

**Thermal insulation installed in roof spaces is safe provided that it is installed properly.**

Laying insulation in the ceiling space over cables and in the vicinity of electrical equipment such as downlights and exhaust fans, without adequate provision for keeping the insulation clear of such equipment, is dangerous and fire hazard waiting to happen.

In relation to cables, the flow of electric current in cables generates heat which is dissipated to the surroundings. The introduction of thermal insulation around cables will reduce the heat dissipation and may cause cables to overheat and the electrical insulation to exceed its rated temperature and to degrade. It is also possible that electrical equipment may overheat if enclosed by thermal insulation.

Electrical equipment such as cables and down lights also present dangers and fire hazards if not installed properly. Approved barriers and covers can be installed in existing roof spaces to ensure that the electrical integrity of the installation is not compromised when the thermal insulation is installed.

Particular care must be taken with loose fill or blow-in insulation, as it can blow around in the roof space. The installation of barriers and guards is even more critical when using these types of thermal insulation.

The AS/NZS 3000 wiring rules provide the requirements necessary to install wiring, down lights and other electrical equipment in areas where thermal insulation is installed. Electrical contractors must comply with these requirements, and provide the owner of the premises with an electrical certificate of compliance.



Investigations have identified that house fires have not only been caused by the electrical contractors who unsafely installed the lights but also cause by the company failing to properly install the thermal insulation.

Under the Electricity Act 1996, owners and operators of electrical installations must ensure that their installation is safe, and safely operated. If you are uncertain whether your installation is safe you should contact a licensed electrical contractor.

For further information, please contact the Office of the Technical Regulator on 8226 5518.

## Frequently asked questions

### Q. What is "blow-in" insulation?

A. Blow-in insulation is cellulose based and usually made from recycled paper. It is funnelled into the ceiling space by compressed air through a flexible hose. Blow-in insulation is also classed as loose fill insulation.

### Q. What is the problem with "blow-in" insulation?

A. There is no problem if it is **installed** correctly. Any type of ceiling insulation installed over or too close to electrical fittings, such as exhaust fans and ceiling down lights, can potentially cause a fire. For example, low voltage down lights can generate a lot of heat. Contact with insulation restricts the device's ability to dissipate heat causing it to overheat and potentially start a fire.

Electrical cables can also generate heat. Thermal insulation, of any type, installed around cables will reduce heat dissipation and may cause cables to overheat and degrade. Older wiring (before 1986) is more likely to be affected by this, as this AS/NZS 3000 wiring rules from 1986 onwards have included mandatory requirements for the electrical contractor to allow for derating of cables due to thermal insulation.

Blow-in insulation can be moved around by drafts in the roof space if not secured and jam the blades of an exhaust fan causing the motor to overheat. Blow-in insulation is usually sprayed with an adhesive solution to prevent movement.

Incorrectly **installed** blow-in insulation has been blamed for two recent fires in Adelaide.

### Q. Are there standards for installing insulation?

A. There is a voluntary Australian Standard (AS3999-1992) that prescribes safe practices for the installation of insulation. Technical experts agree that if installers comply with the standard it should result in a safe installation.

Electricians must comply with the mandatory wiring rules, Australian Standard (AS/NZS 3000). This details the requirements to install wiring, down lights and other electrical equipment in areas where thermal insulation is present. Electricians are also required to provide the home owner with a Certificate of Compliance as evidence that the work complies with the electrical wiring rules.

### Q. Is it a problem for a new home or addition?

A. Ceiling insulation is a requirement for new homes and additions and should not present a significant safety risk. The majority of new homes have insulation bats installed, which does not normally get blown around in the roof space like loose fill insulation. Electricians are aware that insulation will be installed and appropriate protective barriers for electrical equipment should be fitted prior to the insulation being installed. The electrician should also provide a Certificate of Compliance as evidence that the work complies with the electrical wiring code.

### Q. Is it safe to have down lights fitted in my home which has blow-in insulation already installed?

A. Yes. If you use a qualified electrician to fit down lights or other electrical equipment there should not be a significant safety risk. Electricians should be aware of the clearance distances or barriers required to ensure electrical equipment does not overheat. The electrician should also provide the owner with a Certificate of Compliance for the work.

**Q. Can I install blow-in insulation in my home that already has down lights fitted?**

A. Yes. However, if you are considering having or have had blow-in insulation retro-fitted you should have a safety inspection by a qualified electrician to ensure that the blow-in insulation is properly installed and that appropriate covers or barriers are in place to allow heat to escape around down lights, fans and other electrical devices. Consumers are within their rights to have any substandard work rectified by the insulation installer.

**Q. Do contractors need a licence?**

A. Yes, If you are considering installing blow-in insulation, use appropriately qualified and licensed contractors. Electricians require a licence under the Plumbers, Gasfitters and Electricians Act and insulation installers require a licence under the Building Work Contractors Act. They should be able to produce their photo licence card on request.

To find a licensed builder or electrician visit the [Licensing Public Register](#).

**Q. Where can I get more information?**

A. More information and advice about insulation safety is available from the Office of Consumer and Business Affairs' Product Safety section on 8152 0732 or at [www.ocba.sa.gov.au](http://www.ocba.sa.gov.au) and Office of the Technical Regulator on 8226 5518 or at [www.energy.sa.gov.au](http://www.energy.sa.gov.au).