

## MESSAGE FOR THE ELECTRICITY INDUSTRY ON THE INSTALLATION OF DOWNLIGHTS

**ESV advises registered electrical contractors and licensed electricians to be aware of the sections in the proposed new Wiring Rules covering the installation of downlights. They should become familiar with them and follow the new standards right away.**

Compared to the current Wiring Rules, AS/NZS 3000 covers the issue of downlight installation much more explicitly – and includes a diagram and a table showing the default minimum clearances for recessed luminaires or downlights. They are reproduced here, together with the draft standard.

AS/NZS 3000 will be in force from early 2008 and will apply to all new buildings, retrofits and new installations of recessed lamps.

Apart from working to the new standards straight away, registered electrical contractors and licensed electricians should remain vigilant and provide appropriate advice if they observe wrongly installed and dangerous downlights when called to work at customers' premises.

The new standard - **4.5.2.3 Recessed luminaires** – says:

*Recessed luminaires and their auxiliary equipment shall be installed in a manner designed to minimise temperature rise and prevent the risk of fire.*

*The temperature rise at the rear of a recessed luminaire shall be limited to prevent damage to adjacent materials.*

*This requirement shall be satisfied by one of the following methods:*

- (a) The use of a luminaire specifically designed and certified by the manufacturer to permit—
  - (i) contact with combustibles materials; or*
  - (ii) enclosure or covering by thermal insulation material, as appropriate to the location of the luminaire.**
- (b) Installation of the luminaire within a suitable fire resistant enclosure.*
- (c) Provision of required clearances from combustibles and thermal insulating material as specified by the manufacturer of the luminaire.*
- (d) Provision of the default clearances from combustibles and thermal insulating material as specified in Figure 4.7.*

*Where manufacturer's installation instructions that specify required clearances are not available, the luminaire shall be installed in accordance with (b) or (d).*

*NOTE: In the case of a suitably designed luminaire, the installation instructions may specify that no clearance is required.*

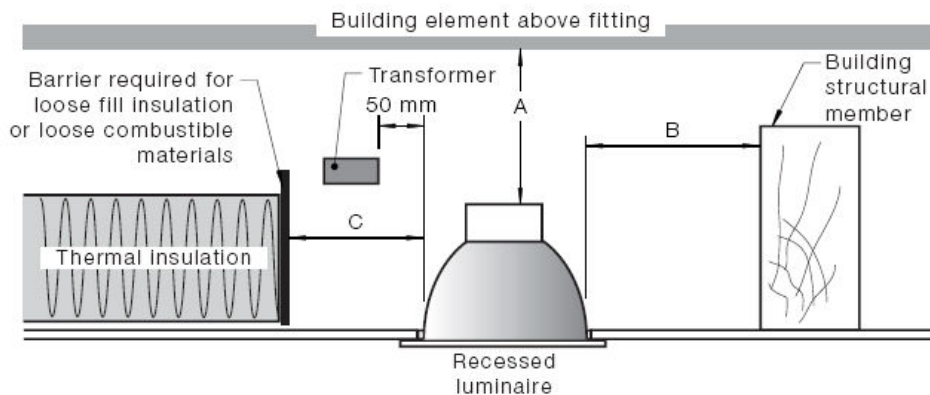
*Recessed luminaires and their auxiliary equipment shall be installed in such a manner that necessary cooling air movement through or around the luminaire is not impaired by thermal insulation or other material.*

Where thermal insulation is of a type that is not fixed in position (e.g. loose fill), a barrier or guard constructed of fire resistant material shall be provided and secured in position to maintain the necessary clearance (See Figure 4.7).

Where thermal insulation may reasonably be expected to be installed in the space containing a recessed luminaire, the luminaire shall be installed in such a manner as to provide for the subsequent installation of thermal insulation.

Recessed luminaires shall be installed in accordance with (a) or (b), or provided with equivalent protective measures, where there is a likelihood of extraneous combustible material (e.g. leaves or vermin debris etc.) collecting on or around the luminaire.”

The diagram and table from the draft Wiring Rules:



Dimension	Incandescent lamp	Halogen lamp
A - Clearance above luminaire	50 mm	200mm
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	

FIGURE 4.7 DEFAULT MINIMUM CLEARANCES FOR RECESSED LUMINAIRES