Bradford™

Product **Technical** Statement

Thermoseal® 733 MD

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

Issue **B**

Product Type & Application

Thermoseal® 733 MD is a Medium Duty product for use under commercial metal deck roofs, and in commercial and residential walls. It is a reinforced paper based reflective aluminium foil and semi-reflective antiglare foil laminate; bonded using a fire-retardant adhesive. This product is a Water Barrier and Class 1 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, Volume 2 parts 3.5.2.4, 3.8.7.2, and all State-prescribed variations, through compliance with AS/NZS 4200.1.
- **Non-Combustibility** - Is suitable for use where a non-combustible sarking-type material is specified in accordance with NCC 2019 Volume 1 Section C1.9 and Volume 2 Section 3.7.1.1 – it does not exceed 1mm in thickness and has a Flammability Index ≤5.
- **Fire Hazard Properties & BAL** - 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.

Evidence of Suitability

- Testing to AS/NZS 4200.1 across the following reports-
  - CSIRO Report 14-0242a – *Resistance to Dry Delamination.*
  - CSIRO Report 14-0242a – *Resistance to Wet Delamination.*
  - CSIRO Report 14-0242a – *Moisture Shrinkage.*
  - Orora Report 24133 – *Folding Endurance.*
  - CSIRO Report 14-0242a – *Tensile Strength.*
  - AWTA NATA Report 16-005483 – *Edge Tearing.*
  - R&D Services Report RD17304, RD17258 – *Emittance Classification.*
  - R&D Services Report RD18711-R2 – *Vapour Control Classification.*
  - AWTA Report 7-578798-MV – *Water Control Classification.*
  - CSR Lab NATA Report NR-17211 – *Flammability Classification.*
  - CSR Lab Report R-20078 – *Thickness*.

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.
- Suitable for use where a non-combustible sarking-type material is required.
- Suitable for installation on the exterior side of the building frame as a vapour barrier and water control layer in climate zones 1 to 5. The reflective foil side should face inward toward the internal stud cavity, the semi-reflective side should face outward. Cavity construction should allow for drainage and drying.
- In a roof installation the reflective aluminium side should face inward toward the internal roof cavity, the semi-reflective side should face outward.
- 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.
- To maintain the water barrier properties of the material it should not be 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 of the building design or use a Class 4 vapour permeable membrane in all climate zones, except climate zone 1, to further reduce condensation risk.

For general installation guidance refer to the product installation guide at Bradfordinsulation.com.au

Thermoseal® 733 MD

Limitations of Use

- This product is not suitable for use as an exposed wall or ceiling lining in applications which require a Group Number in accordance with AS ISO 9705 and AS 5637.1 (NCC 2019 Volume 1, Specification C1.10 Clause 4).
- 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 tile roofs.
- This product is not suitable where a vapour permeable pliable building membrane is specified (as a wall wrap) for climate zones 6, 7, and 8 in NCC 2019 Volume 1, Part F6.2 and NCC 2019 Volume 2, Part 3.8.7.2; or where the cladding manufacturer specifies a vapour permeable membrane.

Conditions of Storage, Use & Maintenance

- Store in the original packaging in a cool, dry area, removed from UV light (direct sunlight).
- The product should not come into contact with wet concrete, or alkaline materials.
- Do not pressure clean or use mineral based cleaners on this product.

Refer to the product SUIS/MSDS at Bradfordinsulation.com.au for more information.

Applicable Product Codes

WIDTH (mm)	LENGTH (m)	m^2 PER ROLL	WEIGHT (kg)	PRODUCT CODE
1350	30	40.5	15.83	25489
1350	60	81	31.31	15061
1350	500	675	259.67	15065
1350	1000	1350	519.07	15066
1350	2000	2700	813.64	102045

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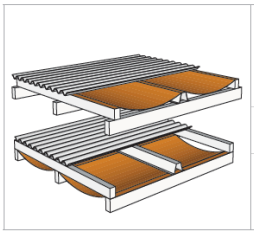
Additional Product Data – AS/NZS 4200.1

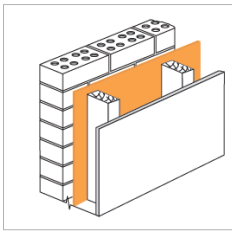
Duty Classification (AS/NZS 4200.1)	Medium Duty	
Tensile Strength (AS/NZS 4200.1 and AS 1301.448s)	≥ 9.5 kN/m	Machine Direction
	≥ 6.0 kN/m	Lateral Direction
Edge Tear Resistance (AS/NZS 4200.1 and TAPPI T470)	≥ 65 N	Machine Direction
	≥ 65 N	Lateral Direction
Water Control Classification (AS/NZS 4201.4)	Water Barrier	
Vapour Control Classification (ASTM E96)	Class 1 Vapour Barrier	
Emittance Classification (AS/NZS 4200.1 and AS/NZS 4201.5)	Reflective, ≤0.05	Inward Facing
	Semi-Reflective, >0.05 to ≤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



Flat (≤5°) Metal Roof Ventilated Roof space (Battened Assembly Recommended)	
Summer	Winter
R_T 1.4	R_T 0.7



Brick Veneer Wall	
Summer	Winter
R_T 1.6	R_T 1.8

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 air gap of 40mm and stud cavity air gap of 90mm is required to contribute to the thermal performance. Addition of bulk insulation to the wall stud cavity diminishes the reflective air gap R-Value contribution of this product.
In a roof installation the reflective aluminium side should face inward toward the internal roof cavity. To achieve thermal performance the reflective surface must be facing a minimum 100mm air cavity in the roof space.
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, semi-reflective surface emittance of ≥ 0.09.