

# ACOUSTIC & THERMAL INSULATION FOR RESIDENTIAL METAL ROOFS

Metal roofs, an iconic Australian building product, perform at their best when combined with Bradford Anticon insulation.



Insulation is proven to be one of the most effective ways of controlling temperature and reducing unwanted noise. Bradford Anticon combines two very effective forms of insulation into a single product to provide these benefits. The reflective foil acts as a barrier, which reduces the radiant heat entering the roof space by up to 97% and also controls condensation, while the insulation blanket absorbs outside noise and dramatically slows the transfer of heat into and out of your home.

## THE SENSITIVE CHOICE® IN INSULATION

CSR Bradford is the only approved insulation partner of the National Asthma Council Australia's Sensitive Choice® program. Bradford Anticon and Gold Ceiling Batts are a suitable choice for use in homes of people with asthma or allergies.



# THE KEY PERFORMANCE BENEFITS OF BRADFORD ANTICON



## IMPROVE THE ACOUSTIC PERFORMANCE OF YOUR ROOF

The installation of Anticon directly under your metal roof sheet can reduce unwanted airborne noise such as aircraft or traffic and also provide a damping effect to reduce impact noise from rain or hail. Although the sound of gentle rain can be soothing, heavy rain or hail on a metal roof can be noisy and annoying. Installing Anticon60 can reduce the sound power level of heavy rain by over 7%\*, improving the comfort of your living environment as well as providing the thermal and condensation benefits that Bradford Anticon is renowned for.

The addition of Bradford Gold ceiling batts or SoundScreen can also further improve both the acoustic and thermal performance.

\*Estimated rainfall sound power level prediction, Lw dB reduction based on 0.48BMT Custom Orb® with 'heavy' rainfall over 10m<sup>2</sup>

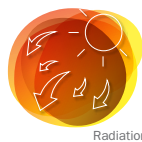
## THERMAL INSULATION FOR ENERGY EFFICIENCY AND COMFORT

Most common building materials such as bricks, roof tiles and metal roofing allow most of the heat they receive to pass through them. This is why insulation such as Anticon for under the metal roof sheet and Gold Batts or New Generation SoundScreen in ceilings and walls is important to achieve improved energy efficiency and a comfortable living environment.

In winter, around 42% of a home's heat is lost through the roof and 24% typically lost through the walls. In summer heat flows at similar rates into the home. The inclusion of Bradford Anticon can help improve the thermal performance and comfort of your home.

## CONTROL HEAT TRANSFER WITH INSULATION

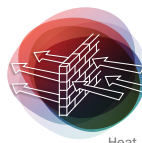
Heat transfer in the home occurs in three ways.



Radiation from the sun and hot surfaces.



Convection where warm air displaces cool air.



Conduction where heat is radiated from materials in the home.

Insulation in the roof, ceiling, walls and floors effectively helps control all three heat transfers in the home.

# CONDENSATION CONTROL

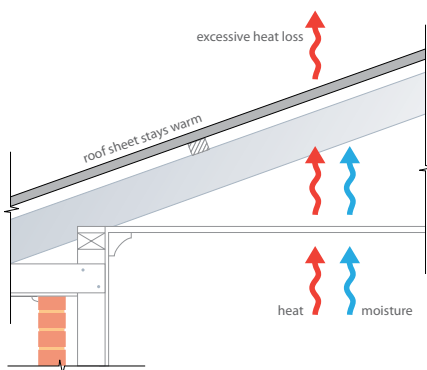
Installing Bradford Anticon can reduce the risk of condensation formation under your metal roof which can cause damage to plasterboard ceilings and mould growth.

The use of high levels of insulation on only the ceiling to meet energy efficiency and comfort requirements can unfortunately lead to an increased incidence of condensation formation in roof spaces in cold climates. Although ceiling insulation is very effective at keeping the warmth within the home, it is unable to stop vapour (moisture within the air) from the home passing through the plasterboard and bulk insulation.

When this vapour contacts a cold surface such as an un-insulated metal roof sheet, condensation droplets can form beneath the roof sheet in the roof space – similar to the

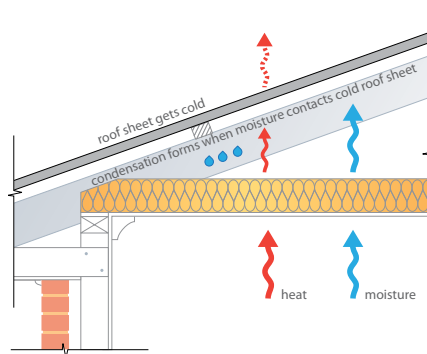
droplets on the outside of a bottle removed from the fridge on a warm day. To help address condensation formation, 'Anticon' (the name is derived from the **anti-condensation** purpose of the product) positioned directly against the underside of the metal roof sheet helps stop the vapour in the air from reaching the cold metal roof sheet.

By insulating the metal roof, the temperature of the Anticon foil facing does not get as cold which reduces the risk of condensation forming. For roofs in very cold regions or those homes where moist air enters the roof space, it is important to tape the foil overlap and remove the heavy, moisture laden air from the attic space using a suitable ventilation system, such as an Edmonds Windmaster or Airomatic.



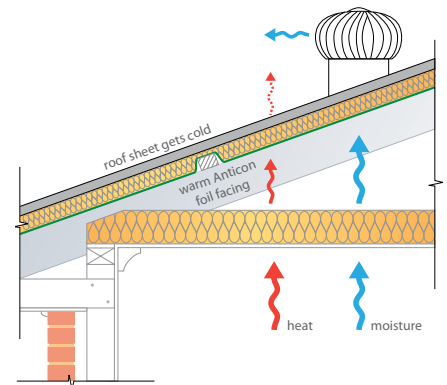
## NO INSULATION – poor energy efficiency and no condensation control

Rising heat from inside the building escapes and warms the roof sheet above the ambient temperature reducing the potential for condensation despite the presence of moist air.



## CEILING BATTS ONLY – improved energy efficiency but potential for condensation

Rising heat from inside the building entering the roof space is reduced by the ceiling batts so the roof sheet cools, potentially allowing condensation to form when the rising moist air contacts the underside of the cold roof sheet.



## CEILING BATTS PLUS ANTICON – best solution for energy efficiency and condensation control

Rising heat escaping from inside the building is further reduced by the Anticon and the internal foil face of the Anticon is insulated from the cold metal roof sheet by bulk insulation. This combination reduces the risk of condensation formation whilst improving energy efficiency.

## FIRE PERFORMANCE – BAL

Anticon's bulk insulation blanket is made from non-combustible fibres and is ideally suited to sealing ember entry points at ridges, valleys and fascias to meet the BAL (Bushfire Attack Level) requirement for metal clad roofs in bushfire areas.

Anticon's bulk insulation blanket achieves a very high fire rating in accordance with AS/NZS1530.3 (0,0,0,1) and the reflective foil facing meets the BCA flammability index requirement of  $\leq 5$ .

## ANTICON FACING OPTIONS

Bradford Anticon is available with a range of factory applied facing materials including a range of foil grades for different applications. Our most common Anticon products feature a Light, Medium or Heavy Duty foil facing.

## PRODUCT SPECIFICATIONS

Product Name	Base blanket R-Value $R_M$	Nominal Thickness (mm)	Dimensions (m x mm)	Area per pack (m <sup>2</sup> )
Anticon 60	$R_M$ 1.3	60	15 x 1200	18
Anticon 80	$R_M$ 1.8	80	15 x 1200	18
Anticon 100	$R_M$ 2.3	100	10 x 1200	12

## THE ENVIRONMENT AND YOU

Made from up to 65% recycled glass, Bradford Anticon, is Made in Australia in facilities with an Ozone Depleting Potential (ODP) of zero so you can be assured that they are a sound environmental choice.

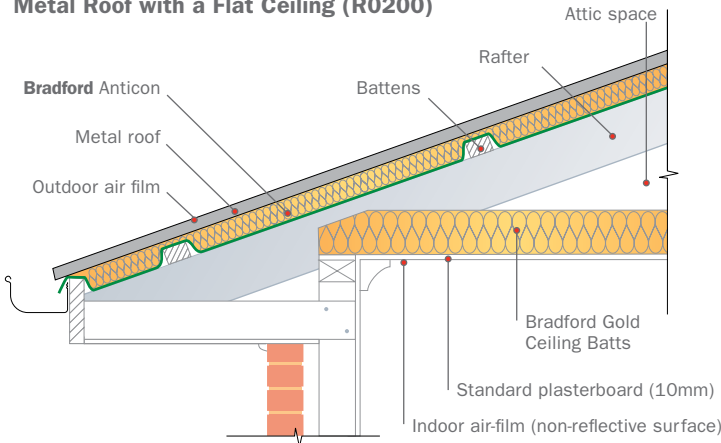
CSR Bradford insulation is manufactured using the latest FBS-1 bio-soluble formulation which has been assessed as non-hazardous under the National Occupational Health & Safety Commission's guidelines.



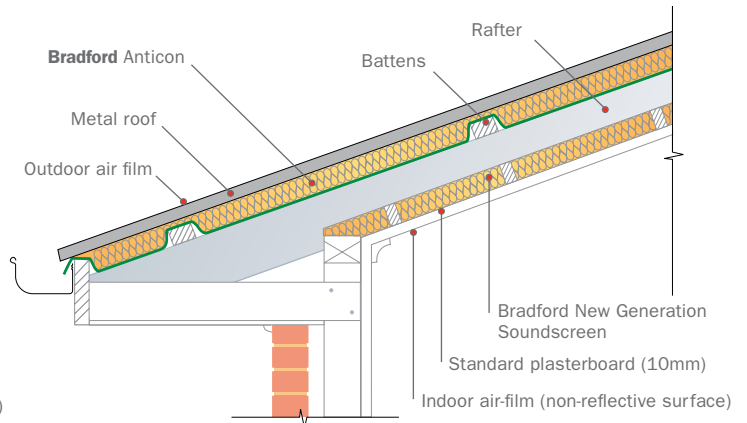
# BUILD IN THE ANTICON ADVANTAGE

Installation is simple, but you need to do it before your roof goes on. Anticon rolls out over the battens before the metal roofing is fixed in place, so this is your opportunity to ensure you enjoy the additional acoustic, thermal and condensation control of an Anticon insulated roof.

## SYSTEM 1: Class 1 Residential Ventilated Pitched Metal Roof with a Flat Ceiling (R0200)



## SYSTEM 2: Class 1 Residential Pitched Metal Roof with Cathedral Ceiling below Rafters (R0400)



### SYSTEM 1 Residential Pitched Metal Roof with a Flat Ceiling (Note: ventilated or non-ventilated options)

VENTILATED	Product Name	Thickness (mm)	Base material R-Value	Dimensions (m x mm)	Area per pack (m <sup>2</sup> )
	Anticon 60	60	R <sub>M</sub> 1.3	15 x 1200	18
Anticon 80	80	R <sub>M</sub> 1.8	15 x 1200	18	
Anticon 100	100	R <sub>M</sub> 2.3	10 x 1200	12	

Winter R <sub>T</sub> value (heat flow up)	Summer R <sub>T</sub> value (heat flow down)
Anticon only – no ceiling batts	
R <sub>T</sub> 1.9	R <sub>T</sub> 2.8
R <sub>T</sub> 2.4	R <sub>T</sub> 3.3
R <sub>T</sub> 3.0	R <sub>T</sub> 3.8

Winter R <sub>T</sub> value (heat flow up)	Summer R <sub>T</sub> value (heat flow down)
Anticon + R3.5 Gold ceiling batts	
<b>R<sub>T</sub> 5.6</b>	<b>R<sub>T</sub> 6.2</b>
<b>R<sub>T</sub> 6.1</b>	<b>R<sub>T</sub> 6.7</b>
<b>R<sub>T</sub> 6.7</b>	<b>R<sub>T</sub> 7.2</b>

NON-VENTILATED	Product Name	Thickness (mm)	Base material R-Value	Dimensions (m x mm)	Area per pack (m <sup>2</sup> )
	Anticon 60	60	R <sub>M</sub> 1.3	15 x 1200	18
Anticon 80	80	R <sub>M</sub> 1.8	15 x 1200	18	
Anticon 100	100	R <sub>M</sub> 2.3	10 x 1200	12	

Winter R <sub>T</sub> value (heat flow up)	Summer R <sub>T</sub> value (heat flow down)
Anticon only – no ceiling batts	
R <sub>T</sub> 2.1	R <sub>T</sub> 2.6
R <sub>T</sub> 2.7	R <sub>T</sub> 3.0
R <sub>T</sub> 3.2	R <sub>T</sub> 3.5

Winter R <sub>T</sub> value (heat flow up)	Summer R <sub>T</sub> value (heat flow down)
Anticon + R3.5 Gold ceiling batts	
<b>R<sub>T</sub> 5.8</b>	<b>R<sub>T</sub> 5.9</b>
<b>R<sub>T</sub> 6.3</b>	<b>R<sub>T</sub> 6.4</b>
<b>R<sub>T</sub> 6.9</b>	<b>R<sub>T</sub> 6.9</b>

Note: Based on an R0200 system with a 22° pitched metal roof. All R<sub>T</sub> values assume low emissivity (non-decorative) foil facing inward in attic space.

### SYSTEM 2: Residential Pitched Metal Roof with a Cathedral Ceiling (non-ventilated only)

NON-VENTILATED	Product Name	Thickness (mm)	Base material R-Value	Dimensions (m x mm)	Area per pack (m <sup>2</sup> )
	Anticon 60	60	R <sub>M</sub> 1.3	15 x 1200	18
Anticon 80	80	R <sub>M</sub> 1.8	15 x 1200	18	
Anticon 100	100	R <sub>M</sub> 2.3	10 x 1200	12	

Winter R <sub>T</sub> value (heat flow up)	Summer R <sub>T</sub> value (heat flow down)
Anticon only – no ceiling batts	
R <sub>T</sub> 2.1	R <sub>T</sub> 3.1
R <sub>T</sub> 2.6	R <sub>T</sub> 3.5
R <sub>T</sub> 3.2	R <sub>T</sub> 4.0

Winter R <sub>T</sub> value (heat flow up)	Summer R <sub>T</sub> value (heat flow down)
Anticon + R3.1 New Gen SoundScreen	
<b>R<sub>T</sub> 5.7</b>	<b>R<sub>T</sub> 5.7</b>
<b>R<sub>T</sub> 6.2</b>	<b>R<sub>T</sub> 6.0</b>
<b>R<sub>T</sub> 6.6</b>	<b>R<sub>T</sub> 6.1</b>

Note: Based on an R0400 system with a 22° pitched metal roof with 40mm battens over 190mm rafters. All R<sub>T</sub> values assume high emissivity (non-decorative facing) facing inward.

CSR Bradford recommends the addition of Bradford Gold Ceiling Batts or New Generation SoundScreen to improve the thermal performance and energy efficiency rating of your property. Please check with your building certifier to ensure that the system you chose meets the required energy efficiency targets. Please refer to the Product Warranty available on the CSR Bradford website for the full terms and conditions.

For more information call **1300 887 160** or visit [www.bradfordinsulation.com.au](http://www.bradfordinsulation.com.au)

**Bradford™**  
for smarter environments

CSR Bradford  
55 Stennett Rd, Ingleburn NSW 2565 Australia  
Telephone 1300 887 160 Facsimile (02) 9765 7002  
[www.bradfordinsulation.com.au](http://www.bradfordinsulation.com.au)

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