

SILVER**SARK**[®] **xR**

EXTRA HEAVY DUTY

REFLECTIVE INSULATION EXTRA R-VALUE



HIGH WATER BARRIER - MEDIUM VAPOUR BARRIER

Product Code: **XHD-XR** | I/N: 0810963, 0810964

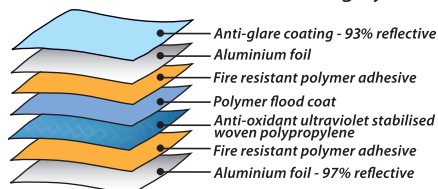
SILVER**SARK**[®] **xR** is an Extra Heavy Duty double-sided radiant barrier, designed for use under metal deck roofs where temperatures can exceed 80°C, and with battened out cladding where an extra air space is created. It is a High Water Barrier, Medium Vapour Barrier product, suitable for use in all roof and wall applications. Ideal for steel and timber framed roofs and brick veneer walls, it provides extra R-value from inward and outward facing reflective surfaces when used in conjunction with adjacent air spaces.

Roof spaces fitted with SILVER**SARK**[®] **xR** will benefit from controlled ventilation, which assists in controlling excess heat in summer and moisture ingress in winter.

- ✓ High Water Barrier
- ✓ Extra R-value
- ✓ Superior heat resistance
- ✓ Medium Vapour Barrier
- ✓ High strength, light weight
- ✓ Flexible anti-flap

Construction

SILVER**SARK**[®] **xR** is a flexible seven layer product made with a combination of woven polymer substrate, aluminium foil, and fire-resistant polymer adhesive. It has reflective foil surfaces on both sides, one side with unique anti-glare coating for ease of installation. The internal membrane structure is highly flexible and resilient. This has two benefits:



- 1) "Flapping" is minimised under tile roofs in high wind conditions.
- 2) Stress within the structure due to flapping, thermal expansion and shrinkage is significantly reduced, markedly improving the durability of the product.

Ametalin utilises Advanced Laminating Technology; the polymer adhesive remains tacky for an indefinite period and provides superior resistance to heat, fire and delamination.

In order to minimise shrinkage after installation, SILVER**SARK**[®] **xR** is pre-shrunk during the manufacturing process.

Application

SILVER**SARK**[®] **xR** is designed for use as insulation and condensation control under metal and tile roofs in residential, commercial and office buildings in all regions of Australia. It is also suitable for use as a wall wrap, particularly in brick veneer systems.

Install SILVER**SARK**[®] **xR** facing an air space on either side for increased reflective R-value. SILVER**SARK**[®] **xR** reduces the need for additional wall insulation, and increases overall thermal performance of the building system. Use in conjunction with SILVER**BATTS**[™] and PLEATED SILVER**BATTS**[™] to create multiple reflective air spaces and incrementally increased thermal performance.

NOTE: High Water Barrier, Medium Vapour Barrier wall wraps are suitable for wet tropical climate zones. Durability may be affected by environmental factors, including chemical and airborne pollutants, if used in industrial or farm buildings.

Tear Resistance

SILVER**SARK**[®] **xR** is an extremely lightweight product with superior tear resistance. SILVER**SARK**[®] **xR** is guaranteed to meet or exceed minimum performance levels for Extra Heavy Duty rating required under AS/NZS 4200.1:2017.

	Minimum Value*	Actual Test Value
Machine direction edge tear resistance	90 N	517 N / 25 mm
Lateral direction edge tear resistance	90 N	480 N / 25 mm

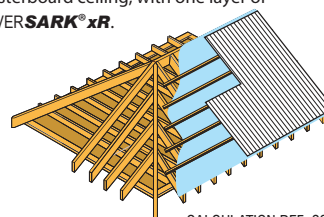
* Minimum value required to qualify as Extra Heavy Duty under AS/NZS 4200.1:2017

DECLARED TOTAL SYSTEM R-VALUES

The contribution of this product to the total R-value depends on installation and environmental conditions. The R-value will be reduced in the event of the accumulation of dust on upward facing surfaces and in those cavities that are ventilated.

METAL ROOF

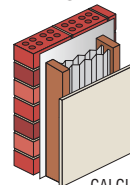
22° pitched metal roof, unventilated attic, plasterboard ceiling, with one layer of SILVER**SARK**[®] **xR**.



WINTER **R_T 1.2** SUMMER **R_T 1.9**

BRICK VENEER

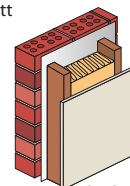
with one layer of SILVER**SARK**[®] **xR** + two layers of PLEATED SILVER**BATTS**[™]



WINTER **R_T 4.0** SUMMER **R_T 3.5**

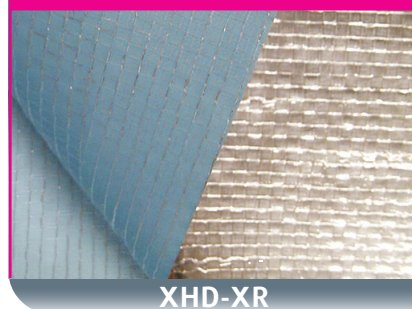
BRICK VENEER

with one layer of SILVER**SARK**[®] **xR** + R2.0 Fibrous Batt



WINTER **R_T 3.2** SUMMER **R_T 2.9**

SILVER**SARK**[®] **xR**



Classification

SILVERSARK® xR classifications in accordance with AS/NZS 4200.1:2017

PRODUCT		SILVERSARK® xR	AS/NZS 4200.1:2017
FLAMMABILITY INDEX	AS 1530.2-1993	Low	Low ≤ 5
DUTY	AS/NZS 4200.1:2017	Extra Heavy	Classification
EMITTANCE	AS/NZS 4201.5:1994	Bright side: 0.03 Anti-glare side: 0.07	Value
REFLECTIVITY		Bright side: 97% Anti-glare side: 93%	Value
RESISTANCE TO WATER PENETRATION	AS/NZS 4201.4:1994	High	High
VAPOUR BARRIER	ASTM E96	Medium, PROCEDURE B, WET CUP TEST	Classification
MACHINE DIRECTION TENSILE STRENGTH	AS 1301.448s-91	15.9 kN/m	Min 13.0 kN/m
LATERAL DIRECTION TENSILE STRENGTH	AS 1301.448s-91	14.2 kN/m	Min 10.5 kN/m
MACHINE DIRECTION EDGE TEAR	TAPPI T 470 om-89	517 N	Min 90 N
LATERAL DIRECTION EDGE TEAR	TAPPI T 470 om-89	480 N	Min 90 N
RESISTANCE TO DRY DELAMINATION	AS/NZS 4201.1:1994	Pass	Pass
RESISTANCE TO WET DELAMINATION	AS/NZS 4201.2:1994	Pass	Pass
SHRINKAGE (REPEATED WETTING & DRYING)	AS/NZS 4201.3:1994	0.0%	< 0.5%

WATER VAPOUR TRANSMISSION RATE: 1.0 g/m²·24hr (23°C, 50% RH)

AMETALIN CLASSIFICATION: MEDIUM VAPOUR BARRIER

Vapour Barrier Properties

SILVERSARK® xR has a Water Vapour Transmission (WVT) rate of 1.0 grams per square metre per 24 hours tested at 23°C, 50% Relative Humidity (RH). Vapour Resistance 128.4 MN·s/g. Ametalin classification is Medium Vapour Barrier.

NCC Compliant

SILVERSARK® xR complies with AS/NZS 4859.1:2002/Amdt 1:2006 and AS/NZS 4200.1:2017, and therefore meets all the requirements of the *National Construction Code* for insulation and pliable building membranes.

BUSHFIRE ATTACK LEVELS

SILVERSARK® xR complies with AS 3959-2009 *Construction of buildings in bushfire-prone areas* for use in roof systems BAL – LOW to BAL – 40 and wall systems BAL – LOW to BAL – FZ.

Total System R-values

R-values apply to typical conditions for mainland Australian capital cities and have been calculated by an independent consulting engineer in accordance with AS/NZS 4859.1:2002/Amdt 1:2006. For detailed design of building systems, seek advice based on actual site conditions from a qualified licensed engineer.

Reflectivity

SILVERSARK® xR is made with aluminium foil laminates with reflectivity of 97% and emissivity of 0.03 to one side and 93% reflectivity and emissivity of 0.07 to the other.

Storage

This product should be stored under cover in a clean, dry place in the pack provided.

Dimensions

SILVERSARK® xR is sold in sizes:

1350 mm x 60 m (81 m²)

1350 mm x 30 m (40.5 m²)

1500 mm x 30 m (45 m²)

Specification Notes

When specifying, state the following:

Product Name: SILVERSARK® xR

The insulation to be installed shall be SILVERSARK® xR double-sided reflective laminate with anti-glare, emittance bright side 0.03, anti-glare side 0.07. Product is manufactured by Ametalin and shall be installed in accordance with AS 4200.2:2017 *Pliable Building Membranes and Underlays, Part 2: Installation Requirements*.

Emittance Bright Side: 0.03, Anti-glare Side: 0.07

Water Vapour Transmission (WVT): 1.0 g/m²·24hr

Vapour Resistance: 128.42 MN·s/g

Vapour Barrier Classification: Medium

Water Barrier Classification: High

Duty: Extra Heavy in accordance with AS/NZS 4200.1:2017

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AUSTRALIAN DESIGNED, AUSTRALIAN OWNED.

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Manufacturers of building membranes | insulation products | flexible packaging



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Insulation Systems & Building Membranes

Health and Safety Information

Ametalin has assessed SILVER SARK® xR according to the criteria outlined in the *National Occupational Health and Safety Commission (NOHSC):1008 (1998)* and *NOHSC: 1005 (1999)*. As a result of the assessment, this product is classified as non-hazardous according to the NOHSC criteria. To reduce risk of UV damage when installing this product, wear protective clothing, safety glasses and sunscreen, and work in the shade wherever practical.

Installation

ELECTRICAL SAFETY PRECAUTIONS - BEFORE YOU START:

Ametalin stresses the importance of safe installation practices for foil-based insulation as critical to installer and consumer safety. Aluminium Foil Insulation Association Inc. (AFIA) has prepared Work Method Statements and Hazard Management forms to assist contractors and installers in safe installation of reflective insulation products. These documents are available under 2009 AFIA WMS & Hazard Management, at www.afia.com.au/news/health-and-safety/.

SILVER SARK® xR should be installed in accordance with AS/NZS 4200.2: 1994 *Pliable Building Membranes and Underlays, Part 2: Installation Requirements*.

GENERAL

SILVER SARK® xR is not designed to withstand prolonged direct exposure to the elements. Accordingly, the outer construction envelope should be installed without delay. Aluminium foil should not come into contact with wet concrete or mortar, as the aluminium is susceptible to alkali corrosion. If installed within 500 metres of the sea, or in a non-residential building where foil surfaces may be exposed to a corrosive atmosphere (including agricultural sheds), foil surfaces should face an enclosed, un-vented air space. To ensure optimum thermal insulation performance, as well as satisfactory durability, an air space adjacent to each side of the product is recommended.

ROOFS

In roofs, SILVER SARK® xR is to be installed as a continuous membrane, blue anti-glare side facing out and laid loosely over rafters with a minimum drape of ≤ 40 mm. For larger rafter spacings in metal roofs, the drape should be increased proportionally. Joins must be overlapped by no less than 150 mm with all top layers to the outside of bottom layers to facilitate drainage. In purlin construction, end rolls must be overlapped by 600 mm.

When SILVER SARK® xR is used under tiles it must be installed under battens in order to comply with AS 4200.2:2017. Under metal roofing the preferred installation is also under the battens. SILVER SARK® xR can be installed above the battens, but performance may be reduced and problems may arise under certain environmental conditions. Specifically, condensation forming under the roof may pool behind battens due to a breach in the integrity of the SILVER SARK® xR membrane; condensation may also form on the underside of SILVER SARK® xR where contact is made with the roofing material. Adequate slack in the material must be provided, equal to the specified sag, to accommodate shrinkage of SILVER SARK® xR due to high temperatures in close proximity to the metal roofing.

FRAMED WALLS & GABLES

In framed walls and gables, SILVER SARK® xR should be installed

horizontally as a continuous membrane by fixing to all framing members with the blue side facing out. SILVER SARK® xR should extend from top plate to the bottom plate on concrete slabs or bearers in timber construction. For fastening to timber construction, fixings are to be no more than 150 mm apart and should be galvanised clouts or staples, prior to fixing cladding. For fastening to steel constructions, tech screws at 300 mm centres for cavity walls or Ametalin Double Sided Insulation Fixing Tape for direct to stud fastening prior to fixing cladding. In high wind areas it is recommended to install using flat punched multi-point fasteners or cap screws. Horizontal, vertical and end overlaps must be 150 mm if not taped or 50 mm taped with Ametalin Insulation/Ducting Tape, with all top layers to the outside of bottom layers to prevent water ingress. All end laps are to be fixed to a stud to form a continuous membrane. Any damage made to SILVER SARK® xR during installation including holes and tears must be repaired to restore the integrity of the membrane.

Where SILVER SARK® xR is intended to act as an air or vapour control, tape and seal all overlapped joints, penetrations and discontinuities with Ametalin Insulation/Ducting tape to prevent air movement. When SILVER SARK® xR is installed as a water control membrane ensure slope is no less than 2° and all penetrations shall be sealed or turned up to facilitate drainage around penetration. Ensure window and door openings are cut neatly, dressed carefully and are properly fitted at flashing points. Where SILVER SARK® xR is installed as a thermal control membrane, ensure airgaps to both low emittance foil sides are ≥ 20 mm.

DOUBLE BRICK AND MASONRY CAVITY WALLS

After the inner leaf of the double brick or masonry cavity wall is laid, place Ametalin Cavity Spacers™ onto the brick ties via the vertical slit provided, with the white adhesive side facing outwards. Install one cavity spacer per square metre to ensure the required air space. Remove adhesive tape backing. Install SILVER SARK® xR horizontally, neatly cut slits through the pliable building membrane at all lining clips or brick tie positions, place SILVER SARK® xR into position over the brick ties. Push the membrane and the cavity spacer into position against the inner back leaf. When SILVER SARK® xR is in position and taped if required, the final leaf of brickwork can be constructed. Ensure mortar is not allowed to contaminate the foil surfaces.

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