



**ACT**  
Government

Environment and  
Sustainable Development

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## Electrical Note 6

Modifications made to concrete or ceramic roofing tiles for conduit roof space access integral to photovoltaic installations

From 1 December 2011 penetrations for electrical conduits made on the underside of or access holes drilled through roofing tiles can no longer be approved by the Construction Occupations electrical inspectorate. The majority of other regulatory offices outside the ACT do not approve roofing tile modifications.

Standard AS 2049 Clauses 3.5.1.2 *Roof tiling* and 1.4.2 *Weather resistance*, requires that completed tiling shall be free from defects or distortion, to be weatherproof, fixed and flashed and shall perform as required to resist weathering as specified under specimen testing for a sample tile as relevant to standard AS 4046.9.

Wiring systems of all kinds and applications must be protected against mechanical damage. Clause 3.9.4 of the Wiring Rules AS/NZS 3000: 2007 explains and defines the principles of mechanical protection for wiring systems, and for this topic, for d.c. wiring systems.

The Clause 3.9.4.3.1 of the Wiring Rules prohibits wiring systems between roofing materials and immediate supporting members. This is defined by the inspectorate as meaning **battens, upper and lower supporting tiles and any other adjacent elements of a roofing system.**

There are roofing flashing products and moulded tile profiles that can be substituted for a concrete tile to enable non-metallic conduit penetration into a roof space.

The d.c. supply from a photovoltaic panel array is deemed to be a consumers mains wiring system and particular attention must be made to its protection from external influences.

Clause 3.9.7.1.2 (a) of the current Wiring Rules requires that the risk of short circuit be minimised by additional cable protection where necessary, in, around and under roofing systems.

In d.c. systems the real potential for sustained arcing and subsequent risk of a roof top fire is integral to risk assessment planning for the installation of unprotected supply cables from photovoltaic arrays.

For more information please see Photovoltaic Installations. [http://www.actpla.act.gov.au/\\_data/assets/pdf\\_file/0015/27411/Photovoltaic\\_Installations\\_-\\_Electrical\\_Note\\_6\\_explained\\_.pdf](http://www.actpla.act.gov.au/_data/assets/pdf_file/0015/27411/Photovoltaic_Installations_-_Electrical_Note_6_explained_.pdf)

If further information is required, please feel free to contact the electrical inspectors:

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