

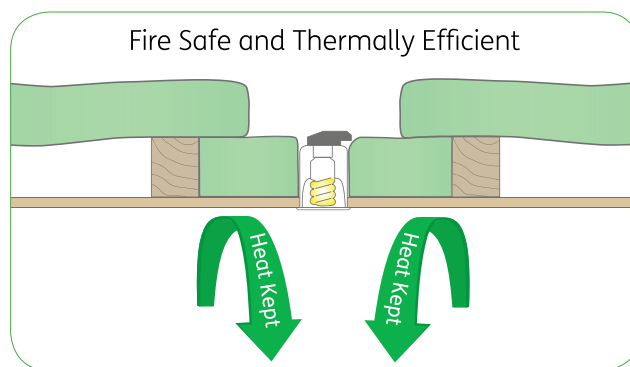


Insulating safely around Downlights

There are a number of different types of downlights available in the New Zealand market and without careful consideration, the thermal performance of buildings could be severely compromised.






Only rated downlights allow the insulation to abut the luminaire. All others require the insulation to maintain a minimum clearance. Each un-rated downlight will reduce the thermal performance of the building envelope as a result of both the necessary insulation clearance around some fittings and possible air movement through the fitting itself.

There is significant fire risk associated with downlights, so careful selection of bulbs and fixtures as well as correct installation of the light fitting and surrounding insulation is crucial. Minimum insulation clearances around un-rated downlights are required for all types of insulation including polyester and fibreglass (glass wool) to reduce over heating and the risk of fire.



GreenStuf® Polyester insulation and IC/CA rated downlight

Downlight Ratings; Recessed Luminaire Class Labels (AS/NZS 60598)

Rating/Class	Description	Class Label	Safety & Performance
NON-IC	Not allowed to have any insulation within 100mm and cannot be installed in residential buildings		Poor
CA 135	135°C rated and non-flammable insulation allowed to abut the luminaire, with non-ignition at 200°C under a 15 minute test period		Moderate
CA 80/ CA-90	90°C rated and non-flammable insulation allowed to abut the luminaire, with non-ignition at 200°C under a 15 minute test period		Moderate
IC	CA 80 rated luminaire that can also be covered by non-flammable insulation rated stable at 90°C, with non-ignition at 200°C under a 15 minute test period		Better
IC-F or IC-4	CA 80 rated luminaire that can be abutted and/or covered by flammable or non-flammable insulation rated stable at 90°C, with non-ignition at 200°C under a 15 minute test period		Best

If in doubt, all insulation must maintain a minimum 100mm clearance from the luminaire.

Independent Controlgear: Place on top of insulation where safe and practicable. It shall not sink into the insulation to the extent of the insulation abutting to the sides of the controlgear. Otherwise leave a 50mm clearance.

GreenStuf® polyester insulation meets all the relevant standards for insulating up to and around rated downlights.

Performance Standard	Requirement	Performance
GreenStuf Flammability	AS1530.3	Pass
Fire Hazard Test	AS/NZS 60695.11.2:2004	Pass / Complies (deemed non-flammable)
GreenStuf Stability	Stable at 90°C	Can be safely exposed continuously to temperatures up to 90°C
GreenStuf Stability	Stable at 150°C	Can be safely exposed continuously to temperatures up to 150°C
Non-Ignition Stability	Stable at 200°C	Non-ignition at 200°C under a 15 minute test period

GreenStuf® is classified non-flammable/non-combustible in accordance with the requirements of AS/NZS 60598 and IEC 60695 for abutting and covering downlights

Issues around the use of un-rated downlights has caused some confusion regarding insulating around recessed fittings due to the risk of overheating and fire. GreenStuf® polyester insulation is fire safe. Put simply, if GreenStuf® is exposed to a naked flame it will melt away from the flame and self-extinguish. Specify and use only IC / CA-Rated luminaires with thermostat protection. This will allow the insulation (including GreenStuf® polyester) to abut the luminaire without compromising safety or performance.

If in doubt keep a 100mm clearance around LED, fluorescent and incandescent lamps and 200mm around fittings capable of operating halogen type lamps.

For further information and support, please contact your local Account Manager on freephone 0800 428 839

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