durability

 [NZBC E1](http://www.masterspec.co.nz/redirect.aspx?pl=227)/AS1 Surface water

 [NZBC F2](http://www.masterspec.co.nz/redirect.aspx?pl=236)/AS1 Hazardous building materials

 [AS/NZS 1604.3](http://www.masterspec.co.nz/redirect.aspx?pl=1183) Specification for preservative treatment - plywood

 [NZS 3101](http://www.masterspec.co.nz/redirect.aspx?pl=294) Concrete structures standard - the design of concrete structures

 [NZS 3604](http://www.masterspec.co.nz/redirect.aspx?pl=301) Timber-framed buildings

 BRANZ BU 345 Flat membrane roofs - design and installation

 BRANZ BU 346 Flat membrane roofs - materials

 BRANZ BU 583 Waterproof decks

 BRANZ publication Good practice guide to membrane roofing

 BRANZ publication Selecting roof claddings

 Check with Viking Roofspec to ensure that you have the most up to date information.

### 1.4 MANUFACTURER/SUPPLIER DOCUMENTS

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

 Viking Waterproofing Membrane Systems manual

 Viking GM Plywood Substrate Checklist

 Viking Concrete Substrate Checklist

 Viking GM Standard Details

 [BRANZ Appraisal 567](http://www.masterspec.co.nz/redirect.aspx?pl=200) - Bituclad Waterproofing Membranes

 [CodeMark Certificate Number 30053](http://www.masterspec.co.nz/redirect.aspx?pl=2007) Rev A - Viking Bituclad Waterproofing Membranes

 Copies of the above literature are available from Viking Roofspec

 Web: [www.vikingroofspec.co.nz](http://www.vikingroofspec.co.nz)

 Email: info@vikingroofspec.co.nz

 Telephone: 0800 729 799

 Facsimile: 0800 729 788

 It is important to ensure that all personnel on site have access to accurate, up to date technical information on the many products, materials and equipment used on a project. In most cases individual products are not used in isolation, but form part of a building process. Also a particular manufacturer's and/or supplier's requirements for handling, storage, preparation, installation, finishing and protection of their product can vary from what might be considered the norm. Access to technical information can help overcome this potential problem.

 **Warranties**

 Supplier and manufacturer warranties are those that are freely offered by the supplier or manufacturer. They are usually in their standard form and subject to their terms and conditions. Check the general section 1237 WARRANTIES for the date of commencement of warranties; which is normally practical completion of the contract. Refer to the chosen conditions of contract as it may also contain information on warranties.

### 1.5 WARRANTY - MANUFACTURER/SUPPLIER

 Provide a material manufacturer/supplier warranty:

 20 years: For Viking GM 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.

 Modify or expand the clause to suit project or manufacturer/supplier requirements.

 There is no additional charge for this warranty.

### 1.6 WARRANTY - INSTALLER/APPLICATOR

 Provide an installer/applicator warranty:

 5 years: For Viking GM membrane when installed by Viking approved applicator

 - Provide this warranty in the Viking GM Modified Bitumen Membrane Product Warranty standard form.

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

 Refer to the section 1237 WARRANTIES for additional requirements.

 Modify or expand the clause to suit project requirements.

 There is no additional charge for this warranty.

### 1.7 WARRANTY - VIKING FULL SYSTEM WARRANTY ON APPLICATION

 Provide a Viking Full System Warranty for materials and installation:

 20 years: For Viking GM Membrane

 - Register with Viking Roofspec prior to installation.

 - Approved Applicator must hold a current Stage 3 of his 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.

 Modify or expand the clause to suit project requirements.

 A Viking Full systems Warranty is available for projects consisting of over 300m² of membrane.

 A Viking Full systems Warranty has an additional cost based on the area of product used, additional charges may also apply depending on the location of the project.

 Viking Group Limited maximum liability for the cost of repair (limited to repair of the leak in the Viking system) is based on a calculation proportional to the length of the remaining warranty period, with their percentage share of repair costs decreasing over time. This warranty may be transferred to another owner at Viking group limited sole discretion, fees will apply to any reissuance.

 Refer to the "Terms and Conditions of Full System Warranty" for further details.

 **Requirements**

### 1.8 QUALIFICATIONS

 Installation of the membrane to be carried out by Viking Approved Applicators. Installation of substrates must be completed in accordance with instructions given in Manufacturers Technical Literature and [BRANZ Appraisal 567](http://www.masterspec.co.nz/redirect.aspx?pl=200) - Bituclad Waterproofing Membranes.

### 1.9 NO SUBSTITUTIONS

 Substitutions are not permitted to any specified Viking membrane 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.

 Not all applications can be checked. All gutters should be checked.

 Note: Testing for water tightness using the electronic leak detection method is currently not available with this product.

### 1.11 PERFORMANCE

 Accept responsibility for the weather-tight performance of the completed Viking GM system, including all penetrations and junctions. All details to comply with Viking Roofspec specifications and Standard Details.

 Refer to later EXECUTION clause on co-operating with others on the installation of elements which penetrate or adjoin the roofing system; including walls and parapets, skylights, sundry elements fixed through the roofing surface, service pipework, etc.

## 2. PRODUCTS

 **Materials - APP system**

### 2.1 VIKING GM GEMINI SAND BASE SHEET - APP

 3mm APP (atactic polypropylene) modified bitumen , sand finished, reinforced, torch-on base sheet.

### 2.2 VIKING GM GEMINI CERAMIC CHIP CAP SHEET - APP

 4mm APP (atactic polypropylene) modified, mineral chip finished, reinforced, torch-on cap sheet.

 **Materials - SBS system**

 SBS modified bitumen membranes are for use in Climate Zone 3, being the South Island and the North Island's volcanic plateau. Climate zone boundaries are shown in Appendix B of [NZS 4218](http://www.masterspec.co.nz/redirect.aspx?pl=317).

### 2.3 VIKING GM LYBRA SAND BASE SHEET - SBS

 3mm SBS (styrene butadiene styrene) modified bitumen , sand finished, reinforced, torch-on base sheet.

### 2.4 VIKING GM LYBRA CERAMIC CHIP CAP SHEET - SBS

 4mm APP (styrene butadiene styrene) modified, mineral chip finished, reinforced, torch-on cap sheet.

 **Components**

### 2.5 VIKING GM VENT SHEET

 1mm perforated modified bitumen, torch on base sheet.

 Compatible with both the APP (atactic polypropylene) or SBS (styrene butadiene styrene) base sheets.

### 2.6 VIKING GM MASONRY PRIMER SES299

 Solvent based primer for concrete and masonry surfaces.

### 2.7 VIKING GM PLYWOOD PRIMER SES300

 Water based primer for plywood surfaces.

 **Accessories**

### 2.8 VENTS

 Aluminium vent.

 Used for disbursement of vapours from roof cavities

### 2.9 VIKING GM SCUPPER OUTLETS

 Scupper outlet sizes 60mm x 40mm; 100mm x 65mm; 100mm x 100mm or 200mm x 75mm.

### 2.10 CLAMP RING ROOF DRAINS OR OVERFLOWS

 Clamp sealed drains and overflows - 80mm, 100mm or 150mm.

### 2.11 VIKING GM DROPPER OUTLETS

 Proprietary 80mm x 100mm dropper outlets.

 **Equipment**

### 2.12 TORCH

 LPG gas torch with a trigger control, complete with gas bottle, regulators and hose.

## 3. EXECUTION

 Refer to Viking Roofspec Technical Literature for detailed information and call 0800 729 799 for technical assistance.

 **Conditions**

### 3.1 GENERALLY

 All work and materials to comply with current Viking GM technical literature, standard details and [WMAI CoPTM](http://www.masterspec.co.nz/redirect.aspx?pl=1343).

### 3.2 STORAGE

 Take delivery of Viking GM membrane in rolls undamaged and include for site handling facilities where required. Store rolls vertically only. Provide dry storage for all products. Stack off the ground on a level surface and with accessories. Do not stack pallets any more than 2 pallets high.

### 3.3 WEATHER

 Lay Viking GM in fair weather, with ambient air temperature no less than 7°C.

 **Application - preparation**

### 3.4 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. The substrate to be smooth, clean, dry and stable.

### 3.5 ACCEPTANCE OF SUBSTRATE

 Confirm that the substrate, including fillets, outlets and projections, meets design specification, and Viking Roofspec conditions. Ensure the fall complies with [NZBC E2](http://www.masterspec.co.nz/redirect.aspx?pl=347)/AS1 8.5.6, **Roof and deck drainage,** including correct fall to rainwater outlets to avoid ponding.

 [NZBC E2](http://www.masterspec.co.nz/redirect.aspx?pl=347)/AS1 states the minimum slope for roofs is 2º; and 1.5º; for decks.

### 3.6 CONCRETE SUBSTRATE

 Install to requirements of current Viking Roofspec Membrane Concrete Substrate Checklist. Ensure concrete substrate has been allowed to cure for at least 28 days before commencing application. If using a curing compound or sealer ensure compatibility with Viking membrane components prior to installation and follow the manufacturer’s instructions. The relative humidity of concrete substrates must be 75% or less before membrane application. Prepare the surface to leave smooth, clean, dry and free of debris.

 Contact Viking Roofspec on 0800 729 799 for recommended options.

### 3.7 PLYWOOD SUBSTRATE

 Install to requirements of current Viking Roofspec, Viking GM Plywood Substrate Checklist. Plywood to be;

 - a minimum of 17mm thick and complying with [AS/NZS 2269.0](http://www.masterspec.co.nz/redirect.aspx?pl=1046)

 - minimum CD structural grade with the sanded C side upwards

 - H3.2 treated (CCA) and kiln dried

 Lay plywood with staggered joints (brick bond) with all edges of the sheets fully supported. Do not use tongue and groove plywood.

 Butt join all sheets, leaving a 5mm gap around the perimeter of the roof/deck plane. Provide expansion gaps for areas over 50m²

 Fix with 10 gauge x 50mm stainless steel countersunk head screws. Fix at 50mm from the corners, 150mm centres on edges and 200mm centres on intermediate supports. Provide minimum 20mm timber fillets at the base of all upstands and in internal corners. Chamfer all external edges with a minimum radius of 5mm where the membrane is to be wrapped over.

 Provide falls:

 - to a minimum stated in [NZBC E2](http://www.masterspec.co.nz/redirect.aspx?pl=347)/AS1, 8.5.1, - 1:30 for roofs, 1:40 for decks and 1:100 for gutters

 Some BCA's require membrane falls greater than Code, check with the BCA and research the particular membrane roofing proposed and amend this basic clause accordingly.

 Plywood and the timber substructure to have maximum moisture content of 18% when the membrane is adhered.

 Modify the above clause if the plywood substrate is specified elsewhere, such as in 4337 PLYWOOD ROOFING AND DECKING. Do not use hardboard or MDF board.

 All membranes have a propensity to 'tent' above sheet joins due to lively nature of plywood. If the roof is going to be seen or will be used as a visual feature, refer to Viking Roofspec Technical Consultant about the option of changing the substrate specification to the same as that of Dec-K-ing where the plywood sheets are butt-jointed and sealed with a bead of Gorilla Grip. The positioning of expansion joints in the plywood should be based on every 50m², of substrate, with location to be agreed with the project administrator.

 WARNING: Do not use light oil solvent based preservative (LOSP).

 Plywood substrates are best fixed with stainless steel, self-tapping, counter-sunk screws and ply sheets are to be butt jointed. Specify in 4337 PLYWOOD ROOFING AND DECKING, along with a requirement to bring the substrate up to an acceptable standard for this clause. Do not use hardboard or MDF board. Refer [NZBC E2](http://www.masterspec.co.nz/redirect.aspx?pl=347)/AS1. Refer to Plywood Manufacturers span tables for alternative solutions using thicker plywood.

 **Application - double layer system**

 When considering moisture content in a concrete substrate, consideration should be given to venting the substrate. Use the option; application - double layer system with the addition of a Vent sheet.

### 3.8 PRIME SUBSTRATE

 Substrates must be primed with suitable **Viking Bitumen Primer** and left to dry before the waterproofing membrane is installed. Use solvent based primer SE299 for concrete or masonry substrates. Use water based primer SE300 only on plywood substrates.

 Modify this clause to suit the project specified.

### 3.9 GENERAL

 Details and changes of direction at the junction of the horizontal and vertical plain should be flashed first with an additional layer of 3.0mm **Viking GM Sand Base Sheet** membrane with a minimum of 100mm in all directions.

 Refer to Viking Roofspec Technical Literature for membrane installation details.

### 3.10 EXPANSION JOINTS - (CONCRETE SUBSTRATE)

 Apply a strip (100mm minimum width) of 3mm Viking GM Sand Base Sheet centred on the expansion joint. Spot fix it to the substrate on one side of the expansion joint only. Install Viking GM Sand Base sheet as normal over the flashing, but do not torch the area (min 100mm wide) directly over the expansion flashing. Apply the Viking GM Cap Sheet, fully bonding to the base sheet.

 Refer to Viking Roofspec Technical Literature for detailed technical information.

### 3.11 CONSTRUCTION JOINTS - (PLYWOOD SUBSTRATE)

 Fix timber upstands with chamfered edges either side of the joint (minimum 150mm high). Apply fillets to the outside base of the upstands. Install the double layer membrane over the upstands; up the outside and terminating on the top of each upstand. Apply a suitable metal cap flashing over the top and fix through the sides of the upstand using neoprene washers to seal the fixings. Pack out one side between the flashing and the vertical of the upstand, use a plywood packer (H3.2) to allow air flow beneath the cap.

 Refer to Viking Roofspec Technical Literature for detailed technical information.

### 3.12 INSTALL BASE MEMBRANE

 Unroll the **Viking GM Sand Base Sheet** base membrane and align in position. Commence at the low end of the roof ensuring that the polyethylene burn-off film is face down.

### 3.13 RE-ROLL MEMBRANE HALF WAY

 Re-roll the membrane half way leaving the other half of the roll fully extended, to ensure that the membrane will remain aligned during the welding process.

### 3.14 TORCH BASE MEMBRANE

 Evenly torch off the film surface of the membrane using a sweeping motion to maintain even heat across the roll. Allow a bead of bitumen to flow from between the lap seam a distance of 6mm to 10mm from the membrane edge. The bleed line should be consistent and uninterrupted. To repair laps that are not fully bonded insert a hot trowel between affected seams and lightly torch.

### 3.15 SIDE AND END LAPS

 Side laps to be a minimum of 75mm and end laps to be a minimum of 150mm.

### 3.16 INSTALL CAP MEMBRANE

 Unroll the **Viking GM Mineral sheet** cap membrane and align in position. Position the cap sheet with the centre of the cap sheet covering the lap join of the base sheet. Commence at the low end of the roof ensuring that the polyethylene burn-off film is face down.

### 3.17 RE-ROLL MEMBRANE HALF WAY

 Re-roll the membrane half way leaving the other half of the roll fully extended, to ensure that the other half of the membrane remains aligned during the welding process.

### 3.18 TORCH CAP MEMBRANE

 Evenly torch off the of the film surface of the membrane using a sweeping motion to maintain even heat across the roll. Allow a bead of bitumen to flow from between the lap seam a distance of 6mm to 10mm from the membrane edge. The bleed line must be consistent and uninterrupted. To repair laps that are not fully bonded insert a hot trowel between affected seams and lightly torch.

### 3.19 SIDE AND END LAPS

 Side laps to be a minimum of 75mm and end laps to be a minimum of 150mm. Heat head lap of mineral surfaced sheet and scrape off the mineral chip to allow for good adhesion of the membrane joint.

 The mineral surfaced sheet has a longitudinal edge without mineral chip.

### 3.20 PENETRATIONS AND 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.

### 3.21 VENTING – ROOF/DECK CAVITIES

 Provide adequate ventilation to E2/AS1, 8.5.2, **General**. 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.

 Modify this clause to suit the project specified.

 **Application - double layer system with the addition of a Vent sheet**

 Use a vent sheet in conjunction with Viking Vents when the substrate is subject to a build up of moisture or condensation. Water vapour disperses either through the perimeter flashings or through Viking Roofspec roof vents.

### 3.22 PRIME SUBSTRATE

 Substrates must be primed with a **Viking Bitumen Primer** and left to dry before the waterproofing membrane is installed. Solvent based primer SE299 can be used for all substrates. Water based primer SE300 should only be used on plywood substrates.

 Modify this clause to suit the project specified.

### 3.23 POSITION VENT SHEET

 Unroll and align the **Viking GM Vent Sheet** with 50mm side lap and a 100mm end lap.

### 3.24 EXPANSION JOINTS - (CONCRETE SUBSTRATE)

 Apply a strip (100mm minimum width) of 3mm Viking GM Sand Base Sheet centred on the expansion joint. Spot fix it to the substrate on one side of the expansion joint only. Install Viking GM Sand Base sheet as normal over the flashing, but do not torch the area (min 100mm wide) directly over the expansion flashing. Apply the Viking GM Cap Sheet, fully bonding to the base sheet.

 Modify this clause to suit the project specified. Refer to Viking Roofspec Technical Literature for detailed technical information.

### 3.25 CONSTRUCTION JOINTS - (PLYWOOD SUBSTRATE)

 Fix timber upstands with chamfered edges either side of the joint (minimum 150mm). Apply fillets to the outside base of the upstands. Install the double layer membrane over the upstands; up the outside and terminating on the top of each upstand. Apply a suitable metal cap flashing over the top and fix through the sides of the upstand using neoprene washers to seal the fixings. Pack out one side between the flashing and the vertical of the upstand, use a plywood packer (H3.2) to allow air flow beneath the cap.

 Modify this clause to suit the project specified. This detail is not suitable for expansion joints. Refer to Viking Roofspec Technical Literature for detailed technical information.

### 3.26 INSTALL VENT SHEET - CONCRETE SUBSTRATE

 Lay Viking GM Vent Sheet directly to primer. Torching of base sheet over this will provide required adhesion. Install in conjunction with roof mounted proprietary vents, install a minimum 1 vent per 50 m² of roof to ensure the disbursement of vapour from the concrete.

 Modify this clause to suit the project specified. Delete the clause when substrate is plywood.

### 3.27 INSTALL VENT SHEET - PLYWOOD SUBSTRATE

 Lay Viking GM Vent Sheet directly to primer or fix with clouts. Install in conjunction with roof mounted proprietary vents, install a minimum 1 cavity vent per 50 m² of roof area. Check that the cavity is cross ventilated to allow air movement across the entire cavity.

 Modify this clause to suit the project specified.

### 3.28 INSTALL BASE MEMBRANE

 Unroll the Viking GM Sand Base Sheet membrane and align in position. commence at the low end of the roof ensuring that the polyethylene burn-off film is face down.

### 3.29 RE-ROLL MEMBRANE HALF WAY

 Re-roll the membrane half way leaving the other half of the roll fully extended, to ensure that the membrane will remain aligned during the heat welding process.

### 3.30 TORCH BASE MEMBRANE

 Evenly torch off the film surface of the membrane using a sweeping motion to maintain even heat across the roll. Allow a bead of bitumen to flow from between the lap seam a distance of 6mm to 10mm from the membrane edge. The bleed line should be consistent and uninterrupted. To repair laps that are not fully bonded insert a hot trowel between affected seams and lightly torch.

### 3.31 SIDE AND END LAPS

 Side laps to be a minimum of 75mm and end laps to be a minimum of 150mm.

### 3.32 INSTALL CAP MEMBRANE

 Unroll the **Viking GM Mineral sheet** cap membrane and align in position. Position the cap sheet with the centre of the cap sheet covering the lap join of the base sheet. Commence at the low end of the roof ensuring that the polyethylene burn-off film is face down.

### 3.33 RE-ROLL MEMBRANE HALF WAY

 Re-roll the membrane half way leaving the other half of the roll fully extended, to ensure that the membrane will remain aligned during the welding process.

### 3.34 TORCH CAP MEMBRANE

 Evenly torch off the film surface of the membrane using a sweeping motion to maintain even heat across the roll. Allow a bead of bitumen to flow from between the lap seam a distance of 6mm to 10mm from the membrane edge. The bleed line must be consistent and uninterrupted. To repair laps that are not fully bonded insert a hot trowel between affected seams and lightly torch.

### 3.35 SIDE AND END LAPS

 Side laps to be a minimum of 75mm and end laps to be a minimum of 150mm. Heat head lap of mineral surfaced sheet and scrape off the mineral chip to allow for good adhesion of the membrane joint.

 The mineral surfaced sheet has a longitudinal edge without mineral chip.

### 3.36 PENETRATIONS AND 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.

 Modify this clause to suit the project specified.

 **Finishing**

### 3.37 INSPECT

 Inspect and test all welds and details upon completion.

### 3.38 ACCEPTANCE

 Protect and maintain roofing until completion of the contract works.

### 3.39 SUBSEQUENT WORK

 Make good any damage and repair to Viking Roofspec specifications.

 **Completion**

### 3.40 CLEAN UP

 Clean up as the work proceeds.

### 3.41 LEAVE

 Leave work to the standard required by following procedures.

### 3.42 REMOVE

 Remove debris, unused materials and elements from the site.

## 4. SELECTIONS

 For further details on selections go to [www.vikingroofspec.co.nz](http://www.vikingroofspec.co.nz)

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

 If substitutions are permitted modify the statement above, ensure the NO SUBSTITUTIONS clause from GENERAL is treated the same.

 Select the options to suit the project and delete options not specified.

### 4.1 VIKING BITUMEN PRIMER

 Location: ~

 Substrate: ~

 Brand/type: **Viking Bitumen Primer**

### 4.2 VIKING GM GEMINI WATERPROOF MEMBRANE - APP

 Location: ~

 Brand/type: **Viking General Membrane Torch-on**

 Base sheet: **Viking GM Gemini Base Sheet APP** (SEM 327)

 Base sheet dimensions: 1.0m x 10m x 3mm thick

 Cap sheet: **Viking GM Gemini Ceramic Chip Cap Sheet APP** (SEM 345 black / SEM 348 light grey)

 Cap sheet dimensions: 1.0m x 10m x 4mm thick

 Finish/colour: ~

### 4.3 VIKING GM LYBRA WATERPROOF MEMBRANE - SBS

 Location: ~

 Brand/type: **Viking General Membrane Torch-on**

 Base sheet: **Viking GM Base Sheet SBS (SEM 227)**

 Base sheet dimensions: 1.0m x 10m x 3mm thick

 Cap sheet: **Viking GM Lybra Ceramic Chip Cap Sheet SBS** (SEM 245 black / SEM 248 light grey)

 Cap sheet dimensions: 1.0m x 10m x 4mm thick

 Finish/colour: ~

 Options:

 Finish/colour: grey or black

 NOTE: Select SBS modified bitumen membranes in Climate Zone 3, being the South Island and the North Island’s volcanic plateau.

 Mineral cap sheets are finished with a mineral chip, and are available in grey and black.

### 4.4 VIKING GM VENT SHEET

 Location: ~

 Brand/type: **Viking GM Vent Sheet**

 Dimensions: 1.0m x 30m comes with 40mm holes

 Vents: proprietary aluminium Vent

### 4.5 ACCESSORIES

 Product: ~

 Accessories options: Vents

 Viking GM Scupper Outlet

 Clamp Ring Roof Drain/ Overflows

 Viking GM Dropper Outlets