AIS Ultra Cav — Reflective Cavity Wall Insulation

AIS Ultra Cav is a reflective foil cavity wall insulation, proudly manufactured in Australia and crafted for West Australian double-brick cavity construction. Installed on spacers within the wall cavity, its reflective technology deflects up to 97% of radiant heat, protecting against summer heat gain and winter heat loss and supporting homes toward NatHERS 7-Star efficiency.

AIS Ultra Cav complies with AS/NZS 4859.1:2018 and AS/NZS 4200.1:2017, meeting the requirements of the NCC for sarking-type materials, achieves a Flammability Index of 5 to AS 1530.2-1993, and complies for use in BAL–Low to BAL–40 bushfire-prone areas per AS 3959-2018.

AIS Ultra Cav — reflective insulation rolls, silver reflective face with anti-glare reverse.

TYPICAL APPLICATIONS

- Reflective insulation to double-brick cavity walls — designed for Western Australian cavity brick construction
- Wall wrap to framed walls behind brick veneer and lightweight cladding — reflective air-gap insulation with secondary water barrier
- Radiant barrier / reflective sarking applications to roofs and walls where a sarking-type membrane within the scope of AS/NZS 4200.1 is specified [1]
- Thermal retrofit of sheds, garages, patios and outbuildings — radiant heat control behind cladding or roofing
- Thermal upgrade contribution toward NatHERS energy assessments (nominated as reflective insulation with air gap)
- Buildings in bushfire-prone areas — complies for use in BAL–Low to BAL–40 (AS 3959-2018)
- Condensation and water management within the wall system — classified Water Barrier with Class 2 vapour control [1]
- Radiant heat control generally — reflective foil deflects up to 97% of radiant heat

[1] Reflective performance requires a clean adjacent air gap and correct facing orientation; confirm the application, air-gap design and the project's condensation strategy (NCC F8 / vapour classification) before specifying outside cavity-wall use. Install in accordance with the applicable clauses of AS 3999 and AS/NZS 4200.2 unless otherwise specified.

FEATURES & BENEFITS

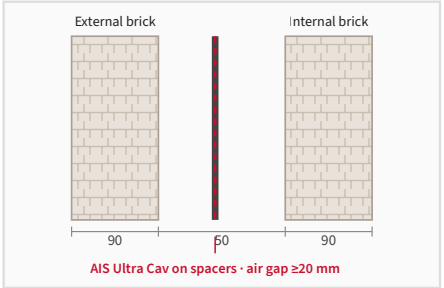
- **High radiant performance** – IR reflective silver face (e 0.05) and anti-glare semi-reflective face (e 0.08), emittance category RS
- **System R-Value** – contributes to a double-brick total of Rt1.8 m^2K/W (winter and summer), with material R0.12 m^2K/W (ASTM C518)
- **Low flammability** – Flammability Index 5 to AS 1530.2-1993 (≤5); complies for BAL–Low to BAL–40 per AS 3959-2018
- **NCC compliant sarking** – complies with AS/NZS 4859.1:2018 and AS/NZS 4200.1:2017 for sarking-type materials
- **Durable** – Extra Heavy edge tear resistance; passes wet & dry delamination; shrinkage <0.5%
- **Moisture control** – Water Barrier (AS/NZS 4201.4) with Class 2 vapour control (ASTM E96)
- **Corrosion tested** – passes surface corrosion to AS/NZS 4859.1:2018 Appendix E
- **Made in Australia** – manufactured under strict quality control and management systems

THERMAL PERFORMANCE

When considered for use as part of a NatHERS Energy Assessment, AIS Ultra Cav should be nominated as a *Reflective Insulation (with air gap)*, using the emissivity and material R-Value noted in the Material Properties table.

Double Brick Total R-Value	
Winter	**Summer**
Rt1.8 m^2K/W	Rt1.8 m^2K/W

Total system R-Value for the 90/50/90 double-brick wall shown, with AIS Ultra Cav and the design air gap. The material R-Value of the membrane itself is R0.12 m^2K/W (ASTM C518-2017); reflective performance depends on the adjacent air gap and installed emittance.



Double-brick cavity wall (90/50/90) with AIS Ultra Cav installed on spacers within the cavity.

PRODUCT RANGE & DIMENSIONS

Product	Nominal Thickness (mm)	Width (mm)	Length (m)	Coverage (m^2/roll)	Roll Weight (kg)
AIS Ultra Cav	4	1350	22.25	30	6

MATERIAL PROPERTIES

Criteria	Test Reference	Result
Flammability Index	AS 1530.2-1993	5 (≤ 5)
Nominal thickness	—	4 mm
Material R-Value (at 23 °C)	ASTM C518-2017	R0.12 m^2K/W
Emittance classification — silver side	AS/NZS 4201.5-1994	IR Reflective (e 0.05)
Emittance classification — anti-glare side	AS/NZS 4201.5-1994	IR Semi-Reflective (e 0.08)
Emittance category	AS/NZS 4200.1:2017	RS
Resistance to dry delamination	AS/NZS 4201.1-1994	Pass
Resistance to wet delamination	AS/NZS 4201.2-1994	Pass
Shrinkage	AS/NZS 4201.3-1994	< 0.5%
Edge tear resistance	AS/NZS 4200.1-2017, clause 5.3.2.3	Extra Heavy
Burst strength	AS/NZS 4200.1-2017, clause 5.3.2.4	Light Wall
Water vapour control	ASTM E96/E96M-2022	Class 2
Water control	AS/NZS 4201.4:1994	Water Barrier
Surface corrosion	AS/NZS 4859.1:2018, Appendix E	Pass
Electrical conductivity	AS/NZS 4200.1:2017, clause 5.3.1.2	Electrically Conductive

FIRE PERFORMANCE

Flammability — AS 1530.2-1993. AIS Ultra Cav achieves a Flammability Index of 5, satisfying the NCC requirement for sarking-type materials of Flammability Index not more than 5.

Bushfire — AS 3959-2018. AIS Ultra Cav complies with the requirements for use in BAL–Low to BAL–40 construction per AS 3959-2018 *Construction of Buildings in Bushfire-prone Areas*.

NCC context. As a sarking-type material, AIS Ultra Cav is addressed by the NCC through AS/NZS 4200.1:2017 and the Flammability Index provisions rather than an FRL or AS/NZS 1530.3 indices; where installed within a fire-rated wall system, the FRL is a property of the complete tested or assessed system.

INSTALLATION

Installation Process

- Build one leaf of masonry to a sufficient height for the installation of one roll width of AIS Ultra Cav
- Roll out horizontally with the anti-glare surface facing the installer
- Position spacers against the masonry to achieve optimum thermal performance
- Maintain the cavity air gap per the system design, or not less than 20 mm
- Lap all joints not less than 50 mm, jointed and taped
- Lap upper sheets over lower sheets to shed water to the outside face
- Neatly cut the membrane to allow wall ties to penetrate, ensuring proper support
- Support the membrane on brick wall ties and use spacers to maintain the calculated air gap

Handling & Storage / Safety

- Store undercover in a clean, dry place in its protective packaging
- Keep out of contact with alkaline products, cement and mortar
- Stand rolls on end during storage
- **Electrically conductive** — keep clear of electrical wiring and live conductors; install per AS 3999 and AS/NZS 3000 clearance requirements, and de-energise circuits in the work area where required
- Reflective surfaces can cause glare — work with the anti-glare face toward the installer and use eye protection in bright conditions

SUPPORTING DOCUMENTATION

Product performance is published in accordance with the referenced standards in the Material Properties table. Underlying test reports (AS 1530.2 flammability, AS/NZS 4200.1 / 4201-series membrane tests, ASTM C518 thermal and ASTM E96 vapour testing) are available from AIS on request — sales@ais-group.com.au. No CodeMark certificate or third-party appraisal is currently held for this product.