

TECHNICAL DATA SHEET

VYVAP-AEROGEL SA

Butyl Self-Adhesive Aluminum-Faced Aerogel Waterproofing & Thermal Control Membrane

REFLECTIVE CONTROL

Helps reduce radiant solar heat gain

AEROGEL BARRIER

Thin, lightweight thermal-control core

BUTYL SEALING

Cold-applied, conformable self-adhesion

1. Product Description

VYVAP-AEROGEL SA is a thin, multifunctional composite membrane combining reflective thermal control, supplementary insulation, waterproof sealing and self-adhered installation. Its high-reflectance metallic facing, aerogel composite thermal barrier and high-performance butyl adhesive work together to reduce radiant heat absorption and conductive heat transfer while forming a continuous, conformable waterproof seal over the substrate.

The factory-applied release liner enables peel-and-stick installation without open-flame torching. The product is particularly suitable for metal roofs, prefabricated buildings, equipment enclosures and complex details where low build-up, light weight and installation efficiency are important.

2. Key Benefits

- Dual-mode thermal protection - the metallic facing reflects radiant solar energy while the aerogel composite core helps restrict heat transfer.
- Integrated waterproofing, vapor control and sealing - the continuous composite structure and butyl adhesive conform to minor surface irregularities and joints.
- Ultra-thin and lightweight - 1.5 mm nominal total thickness with minimal space requirement and low additional dead load.
- Strong self-adhesion and flexibility - conforms to metal, concrete, timber and many common panel substrates, including corners and irregular details.
- Safer cold application - no open flame or heavy installation equipment; well suited to maintenance, refurbishment and restricted hot-work areas.
- Multifunctional system layer - combines reflectivity, thermal control, waterproofing and sealing to simplify assemblies and detailing.

3. Recommended Applications

- Waterproofing and thermal-control treatment of profiled metal sheets, metal roofs and panel laps.
- Roofs and walls of steel buildings, warehouses, portable buildings and modular construction.
- Sunrooms, lightweight canopies, container buildings and mobile structures.
- Gutters, flashings, eaves, parapets, fasteners and equipment bases.
- Supplementary thermal control and condensation-risk reduction for ventilation ducts, HVAC ductwork, equipment housings, cabinets and enclosures.
- Local repair and performance enhancement of existing roof waterproofing and thermal-control systems.

4. Technical Data

PROPERTY	TECHNICAL VALUE	BASIS
Product designation	VYVAP-AEROGEL SA	Declared
Product type	Butyl self-adhesive aluminum-faced aerogel waterproofing and thermal-control membrane	Declared
Appearance	Silver metallic reflective face; release liner on underside	Typical
Nominal total thickness	1.5 mm	Declared
Thermal-control core	Aerogel composite	Declared
Self-adhesive system	High-performance butyl adhesive	Declared
Application method	Cold-applied, self-adhered	Declared
Roll width / length	1 m / 10 m	Subject to order confirmation

Note: Values identified as "Typical" are indicative and are not intended as specification limits. Project-specific performance should be confirmed by approved test data and order documentation.

5. Installation Method

01 SUBSTRATE PREPARATION

The substrate must be sound, level, clean and dry, and free from dust, oil, laitance, rust and sharp projections. Repair cracks, voids and significant unevenness. Conduct an adhesion trial on porous, friable or difficult-to-bond surfaces; use a compatible primer where required.

02 SETTING OUT

Measure, mark and cut the membrane. Unroll and dry-lay before bonding to confirm lap direction and detailing. On roofs, install from the lower area toward the higher area.

03 PEEL AND BOND

Secure one end, then progressively remove the release liner while laying the membrane straight. Do not remove the entire liner at once, as this can cause premature bonding, wrinkles or misalignment.

04 ROLL AND DE-AIR

Use a pressure roller from the center toward the edges to expel air and ensure full contact. Apply particular pressure to laps, ends and corners.

05 LAP SEALING

Recommended minimum side lap: 80 mm. Recommended minimum end lap: 150 mm. Increase laps where required by project design or wind exposure. Reinforce terminations, cut edges and exposed edges with compatible butyl tape or weather-resistant sealant.

06 DETAILS AND INSPECTION

Provide additional reinforcement at internal and external corners, fasteners, penetrations, outlets and equipment bases. Inspect for blisters, lifted edges, wrinkles and damage. Repair patches should extend at least 50 mm beyond the affected area on all sides.

6. Application Conditions

- Recommended application temperature: 5°C to 40°C. Do not install during rain, snow, heavy fog, strong winds or when standing water is present on the substrate.
- Low temperatures reduce initial tack. Depending on site conditions, allow materials to warm, prepare the substrate appropriately or use controlled warm-air assistance.
- In hot, sun-exposed conditions, avoid overstretching the membrane and roll it firmly without delay.
- Before full installation, complete a small-area adhesion trial to verify substrate compatibility, initial tack and holding performance.

7. Packaging, Storage and Transportation

Packaging: Supplied in rolls with external moisture- and dust-resistant protective wrapping.

Storage: Store rolls upright in a cool, dry and ventilated indoor area, preferably at 5°C to 35°C. Protect from direct sunlight, rain, moisture, excessive heat, heavy loads, fire, heat sources, strong oxidizing agents and organic solvents. Prevent core deformation and surface damage.

Transportation: Protect from sunlight, rain, moisture and mechanical damage. Do not throw or drag rolls, and do not allow sharp tools to contact the membrane.

Shelf life: 12 months is recommended when stored in original, unopened packaging under the specified conditions. The final shelf-life declaration is subject to product stability validation and the packaging label.

8. Limitations and Precautions

- This product is a thin composite thermal-protection layer. It is not intended to replace the primary insulation, fire-safety system or load-bearing components required by the building design.
- Actual thermal performance depends on solar exposure, air-space configuration, heat-flow direction, substrate build-up, installation quality and the overall envelope assembly. A specific indoor temperature reduction must not be claimed from material thickness alone.
- For long-term exposed roof applications, verify UV resistance, heat resistance, wind-uplift performance, hail resistance, corrosion resistance and fire performance for the project location.
- Not recommended for permanently ponded water, continuously hydrostatic below-grade conditions, or prolonged exposure to strong acids, strong alkalis or organic solvents.
- Damage to the metallic face may affect reflectivity, waterproofing and durability. Avoid spiked footwear and sharp tools during installation.
- Substrate and environmental conditions affect adhesion. Confirm compatibility and site adhesion before project use.

TECHNICAL STATEMENT

This document is based on the current product design and general application experience and is provided for product selection and installation guidance only. It does not constitute project-specific design or an unlimited warranty for all conditions. VYKOL may update this document as part of ongoing technical development without prior notice. Before use, confirm suitability against applicable regulations, design requirements, substrate conditions and approved test documentation.

Document reference: VYVAP-AEROGEL SA TDS | Revision: 2026-08