



SUPERIOR FIRE PERFORMANCE

Product Code: FS-40

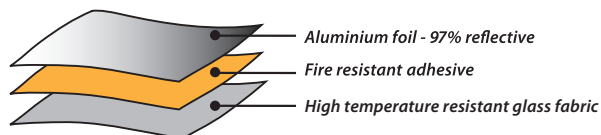
FIRE SARK™ is a thermal, water, vapour and air control membrane which provides superior fire performance to exceed the requirements of the *National Construction Code*. Classified as Water Barrier, Class 2 Vapour Barrier, FIRE SARK™ acts as a barrier to radiant heat, moisture ingress, draughts and dust penetration.

- ✓ EMBER PROOF
- ✓ Ideal for BAL zones 12.5-FZ
- ✓ Ultra strong material
- ✓ Chemically inert / long life components
- ✓ Superior heat resistance
- ✓ 97% Reflective

Construction

FIRE SARK™ is a flexible three layer product made with a combination of high temperature resistant E-glass fabric, 97% reflective aluminium foil and fire-resistant polymer adhesive; the multi-layer structure provides superior strength, flexibility and durability. The fibreglass woven fabric resists continuous temperatures up to 550°C and intermittent temperatures up to 600°C.

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



Application

FIRE SARK™ is designed for use as a roof sarking and wall wrap in residential, commercial and office buildings in all regions of Australia. Suitable for external wall construction in all building classes, and particularly where superior fire performance is desired. The 97% reflective foil face provides extra R-value when installed facing an air cavity.

Note: Durability may be affected by environmental factors, including airborne pollutants, if used in industrial or farm buildings.

Total System R-values

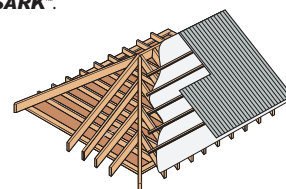
R-values apply to typical conditions for mainland Australian capital cities and have been calculated by an independent consulting engineer in accordance with *AS/NZS 4859.1:2002/ Amdt 1:2006*. For detailed design of building systems, seek advice based on actual site conditions from a qualified licensed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

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.

TILE ROOF / METAL ROOF

22° pitched tile roof or metal roof, unventilated attic, plasterboard ceiling, with one layer of FIRE SARK™.

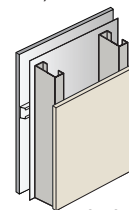


CALCULATION REF: Tile Roof 299r38fs / Metal Roof 299r37fs

WINTER **R_T 1.0** SUMMER **R_T 1.5**

ACP / LIGHTWEIGHT CLADDING

(FIXED TO BATTENS) with one layer of FIRE SARK™

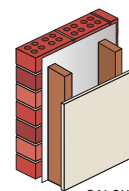


CALCULATION REF: 299w401fs

WINTER **R_T 1.2** SUMMER **R_T 1.0**

BRICK VENEER WALL

with one layer of FIRE SARK™



CALCULATION REF: 299w391fs

WINTER **R_T 1.3** SUMMER **R_T 1.2**

FIRE SARK™



FS-40

Material Properties and Classifications

FIRE SARK™ classifications in accordance with AS/NZS 4200.1:2017 and AS/NZS 4859.1:2002, Amdt 1 2006

| CRITERIA | REFERENCE | RESULT | REQUIREMENT |
|---------------------------------------|--------------------------------------|-----------------------------------|--|
| COMBUSTIBILITY | AS 1530.1-1994 | Not Deemed Combustible | (Fibre glass weave) |
| FLAMMABILITY INDEX | AS 1530.2-1993 | Low ≤ 5 | High (>5) / Low (≤ 5) |
| IGNITABILITY INDEX | AS/NZS 1530.3:1999 | 0 | 0-20 |
| FLAME PROPOGATION | AS/NZS 1530.3:1999 | 0 | 0 |
| HEAT EVOLVED | AS/NZS 1530.3:1999 | 0 | 0-10 |
| SMOKE DEVELOPED | AS/NZS 1530.3:1999 | 2 | ≤ 3 |
| DUTY | AS/NZS 4200.1:2017 | Extra Heavy | Classification |
| TENSILE STRENGTH MACHINE DIRECTION | AS 1301.448s-91 | 58 kN/m | Min 13 kN/m |
| TENSILE STRENGTH LATERAL DIRECTION | AS 1301.448s-91 | 26 kN/m | Min 10.5 kN/m |
| EDGE TEAR MACHINE DIRECTION | TAPPI T 470 om-89 | 381 N | Min 90 N |
| EDGE TEAR LATERAL DIRECTION | TAPPI T 470 om-89 | 440 N | Min 90 N |
| VAPOUR CONTROL | ASTM E96 PROCEDURE B | Class 2 (Medium) | Class 1 to 4 |
| VAPOUR PERMEANCE | ASTM E96 PROCEDURE B | 0.003 µg/N.s | Value |
| WATER CONTROL | AS/NZS 4201.4:1994 | Water Barrier | Water Barrier or Non-Water Barrier |
| 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% |
| ELECTRICAL CONDUCTIVITY | AS/NZS 4200.1:2017 (RFL PRODUCTS) | Electrically Conductive | Electrically Conductive or Electrically Non-conductive |
| EMITTANCE VALUE | AS/NZS 4200.1:2017 | 0.03, 0.9 | Value |
| EMITTANCE CLASSIFICATION | AS/NZS 4200.1:2017 | IR Reflective, IR Non-Reflective, | IR Reflective ≤ 0.05 |
| EMITTANCE CATEGORY | AS/NZS 4200.1:2017 | NR | |

Fire Performance

FIRE SARK™ is suitable for use in non-combustible construction in compliance with NCC Volume One C1.9(e)(vi) and Volume Two Part 3.7.1.1(f). Superior fire performance results from the choice of non-combustible fibreglass weave for the bulk of the material. The bright aluminium face features an ignition temperature in excess of 1000°C (reference: Fire Protection Handbook, 19th edition).

FIRESARK OFFERS A TRIPLE CROWN OF SAFETY:

AS 1530.1—1994 *Methods for fire tests on building materials, components and structures Part 1: Combustibility tests for materials*
The fibreglass weave has achieved a result of not deemed combustible when tested in accordance with AS 1530.1—1994.

AS 1530.2—1993 *Methods for fire tests on building materials, components and structures Part 2: Test for flammability of materials*
FIRE SARK™ has a flammability index of 1.

AS/NZS 1530.3:1999 *Methods for fire tests on building materials, components and structures Part 3: Simultaneous determination of ignitability, flame propagation, heat release and smoke release*
The indices for early fire hazard for FIRE SARK™ are low or zero.

Dimensions

FIRE SARK™ is sold in size:
1350 mm x 30 m (40.5 m²)

Specification Notes

When specifying, state the following:

Product Name: FIRE SARK™

The insulation to be installed shall be FIRE SARK™ single-sided reflective laminate. Product is manufactured by Ametalin and shall be installed in accordance with AS/NZS 4200.2:2017 *Pliable Building Membranes and Underlays, Part 2: Installation Requirements*.

Handling & Storage

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

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Manufacturers of building membranes | insulation products | flexible packaging



ametalin

Insulation Systems & Building Membranes

HEALTH AND SAFETY INFORMATION

Ametalin has assessed FIRE SARK™ 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, where practical, work in the shade and wear protective clothing, safety glasses and sunscreen when installing this product.

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. Risk assessment and hazard control measures contained in federal, state and territory WHS legislation have to be followed. Aluminium Foil Insulation Association Inc. (AFIA) has prepared Work Methods Statement and Hazard Management forms to assist contractors and installers in safe installation of reflective insulation products, these are available on [2009 AFIA WMS & Hazard Management](http://2009.AFIA.WMS & Hazard Management) www.afia.com.au/news/health-and-safety/.

FIRE SARK™ should be selected and installed to fulfil the function specified in the design in accordance with *AS 4200.2: 2017 Pliable Building Membranes and Underlays, Part 2: Installation Requirements*. Exposure of FIRE SARK™ to extremely intense heat, sparks, flames, and abrasive tools shall be avoided.

ROOFS

In roofs, FIRE SARK™ is to be installed as a continuous membrane, non-reflective side facing out and laid loosely over rafters on 450 mm centres with a ≤40 mm drape. For larger rafter spacings in metal roofs the drape should be increased proportionally. All joints must be overlapped by not less than 150 mm; or not less than 50mm taped on the exterior face with all top layers to the outside of bottom layers to facilitate drainage. All end joints shall be positioned over supporting members.

When FIRE SARK™ is used under tiles it must be installed below roof battens, unrolled across the roof trusses, parallel to the fascia and drain into the gutter via an anti-ponding device in order to comply with *AS 4200.2:2017*. Under metal roofing the preferred installation is also under the battens. FIRE SARK™ can be installed above the battens, however, performance may be reduced and problems may arise under certain environmental conditions. Specifically, condensation forming under the roof may pond behind battens due to a breach in the integrity of the FIRE SARK™ membrane; condensation may also form on the underside of FIRE SARK™ where contact is made with the roofing material. For guidance on protection against condensation, see *AS 4200.2:2017, Appendix C*.

FRAMED WALLS & GABLES

In framed walls and gables, FIRE SARK™ should be installed horizontally as a continuous membrane by fixing to all framing members with the non-reflective side facing out. FIRE SARK™ 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 150mm apart and should be galvanised clouts or staples, prior to fixing cladding. For fastening to steel constructions, tech screws at 300mm 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 FIRE SARK™ during installation including holes and tears must be repaired to restore the integrity of the membrane.

Where FIRE SARK™ 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 FIRE SARK™ 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 FIRE SARK™ is installed as a thermal control membrane, ensure airgap to low emittance foil side is ≥20 mm. FIRE SARK™ shall be cut back from any hot flue to avoid being a fire hazard. This can be achieved by a clear space of 50 mm, or as recommended by the manufacturer of the flue and approved by the local authority.

GENERAL

FIRE SARK™ is not designed to withstand prolonged direct exposure to the elements. Accordingly, upon application of this product, 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.

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/Amtd 1:2006*. For detailed design of building systems readers are advised to seek advice from a qualified engineer, based on actual site conditions. FIRE SARK™ is made with aluminium foil laminates with reflectivity of 97% and emissivity of 0.03 in compliance to *AS/NZS 4859.1:2006*.

HANDLING AND STORAGE

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

AMETALIN TAPE RANGE

It is recommended to use the following tape when required to secure, join or seal this product.

Ametalin Reinforced Insulation/Ducting Tape – IDTR-7250, 72 mm x 50 m

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