

# INSULATING SAFELY AROUND DOWNLIGHTS

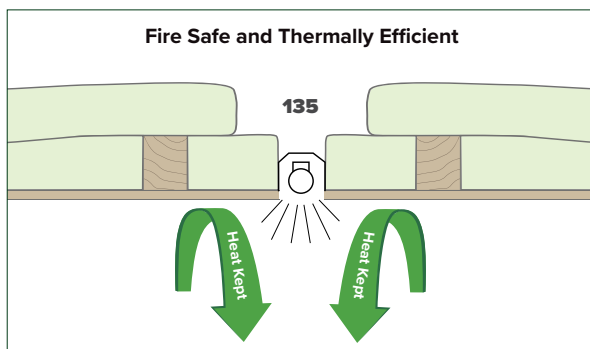
THE FACTS NZS4246:2016

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.

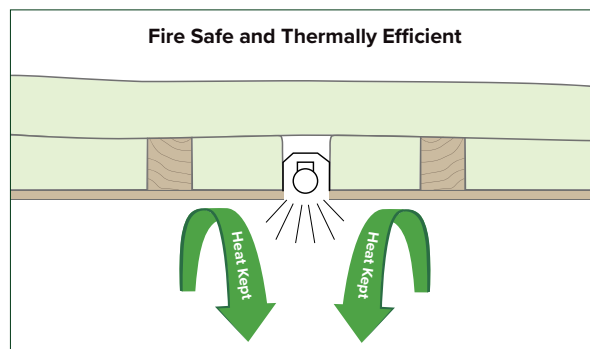
Only rated downlights allow the insulation to abut the luminaire. All others require the insulation to maintain a minimum clearance. Each un-rated downlight will reduce the thermal performance of the building envelope as a result of both the necessary insulation clearance around some fittings and possible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

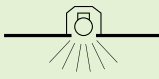


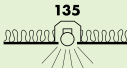
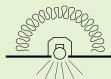

## CA CLASS EXAMPLE;



## IC CLASS EXAMPLE;



## RECESSED LUMINAIRE CLASSIFICATIONS; INSULATION REQUIREMENTS (AS/NZS 60598.2.2:2016)

CLASS	DESCRIPTION	INSULATION REQUIREMENTS	CLASS LABEL
NON-IC	Cannot be used in installations where insulation may be present in normal use. Not suitable for residential installations.		
DO-NOT-COVER	Cannot be abutted against any insulation and cannot be covered in normal use.		
CA 90	Can be abutted against insulation but cannot be covered in normal use.	Stable up to 90°C; withstands AS/NZS 60695.11.5 needle-flame test; non-ignition at 200°C under a 15 minute test period	
CA 135	Can be abutted against insulation but cannot be covered in normal use.	Stable up to 150°C; withstands AS/NZS 60695.11.5 needle-flame test; non-ignition at 200°C under a 15 minute test period	
IC	Can be abutted against insulation and can be covered in normal use.	Stable up to 90°C; withstands AS/NZS 60695.11.5 needle-flame test; non-ignition at 200°C under a 15 minute test period	
IC-4	Can be abutted against insulation and can be covered in normal use. These are fully sealed to eliminate air transfer.	Stable up to 90°C; withstands AS/NZS 60695.11.5 needle-flame test; non-ignition at 200°C under a 15 minute test period	

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, phenolic and PIR insulation meets all the requirements for insulating up to and around IC and CA rated downlights.** GreenStuf insulation is safe to be installed with IC and CA rated 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. Best practice is to use only IC or CA rated luminaires with thermostat protection. This will allow the insulation 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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