

# Thermoseal® Firespec

Refer to product table below for applicable product codes covered by this document

Issue **G**

## Product Type & Application

Thermoseal® Firespec is an Extra Heavy Duty, single-sided reflective aluminium foil and woven glass laminate; bonded using a laminating adhesive. This product is a Water Barrier and Class 2 Vapour Barrier.

## Compliance with the NCC

For use in Australia, when correctly specified and installed, this pliable building membrane:

- **Weatherproofing and Condensation Control** - Meets the requirements of the NCC 2019 Volume 1 parts F1.6, F6.2(a)(i), Volume 2 parts 3.5.2.4(b), 3.8.7.2(a)(i), and all State-prescribed variations, through compliance with AS/NZS 4200.1.
- **Non-Combustible Sarking-Type Material Exemption** - This product may be used in accordance with the non-combustible sarking-type material exemption stated in NCC 2019 Volume 1 Section C1.9(e)(vi) and Volume 2 Section 3.7.1.1(f) – it does not exceed 1mm in thickness and has a Flammability Index ≤5.
- **BAL and Fire Hazard Properties** - Meets the requirements of sarking for construction of buildings in bushfire-prone regions BAL 12.5-FZ, as per AS 3959, section 3.10; and the fire hazard property requirements for sarking-type materials in all locations except exposed installations in fire control rooms or fire-isolated exits, in NCC 2019 Volume 1 Specification C1.10.
- **Fire Hazard Properties** - Meets the requirements of the NCC 2019 Volume 1, Specification C1.10 Clause 7 for insulation materials. When tested to AS/NZS 1530.3 this product does not exceed the 'Spread of Flame' or 'Smoke Developed' indices of Specification C1.10 Clause 7.

## Limitations of Use

- When used independently this product is not suitable for use as an exposed wall or ceiling lining and does not achieve a Group Number in accordance with AS ISO 9705 and AS 5637.1 (NCC 2019 Volume 1, Specification C1.10 Clause 4). For access to CSR-manufactured product combinations that achieve Group Numbers, refer to faced-Glasswool Product Technical Statements.
- This product is not designed to withstand prolonged, direct exposure to the elements - accordingly, the exterior cladding should be installed without delay. Products exposed to harsh weather conditions, or for more than 6 weeks in wall, or 2 weeks in roof applications should be inspected for damage prior to installation of the exterior cladding. Damaged product should be repaired or replaced to comply with the product warranty.
- Not recommended for use with concrete, terracotta or slate tile roofs.
- This foil facing product should not come into contact with wet concrete, or alkaline materials.

## Limitations of Use Continued

- When used as a wall wrap, this product is not suitable where a vapour permeable pliable building membrane is specified for use in climate zones 6, 7, and 8 in NCC 2019 Volume 1, Part F6.2(a)(iii), and NCC 2019 Volume 2, Part 3.8.7.2(a)(iii); or where the cladding manufacturer specifies a vapour permeable membrane.

## Specific Design or Installation Instructions

- Isolate power before installation.
- **WARNING:** This product contains aluminium foil which conducts electricity. To avoid electrocution, care should be taken to ensure that this product or conductive fasteners used to secure this product, do not come into contact or close proximity with electrical wiring during installation or use.
- **WARNING:** This product is not structural - Do not walk on this product or place/store building materials or equipment on this product.
- **Application Suitability - Cavity construction in NCC Climate Zones 1 to 5:** Suitable for installation on the exterior side of the building frame in NCC Climate Zones 1 to 5. Always check cladding manufacturer's guidance to confirm compatibility and refer to the Condensation Risk Consideration section on this document for further guidance. Where possible, the incorporation of a cavity for drainage and drying is recommended.
- Suitable for use with metal sheet roofing.
- **Metal Roof Application Guidance:** This product should be provided with 40mm of sag between each batten/purlin to prevent contact with the underside of the roof sheet. In cold climates or where there is a risk of condensation formation, it is recommended that a faced roofing blanket is considered as an alternative solution.
- When installed from ridge to gutter, it is recommended that the overlaps between adjacent layers of this product are taped to prevent the entry of water.
- When installed for vapour control, the product should be continuously sealed at all discontinuities, end laps, joints and penetrations by suitable mean such as heat and moisture resistant adhesive tape.
- When installed as an air barrier, the product should be sealed at overlaps, end laps, discontinuities and penetrations by suitable mean such as heat and moisture resistant adhesive tape.
- This product should be installed with the semi-reflective or antiglare side facing outward.
- Always follow the installation instructions in AS 4200.2, and those available on the Bradford website. For inclusion in BAL (Bushfire Attack Level) classified buildings, additionally adhere to the installation requirements of AS 3959.

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### Specific Design or Installation Instructions Continued

- To maintain the water barrier properties of the material it should not be punctured, creased, crushed, sharply folded or dragged over the building structure during installation.
- Reflective R-values achieved by the product rely on adjacent air spaces and will vary between installation designs. Refer to AS/NZS 4859.2.
- **Condensation Risk Consideration:** This product is classified as a vapour barrier, and when positioned on the cold side of the construction it may increase the risk of condensation entrapment within the structure. As there are many factors which can influence condensation risk it is highly recommended that designers undertake a hygrothermal analysis to further reduce condensation risk. If in doubt consider using a Class 4 Bradford Enviroseal vapour permeable product.

For general installation guidance refer to the product installation guide at [Bradfordinsulation.com.au](http://Bradfordinsulation.com.au)

### Conditions of Storage & Maintenance

- Store in the original packaging in a cool, dry area, away from UV light (direct sunlight).
- Do not pressure clean or use mineral based cleaners on this product.

Refer to the product SUIS/MSDS at [Bradfordinsulation.com.au](http://Bradfordinsulation.com.au) for more information.

### Evidence of Suitability

- Testing to AS/NZS 4200.1 across the following reports-
  - AWTA Report 16-006559 – *Resistance to Dry Delamination.*
  - AWTA Report 16-006559 – *Resistance to Wet Delamination.*
  - AWTA Report 16-006559 – *Moisture Shrinkage.*
  - Orora Report 24270 – *Folding Endurance.*
  - AWTA NATA Report 16-006559 – *Tensile Strength.*
  - AWTA NATA Report 16-006559 – *Edge Tearing.*
  - Nexolve Report TR17-1012 – *Emittance Classification.*
  - CSIRO Report 7849A – *Vapour Control Classification.*
  - AWTA Report 16-006559 – *Water Control Classification.*
  - CSR Lab NATA Report NR-16213 – *Flammability Classification.*
  - CSR Lab Report R-20078 – *Thickness.*
- Testing and Professional Assessment, AS 1530.1 –
  - CSIRO Assessment FCO-3235.
- Testing to AS/NZS 1530.3 -
  - CSIRO Report FNE 11814a.
  - AWTA Report 16-006558.

### Applicable Product Codes

WIDTH (mm)	LENGTH (m)	m <sup>2</sup> PER ROLL	WEIGHT (kg)	PRODUCT CODE
1500	30	45	15.65	164674

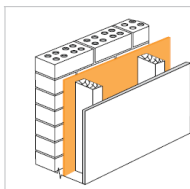
## Thermoseal® Firespec

### Additional Product Data - AS/NZS 4200.1

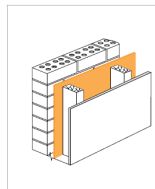
Duty Classification (AS/NZS 4200.1)	Extra Heavy Duty	
Tensile Strength (AS/NZS 4200.1 and AS 1301.448s)	≥ 13 kN/m	Machine Direction
	≥ 10.5 kN/m	Lateral Direction
Edge Tear Resistance (AS/NZS 4200.1 and TAPPI T470)	≥ 90 N	Machine Direction
	≥ 90 N	Lateral Direction
Water Control Classification (AS/NZS 4201.4)	Water Barrier	
Vapour Control Classification (ASTM E96)	Class 2 Vapour Barrier	
Emittance Classification (AS/NZS 4200.1 and AS/NZS 4201.5)	Reflective, ≤0.05	Inward Facing
	Non-Reflective, >0.15	Outward Facing
Flammability Index (AS 1530.2)	≤ 5 (Low)	
Electrical Conductivity	Conductive	
Resistance to Dry Delamination (AS/NZS 4201.1)	Pass	
Resistance to Wet Delamination (AS/NZS 4201.2)	Pass	
Moisture Shrinkage (AS/NZS 4201.3)	≤ 0.5 %	
Nominal Thickness	< 1.0 mm	

### Application Tables

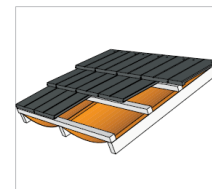
Valid for NCC 2016 Volumes 1 & 2, and NCC 2019 Volume 2



Brick Cavity Wall		
Summer	Winter	
<b>R<sub>t</sub> 1.2</b>	<b>R<sub>t</sub> 1.3</b>	



Brick Veneer Wall		
Insulation		
<b>R2.5</b>		
Summer	Winter	
<b>R<sub>t</sub> 3.0</b>	<b>R<sub>t</sub> 3.2</b>	



Pitched Tile Roof Non-Ventilated Roof Space		
Summer	Winter	
<b>R<sub>t</sub> 1.5</b>	<b>R<sub>t</sub> 0.97</b>	

#### R-Value Assumptions

Product performance is calculated in accordance with AS/NZS 4859.1 and the stated thermal performance is the depicted application's Total R-Value. The contribution of this product to the Total R-Value depends upon installation and environmental conditions, and will be reduced in those cavities which are ventilated. In brick veneer wall applications a minimum brick cavity gap of 40mm and stud cavity air gap of 90mm is required to contribute to the thermal performance when no bulk insulation is installed in the stud cavity. Addition of bulk insulation to the wall stud cavity diminishes the reflective air gap R-Value contribution of this product.

In a roof application the reflective surface of this product should face inward toward the internal roof cavity. To achieve the stated thermal performance the reflective surface must face a minimum 100mm air cavity in the roof space and the upward facing antiglare surface must face a minimum 40mm cavity between the membrane and the roof cladding. No thermal bridging is considered in these calculations.

Calculations are based upon:

- A temperature difference of 6°C for heat flow out and 12°C for heat flow in.
- Reflective surface emittance of ≤ 0.05, non-reflective surface emittance of ≥ 0.90.