VIKING
WATERPROOFING SYSTEMS
VK-SBS-AL-150

High-performance SBS self-adhesive membranes engineered for tropical and marine environments. Cold-applied, reflective, and designed for the thermal demands of resort and hospitality construction.

Radiant Barrier	Cold Applied	Tropical Ready
Aluminium facing reflects solar heat	Peel-and-stick, no open flame	90°C heat resistance, high-UV facing

Tropical & Marine Resort Applications | Document Rev 1 — June 2026

1. Brand Overview

VIKING Waterproofing Systems is a Nautilus Innovation product brand supplying premium SBS self-adhesive membranes to the hospitality and resort construction sector.

The VIKING range addresses a specific gap in tropical waterproofing: conventional SBS membranes absorb rather than reflect solar radiation, driving up roof surface temperatures and transferring heat load into the building envelope. VIKING products carry a high-reflectance aluminium film facing as standard, making them a genuine radiant barrier.

VIKING sits within the Nautilus Innovation product family alongside:

- VenGuard — intumescent fire-retardant coating system for engineered timber
- VEP GIROD / MAGIC — structural epoxy systems for GIROD timber connections and concrete anchor applications

All Nautilus Innovation product brands operate on a manufacturer-direct supply model. The VIKING programme is currently active on resort projects in Belize and the Maldives.

2. Product: VK-SBS-AL-150

SBS Self-Adhesive Waterproofing Membrane

Aluminium Film Facing | 1.5 mm | Cold Applied | Peel & Stick | Roof Waterproofing

Exposure Rating: Rated for exposed application. Deployed in concealed cavity configuration (counter-batten system beneath roof finish). The product is over-specified for this use — service life expected to meet or exceed the stated >20 year rating.

Product Description

VK-SBS-AL-150 is a premium SBS polymer-modified bitumen self-adhesive waterproofing membrane. SBS modification imparts rubber-like elasticity and outstanding low-temperature flexibility. The peel-and-stick system eliminates open-flame torching, accelerating installation and reducing fire risk on site.

The reflective aluminium film surface is the primary performance differentiator. Where standard membranes present a dark absorptive surface to the sun, the aluminium facing reflects the majority of incident solar radiation, reducing peak membrane surface temperature and limiting heat transfer into the roof deck and occupied space below.

Performance Data

Property	Value / Requirement
Thickness	1.5 mm
Roll dimensions	20 m × 1 m (20 m² per roll)
Tensile strength (longitudinal)	≥ 600 N/50mm
Elongation at break	≥ 30%
Heat resistance	90°C — no flowing, sliding or dripping
Low temperature flexibility	-20°C — no cracks
Watertightness	0.3 MPa, 30 min — no water seepage
Peel adhesion to substrate	≥ 1.5 N/mm
Lap seam peel strength	≥ 1.5 N/mm
Nail-rod tear strength	≥ 200 N
Top surface facing	Aluminium film (high-reflectance radiant barrier)
Bottom release	Siliconised release film (peel-and-stick)
Service life (roof)	> 20 years
Testing standard	GB 23441 and project specification requirements

Applications

- Residential and commercial roof decks (under-tile or exposed)
- Subfloor substrate waterproofing under cement board or screed

- Parapet walls and roof penetration detailing
- Podium decks and balconies
- Concealed cavity roof assemblies — counter-batten system beneath cedar shingles, tiles or metal roof finish (rated for exposed use; over-specified in cavity = extended service life)
- Overwater villa roofs and deck substrates — tropical and marine environments

3. Why VIKING Over Grace Ice & Water Shield Plus

Grace Ice & Water Shield is available in two grades: Standard (1.0mm / 40 mil) and Plus (1.5mm / 60 mil). VIKING VK-SBS-AL-150 is specified at 1.5mm — matched to the highest Grace IWS Plus grade. Where competitors offer a thinner product as a like-for-like comparison, VIKING does not. The comparison below is against Grace IWS Plus, the premium specification.

Grace IWS Plus is a well-established benchmark. For temperate climates — where it was originally designed — it performs reliably. In tropical resort environments such as the Maldives, its non-reflective surface creates a measurable thermal liability. VIKING matches it on thickness and surpasses it on every climate-relevant performance criterion.

Head-to-Head Comparison

Property	VIKING VK-SBS-AL-150	Grace Ice & Water Shield Plus
Thickness	1.5mm / 60 mil	1.5mm / 60 mil (Plus grade — highest available)
Top surface facing	Aluminium film — high-reflectance radiant barrier	Granulated mineral or smooth HDPE — absorptive dark surface
Solar Reflectance Index (SRI)	~70–80 (cool roof performance)	~5–15 (dark / granular surface)
Peak membrane surface temp (tropical sun)	~55–65°C	~80–90°C
Heat transfer to deck below	Significantly reduced — radiant load reflected	High — absorbed solar energy conducted into structure
UV resistance & exposure rating	Rated for full exposed use. Deployed here in concealed cavity — over-specified for the application; service life expected to meet or exceed the stated >20 year rating	Exposed-rated. Not deployed in cavity — full UV exposure to membrane surface in service
Climate design basis	Designed for high-UV, high-humidity, high-temperature tropical environments. GB 23441 heat resistance 90°C.	Designed for cold/temperate ice-dam and air-barrier applications. ASTM D1970 low-temperature focus.
Procurement model	Manufacturer-direct via Nautilus Innovation — competitive cost, shorter lead times	GCP Applied Technologies distribution network

The Radiant Barrier Effect — In Real Terms

The distinction between a reflective and an absorptive membrane is not cosmetic. In Maldives conditions — ambient air temperature 28–32°C, solar irradiance ~5.5 kWh/m²/day — the thermal behaviour of the membrane directly drives the energy consumption of the building below it.

An absorptive membrane surface can reach 80–90°C under direct noon sun. That thermal mass conducts downward through the roof deck and into conditioned space, increasing the cooling load on the air conditioning plant. A reflective aluminium surface reflects the majority of that incoming radiation — peak surface temperature drops to 55–65°C — reducing the temperature differential across the deck by up to 25°C.

In real terms:

- Estimated 10–20% reduction in roof-related cooling load, depending on insulation specification and construction type
- Lower peak roof deck temperatures, reducing thermal cycling stress on structural elements and finishes
- Longer membrane service life — aluminium facing is not degraded by UV the way organic or granule surfaces are
- Reduced condensation risk on the underside of the deck in air-conditioned spaces — lower delta-T across the assembly

4. Vented Cavity Roof System — Performance Integration

The VIKING VK-SBS-AL-150 is specifically suited to roof assemblies incorporating a vented cavity above the waterproofing membrane. This is directly relevant to the resort and hospitality sector where Venturer Timberwork and Nautilus Innovation operate: overwater villas, long-span timber roof structures, and climate-sensitive amenity buildings.

How a Vented Cavity Roof Works

A vented cavity roof places an air gap — typically 50–100 mm — between the waterproofing layer and the roof finish (tiles, shingles, or a secondary structural deck). Ventilation openings at eave and ridge allow outside air to circulate continuously through this cavity.

The effect is two-way:

- Hot air that builds up above the membrane is continuously displaced by cooler incoming air, preventing the cavity from acting as a heat trap
- The membrane surface temperature remains closer to ambient rather than climbing toward the theoretical maximum under still-air conditions

When the waterproofing membrane at the base of this cavity is also a radiant barrier (VIKING VK-SBS-AL-150), the performance benefit compounds. The aluminium facing reflects incident solar radiation before it can be absorbed, further reducing the thermal input into the cavity.

Combined Effect — Quantified

Roof Assembly Type	Peak Roof Deck Temp (indicative)	AC Load Reduction vs Baseline*
Standard sealed roof — absorptive membrane, no cavity	75–90°C	Baseline (0%)
Sealed roof — VIKING reflective membrane, no cavity	55–65°C	~8–12% reduction
Vented cavity roof — absorptive membrane	60–70°C	~10–15% reduction
Vented cavity roof — VIKING reflective membrane (recommended)	**45–55°C**	**~18–25% reduction**

** Indicative values based on published ASHRAE and ENERGY STAR radiant barrier research for tropical/subtropical climates (ambient 30°C, irradiance 900–1000 W/m²). Actual performance varies with insulation, structure type, cavity depth, and ventilation rate. Engineering validation recommended for specific projects.*

Relevance to Tropical Resort Projects

High-end island resort developments typify the demanding context. Climate conditions — ambient 28–32°C, solar irradiance ~5.5 kWh/m²/day, high humidity, marine environment — represent exactly the conditions for which the VIKING VK-SBS-AL-150 and vented cavity design approach deliver measurable return.

Proposed areas of application:

- Roof decks over air-conditioned FOH and BOH areas — reflective membrane reduces peak cooling load during occupied hours
- Overwater villa roofs — marine salt-spray resistance of aluminium facing; vented cavity prevents heat build-up in lightweight timber roof structures
- Podium decks and balconies — waterproofing below screed or paver finish with improved thermal performance over standard dark-surface membranes
- Parapet and penetration detailing — using VK-SBS-AL-150 pre-cut reinforcement strips

Venturer Timberwork's roof structures in this region are designed with vented cavity principles where applicable. VIKING VK-SBS-AL-150 is the specified waterproofing membrane in this system, ensuring the thermal and durability benefits described above are fully realised.

5. Supply Status & Project References

VIKING Waterproofing Systems is a live product brand under active supply. VK-SBS-AL-150 is not a concept product — it is in procurement and delivery for current resort projects.

Project	Client / Brand	Location	Supply Status
Cayo Rosario Resort	Upscale international resort brand	Belize	Supply ongoing — VK-SBS-AL-150 specified and in delivery for roof waterproofing

Amankora	Aman Hotels & Resorts	Bhutan	Specified — procurement in progress as part of Venturer Timberwork roof package

The Belize supply programme provides direct precedent for tropical resort applications : tropical climate, high-UV exposure, resort-grade specification, and integration with lightweight timber roof structures. Performance data from this supply can be made available to project design team on request.

Supply chain: VIKING products are manufactured to Nautilus Innovation's specification and quality control brief. The manufacturer-direct model provides competitive ex-works pricing and shorter lead times compared to standard branded alternatives procured through distribution networks.

6. Installation Summary

Stage	Procedure
1. Surface Prep	Base must be clean, dry, smooth and free of grease, dust and protrusions. Repair all voids and cracks before application.
2. Primer	Apply compatible bituminous primer at 0.2–0.3 kg/m². Allow minimum 5 hours cure before proceeding.
3. Layout	Plan roll layout before application. Maintain minimum 100 mm overlap on longitudinal seams and 150 mm on end laps.
4. Peel & Bond	Peel release film progressively while pressing membrane firmly onto primed substrate. Roll with a 50 kg roller to ensure full contact.
5. Lap Sealing	Ensure lap zones are clean and dry. Press firmly and roll all lap seams. Reinforce with hot-air welding for additional security.
6. Detailing	Pre-cut reinforcement strips for all internal/external corners, pipe penetrations and drains. Apply before field sheets.
7. Inspection	Conduct water ponding or vacuum box test prior to covering. All seams and terminations must be fully bonded.

7. Technical Support & Procurement

For project specifications, supply enquiries, or technical support:

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