



Downlighter safety

Downlighters are one of the most modern and attractive ways to brighten up your home, but choosing the wrong downlighter, incorrectly installing it, or fitting the wrong lamp can pose a serious fire risk.

This guide gives advice on how to prevent your downlighters from becoming a fire hazard.

Types of downlighters

Downlighters operate at mains voltage (230 Volts) or are powered via a transformer at extra-low voltage (12 Volts). Extra-low voltage (ELV) downlighters are often described as “low voltage” on product packaging.

Downlighters may also be described as ‘Fire rated’. This means they have in-built fire protection that completely seals the downlighter in the event of fire in the room below, to prevent the spread of fire and smoke into other areas.

For all downlighters installed into a ceiling, the Electrical Safety Council recommends the use of ‘fire rated’ downlighters fitted with ‘aluminium’ reflector lamps (see ‘*Different lamp types*’) to ensure fire and excessive heat are kept out of cavities.



Typical fire-rated downlighter



Typical standard downlighter

Also, where a downlighter is likely to be covered with thermal insulation in the cavity, it’s important to choose a downlighter that will operate safely under these conditions.



MAY be covered with thermal insulation



MUST NOT be covered with thermal insulation

Thinking of installing new downlighters?

The **Electrical Safety Council** recommends that you use a registered electrician to install your downlighters and that you keep the manufacturer’s instructions in a safe place for future reference, such as when you need to replace a lamp.

When fitting replacement lamps:

- Read and follow the manufacturer’s instructions
- Check the packaging and the downlighter for details of correct replacement lamps and do not exceed the maximum allowed wattage
- Always switch off the electricity before changing a lamp
- Don’t fit a dichroic (cool beam) reflector lamp unless the downlighter is specifically designed for use with that type of lamp. If in doubt, fit only aluminium reflector lamps (see ‘*Reflector types*’)
- If the lampholder is damaged, scorched or corroded, do not fit the lamp, and seek advice from a registered electrician.

Different lamp types

Twist and lock

Mains (230 Volts)



Push fit

ELV (12 Volts)



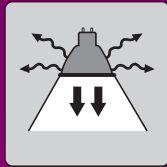
Reflector types

The dichroic and aluminium halogen lamps operate differently from each other but appear identical. It is possible to fit either type in an extra- low voltage downlighter. However, fitting the wrong lamp type can cause overheating, so it's important to choose the correct type.

The type of lamp determines which way the heat generated by the lamp is reflected.

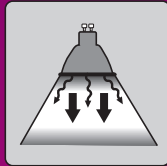
Dichroic or cool beam

Reflects visible light forwards while allowing radiated heat to pass out of the back of the lamp– to be used in downlighters specifically designed for their use only.



Aluminium

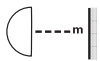
Reflects both the visible light and most of the heat forwards out of the front of the lamp.



Other markings to look for:



Do not use 'cool beam' dichroic reflector halogen lamps in this downlighter.



Minimum distance from lighted objects.



Only 'self-shielded' lamps can be fitted in this downlighter. The majority of halogen lamps have a protective shield, which blocks UV (ultraviolet) radiation and protects against the risk of the lamp shattering.



Lamp (or transformer) is not suitable for use with a dimmer switch.

Checking your existing downlighters

- Check for visible markings on downlighters indicating lamp wattage and lamp type
- Check downlighters and their surroundings for signs of overheating such as curled labels and discolouration or scorching
- Ensure that downlighters installed in floor and ceiling cavities have sufficient space around them
- Ensure that downlighters (and associated transformer where fitted) are not in contact with or covered by loft insulation or combustible material, unless they are designed to operate safely in those conditions.
- Check that downlighters are not installed near furniture, curtains or similar combustible items
- If dichroic (cool beam) lamps are fitted in downlighters designed for use with aluminium reflector lamps only, replace them with the correct type - look for the symbol indicating no use of 'cool beam' lamps:



Consider

- Using low energy lamps, such as compact fluorescent lamps (CFL) or light emitting diode lamps (LED), as they produce less heat than a traditional tungsten halogen lamp and so reduce the risk of fire. They also use less electricity.

Safe disposal of lamps

Some downlighter lamps, such as compact fluorescent lamps (CFL), displaying the crossed-out 'wheelie bin' symbol, must not be disposed of in general household waste. Take the lamp to a recycling facility that accepts electrical products.



Check with your Local Authority for your nearest recycling centre.

Need Help?

For further information on downlighter safety, and to find a registered electrician near you, please visit:

www.esc.org.uk

Acknowledgements

Surrey Fire and Rescue Service
The Lighting Association
CE Compliance Solutions
Tenmat Ltd
'Click' Scolemore International Ltd.

www.direct.gov.uk/firekills



The Electrical Safety Council

Unit 331, Great Guildford Business Square,
30 Great Guildford Street, London, SE1 0HS
Phone: 020 3463 5100 Fax: 020 3463 5139
Email: enquiries@esc.org.uk Web: www.esc.org.uk

Registered Charity (England and Wales) No. 257376
Registered Charity (Scotland) No. SC039990

The Electrical Safety (ESC) is a charity committed to reducing deaths and injuries caused by electricity.