# Introduction

In 2011, changes to the recessed luminaires (also referred to as downlights) standard were made. These introduced new classes of recessed downlights that eliminate clearances and ensure safer installation with surrounding thermal insulation.

The standard (AS/NZS 60598.2.2) recognises thermal insulation and/or downlights with varying risk of fire are being installed in an increasing number of new and existing homes, including those homes participating in the EECA Warm Up New Zealand: Heat Smart programme. It aims to ensure that **"a downlight will not be unsafe if thermal insulation,** which is specified as safe to use with downlights, **is installed incorrectly over it."**

## What does this mean for downlights?

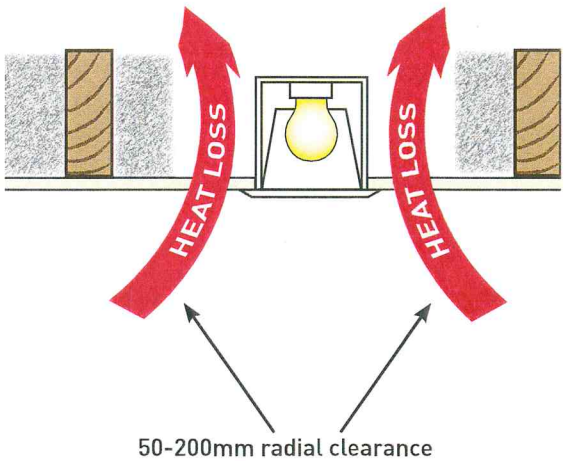
- All new products manufactured or imported into NZ must be one of five new classes
- Only four of the five classes may be used in residential buildings
- Any residential class downlight must be failsafe if accidentally covered with building insulation
- Covers or barriers are to be supplied as part of the downlight, or specified by the downlight manufacturer
- Downlights must have adequate protection to prevent risk of fire with building insulation

## What does this mean for thermal insulation in residential buildings?

- As downlight clearances are no longer permitted, buildings will be more thermally efficient
- Installed insulation must maintain its structural integrity at specific temperatures (80/135°C) determined by the downlight installed
- Insulation material must typically pass the AS/NZS 60695.11.5 Needle Flame Test method on all surfaces
- Loose fill material may not be used unless specified by the downlight manufacturer
- Downlight manufacturers must state what building/thermal insulation is safe and compatible to use with the downlight

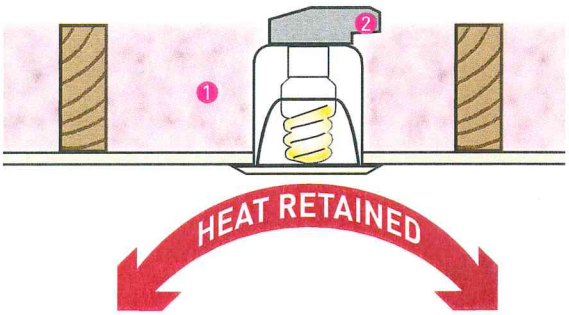
## No longer acceptable

**Reduced energy efficiency for fire-safe installation**




## Acceptable

**Install a fire-safe and more energy efficient system**




1. High levels of non-combustible insulation without radial clearance.
2. CA rated energy efficient downlight with thermostat protection or other safety feature