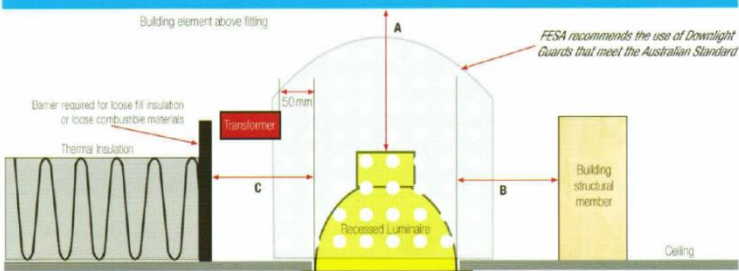
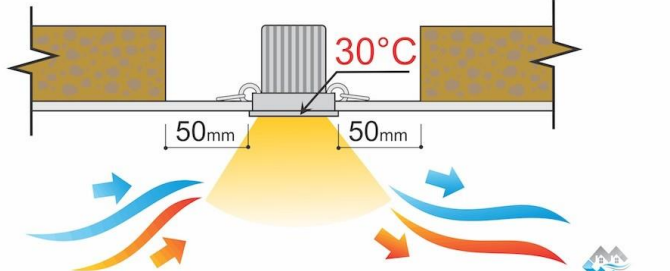
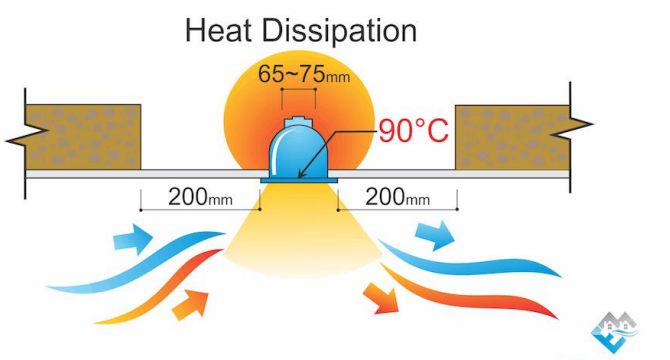


<p align="center">The Industry Association of Building and Property Inspectors in WA Inc – Inspect WA</p>	
<p align="center">Position Paper 12. February 2020 Title: Recessed Downlights & Insulation</p>	
Subject	Recessed Downlights and Insulation
Association Position	<p>Given the generally recognised concerns in regard to fire and safety this paper identifies the need for Building Inspectors to consider the need to report and or comment on perceived hazards associated with the proximity of insulation to recessed lighting.</p> <p>The Association recommends that the clearance between an Incandescent/Halogen Globe and Insulation and or timber associated with ceiling frames or roof frames be a minimum of 200 mm. Further the Association recommends that the clearance between an LED lights and Insulation and or timber associated with ceiling frames or roof frames be a minimum of 50 mm.</p> <p>Where the clearance distance can be visually identified as less than the minimum, Building Inspectors should consider if the issue should be reported as a safety issue.</p> <p>A standard note as advice when considered by the inspector should suffice in most cases.</p> <p>Whether or not the issue is incorporated within a building inspection report is at the Building Inspectors discretion</p>
Date Preparation Commenced	February 2020
Date Provisional Approval by Committee for Release to Members for Comment	February 2020
Final Approval by Committee and Release to Members	March 2020
Why was the Paper Released	This paper was released due to the need for building inspectors to report on safety issues when conducting and inspection under AS4349.1
Key References	
Key Definitions	AS/NZS 5110 Recessed Lighting

	<div><div>GUIDE TO INSTALLING DOWNLIGHTS FOR ELECTRICIANS</div><div><p>DEFAULT MINIMUM CLEARANCES FOR RECESSED LUMINAIRES</p><table><tr><th>Dimension</th><th>Incandescent lamp</th><th>Halogen lamp</th></tr><tr><td>A - Clearance above luminaire</td><td>50 mm</td><td>200 mm</td></tr><tr><td>B - Side clearance to structural member</td><td>100 mm</td><td>200 mm</td></tr><tr><td>C - Clearance to thermal insulation</td><td>50 mm</td><td>200 mm</td></tr><tr><td>D - Clearance to supply transformer</td><td>50 mm</td><td></td></tr></table></div><div><p>LED Light</p><p>Heat Dissipation</p></div></div>	Dimension	Incandescent lamp	Halogen lamp	A - Clearance above luminaire	50 mm	200 mm	B - Side clearance to structural member	100 mm	200 mm	C - Clearance to thermal insulation	50 mm	200 mm	D - Clearance to supply transformer	50 mm	
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AS 43491																
Other	<p>Given the general access, insulation type & visibility within the roof voids of most homes, it is usually impossible to check that all areas are completely safe or, compliant with regard to the recommended installation. There are also many varying downlights installed that may or, may not be a hazard and an inspector reporting under AS4349.1 should state his observations / recommendations and where required report an issue as a safety hazard. A standard note as advice & knowledge for any client would suffice in most cases.</p>															

<p>Key Issues for Consideration</p>	<p>Old or, poorly installed ceiling downlights are thought to cause at least one house fire every week in Western Australia. They can set fire to dust and litter collected in roof insulation or timbers which burn in the roof space above smoke alarms. These fires can go undetected until it is too late. Often, people only know their house is on fire when flaming material comes through air conditioning vents or the ceiling collapses.</p> <p>It is illegal to install your own downlights. You must use a licensed electrical contractor.</p> <p>How can a fire start in the roof space? A roof space fire starts above the ceiling material but beneath the roof tiles or tin. There are a number of things in a roof space that may cause a fire. These include heater flues, heat from the back of downlights and electrical circuits that have been damaged or from poor workmanship, white ants or rodents. If downlights are installed correctly and a safe distance is kept from combustible material, there is no risk of fire. What are the main causes of downlight fires? A fire can start when the heat given off by downlights comes in contact with combustible material including some insulation types, leaf litter, dust or roof timbers. DFES research shows downlights can heat up to more than 240 degrees. Note: When installed correctly, downlights do not pose a fire risk. Halogen or dichroic downlights operate at very high temperatures and if the downlight is too close to combustible material such as loose insulation ignition can occur. Other combustible material including dust, leaves and other debris blow into roof spaces increasing the risk of fire with these types of downlights.</p> <p>So with halogen downlights, for them not to be an issue they either need to have either 200mm clearance with no debris in the roof void, or heat shields installed.</p> <p>Fiberglass and mineral wool insulation materials are non-combustible and remain so for the life of the product.</p> <p>Cellulose insulation Products are largely made of newspaper, which is highly combustible. Even though it's heavily treated with fire-retardant chemicals prior to installation, it is a recognized fire hazard by the Consumer Product Safety Commission</p> <p>4.5.2.3 Recessed luminaires 4.5.2.3.1 General requirements Recessed luminaires and their auxiliary equipment shall be installed in a manner designed to prevent- excessive temperature rise of the luminaire and auxiliary equipment; and the risk of fire from ignition of combustible materials. The requirement in (a) shall be satisfied by one of the following methods: The installation of a luminaire designed and certified by the</p>
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manufacturer as being suitable for operation-
in contact with combustible materials; or
in contact with, or enclosed/covered by, thermal insulation
material.

The installation of a luminaire in combination with a barrier
tested and classified in accordance with AS/NZS 5110 as
being suitable for the installation conditions.

The installation of a luminaire with separation from thermal
insulating materials, combustible building elements and
loose combustible materials not less than- the minimum
clearance specified by the manufacturer of the luminaire,
which may require a barrier or guard constructed of fire-
resistant materials.



So what can be done if concerned ?

- 1) Install approved heat shields to halogen downlights.
- 2) Ensure the correct 200mm clearance is achieved
- 3) Replace the whole halogen downlight fitting with a new LED fitting.
- 4) Replace existing halogen globe with retrofit LED globe. (may involve replacing transformer)

With regard to energy efficiency & sound insulation there
are certain types of LED lights on the market today which
can accommodate insulation and allow for these other two
requirements to be addressed however, for the purpose of
this position paper this is considered in depth .

Additional Observations	
Disclaimer	This document is not intended to be Legal Advice. The document is only intended for Members of. The Industry Association of Building and Property Inspectors in WA. Where appropriate, readers of the document should seek their own independently legal advice

Signed Chairman

The Industry Association of Building and Property Inspectors in WA – Inspect WA

1. Public Release



Public Release – Position Paper 12. 2020 – February 2020

The Industry Association of Building and Property Inspectors in WA Inc – Inspect WA is pleased to announce the release of its Position Paper February 2020

Background

There were key issues that contributed to the release of this Position Paper:

1. Inspectors in WA conducting pre-purchase building inspections are variously calling out issues of proximity of ceiling insulation and structural framework to downlights as structural issues, safety issues, Major defects or not reporting the issue at all.
2. Members of InspectWA have called for a position paper to be prepared outlining what should be reported and how this should be reported.
3. It should also be drawn to the attention of pre-purchase clients that the reporting of this issue is subject to the inspector being able to actually see the problem within the confines of a roof and with multiple factors in the roof which may limit visibility.

The Associations position is:

1. Recessed lighting of all types within residential properties should be kept well clear of insulation and timbers associated with ceiling and roof frame.
2. As a general the Association recommends that a clearance between an Incandescent/Halogen Globes and Insulation and or timber associated with a ceiling frame or roof frame should be a minimum of 200mm. Further the Association recommends that a clearance between an LED lights and Insulation or with a ceiling frame or roof frame should minimum of 50 mm.

The Association recommends that it's Building Inspector Members note when recessed lights are closer to insulation or timber associated with a ceiling frame or roof frames and the issue can be visually identified then building inspectors should consider if the proximity of the insulation or timber to the recessed light should be reported as a safety issue.

Committee
Inspect WA
March 2020