

Importance of Insulation Guards on IC and IC-F Rated Downlights



GTS Group Technical Manager and member of the Lighting Council NZ, **Mike Austin**, explains the need for insulation guards on IC and IC-F rated downlights.

Ever wondered why some LED downlights have insulation guards fitted and others haven't?

There is a very good reason reputable LED downlight manufacturers go to all the trouble and expense of designing and fitting insulation guards – to make sure the LED downlights will go the distance.

These guards are designed to keep thermal insulation from touching the heat sinks. Extensive testing has shown a gap of as little as 12mm maintained between insulation and the heat sink will result in LED junction temperatures (the most critical point) being reduced up to 22°C.

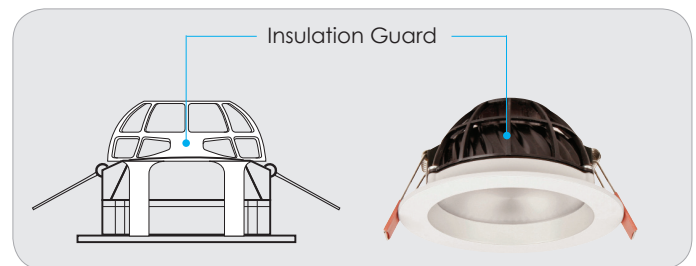
This is hugely significant in terms of LED life and performance, or "lumen depreciation" in lighting talk.

Consider this excerpt from the article "Lifetime of White LEDs" published by the US Department of Energy: "The primary cause of LED lumen depreciation is heat generated at the LED junction...Operating the LED at higher than design temperatures will significantly decrease useful life."

If you look at the range of LED downlights on the market today you will find the majority DO NOT have insulation guards fitted. Why? Because they are imported exactly as they are sold in other countries where there are no IC or IC-F rated downlights.

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Source: US Department of Energy – Lifetime of White LEDs



Home Lighting has been testing and designing insulation guards for more than four years and you will find there is only a very small number of NZ manufacturers or importers who have gone to the same trouble.

Choose wisely and ensure your customer get the life and performance from their LED downlights, and make sure they all have insulation guards fitted.

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GTS Customer Service Ph 0508 743 754 customersolutions@gts.kiwi.nz www.gts.kiwi.nz

