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IC vs IC-F: Differences Explained

GTS Group Technical Manager and member of the Lighting Council NZ, **Mike Austin** explains the differences between IC and IC-F ratings.

There is a lot of confusion out in the market about the difference between IC and IC-F markings on residential recessed downlights.

Firstly, let's make it very clear the "F" in IC-F does not refer to the "Fire Rating" of a downlight.

In Amendment A (NZ Only) of the Luminaire Standard AS/NZS60598.2.2, an IC-F marked downlight is described as "IC-F (Insulation Contact – Fire Resistant) recessed luminaire", and was included in the Standard on the insistence of the insulation industry who were concerned about some insulation that could ignite if it came in contact with hot (90°C or greater) parts of a downlight.

An IC rated downlight means that building insulation that can be continuously exposed to 90°C can safely abut and cover the luminaire.

An IC-F rated downlight additionally has to pass a 1.0mm probe test, i.e. a 1.0mm diameter probe cannot enter any part of the luminaire, and in effect no insulation or any other material can enter the fitting.

A fire rated downlight (usually rated 30/60 and 90 minutes) refers to the minimum time a downlight can maintain a barrier between the room and the ceiling space during a fire.

To obtain a fire rating, a downlight has to undergo extensive (and expensive) testing.

As Amendment A was written primarily to tackle the heat issues of incandescent, halogen and CFL downlights, the advent of the new LED downlights with their typical construction and cooler operating temperatures means most of them comply with IC-F classification.

*If you are looking for fire rated downlights, check out Home Lighting's new **Phoenix 10W LED Fire Rated Dimmable Downlight** by scanning this QR code on your smartphone device.*



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