

Insulation



A4/6 TB055W AW1967  
Issue 5 Jun 2015

# AIR-CELL Insulwhite®

WHITE-FACED THERMO REFLECTIVE INSULATION



- Innovative cross-linked closed cell insulation core
- 3-in-1 Insulation, vapour barrier and radiant barrier
- Helps achieve a 6-star house energy rating
- White face for visible aesthetic finish
- Fibre-free, non-allergenic, non-irritant
- Quick and easy to install
- Strong, tough, durable
- Water-resistant and unaffected by moisture
- Rodent and insect resistant
- Flammability Index  $\leq 5$
- Compliant with AS/NZS 4859.1
- CodeMark-certified for BCA compliance
- Made in Australia



Low Energy –  
Low Carbon Buildings

# Residential Metal Roof

## Typical Design Details

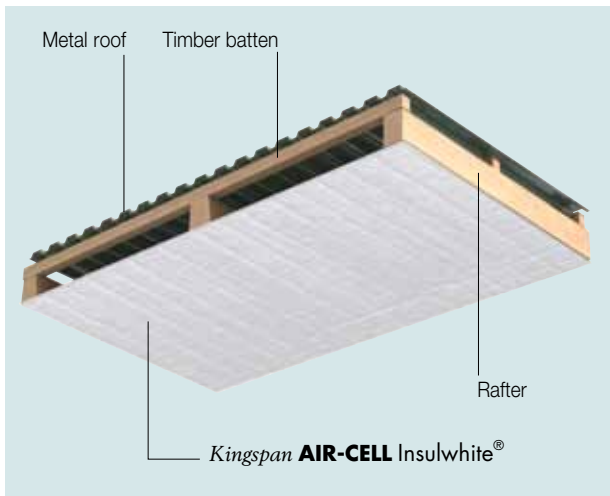


Figure 1 **Kingspan AIR-CELL Insulwhite®** in a pitched metal roof retrofit installation (attic conversion)

## Thermal Performance

Residential Metal Roof	Heat flow in	Heat flow out
<b>Kingspan AIR-CELL Insulwhite®</b>	$R_T$ 2.3	$R_T$ 1.0

The R-values shown are Total R-values for the building element as required by the Energy Provisions of the Building Code of Australia. Kingspan AIR-CELL® products are manufactured, tested and packaged in conformance with AS/NZS 4859.1. The contribution of the product Total R-values depends on installation and environmental conditions.  
The R-value will be reduced in the event of the accumulation of dust on the upward facing surfaces and in those cavities that are ventilated.

## Specification Guide

The roof insulation fixed to the underside of the rafters shall be **Kingspan AIR-CELL Insulwhite®** fibre-free, thermo reflective insulation, sandwiched by a highly reflective facing on the upper side and a white facing on the other side manufactured by Kingspan Insulation Pty Ltd, and shall be installed in accordance with the instructions issued by them.

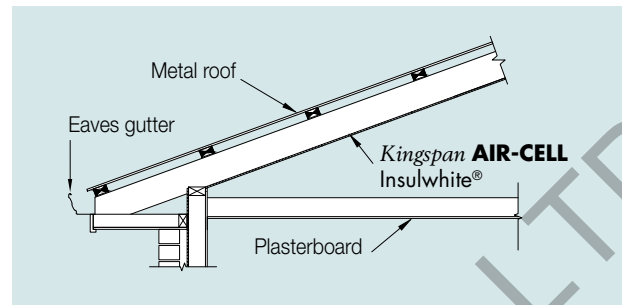


Figure 2 Side elevation of **Kingspan AIR-CELL Insulwhite®** in a pitched metal roof retrofit (attic conversion)

## Installation Instructions

1. Attach one end of the **Kingspan AIR-CELL Insulwhite®** to the underside of the first rafter to be covered.
2. Roll out **Kingspan AIR-CELL Insulwhite®** underneath the rafters with the white side facing inwards.
3. Fix to the underside of the rafter using 25 mm button head timber screws with a white painted head, and min. head diameter 12 mm.
4. 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.
5. For neatest finish, butt join rolls and tape joins with white 72 mm wide tape. Alternatively, rolls can be overlapped by 50 mm and taped (please refer to brochure 'Kingspan Insulation Tape' for further information).
6. Neatly cut **Kingspan AIR-CELL Insulwhite®** around penetrations and any windows and doors, and tape to seal.
7. Leave at least 50 mm clearance around heat producing flues and light fittings.

# Residential Tiled Roof

## Typical Design Details

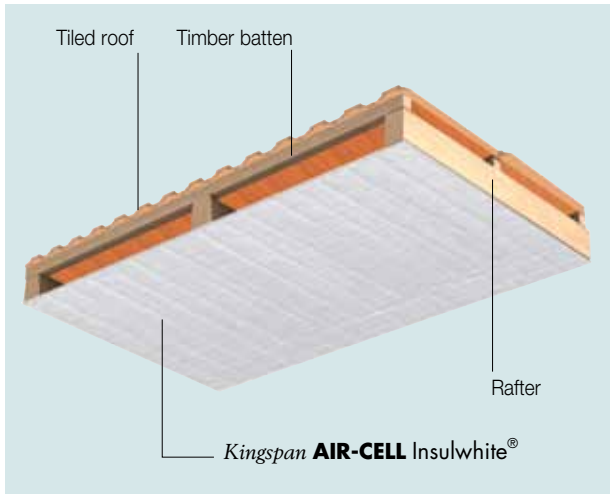


Figure 3 **Kingspan AIR-CELL Insulwhite®** in a pitched tiled roof retrofit installation (attic conversion)

## Thermal Performance

Residential Tiled Roof	Heat flow in	Heat flow out
<b>Kingspan AIR-CELL Insulwhite®</b>	$R_T 2.3$	$R_T 1.1$

The R-values shown are Total R-values for the building element as required by the Energy Provisions of the Building Code of Australia. Kingspan AIR-CELL® products are manufactured, tested and packaged in conformance with AS/NZS 4859.1. The contribution of the product Total R-values depends on installation and environmental conditions.  
The R-value will be reduced in the event of the accumulation of dust on the upward facing surfaces and in those cavities that are ventilated.

## Specification Guide

The roof insulation fixed to the underside of the rafters shall be **Kingspan AIR-CELL Insulwhite®** fibre-free, thermo reflective insulation, sandwiched by a highly reflective facing on the upper side and a white facing on the other side manufactured by Kingspan Insulation Pty Ltd, and shall be installed in accordance with the instructions issued by them.

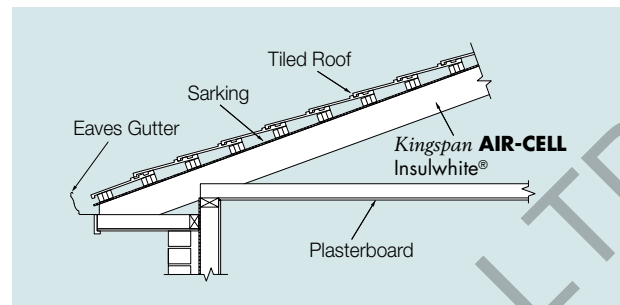


Figure 4 Side elevation of **Kingspan AIR-CELL Insulwhite®** in a pitched tiled roof retrofit (attic conversion)

## Installation Instructions

1. Attach one end of the **Kingspan AIR-CELL Insulwhite®** to the underside of the first rafter to be covered.
2. Roll out **Kingspan AIR-CELL Insulwhite®** underneath the rafters with the white side facing inwards.
3. Fix to the underside of the rafter using 25 mm button head timber screws with a white painted head, and min. head diameter 12 mm.
4. 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.
5. For neatest finish, butt join rolls and tape joins with white 72 mm wide tape. Alternatively, rolls can be overlapped by 50 mm and taped (please refer to brochure 'Kingspan Insulation Tape' for further information).
6. Neatly cut **Kingspan AIR-CELL Insulwhite®** around penetrations and any windows and doors, and tape to seal.
7. Leave at least 50 mm clearance around heat producing flues and light fittings.

# Product Details

## Product Description

Australian-made **Kingspan AIR-CELL Insulwhite®** is the next generation in reflective insulation, representing an evolutionary improvement from traditional bubble insulation. The innovative crossed-linked closed cell core of **Kingspan AIR-CELL Insulwhite®** has better thermal resistance than traditional bubble insulation of the same thickness and improved fire safety, complying with more stringent international fire standards.

**Kingspan AIR-CELL Insulwhite®** comprises a cross-linked, closed cell insulation core sandwiched by a highly reflective foil facing on the upper side and a white facing on the other side. **Kingspan AIR-CELL Insulwhite®** is designed to provide a protective, corrosive resistant for use where a white ceiling-like appearance is desired.

Product Data	
Product Code	TB055W
Product Thickness	5.5 mm
Product R-value	R0.15
Roll Diameter	450 mm
Roll Weight	7.65 kg
Roll Size	1350 mm x 22.25 m (30 m <sup>2</sup> )
Reflectance (Reflective Face)	97%
Emittance (Reflective Face)	E0.03
Max. Span	2.4 m without support mesh



Figure 5 Cross-linked, white-faced **Kingspan AIR-CELL Insulwhite®**

## Management Standards

Standard	Management System
BS / I.S. EN ISO 9001:2008	Quality Management
AS/NZS ISO 14001:2004	Environmental Management

## Product Specifications

Characteristic	Test Method / Standard	Specification
Flammability Index	AS 1530.2	≤ 5
Material Thermal Resistance	ASTM C518	0.15 m <sup>2</sup> ·K/W
Emittance (Reflective Face)	ASTM E408	E0.03
Duty Rating (Burst Force)	AS 3706.4	1.0 kN - equivalent to Extra Heavy Duty
Vapour Barrier	ASTM E96	Medium Resistance
Shrinkage	AS/NZS 4201.3	< 0.5%
Dry Delamination	AS/NZS 4201.1	Pass
Wet Delamination	AS/NZS 4201.2	Pass
Water Barrier	AS/NZS 4201.4	High Resistance
Water Absorbency	AS/NZS 4201.6	Unclassified
Corrosion Resistance	AS/NZS 4859.1 Appendix I	Pass

## Environmental Data

Aspect	Characteristic
Recycled Content	Approx 3%
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
Processing Greenhouse Gas Emissions	No Greenhouse Gas Emissions in Kingspan Insulation's manufacturing process
Ozone Depleting Substances	None present in the finished product or in Kingspan Insulation's manufacturing process
Packaging	Contains approx 10% recycled product Packaging 100% recyclable
Transport	Distribution policy incorporating the principals of ISO 14001
Embodied Energy	43 MJ/m <sup>2</sup> approximately

# General Requirements

1. Fit *Kingspan AIR-CELL*<sup>®</sup> 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 50 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*<sup>®</sup> should be in conformance with the applicable clauses from AS 3999 and AS/NZS 4200.2 unless otherwise specified.

*Kingspan AIR-CELL*<sup>®</sup> 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*<sup>®</sup> 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 50 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*<sup>®</sup> 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

Tel: 1300 247 235

Email: [info@kingspaninsulation.com.au](mailto:info@kingspaninsulation.com.au)



*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](http://www.kingspaninsulation.com.au)*



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