

Bradford® Ceiling Batt

Residential Thermal Insulation

Rev 3

Safety Precautions and Warnings

Before starting the installation, ensure that the power supply to the area is isolated. Turn off the power at the fuse box and place a warning tag to prevent power restoration before completing the installation.

The installation process may require working at heights and/or in tight/small spaces. Always take appropriate safety precautions.

When handling insulation overhead it is recommended to wear safety glasses that conform to Australian and New Zealand Standard AS/NZS 1336.

When installing insulation in enclosed or poorly ventilated areas such as ceiling spaces or risers, it is recommended to wear an approved particulate respirator conforming to Australian and New Zealand Standards AS/NZS 1715.

To reduce skin irritation, minimise direct skin contact by wearing a long-sleeved shirt, long trouser, a cap or hat, and gloves.

Follow State or Territory Occupational Health and Safety (OH&S) guidelines to minimise risks.

Electrical Cables and Equipment

Electrical cables and equipment partially or completely surrounded by bulk thermal insulation may overheat and fail.

To avoid ceiling batts being crushed, lay electrical wiring and mount the transformer/devices to the structural member. If an electrical cable is completely surrounded by bulk insulation for a length of 400 mm or greater, a licensed electrician shall be consulted.

For more information regarding the installation of insulation around electrical cables and equipment, please refer to AS3999 and AS/NZS3000:2018. Refer to legislation and referenced standards for full details or consult an electrician if in doubt.

If electrical equipment is present in the area to be insulated, thermal insulation shall not be placed closer than 50 mm around the equipment unless assurance has been first obtained from the equipment manufacturer that the safe operation of the equipment will not be jeopardized by the proposed placement of thermal insulation.

Luminaires (Lighting Fixtures)

Installation of bulk thermal insulation in conjunction with recessed luminaires shall be in accordance with Appendices A and C in AS3999.

It is recommended that luminaires that are designed and certified by the manufacturer for operation in contact with thermal insulation be used..

Flues

A clearance of not less than 50 mm or manufacturer's specifications, and which complies with building regulations shall be provided around the outer skin of any flue likely to carry hot gases.

Tools Required for Installation

- Sharp knife and cutting board.
- Step ladder, torch or lamp and kneeling board.
- Non-electrically conductive insulation rod/poker.

Prior to Installing

Determine the R-value required. Measure the distance between ceiling framing and the overall ceiling area to establish which batt width to use, and the number of packs required. Please refer to the plasterboard manufacturer's maximum ceiling load.

Insulating Ceiling Perimeters

ABCB Housing Provision requirement for Condensation Management stipulates a 20mm gap is maintained between the insulation and the sarking. It is recommended to utilise low-profile insulation as a perimeter batt to prevent direct contact with the sarking membrane or the underside of the roof.

- If the ceiling insulation required is greater than R3.0 but less than or equal to R4.5, a perimeter batt with R3.0 can be used within 450 mm from an external wall.
- If the ceiling insulation required is greater than R4.5, a perimeter batt with R3.0 can be used within 450 mm of an external wall – provided the insulation in all other required areas is increased by R0.5.
- Alternatively, NatHERS software can provide an alternate R-value solution for the ceiling, based on the energy rating of the house as a whole.

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General Guidelines

This installation guide is intended to be used as a guide and not a standalone directive. It should be read and understood in the context of the National Construction Code. Additionally, consult the latest ICANZ Insulation Handbook Part 2: Professional Installation Guide.

Bulk insulation should be installed so that it maintains its position and thickness, and abuts or overlaps adjoining insulation to form a continuous barrier other than where it crosses supporting members, water pipes, electrical cabling or the like, or where accounted for elsewhere.

The building envelope must be constructed to ensure the insulation remains dry during installation and after.

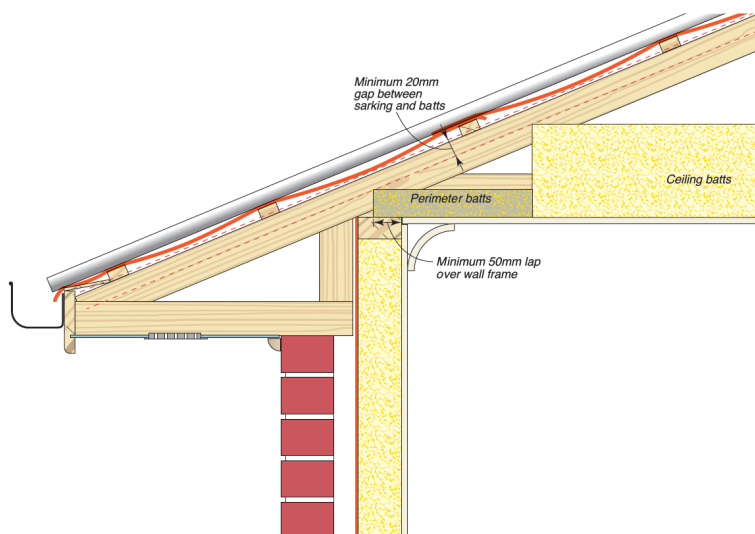
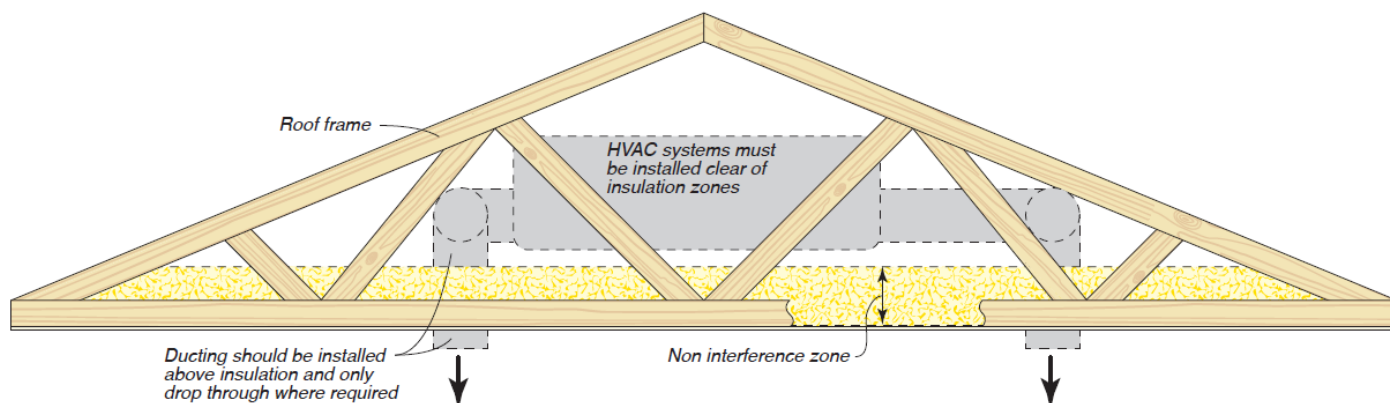
Open insulation packs once in the roof space as the batt will expand.

If working in the roof space, start installing insulation at the furthest point from the manhole.

Stand on ceiling joists only or utilise a kneeling board positioned over at least two ceiling joists.

Do not block ventilation openings. For flues and built-in appliances, follow the manufacturer's instructions, or leave a clearance of at least 50mm.

Avoid compressing the glasswool insulation, especially with the HVAC ducting as it can reduce its thermal performance and/or damage the ceiling plasterboard. The HVAC unit should be installed above the insulation height with an appropriate support and the ducting should be suspended from the roof and drop through where necessary.



Maintain a minimum gap of 20 mm between the edge of insulation batt and the roof sarking or blanket/cladding to facilitate ventilation of roof space - do not compress the batts during installation.

Prepare perimeter batts so that when installed they will not extend inwards more than 450mm from the external wall – insulation should be installed a minimum 50mm over the top plate (refer to AS3999).

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General Guidelines

For roof spaces with restricted access, such as low-pitched roofs or raked ceilings, and where there are complex obstructions like air-conditioning ducts, truss timber work, cabling, plumbing, or electrical services, it is recommended to install insulation before installing ceiling lining. Utilise strapping to restrain insulation between roof framing. Strapping may not fully support the weight of insulation and obstructions, which could cause the installed insulation to sit lower than the ceiling level or become dislodged prior to installing the ceiling lining.

For intricate timber framing, odd-shaped batts may need to be cut, and additional straps can support the batts. Use stringing when installing from below before ceiling battens are installed.

Please refer to plasterboard manufacturers for maximum ceiling load.

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Installation from Below

Installation of perimeter batts from below

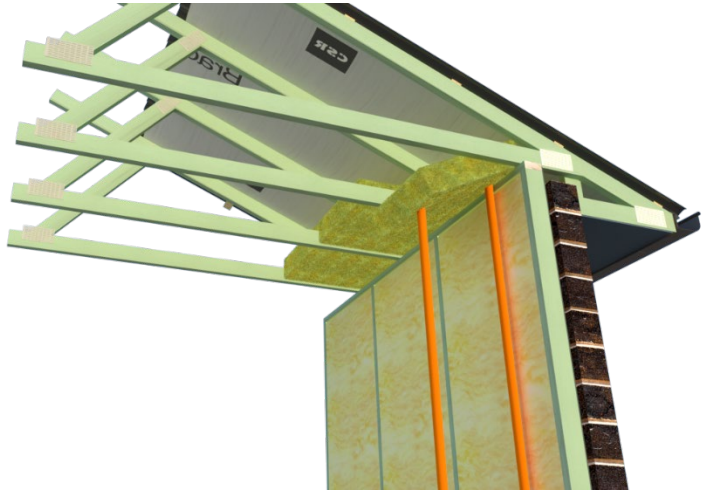
Prepare perimeter batts so that when installed they will not extend inwards more than 450mm from the external wall – insulation should be installed a minimum 50mm over the top plate (refer to AS3999).

Start at one end of the ceiling and position the first perimeter batt between the truss chords or joists by gently angling it over the ceiling batten (if installed) and pushing the batt up into the cavity, until it is flush with the bottom of the truss frame.

Ensure a minimum 20 mm gap is maintained between the top of the perimeter batt and roof sarking or roof cladding - do not compress the batts during installation.

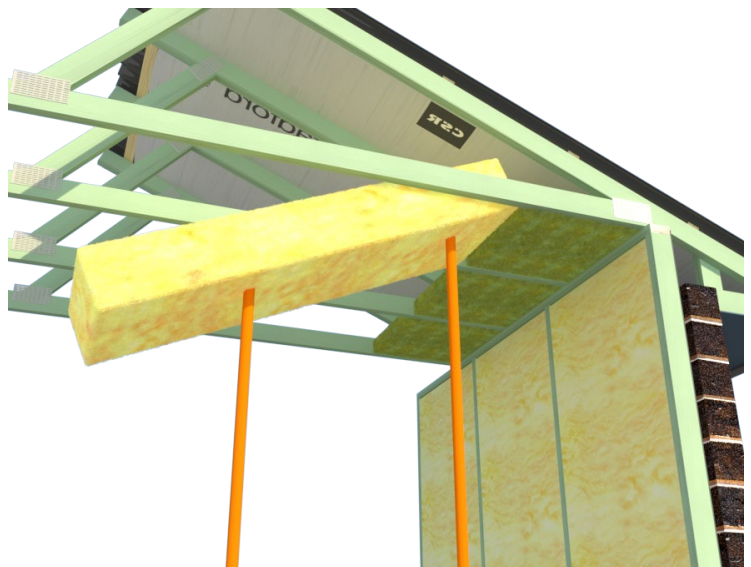
After completing the first perimeter batt between the truss chords, gently push in the second batt so that they are positioned side by side.

Complete the installation of perimeter batts before starting the installation of ceiling batts.



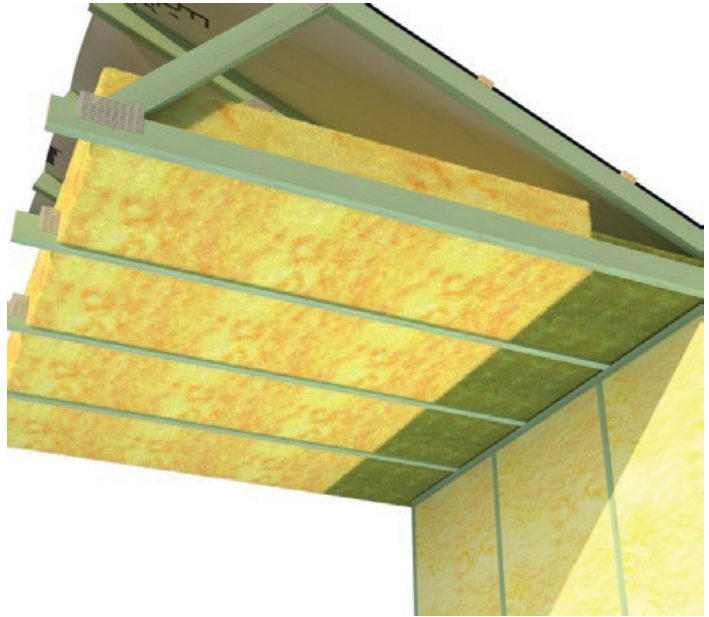
Installation of ceiling insulation batts from below

Place the first insulation batt between the truss chords or joists, ensure it butts up to the perimeter batt with no gaps.



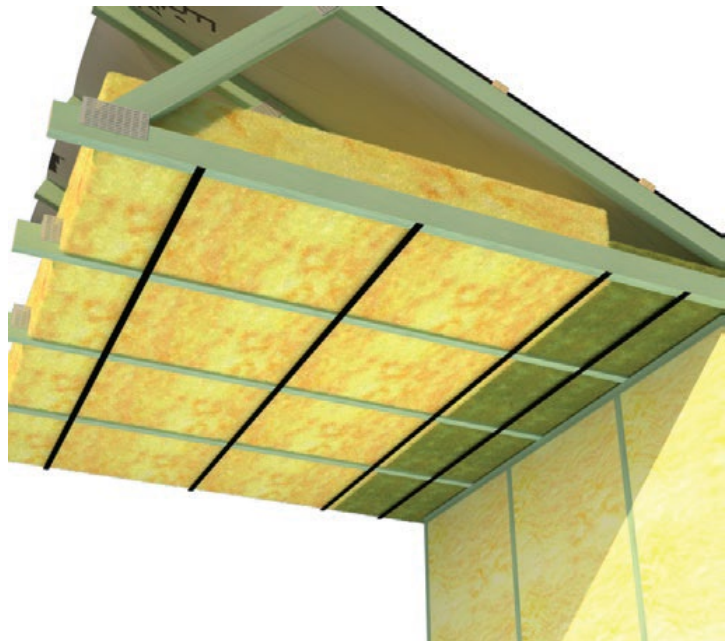
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Repeat the process for each subsequent batt, making sure they are tightly placed together between the truss chords or joists to eliminate any gaps.



Stringing-in involves fixing straps onto the timber frame using a staple gun to ensure the ceiling batts are secured in place. Ensure that any staples that will be in contact with the plaster are fully embedded into the frame. Secure the strapping at 450mm intervals – except at the perimeter, where an additional strap will be required.

Adjust the batt's size where necessary to fit around structural members or penetrations, ensuring complete coverage without any gaps, and without compressing the batt's thickness.



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Installation from Above

Installation of perimeter batts from above

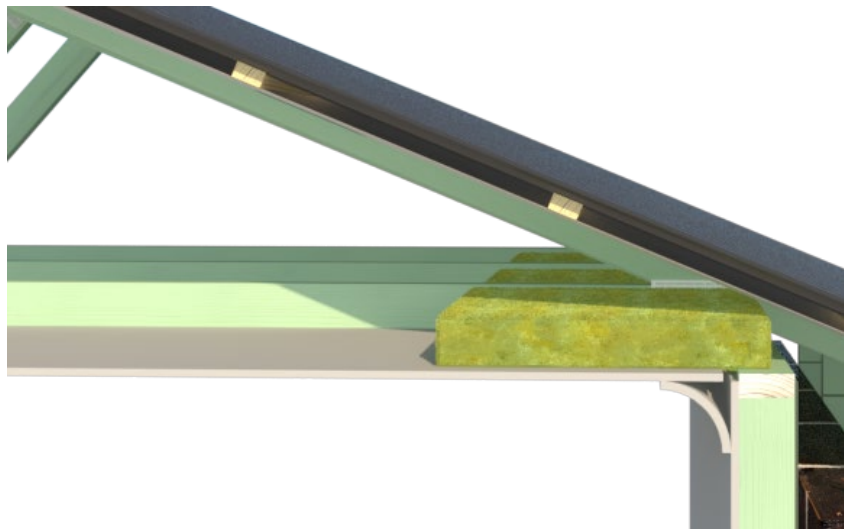
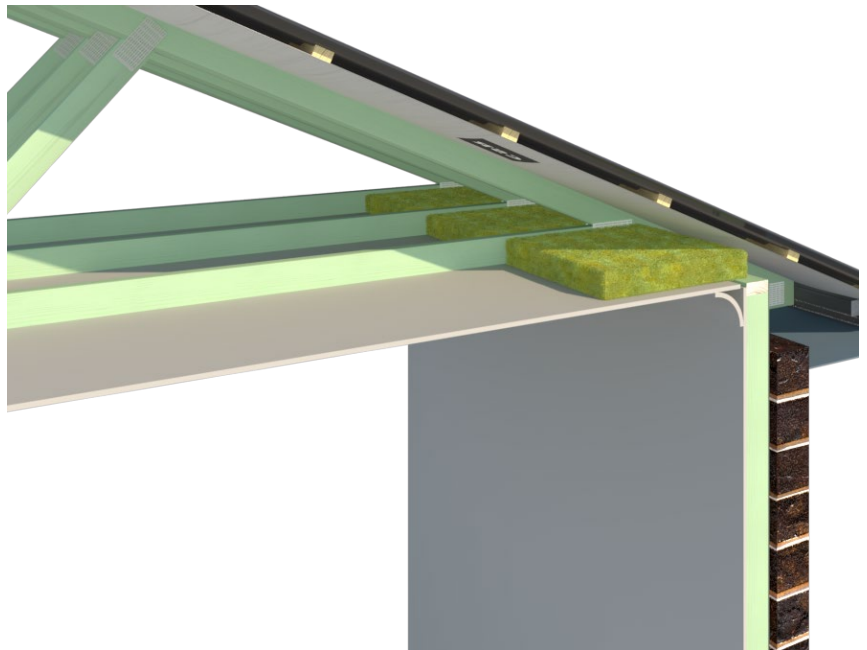
Prepare perimeter batts so that when installed they will not extend inwards more than 450mm from the external wall – insulation should be installed a minimum 50mm over the top plate (refer to AS3999).

Start at one end of the ceiling and position the first perimeter batt between the truss chords or joists.

Ensure a minimum 20 mm gap is maintained between the top of the perimeter batt and roof sarking or roof cladding - do not compress the batts during installation.

After completing the first perimeter batt between the truss chords, gently push in the second batt so that they are positioned side by side.

Complete the installation of the perimeter batts before starting the installation of ceiling batts.



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Installation of ceiling insulation batts

Take the sealed packs into the roof for the whole job – do not open the pack before moving into the roof space as the batts will expand once released from packaging.

Begin installing the ceiling batts at the furthest point from the manhole. Lay the ceiling batts, starting from the back of the perimeter batt.

Place the first insulation batt between the truss chords or joists. Ensure the batt fits snugly between the truss chords or joists. It should rest on top of the ceiling lining without compressing its thickness.

Continue by repeating the process for each subsequent batt. Make sure they are tightly placed together between the truss chords or joists to eliminate any gaps.

Adjust the batt's size where necessary to fit around structural members or penetrations, ensuring complete coverage without any gaps.

Prepare a section of insulation to fully cover the manhole cover after the installation is complete.

