

ThermalBreak®

Product Code: TB7

Roof and wall insulation

For R0.2 thermal break
in-situ performance for
steel framed construction

Extra R-Value

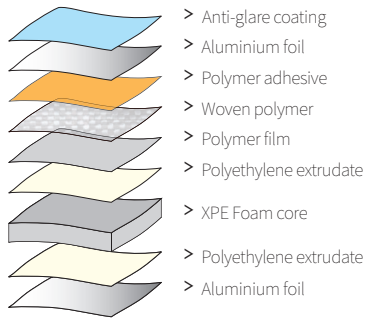


ThermalBreak® is an Extra Heavy Duty three-in-one reflective insulation, Thermal Break and Class 2 Vapour Barrier. It meets the NCC requirements for in-situ material R-value of R0.20 for a thermal break in steel framed construction, and is also suitable for use in timber framed construction. Designed to manage heat gain and heat loss, ThermalBreak® offers superior thermal performance to conventional insulation, and reduces thermal bridging and conductivity between building elements.

- > Extra Heavy Duty
- > Group 1 Fire performance classification
- > R0.2 Thermal Break in-situ
- > Acoustic dampener
- > Flammability low, suitable for all BALs in bushfire-prone areas
- > Can also be used for timber frame and commercial steel frame constructions

Construction

ThermalBreak® consists of a 7.8 mm core of chemically cross-linked, closed-cell XPE foam, one-layer of aluminium is laminated to one side with emissivity of 0.03 and one-layer of polymer weave to other side with emissivity of 0.05.



Total System R-Values

(Based on NCC 2019)

Warehouse Roof
no ceiling, with ThermalBreak®

Winter R_t 0.92

Summer R_t 2.02

Double Brick
with ThermalBreak®

Winter R_t 2.07

Summer R_t 2.03

Ametalin ThermalBreak® has a material R-value of R0.21. When it is incorporated into typical construction systems, the following thermal performance can be achieved: R-values apply to typical conditions for mainland Australian capital cities and have been calculated by an independent consulting engineer, in accordance with AS/NZS 4859.2:2018. These values have been calculated specifically for use under NCC 2019 requirements and may not be valid for compliance with other editions. For detailed design of building systems, readers are advised to seek advice from a qualified engineer, based on actual site conditions.

The contributions of this product to the total system R-value depends on installation and environmental conditions. The R-value will be reduced in the event of the accumulation of dust on upward facing surfaces and in those cavities that are ventilated.

Material Properties and Classifications

ThermalBreak® classifications in accordance with AS/NZS 4200.1:2017 and AS/NZS 4859.1:2018

Criteria	Reference	Result	Requirement
Resistance to Dry Delamination	AS/NZS 4201.1:1994	Pass	Pass
Resistance to Wet Delamination	AS/NZS 4201.2:1994	Pass	Pass
Shrinkage (Repeated wetting & drying)	AS/NZS 4201.3:1994	0.0%	< 0.5%
Material Thermal Resistance	ASTM C518	0.21 m ² ·K/W (R _M 0.21)	Classification
Compressed Material Thermal Resistance	ASTM C518	0.20 m ² ·K/W (R _M 0.20)	
Nominal Thickness		7.8 mm	
Material Thermal Conductivity	ASTM C518	0.0376 W/m·K	
Material Thermal Conductance	ASTM C518	4.7 W/m ² K	
Electrical Conductivity	AS/NZS 4200.1:2017	Conductive	Classification
Duty	AS/NZS 4200.1:2017	Extra Heavy	Classification
Tensile Strength Machine Direction	AS 1301.448s-91	14.6 kN/m	Min 9.5 kN/m
Tensile Strength Lateral Direction	AS 1301.448s-91	13.6 kN/m	Min 6.0 kN/m
Edge Tear Machine Direction	TAPPI T 470 om-89	384 N	Min 65 N
Edge Tear Lateral Direction	TAPPI T 470 om-89	293 N	Min 65 N
Air Control	AS/NZS 4200.1:2017	Air Barrier	Classification
Emittance Value	AS/NZS 4201.5:1994	Anti-glare side: 0.05, Foil side: 0.03	Value
Emittance Classification	AS/NZS 4200.1:2017	IR Reflective, IR Reflective	Classification
Emittance Category	AS/NZS 4200.1:2017	RR	Category
Vapour Control	ASTM E96	Class 2 Vapour Barrier	Class 1 to 4
Vapour Permeance	ASTM E96	0.0113 µg/N.s	Value
Water Control	AS/NZS 4201.4:1994	Water Barrier	Classification
Flammability Index	AS 1530.2-1993	Low ≤ 5	High (> 5) / Low (≤ 5)

NCC Compliant

ThermalBreak® is compliant for use in Australia according to the *National Construction Code* for Pliable Building Membranes and Sarking-type Materials when correctly specified and installed.

Fire Performance

Group Number Assessment

Group 1

Assessed in accordance with AS 5637.1:2015 *Determination of fire hazard properties* by Ignis Solutions professional fire engineers.

Flammability Index

Low (≤5)

Tested in accordance with AS 1530.2-1993 - *Methods for fire tests on building materials, components and structures Part 2: Test for flammability of materials*.

Bushfire Attack Levels

Complies with AS 3959-2018 *Construction of buildings in bushfire-prone areas* for use in all BALs.

Seek independent advice regarding the selection of sarking prior to installation in the BAL design.

Dimensions

1350 mm x 22.25 m + 150 mm flap (30 m²)

Nominal thickness: 7.8 mm

Specification Notes

When specifying, state the following:

Product Name: Ametalin ThermalBreak®

The insulation to be installed shall be Ametalin ThermalBreak® double sided reflective, fibre-free thermo-reflective insulation, comprised of cross-linked, closed-cell core XPE foam with anti-glare foil facing on one side and plain foil facing on the other side, and 150 mm overlap piece included. Material R-value in-situ R0.20 and shall be installed in accordance with AS 4200.2:2017 *Pliable Building Membranes and Underlays, Part 2: Installation*.

Emittance Value: 0.05, 0.03

Emittance Classification: IR Reflective, IR Reflective

Material R-value: R0.21 uncompressed / R0.20 in-situ

Vapour Control Classification: Class 2 Vapour Barrier, 0.0113 µg/N.s

Water Control Classification: Water barrier

Duty: Extra Heavy in accordance with AS/NZS 4200.1:2017

Please visit our website for ThermalBreak® Limitations of Use.

Complete details including installation instructions are available on our website: www.ametalin.com

Handling and Storage

Store this product undercover in a clean, dry place in the pack provided out of contact with alkaline products, cement and mortar.

Performance insulation for a greener world

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Ametalin

Durability may be affected by environmental factors, including chemical and airborne pollutants, if used in industrial or farm buildings.

Australian designed for Australian conditions. Ametalin 9-11 Playford Crescent, Salisbury North SA 5108 T: +61 8 8285 6955 F: +61 8 8285 5911 E: info@ametalin.com

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