

Viking Roof Garden system

Overview

Viking's Roof Garden system incorporates a Viking Roof-Garden G4 Drainage Board above a waterproofing assembly of either Viking Enviroclad TPO or 2 layers of Viking Torch-on Garden FLL Anti-Root. To improve thermal efficiency a Viking WarmRoof can also be specified below the roof-garden and waterproofing assemblies.

Growth media (soil) and planting are supplied and installed by companies through-out NZ that Viking Roofspec are partnering with to provide a convenient solution for the specifier or building owner.

Vegetation and Growth Media

Site conditions and plant type selection will determine the growing media specification for depth and recipe.

Roof weights to meet construction and live loads structural deck requirements.

Will be determined by Vegetation and Growth Media selection made.

A general estimate of saturated growth media weight is 120kg per M2 per 100mm of depth.

Components

Viking Roof-Garden G4 Drainage Board (SRG001)

Combines filter fabric, moisture retention mat, drainage board, and heavy-duty protection fabric into a single, easy-to-install product specifically designed for vegetated roofs or ballast roof system. The formed cups within the drainage board have a capacity up to 8.9 Lts per M2 to aid in easing demand on stormwater loading or irrigation for vegetation. Roll Size 1.2mt x 15.2mt (sold CTL), total thickness 30mm.

Roof-Garden Root Barrier (SRG002)

For use with Enviroclad TPO membrane only, as Viking Torch-on Garden FLL Anti-Root is formulated to repel root attack.

Non-reinforced, heat-weldable, polypropylene sheet specifically formulated for use in below-grade and vegetated applications to resist root penetration and soil bacteria. Root Barrier is typically used in medium to deep Roof Garden assemblies where plants, such as grasses, with intrusive roots are used. This high-performance Root Barrier is based on a UV-stabilized polypropylene copolymer which does not require polymeric or liquid plasticizers to maintain flexibility. The relatively smooth surface of the Root Barrier facilitates production of a total surface fusion weld that creates a consistent, watertight, monolithic sheet. Supplied 3.660mt wide x 30.4mt (sold CTL) 1mm thickness.

Viking Roof Garden Aluminium Edge

2mm thick Alum Mill Finish size: 75mm x 100mm x 3mt length

Viking Roof Garden Aluminium Drain Box

3mm thick Alum Mill Finish size: 100mm H x 300mm x 300mm (+ 100mm flanges = 500 x 500mm)

Waterproofing Membrane selection of either

- A. Viking Enviroclad TPO 1.52mm (with use of Roof-Garden Root Barrier SRG002) or,
- B. Viking Torch-on Garden FLL Anti-Root (2 layers)
 - a. Phoenix Super Cap sheet where exposed to UV (with Garden FLL as Base-Sheet)

SUBMITTALS

- A. For all projects, prior to project inspection by Viking Roofspec, a final shop drawing must be approved by Viking Roofspec's technical department.

QUALITY ASSURANCE: prior to Waterproofing Membrane installation

Viking Roofspec strongly recommend that use of an Electronic Leak Detection System is incorporated immediately under the waterproofing membrane installation to enable non-invasive inspections of the waterproofing assembly and sign-off of QA Checklist prior to Roof Garden installation.

PRE-INSTALLATION SITE MEETING: A PRE-installation meeting should be coordinated by the specifier and attended by the roofing applicator, a Viking Roofspec representative, electronic leak detection expert (if used); and other trades working on the roof system - before membrane installation. The purpose of meeting is to discuss the necessity of ensuring proper installation of ELD and waterproofing assembly as well as protection during all phases of installation and to review other applicable requirements or unusual field conditions. 4 weeks minimum notice will be required.

POST-MEMBRANE INSTALLATION SITE MEETING: A **POST-installation meeting** should be coordinated by the roofing applicator and attended by the main-contractor, a Viking Roofspec representative, electronic leak detection expert (if used); growing media and vegetation supplier / installer and any other trades working on the roof system - **after membrane installation**. The purpose of meeting is to confirm that the waterproofing membrane assembly has been installed according to Viking Roofspec's specifications and details, to conduct a Flood-test utilising the ELD system (if used) with any identified repairs made and reinspected to 100% water-tight quality. Complete the QA Checklist.

Main-contractor and roofer to ensure no risk of damage exists to completed sections. With correct use of protection and access boards installed by main-contractor.

QA CHECKLIST AND ROOF PLAN SUBMITTED TO VIKING ROOFSPEC: Complete the Viking QA Checklist after inspections and any repairs. To be signed by Roofing Applicator, ELD expert (if used), Viking representative and main contractor prior to Roof-Garden components being installed above.

NOTE: all field laps and details to be marked-up on a roof/ deck plan to be submitted to Viking Roofspec.

INSTALLATION WATERPROOFING MEMBRANE

Follow correct Viking Technical information contained within Application Guides.

INSTALLATION OF VIKING ROOF-GARDEN COMPONENTS - Refer also Viking Roof Garden Details

Roof-Garden Root Barrier (SRG002) only over Enviroclad membrane for Medium and Deep Assemblies

1. Unroll Viking Roof-Garden Root Barrier making sure to overlap the sheets by min. 75mm at the seams.
2. Root Barrier shall terminate inside vegetation-free zones by extending a minimum of 75mm past Aluminium Edge.
3. To secure, spot weld to Enviroclad membrane.
4. Hot weld seams 40mm using a Leister hot-air welder or equivalent to create a monolithic sheet. Once the welds are completed, check the seams for any leaks using a seam probe.
5. Viking Roof-Garden G4 Drainage Board (SRG001) will typically be loose laid above the Root Barrier.

Viking Roof Garden Aluminium Edge and **Aluminium Drainage Box** is installed directly over the waterproofing membrane or Root Barrier.

Installation to VIKING ENVIROCLAD:

1. Prime the Enviroclad membrane and Aluminium flange with Viking SEC034 WeatherBOND Multipurpose primer (SEC034).
2. Apply Viking Lap Tape (SMT076V) to the bottom side of the Aluminium flange, ensuring that the Viking Lap Tape extends 6mm beyond the edges and corners. Place *Aluminium Edge or Drain Box in desired location, ensuring Alum Edge flange is facing inward towards the Roof Garden system.
3. Carefully remove the release liner by pulling at a 90° angle.
4. Once release liner has been removed, apply adequate pressure by pressure rolling the flange.

Installation to VIKING TORCH-ON:

1. Sand and prime the Aluminium flange with Viking Torch-on solvent-based Rapid-Primer (SES297)
2. Apply heat to Torch-on membrane and place Alum flange in location. Pressure roll flange to Torch-on membrane to secure.

NOTES:

*For end-to-end joins of Aluminium Edging, allow for 3mm gap to compensate for thermal expansion. Aluminium Drain Box may be loose laid over the protection fabric or a sacrificial sheet of membrane. With the Drain Box being held in place with the weight of the approved ballast material.

Viking Roof-Garden G4 Drainage Board (SRG001)

1. Unroll and loose-lay Viking Roof-Garden G4 Drainage Board and orient GREEN SIDE UP.
2. Butt adjacent rolls and overlap using the built-in 150mm flap of moisture retention mat. Make sure to shingle the flap in the direction of the slope.
3. For end-to-end joints, peel back fabric and insert two rows of cups into the pre-existing piece.

Note: Viking Roof-Garden G4 Drainage Board should not be adhered to the membrane or root barrier.

POST INSTALLATION CARE WITH SOIL AND VEGETATION INSTALLATION

Following contractors are to take care with tools and foot placement to ensure there is no damage to the waterproofing assembly. QA Sign-off has been made by all trades to confirm waterproofing integrity prior to installation of soil and vegetation. As such any repairs to the waterproofing are to be made by a Viking Approved Applicator with additional costs needing to be on charged to the main-contractor. Overall Site management and care are with the main-contractor.

Viking Product Data Sheet

PHYSICAL PROPERTIES:

Viking Roof-Garden G4 Drainage Board (SRG001)



Typical Properties and Characteristics			
Test	Test Method	Units	Result
Composite			
Thickness	ASTM D1777	in (mm)	1.02 (26)
Compressive Strength	ASTM D1621	psf (kN/m ²)	12,341 (591)
Flow Rate at 3:12 Slope with 300 kPa load	ASTM D4716	gpm/ft ² (L/min/m ²)	0.216 (8.8)
Flow Rate at ¼:12 Slope with 300 kPa load	ASTM D4716	gpm/ft ² (L/min/m ²)	0.015 (0.61)
Water Holding Capacity		gal/ft ² (L/m ²)	0.22 (8.96)
Fabric			
Apparent Opening Size	ASTM D4751	US std. sieve (mm)	100 (0.132)
Flow Rate	ASTM D4491	gpm/ft ² (L/min/m ²)	132 (5,382)
Gran Tensile Strength	ASTM D4632	lbs (kN)	169 (0.95)
Elongation	ASTM D4632	%	101
Puncture Resistance	ASTM D4833	lbs (kN)	97 (0.43)

Typical properties and characteristics are based on samples tested and are not guaranteed for all samples of this product. This data and information is intended as a guide and does not reflect the specification range for any particular property of this product.

LEED® Information	
Pre-consumer Recycled Content	35%
Post-consumer Recycled Content	20%
Manufacturing Location	Madison, GA
Solar Reflectance Index	N/A