Ban 2016/001

Ban on the installation and/or repair of foil insulation in residential buildings with an existing electrical installation

The Chief Executive of the Ministry of Business, Innovation and Employment (the Ministry) has declared a ban on the following building methods under section 26 of the Building Act 2004:

- The installation of foil insulation into residential buildings with an existing electrical installation (retrofitting foil insulation); and
- the repair of foil insulation in residential buildings with an existing electrical installation (e.g. stapling ripped or damaged foil back on to the floor joists of a building).

Definitions:

Residential building for the purposes of this ban is defined as a building that meets the definition of Housing or Communal Residential in paragraphs 2.0 and 3.0, respectively, of Building Code[1] Clause A1. It also includes outbuildings, defined in paragraph 7.0 of Clause A1, associated with a residential building.

Electrical installation means:
(i) in relation to a property with a point of supply, all fittings beyond the point of supply that form part of a system that is used to convey electricity to a point of consumption, or used to generate or store electricity; and
(ii) in relation to a property without a point of supply, all fittings that form part of a system that is used to convey electricity to a point of consumption, or used to generate or store electricity.

Foil insulation is insulation that consists of a thin layer of heat-reflecting metallic foil (usually aluminium). It is most commonly supplied in flexible sheet or blanket form and may be attached to other flexible insulating materials such as wool or fibreglass.

Reasons for the ban

The ban is due to safety concerns associated with the method of attaching the foil to the building and the compliance of this building method with the Building Code.

The risk with installing and/or repairing foil insulation in a building with an existing electrical installation is that the person(s) installing or repairing it could accidentally pierce a live electrical

[1] The New Zealand Building Code is contained in regulations under the Building Act (Schedule 1, Building Regulations 1992). It prescribes functional requirements for buildings and the performance criteria which buildings must comply with in their intended use. It is available online at www.legislation.govt.nz.

cable with the fasteners (e.g. staples or nails) that they are using to attach the foil to the building. The foil, being metallic, conducts electricity and can become live if it comes into contact with live electrical wiring – potentially enlivening the entire underfloor area or ceiling space of a building.

In retrofit situations foil is usually installed by stapling it to the floor or ceiling joists, often in dark and cramped conditions making it hard to see exactly where any electrical cables are located. Many buildings have exposed electrical cables running through these spaces, presenting a serious electrocution hazard.

Even if a retrofit is completed without incident, the foil can be left electrically live, presenting a future electrocution hazard. Nylon fasteners also have some risk as they can split the insulation of the electrical cables and cause the wiring to come into contact with the foil.

The Ministry considers that the installation and/or repair of foil insulation in a residential building with an existing electrical installation is likely to breach Clause G9 (Electricity) of the Building Code as the key safeguards (this includes that the wires are coated and that there are fuses and circuit breakers which shut down the system in fault conditions) incorporated into the electrical installation will no longer be effective, resulting in building elements becoming live and potentially fatally injuring installers or occupants of the building.

The Ministry has consulted on this ban in accordance with section 29 of the Building Act.

Implementation of ban:

The ban comes into force on 1 July 2016, and will remain in place until amended or revoked by the Ministry.

The ban does not apply to any building work for which a building consent has been issued prior to the date on which the ban comes into force.

What the ban covers:

The ban is limited to residential buildings with existing electrical installations only and applies to anyone installing new foil insulation and/or repairing existing foil insulation in these buildings. It includes the installation and/or repair of foil insulation in ceilings, walls and underfloor areas.

Foil insulation is occasionally used for purposes other than insulation (e.g. as a vapour barrier). The ban will still apply when foil insulation is used for other purposes as the method of installation usually remains the same and therefore the associated risks still apply.

Exclusions:

The installation of foil insulation in new residential buildings (including new additions to existing residential buildings where the addition does not have an existing electrical installation) is not covered by this ban as it does not give rise to the same level of risk due to the different building method used and associated decrease in likelihood of injury or death.

Foil insulation is sometimes supplied in panel form where it is bonded to rigid building materials such as plasterboard or polystyrene. The ban excludes the installation and/or repair of foil that is supplied pre-fixed to rigid building materials. These types of products are generally installed by friction fitting them between the floor joists or by fixing them flat to wall framing and it is unlikely that a live electrical cable would be accidentally pierced using this method of installation.

Penalties for breaches of ban:

It is considered an offence under section 27 of the Building Act to breach this ban. Any person who breaches the ban is liable on conviction to a fine of up to $200,000.

Territorial Authorities are primarily responsible for enforcing the ban but in some instances the Ministry may take prosecutions under section 11 of the Building Act.

Guidance on working with, or removing, existing foil insulation:

There could be cases in existing buildings where previously installed foil insulation is electrically live (e.g. if foil insulation has been installed with the power off and not tested for safety once power was restored). The Ministry strongly suggests building owners engage the services of a licensed electrical worker[2] if they have any concerns about previously installed foil insulation in their building.

WorkSafe NZ as part of its functions as the regulator of electrical safety under the Electricity Act 1992 has also made guidance, in the form of an Electrical Code of Practice[3], publically available that sets out how to protect persons and property from harm due to improperly installed foil insulation. The Code of Practice will enable building owners and the industry to better manage electrical safety risks associated with existing foil insulation.

In the event of doubt concerning requirements of the Code of Practice the services of a licensed electrical worker should be sought.

Contact us:

If you are unsure whether the work you are intending to carry out is covered by the ban, or have any questions, please contact us by:

Freephone on 0800 24 22 43 (between 8.30am to 5pm Monday to Friday)
Email at products@mbie.govt.nz
Post to Determinations and Assurance, Ministry of Business, Innovation and Employment, 15 Stout Street, PO Box 1473, Wellington 6140

Visit our website at www.building.govt.nz.

[2] To check if an electrical worker is licensed, search online in the public register of electrical workers on the Electrical Workers Registration Board website www.ewrb.govt.nz.
[3] The Electrical Code of Practice is available to download from www.energysafety.govt.nz.

Signed for and on behalf of the Chief Executive of the Ministry of Business, Innovation and Employment on 24 June 2016.

General Manager
Building System Performance
Ministry of Business, Innovation and Employment