Ametalin

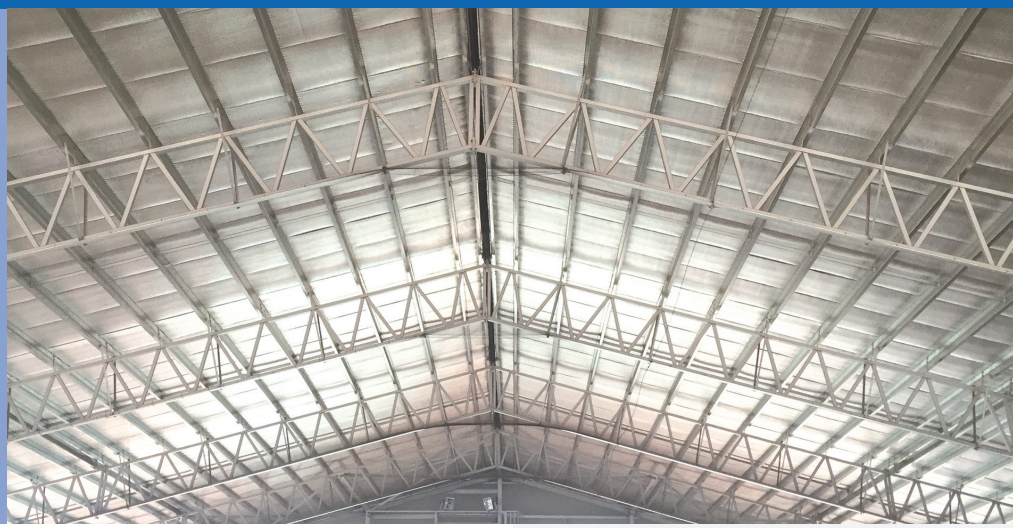
Performance insulation for a greener world

# ThermalBreak®

Product Code: TB7

## Roof and wall home insulation

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

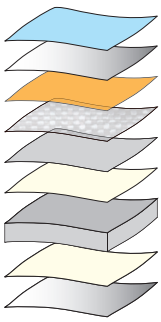


ThermalBreak® is an Extra Heavy Duty three-in-one reflective insulation, Thermal Break and Class 2 Vapour Barrier for use in all roof and wall types. It meets the NCC requirements for in-situ material R-value of R0.20 for a thermal break in steel framed construction, and is also suitable for use in timber 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.



- Anti-glare coating
- Aluminium foil
- Polymer adhesive
- Woven polymer
- Polymer film
- Polyethylene extrudate
- XPE Foam core
- Polyethylene extrudate
- Aluminium foil

## Total System R-Values

**Warehouse Roof**

no ceiling, with ThermalBreak®

Winter **$R_T$ 0.92**

Summer **$R_T$ 2.02**

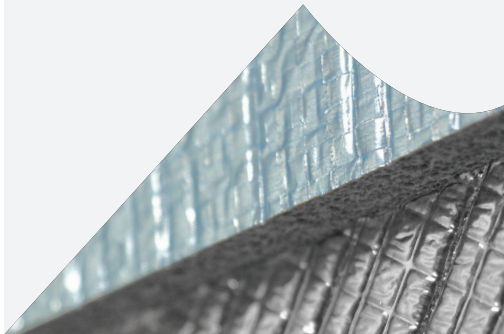
**Double Brick**

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.*.
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.



# ThermalBreak®

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## Material Properties and Classifications

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

| Criteria | Reference | Result | Requirement |
|---|---|---|---|
| Flammability Index | *AS 1530.2-1993* | Low ≤ 5 | High (> 5) / Low (≤ 5) |
| Material Thermal Resistance | *ASTM C518* | 0.21 $m^2$·K/W ($R_M$ 0.21) | Classification |
| Compressed Material Thermal Re-sistance | *ASTM C518* | 0.20 $m^2$·K/W ($R_M$ 0.20) | |
| 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 |
| 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 |
| Air Control | *AS/NZS 4200.1:2017* | Air Barrier | Classification |
| 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% |
| Electrical Conductivity | *AS/NZS 4200.1:2017* | Conductive | 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 |

## NCC Compliant

ThermalBreak® complies with *AS/NZS 4859.1:2018* and *AS/NZS 4200.1:2017*, and therefore meets all of the requirements of the *National Construction Code* of Australia for insulation, pliable building membranes and sarking-type materials.

## 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 $m^2$)
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*

Complete details available on our website:
https://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.

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