

ecoinsulation Thermal Ceiling

These instructions should be read in conjunction with local standards AS 3999 or NZS 4246 and all applicable local, state and federal building regulations. Before you start installing, please make sure you are familiar with our Health and Safety Information contained in this document. Ensure that you use tools and equipment that are suitable for the intended application. This will include suitable safety equipment.

Do not start work until the site is safe!

Assess the ceiling condition and structure together with the method of installation you are to use based on the appropriate requirements established in the building code, site assessment and or plans provided. Installation must be completed to the requirements of relevant standard: AS 3999 or NZS 4246.

Tools required:

- Sharp knife for trimming insulation
- Ladder
- Suitable clothing (see our Health and Safety Information)
- Tape measure
- Non-conductive insulation stick for positioning insulation in hard to reach areas
- Kneeling board to span ceiling framing

BEFORE YOU START

- Determine the most suitable product for your project. Ceilings can be insulated using blanket, rolls or segments.
- Where you have existing insulation that is level with the ceiling joists, you can install additional insulation over the top. It is recommended that this is installed at right angles to the existing insulation.
- Insulation is available in varying widths and thicknesses to suit most framing spaces. Please check www.ecoinsulation.co.nz for the most suitable product for your application.
- To calculate the number of packs needed, determine the area (m^2) to be insulated by multiplying the length by the width or wall height. The number of m^2 of insulation material is clearly marked on each pack. Divide the total area to be insulated by the m^2 in a pack to determine the number of packs required (don't forget to round up to the nearest whole pack). Allowances should be made for areas that are unable to be insulated.
- Don't take the insulation out of the packaging until you're in a position and ready to install.
- Before installation, gently agitate the insulation by gently shaking or bouncing it on its side until it recovers to the thickness stated on the label.
- Do not block ceiling vents and take care around downlights and other sources of heat. Consult the manufacturer's instructions for appropriate clearances. Additional guidance is provided in AS 3999 and NZS 4246.

CEILINGS

- When retrofitting ceilings you must turn the power 'Off'. A torch or adequate lighting will be required. Step / kneeling boards can be used to help with access, especially in truss roof designs. A wooden, non-conductive positioning rod (1-2 metres long) can assist in insulating eaves or hard to reach areas.

SEGMENTS AND ROLLS

- Ensure you have the right product for the application. Check the thermal resistance rating (R-value) required on the drawings / plans and that this matches the product selected. Check the condition of the roof ensuring that it is watertight repairing any damage to the roof sarking.
- Start installing the insulation at the far corners of the roof and work your way back towards the ceiling access.
- When installing insulation between ceiling joists, ensure that you achieve a snug fit avoiding any gaps.
- When installing insulation in truss roofs, ensure that insulation is firmly butted together to achieve a consistent layer of insulation without any gaps.
- Where required, use a sharp knife to cut the insulation to fit. It is important that when you cut the insulation that you avoid coming into contact with any electrical services.
- When installing insulation in a roof eave (i.e. where the roof joins the ceiling), make sure the insulation covers the top plate but is not in contact with the roof. It is important to maintain a 20mm gap between the roofing substrates and the insulation.
- Once you have worked your way back to the ceiling access, make sure you insulate the ceiling access panel before exiting the roof space.
- Always take extra care while moving around in a ceiling space. Ensure sound footing at all times. Only use roof trusses or ceiling joists for support and never stand on ceiling plasterboard.
- Watch out for nails — especially in ceilings where roofing nails may protrude through the sheathing.
- To make access across the roof space easier, use kneeling boards. Place boards over roof trusses or ceiling joists to make a path.
- Do not take the insulation out of the packaging until you're in position and ready to install. Before installation, gently agitate the segment by 'bouncing' it on its side until it recovers to thickness stated on the label.
- Do not block ceiling vents and take care around downlights and other sources of heat. Consult the appliance manufacturer's instructions for appropriate clearances. Additional guidance is provided in AS 3999.
- Try to fit insulation behind pipes or other obstructions unless this would compress the insulation. If so, cut the insulation to fit around objects, beams or other barriers.

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WHERE YOU HAVE EXISTING CEILING INSULATION

- You will need to check the R-value of your existing insulation to determine how much additional insulation you'll need. Where it is not printed on one side of the insulation, you will need to measure the thickness of the existing insulation. As a guide, approximately 150mm is required to achieve the minimum Building Code requirements.
- Once you have determined your existing insulation levels, install **ecoinsulation** glasswool with at least the R-value needed to make up the difference between the existing insulation and the minimum code requirement for your area of the country.
- Place the insulation over the existing insulation at right angles to the ceiling joists.

CATHEDRAL/SKILLION ROOFS

- Determine the width of insulation needed by measuring the typical distance between ceiling joists.
- Determine the maximum thickness of insulation that can be installed by subtracting 25mm from the depth of the available cavity.
- When installing the insulation, ensure that you achieve a snug fit avoiding any gaps.
- Butt insulation firmly against both the top plate of the wall at the bottom and the ridge joist at the top of the cathedral ceiling.
- Do not push the insulation completely into the joist cavity. The front face of the segment should be flush with the face of the ceiling joist, leaving at least a 25mm airspace between the insulation and the underside of the roof deck.
- Please consult with the designer, your local codes and practices to determine the required ventilation and ventilation baffle requirements in cathedral ceiling applications. Refer to AS 3999 and NZS 4246 for further guidance.
- When installing insulation into existing cathedral ceilings where roofing material is required to be removed, please refer to local or state authorities as specific requirements around the removal and replacement of roofing materials may apply.

SAFETY WARNINGS AND HAZARDS

- You must turn the mains power "Off" before entering the work space, and, if in any doubt about how to turn the power "Off", you must consult a licensed electrician.
- Working in areas that contain live electrical wiring is extremely hazardous. Take extreme care to avoid touching any live overhead electrical lines, supply cables or any other live cables in the workspace.
- Defective electrical cables, exposed terminals and conductors of electrical equipment such as light fittings and fans can cause burns and electric shocks please exercise caution when working near such hazards – check with an electrician if you are unsure if the cabling is safe.
- Working in hot and poorly ventilated areas when installing insulation can be dangerous.
- Working at heights, when installing insulation can be dangerous.

BEFORE INSTALLATION

- You must turn the mains power "Off" and, if in any doubt about how to turn the power "Off", consult a licensed electrician.
- Do not enter the workspace for the purposes of the pre-work inspection or the installation until you are satisfied that the power has been isolated. Even after isolating the power via the switchboard there may still be an electrical mains cable in either the ceiling or underfloor space that is live.
- Complete a pre-work assessment before installation to identify safety hazards which may include but are not limited to the following:
 - access to the roof area,
 - working at heights,
 - electrical safety hazards,
 - adequate ventilation of the work area and
 - nails and sharp objects on the ground
- Before commencing work you must have systems in place to reduce risks identified in the pre-work assessment such as but which are not limited to:
 - systems to prevent falling when working at heights.
 - ventilate the working area if possible.
 - cover exposed skin. When working in an unventilated area, wear a disposable face mask.
 - rinse hands in cold water before washing.
 - wear goggles when working overhead.
 - clean using vacuum equipment.

DURING INSTALLATION

- Work with another person and maintain contact throughout both the assessment and installation process.
- Only open bags as required.
- Wear appropriate clothing for the job such as long sleeved top, flat rubber sole shoes, gloves conforming to Australian Standard AS2161 and ventilated non-fogging dust resistant goggles conforming to AS/NZ 1336, and a P2 dust mask.
- Avoid eye contact with dust or fibres to minimise eye or skin contact and inhalation during handling.
- Avoid installing insulation in hot weather and at the hottest part of the day.
- Under no circumstances must fixing devices in ceiling spaces or under floors, or in proximity to electrical wiring, be of metal or other conductive material.

PROVEN PERFORMANCE

- Preferred by professional installers concerned with quality, appearance and productivity.
- Excellent acoustical properties reduce sound transmission in the home when properly installed.

ELECTRICAL SAFETY CONSIDERATIONS BEFORE ISOLATING POWER

- Locate and review the incoming power supply, main switchboard and meter box.
- Ensure you understand if there is a main isolator and how power can be safely isolated.
- Ensure you understand the direction of the "On" and "Off" position of the main switch (NOTE: the "Off" position is not always as it seems - check with an electrician if you are unsure).
- Before installation, switch "Off" the electricity supply at the main switchboard (check with an electrician if you are unsure if power can be turned "Off" at the switchboard).
- Be aware that even after isolating the power via the switchboard there may still be an electrical mains cable in either the ceiling or underfloor space that is live. Take extreme care to avoid touching any live overhead electrical lines, supply cables or any other live cables in the workspace.

PROCEDURE FOR ISOLATION - CERAMIC FUSES (IF IN DOUBT YOU MUST CONSULT A LICENSED ELECTRICIAN)

- Ceramic fuses are typically found in older style homes.
- Identify if any fuse is deactivated.
- Check if there are any fuses currently in the "Off" position, take note of them.
- Place a strip of electrical tape over main switch isolator after it is turned "Off".
- Apply additional strips of electrical tape over the deactivated fuse and any individual isolator in the "Off" position as a reminder to leaving it in the "Off" position once the re-activation procedure has been completed.
- If you find a fuse plug out of its socket, whilst the main isolator is in the "Off" position, place electrical tape over its respective switch and one over the fuse socket opening.
- DO NOT touch the internal metal fittings.
- Place a written note on the main isolator switch or meter box enclosure to advise the power is "Off" and WORK IN PROGRESS is occurring.
- Check to ensure the lights and appliances, within the home, previously left on are no longer operating to confirm the mains power is now isolated.
- The original person who placed the isolation tag is the only one who can re-activate the power. Advise occupants of this requirement.

PROCEDURE FOR ISOLATION CIRCUIT BOARD (IF IN DOUBT YOU MUST CONSULT A LICENSED ELECTRICIAN)

- Circuit boards are typically found in modern homes.
- Check if there are any switches currently in the "Off" position, take note of them.
- Place a strip of electrical tape over main switch isolator after it is turned "Off".
- Apply additional strips of electrical tape over any deactivated fuses or individual switches in the "Off" position after isolating the mains power as a reminder to leave it in the "Off" position once the re-activation procedure has been completed.
- Turn "Off" all individual switches on the circuit board.
- Place a written note on the switches or meter box enclosure to advise the power is "Off" and WORK IN PROGRESS is occurring.
- Check to ensure the lights and appliances within the home previously left on are no longer operating to confirm the mains power is now isolated.
- The originator that placed the isolation tag is the only one who can re-activate the power. Advise occupants of the requirement.

REACTIVATING THE POWER

- After the completion of the installation, switch the mains power to the "On" position (for ceramic fuse board), but for a circuit board, switch the main power "On" and then each individual power isolator on one at a time. The taped switches in the "Off" position should stay switched "Off".
- **WARNING:** If you cannot reconnect power please ensure you seek assistance from a qualified electrician.

SUITABLE CLOTHING

- When handling any insulation material, especially in enclosed poorly ventilated areas and/or overhead, the use of suitable eye protection conforming to AS/NZS 1336 will greatly reduce contact with dust or fibres.
- Wear suitable loose fitting clothes, including long sleeved shirts, long pants, cap and gloves.
- A suitable dust mask is recommended when working in confined, poorly ventilated and dusty areas.
- Wash work clothes separately and rinse the washing machine after use.