



AIR-CELL Retroshield®

THERMO REFLECTIVE INSULATION



- 3-in-1 Insulation, vapour barrier and reflective barrier
- Fibre-free, non-allergenic, non-irritant
- Quick and easy to install
- Strong, tough, durable
- Water-resistant and unaffected by moisture
- Anti-bacterial and anti-fungal
- Rodent and insect resistant
- Compliant with AS/NZS 4859.1:2018
- CodeMark-certified for NCC compliance
- Made in Australia



Low Energy –
Low Carbon Buildings

Product Details

Product Description

Australian-made *Kingspan AIR-CELL Retrosshield*® has been developed with a unique reflective anti-tear surface, as both a vapour barrier and a high performance insulation. *Kingspan AIR-CELL*® products are designed to combat heat gain and heat loss in all three forms (radiation, convection and conduction), resulting in thermal performance superior to many conventional insulations.

Most importantly, *Kingspan AIR-CELL Retrosshield*® is non-allergenic, non-irritant and has none of the health and safety warnings associated with using many conventional bulk insulations.

Product Data	
Product Thickness (nom.)	7 mm
Product R-value at 23°C	R0.14 m ² .K/W
Roll Diameter (nom.)	440 mm
Roll Weight (nom.)	11 kg
Roll Size	1350 mm x 22.25 m (30 m ²)
Reflectance	97%
Emittance	E0.03
Max. Span	2.4 m without support mesh

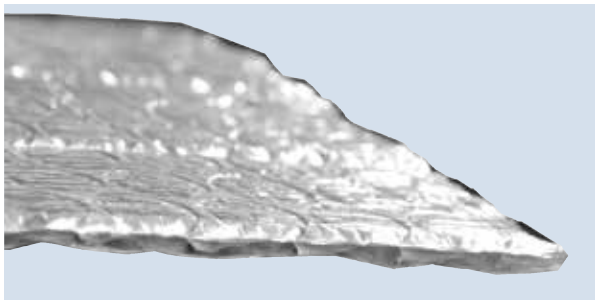


Figure 4 Thermo reflective *Kingspan AIR-CELL Retrosshield*®

Environmental Data

Aspect	Characteristic
Recyclability	Waste not recyclable Roll width to suit most applications to minimise on site waste
Re-usability	Re-usable if removed with care (long term of service expected)
Water Use	No water used in Kingspan Insulation's manufacturing process
Ozone Depleting Substances	None present in the finished product or in Kingspan Insulation's manufacturing process
Packaging	Packaging 100% recyclable
Embodied Energy	43 MJ/m ² approximately

Product Specifications

Property	Test Method/Standard	Specification	Classification
Flammability Index	AS 1530.2	≤ 5	Low
Material R-value	ASTM C518 at 23°C	0.14 m ² .K/W	-
IR Emittance	AS/NZS 4201.5	Both Faces: 0.03	IR Reflective/ IR Reflective
IR Emittance	-	-	Category RR
Burst Strength	AS 3706.4 (CBR)	1.4 kN	-
Tensile Strength	AS/NZS 4200.1/ AS 1301.448s	MD >19.0 kN/m LD >16 kN/m	Extra Heavy Duty
Edge Tear	AS/NZS 4200.1/ TAPPI T470	MD > 900 N LD > 900 N	Extra Heavy Duty
Duty Rating	AS/NZS 4200.1:2017	-	Extra Heavy Duty
Vapour Control	ASTM E96	Vapour Barrier < 0.020 µg/N.s	Class 2
Water Control	AS/NZS 4201.4	Pass	Water Barrier
Moisture Shrinkage	AS/NZS 4201.3	< 0.5%	-
Dry Delamination	AS/NZS 4201.1	Pass	-
Wet Delamination	AS/NZS 4201.2	Pass	-
Surface Water Absorbency	AS/NZS 4201.6	< 100g/m ²	Low
Corrosion Resistance	AS/NZS 4859.1:2018 App. E	Pass	-
Electrical Conductivity	AS/NZS 200.1:2017 - c.5.3.1.2	≤ 10 MΩ	Electrically Conductive
Acoustics	Bassett Acoustics Report (MA0221j02)	6 db(A) noise reduction through an attic roof	-

Management Standards

Standard	Management System
ISO 9001:2015	Quality Management
ISO 14001:2015	Environmental Management

Installation Instructions

Timber Framed Roof

1. Attach one end of the *Kingspan AIR-CELL Retroshield*® to the underside of the first rafter to be covered and roll out perpendicular to the rafter.
2. Fix to the underside of the rafters using 25 mm button head timber screws with a min. head diameter of 12 mm.
3. Use 4 screws across the width of the roll at rafter, with one 25 mm from each edge and the other two at approx. 430 mm centres.
4. For neatest finish, butt join rolls and tape joins with min. 48 mm wide silver Kingspan Insulation Tape. (72 mm for commercial applications). Alternatively, rolls can be overlapped by 50 mm and taped (please refer to brochure '*Kingspan Insulation Tape*' for further information).
5. End joins should be as per edge joins above but must occur at rafter, and secured to the rafter with 4 screws across the width of the roll and on each side of the join.
6. Neatly cut *Kingspan AIR-CELL Retroshield*® around penetrations and any windows and doors, and tape to seal.

Timber Framed Walls

1. Roll out *Kingspan AIR-CELL Retroshield*® perpendicular to the frame and tack/staple to the frame.
2. Cut *Kingspan AIR-CELL Retroshield*® carefully around doors, windows and other openings, so that it neatly abuts to frames.
3. Butt join the edges of the insulation sheets and tape with a min. 48 mm wide reinforced foil tape (72 mm wide for commercial applications).
4. End joins should be as per edge joins above but must occur at rafter, and secured to the rafter with 4 screws across the width of the roll and on each side of the join.
5. Install counter battens by fixing into the wall frame at appropriate centers to accommodate the internal lining material.
6. Fix the internal lining direct to the counter battens in the traditional manner.

Steel Framed Roofs and Walls

1. Install as for Timber Framed Roofs and Walls, but roll out the *AIR-CELL Retroshield*® perpendicular to the purlins and girts and install to the underside of the purlins and to the inside face of the girts using appropriate steel screws with a min head diameter of 12 mm.

General Requirements

1. Fit *Kingspan AIR-CELL*® neatly around doors, windows, and any penetrations, and tape if necessary to prevent air leakage.
2. When taping a plastic squeegee or blade must be used to apply appropriate pressure to the tape. Surfaces must be dry and free from dust, oil or grease prior to taping (please refer to brochure '*Kingspan Insulation Tape*' for further information).
3. Leave minimum 100 mm clearance around heat producing flues or light fittings (refer to light fitting manufacturer).

The instructions in this document are guidelines only and should be interpreted with consideration for the specific building design. The installation of *Kingspan AIR-CELL*® should be in conformance with the applicable clauses from AS 3999 and AS/NZS 4200.2 unless otherwise specified.

Kingspan AIR-CELL® can be damaged by intense heat above 105°C and contact with sparks and flame from blow torches, welders, cutting tools, etc. must be avoided.

The installer must make due provision for safety when installing *Kingspan AIR-CELL*® in any application.

Safety Information

- Non-hazardous/non-toxic.
- No personal protective equipment required.
- UV protective sunglasses and screen should be used when installing in direct sunlight.
- Ensure at least 100 mm clearance from hot flues and light fittings (check for safe distance with lighting supplier).
- **Foil facings are conductive to electricity - avoid contact with un-insulated electrical cables and fittings.**

Handling and Storage

Kingspan AIR-CELL® insulation products must be transported and stored in its protective packaging and kept clean and dry. Standing rolls on end reduces risk of damage should moisture be present in the packaging. Surfaces must be kept free of contaminants such as dust and grease, and must not be stored with foil surfaces in contact with alkaline materials i.e. wet cement, lime, etc.

Contact Details

General Enquiries

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Kingspan Insulation Pty. Ltd. reserves the right to amend product specifications without prior notice. The information, technical details and fixing instructions etc. included in this literature are given in good faith and apply to uses described. Recommendations for use should be verified as to the suitability and compliance with actual requirements, specifications and any applicable laws and regulations. For other applications or conditions of use, Kingspan Insulation offers a Technical Advisory Service the advice of which should be sought for uses of Kingspan Insulation products that are not specifically described herein. Please check that your copy of the literature is current by contacting us or visiting www.kingspaninsulation.com.au



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