



**An initiative of the South Australian Construction
Safety Alliance (SACSA).**

Essentials for safe management of: Electrical work and equipment

Electrical Work



Energised electrical work (Licensed electrical workers)

- Energised electrical work is **PROHIBITED** in most cases. It must not be carried out merely because it is convenient.
- Energised electrical work must only be considered after a documented risk assessment is completed by a competent person.
- A person can only authorise energised electrical work after they have consulted with the person with management or control of the workplace.
- A SWMS for energised electrical work must be prepared in consultation with workers to control the risks identified in the risk assessment, including the requirement to have a safety observer present.
- Safety observers must be competent to implement identified emergency control measures, rescue, and if necessary, resuscitate the electrical worker.
- Licensed electrical workers and workers acting as safety observers must be assessed as competent in rescue and resuscitation every 12 months.
- Duty holders must ensure the person who carries out the energised electrical work uses suitable tools, testing equipment and personal protective equipment appropriately.

Duty of electrical workers

- Workers must follow the control measures listed in the SWMS and wear appropriate PPE.

Lock out and tag out (Isolation)

- Equipment used for detecting an energised source should be tested on a known live source, immediately before and after testing, to ensure that it's functioning correctly.
- The safe work principle **TEST FOR 'DEAD' BEFORE YOU TOUCH** must be adhered to.
- Appropriate lock out and tag out procedures must be used at the circuit breaker or isolator once the electricity is de-energised.
- If the isolation is to remain in place for more than a day, the Danger Tag should indicate the period of isolation.

Electrical Safety



Electrical equipment safety

- It is recommended that RCDs on Temporary Electrical Distribution boards are locked, to ensure the cause of any fault is investigated by a competent person prior to re-energising.
- Regular visual inspections and testing of electrical equipment, including RCDs, must occur in accordance with AS3760.
- Electrical equipment and leads are to be inspected for any damage prior to each use.
- Electrical equipment used on a construction site to undertake construction work is deemed to be operating in a hostile environment, warranting a 3 monthly inspection and test. Note: site amenities and offices are not a hostile environment.
- The recommended colour coding for tags on tested equipment should be used.
- Leads must not be run from one level to another, where practicable.
- Only leads and tools designed for wet or damp conditions, with the appropriate IP rating, are to be used in those conditions.
- Electrical leads must be arranged in a way that they are not subject to damage, or they must be kept off the floor using insulated supports.

High Risk Construction Work

- Working on or near electrical installations is classed as High Risk Construction Work.
- 'Near' means close enough that there is a risk of hitting or puncturing the electrical installation or service.
- Working on or near electrical installations requires a SWMS to be prepared and implemented prior to work commencing.
- Workers must follow the control measures listed in the SWMS and wear appropriate PPE.

Electrical Installations



General

- AS/NZS 3012 *Electrical installations – construction and demolition sites* is the relevant standard.
- Results of RCD tests shall be recorded and kept on site or made available for audit and kept for a minimum period of five (5) years (excluding the daily push button test for portable RCDs).
- A Certificate of Compliance (COC) is required for each new temporary electrical installation, including additions or changes to an existing system. The COC's must be certified prior to the system being energised.

Construction wiring

- Construction wiring shall be readily distinguishable from permanent wiring, e.g. highlighted with tape or labelled.
- Unarmoured cables must not be installed on metallic roofs or similar structures unless suitably protected against mechanical damage.
- Construction wiring is not to be attached to freestanding fencing.
- Where it is not possible to avoid overhead construction wiring across access ways, an effective means shall be provided to minimise the risk of vehicular contact with the aerial wiring system.

Lighting

- Power feeds for emergency lighting must be protected from unauthorised disconnection.
- Access/egress shall meet minimum lighting levels of 40 lux for walkways. Work areas shall meet a minimum of 160 lux for low risk works.
- If there is a loss of supply to the normal lighting in the area, ensure that battery powered emergency lighting of at least 20 lux operates for a minimum of one hour to allow persons to exit the building safely.