

Metal encased Luminaires are allowed under AS/NZS 60598.1 – Safety standard for luminaires, refer to Note 1 item b).

Definition of Class II luminaire from AS/NZS 60598.1;

A luminaire in which protection against electric shock does not rely on basic insulation only, but in which additional safety precautions such as double insulation or reinforced insulation are provided, there being no provision for protective earthing or reliance upon installation conditions.

NOTE 1 – Such a luminaire may be of one of the following types:

a) A luminaire having a durable and substantially continuous enclosure of insulating material which envelopes all metal parts with the exception of small parts such as nameplates, screws and rivets which are isolated from live parts by insulation at least equivalent to reinforced insulation. Such a luminaire is called an insulation encased class II luminaire.

b) A luminaire having a substantially continuous enclosure of metal, in which double insulation is used throughout, except for those parts where reinforced insulation is used because the application of double insulation is manifestly impracticable. Such a luminaire is called a metal-encased class II luminaire.

c) A luminaire which is a combination of types a) and b) above.

NOTE 2 – The enclosure of an insulation-encased class II luminaire may form a part or the whole of the supplementary insulation or the reinforced insulation.

NOTE 3 – If earthing is provided to assist starting, but is not connected to an accessible metal part, the luminaire may still be deemed to be of class II. Accessible metal parts in compliance with the appropriate IEC lamp specification and other metal parts not normally earthed and not normally accessible during normal use are not regarded to be conductive parts which may cause an electric shock unless the tests of Annex A show them to be live parts.

NOTE 4 – If a luminaire with double insulation and/or reinforced insulation throughout has an earthing terminal or an earthing contact, it is class I construction. However, a fixed class II luminaire intended for looping-in may have an internal terminal for maintaining the electrical continuity of an earthing conductor not terminating in the luminaire, provided that the terminal is insulated from accessible metal parts by class II insulation.

NOTE 5 – Class II luminaires may have parts in which protection against electric shock relies on operation at safety extra-low voltage (SELV).

Connecting an earth to the outer enclosure of the Class II luminaire wouldn't affect the electrical safety of the luminaire as Class I luminaires only require basic insulation between live parts and accessible metal parts. However it would cause an EMC issue and the luminaire would most likely need to be retested to the relevant EMC standard.