

Downlights (Electrical Contractors)

Old or poorly installed ceiling downlights are thought to cause at least one house fire every week in Western Australia. They can set fire to dust and litter collected in roof insulation or timbers which burn in the roof space above smoke alarms.

These fires can go undetected until it is too late. Often, people only know their house is on fire when flaming material comes through air conditioning vents or the ceiling collapses. It makes a safe escape more difficult and causes significant damage.

How can a fire start in the roof space?

A roof space fire starts above the ceiling material but beneath the roof tiles or tin. There are a number of things in a roof space that may cause a fire. These include water pipes, heater flues, heat from the back of downlights and electrical circuits that have been damaged or from poor workmanship, white ants or rodents. NOTE: If downlights are installed correctly and a safe distance is kept from combustible material, there is no risk of fire.

What are the main causes of downlight fires?

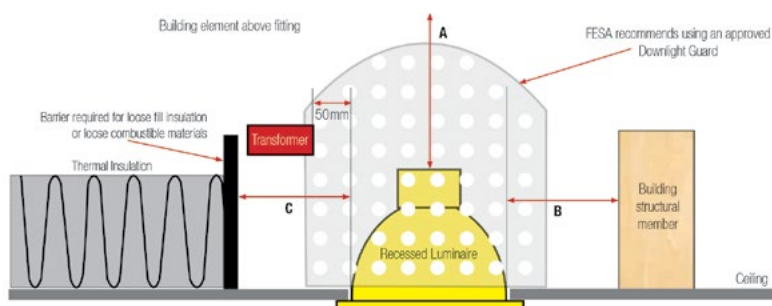
A fire can start when the heat given off by downlights comes in contact with combustible material including insulation, leaf litter, dust or roof timbers. DFES research shows downlights can heat up to more than 240 degrees.

What has been done to reduce downlight fires?

Industry and Government have been working together and developed a standard on the safe use of 240 volt and extra low voltage (less than 50 volts) halogen (dichroic) downlights to reduce the risk of fire. Consumer and electrical contractors education is ongoing.

Australian Standards (AS/NZS 3000) - Wiring Rules 2007 specify:

- Minimum side and top distances between downlights and roof timbers
- Ability for heat producing devices to release heat
- Physical barriers to prevent combustible materials getting too close to exposed light assemblies



DEFAULT MINIMUM CLEARANCES FOR RECESSED LUMINAIRES

Dimension	Incandescent lamp	Halogen lamp
A - Clearance above luminaire	50 mm	200 mm
B - Side clearance to structural member	100 mm	200 mm
C - Clearance to thermal insulation	50 mm	200 mm
D - Clearance to supply transformer	50 mm	

What can I do to prevent downlight fires?

When installed correctly, downlights do not pose a fire risk.

It is important to:

- Inspect all downlights and transformers
- Ensure a non-combustible or mechanical barrier is installed to prevent insulation or other combustible material covering or touching downlights
- Always use fittings and guards that meet Australian Standards
- Following any work in the roof space, turn off the electricity main switch and then inspect all downlights and transformers for damage. Ensure they are clear of insulation or other combustible material
- Consider replacing 240 volt incandescent globes with compact fluorescent or LED globes that produce less heat
- Consider replacing 12 volt halogen (dichroic) globes with Light Emitting Diode lamps (LED) that produce considerably less heat

For more information on downlights, visit the **EnergySafety** website www.energysafety.wa.gov.au and download Energy Bulletin 42.

