

Insulation

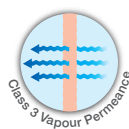


AIR-CELL[®] Permivav XV[™]

Vapour Permeable Insulation for Walls with Cavities



- CodeMark certified for NCC compliance
- Reduces the risk of condensation
- Helps achieve the home energy efficiency provisions
- 3-in-1 insulation, vapour-permeable membrane and reflective barrier
- Wall cavities remain unfilled and accessible for services
- Fibre-free, non-allergenic, non-irritant
- Quick and easy to install
- Water-resistant and unaffected by moisture
- Strong, tough, durable
- Rodent and insect resistant
- Flammability Index ≤ 5
- NCC and AS/NZS 4859.1:2018 compliant
- Made in Australia



Residential Double Brick Cavity Walls

Typical Design Details

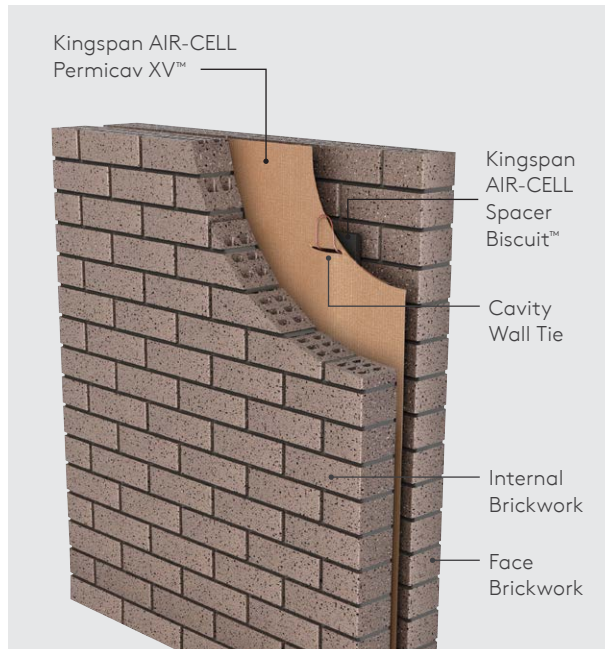


Figure 1. Double brick cavity wall installation.

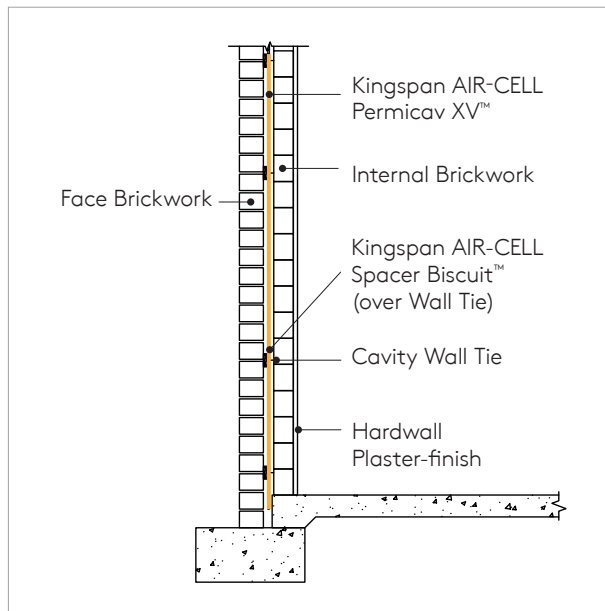


Figure 2. Side elevation of Kingspan AIR-CELL Permicav XV™ in double brick cavity wall.

Thermal Performance

Double Brick Cavity Wall	Heat flow in	Heat flow out
Kingspan AIR-CELL Permicav XV™	$R_T 1.9$	$R_T 1.8$

The R-values shown are Total R-values for the building element as required by the Energy Provisions of the NCC, calculated in accordance with AS/NZS 4859.2:2018.

Kingspan AIR-CELL® products are manufactured, tested and packaged in conformance with AS/NZS 4859.1:2018.

Specification Guide

The wall insulation fixed to the brickwork over the wall ties shall be Kingspan AIR-CELL Permicav XV™ fibre-free, thermo reflective insulation, comprising a cross-linked, closed-cell foam core sandwiched with an anti-glare foil facing on one side and a plain foil facing on the other side manufactured by Kingspan Insulation Pty Ltd, and shall be installed in accordance with the instructions issued by them.

Installation Instructions

1. Lay outer leaf or brickwork with wall ties in place.
2. Clip Kingspan AIR-CELL Spacer Biscuits™ onto every second wall tie, or as required to maintain a nominal 20 mm air space between the brick face and Kingspan AIR-CELL Permicav XV™ and push against the brickwork.
3. Roll out Kingspan AIR-CELL Permicav XV™ horizontally (anti-glare facing installer) and offer up to the wall.
4. Cut a slit for each wall tie to penetrate the Kingspan AIR-CELL Permicav XV™.
5. Push Kingspan AIR-CELL Permicav XV™ over the wall ties until it is against the Kingspan AIR-CELL Spacer Biscuits™.
6. Allow a 50 mm overlap at joins with the upper layer overlapping on the outside of the lower, and tape with a 48 mm wide reinforced foil tape (please refer to brochure Kingspan Insulation Tape for further information).



Scan to see the installation video

Residential Brick Veneer Walls

Typical Design Details

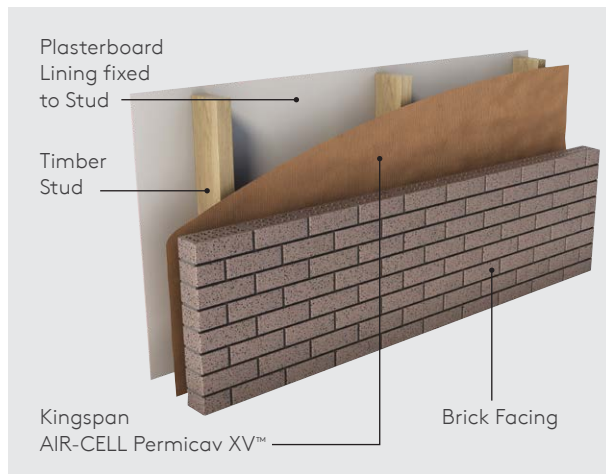


Figure 3. Brick veneer wall installation.

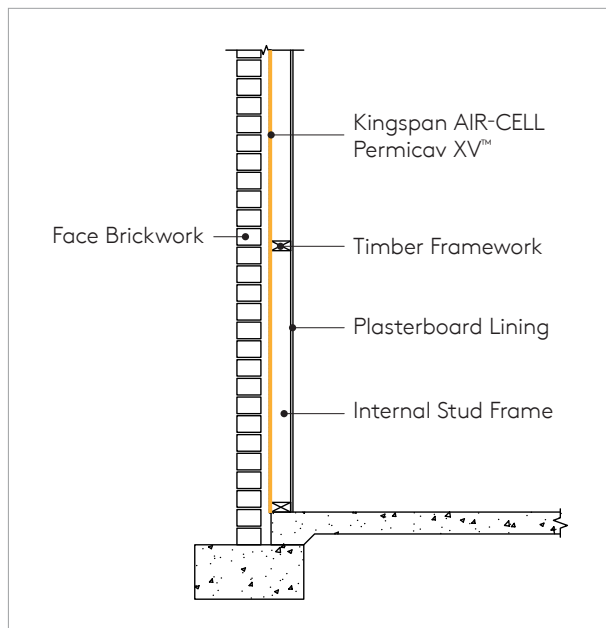


Figure 4. Side elevation of Kingspan AIR-CELL Permican XV™ in brick veneer wall.

Thermal Performance

Brick Veneer Wall	Heat flow in	Heat flow out
Kingspan AIR-CELL Permican XV™	R _T 1.8	R _T 1.8

The R-values shown are Total R-values for the building element as required by the Energy Provisions of the NCC, calculated in accordance with AS/NZS 4859.2:2018 and NZS 4214:2006. Kingspan AIR-CELL® products are manufactured, tested and packaged in conformance with AS/NZS 4859.1:2018.

Specification Guide

The wall insulation fixed to the outside of the stud frame shall be Kingspan AIR-CELL Permican XV™ fibre-free, thermo reflective insulation, comprising a cross-linked, closed-cell foam core sandwiched with an anti-glare foil facing on one side and a plain foil facing on the other side manufactured by Kingspan Insulation Pty Ltd, and shall be installed in accordance with the instructions issued by them.

Installation Instructions

1. Roll out Kingspan AIR-CELL Permican XV™ horizontally and fix to outside of internal wall frame, working from the bottom up.
2. Allow 50 mm overlap between top and bottom layers and tape with 48 mm reinforced foil tape (please refer to brochure Kingspan Insulation Tape for further information).
3. Cut Kingspan AIR-CELL Permican XV™ carefully around doors, windows and other openings, so that it neatly abuts to frames.
4. Penetrations for wall ties or services should be neatly cut to minimise gaps.



Scan to see the installation video

Product Details

Product Description



Australian-made Kingspan AIR-CELL Permicav XV™ (Patent application nos. 2015245930 (AUS) and 724525 (NZ)) is a vapour-permeable insulation. It is specifically designed to reduce the risk of condensation in walls with cavities. The micro perforations allow water vapour to permeate through while keeping moisture out and maintaining thermal resistance.

Kingspan AIR-CELL Permicav XV™ is suitable for use as a vapour permeable membrane for framed walls on low rise structures. For consideration in high-rise buildings, please contact Kingspan Insulation's Technical Services Team.

Kingspan AIR-CELL Permicav XV™ is manufactured with a patented perforated closed-cell core sandwiched by reflective foil facings.



Figure 5. Vapour-permeable perforations in Kingspan AIR-CELL Permicav XV™.

Product Data

AIR-CELL Permicav XV™	
Product Thickness (nom.)	5.5 mm
Product R-value at 23°C	R0.15 m ² .K/W
Roll Diameter (nom.)	420 mm
Roll Weight (nom.)	7.7 kg
Roll Size	1350 mm x 22.25 m (30 m ²)
Reflectance	
Anti-Glare Face	88%
Reflective Face	97%
Emittance	
Anti-Glare Face	E0.12
Reflective Face	E0.03
Maximum Span Distance	2.4 m

Management Standards

Standard	Management System
ISO 9001:2015	Quality Management
ISO 14001:2015	Environmental Management
ISO 45001:2018	Occupational Health & Safety Management

Environmental Data

Aspect	Characteristic
Re-usability	Re-usable if removed with care (long term of service expected)
Water Use	No water used in Kingspan's manufacturing process

Product Details

Product Specifications

Property	Test Method / Standard	Specification	Classification
Flammability Index	AS 1530.2:1993	≤ 5	Low
Material R-value	ASTM C518-2017 at 23°C	R0.15 m ² .K/W	-
IR Emittance	AS/NZS 4201.5:1994	Reflective Face: 0.03 Anti-Glare Face:0.12	IR Reflective IR Semi Reflective
IR Emittance	-	-	Category RS
Burst Strength	AS 3706.4:2012 (CBR)	0.9 kN	-
Vapour Control	ASTM E96 Part B:2016	Vapour Permeable 0.300 µg/N.s	Class 3
Water Control	AS/NZS 4201.4:1994	Pass	Water Barrier
Moisture Shrinkage	AS/NZS 4201.3:1994	< 0.5%	-
Dry Delamination	AS/NZS 4201.1:1994	Pass	-
Wet Delamination	AS/NZS 4201.2:1994	Pass	-
Surface Water Absorbency	AS/NZS 4201.6:1994	≥ 100g/m ²	High
Corrosion Resistance	AS/NZS 4859.1:2018 App. E	Pass	-
Electrical Conductivity	AS/NZS 4200.1:2017 - c.5.3.1.2	Resistance ≤ 10MΩ	Electrically Conductive

Condensation



As thermal performance requirements for the building fabric continue to rise, condensation is becoming an increasingly important design consideration for healthy buildings. Ineffective management of moisture and vapours can potentially lead to indoor health issues and structural defects which require expensive remedial works.

Interstitial condensation (condensation that occurs within the cavities of the building fabric) can go unnoticed for long periods of time and when persistent it promotes the growth of mould, rot in timber, and corrosion of metal framing and fixings. This interstitial condensation can be effectively mitigated by carefully selecting an appropriate building membrane with a suitable water vapour permeance, allowing moisture to harmlessly pass through the structure. Consideration of the condensation management provisions of the NCC, relevant to the Climate Zone should be undertaken, when selecting a sarking-type material.

Our Technical Services team can also offer customised condensation risk advice for your projects, so you always get the right advice for the right application.

N.B. Appropriate products should always be used for the appropriate climates, constructions and conditions. Depending on some variables, a vapour barrier may be preferable. Please contact us or consult your architect for more detailed advice.



Other Information

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).

These instructions 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 3999:2015 and AS/NZS 4200.2:2017 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

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