Electrical Safety

Taking necessary safety measures when working with electrical installations on construction and demolition sites is essential in maintaining a safe workplace for everyone involved.

Electrical installations on construction and demolition sites can pose serious risks to workers' safety.

SafeWork SA has developed a booklet about safe electrical practices on building sites, called Building and construction industry guideline for safe electrical practices on construction and demolition sites, and have published a code of practice titled Managing Electrical risks in the workplace.

Electrical installations on construction and demolition sites must comply with AS/NZS 3012 Electrical Installations - Construction and Demolition Sites.

Extracted from the SafeWork SA documents the following information covers some commonly observed electrical safety issues on our construction worksites

RCDs

Every electric supply to which electrical equipment could be connected should incorporate an RCD to protect persons who may come into contact with the electrical equipment against electric shock.

Every portable RCD device on the worksite must be trip tested by the built-in push button test prior to use, and each day whilst in use, and performance tested for operation at least once every three (3) months by a competent person.

Every non-portable RCD device on the worksite must be trip tested by the built-in push button test monthly and performance tested for operation at least once every twelve (12) by a competent person.

Cables & Leads

Construction wiring shall be readily distinguishable from permanent wiring by using cable of a different colour or by attaching iridescent yellow tape spaced at intervals not exceeding 5 metres and stamped with the words ‘construction wiring’. If live, permanent wiring is located where construction activity is occurring it must be marked as live at intervals not exceeding 5 metres with the words ‘live wiring’ and be readily distinguishable from construction wiring.

Unarmoured cables must not be installed on metallic roofs or similar structures unless suitably protected against mechanical damage.

Electrical leads should not be arranged so that they are easily damaged, run across floors or doorways, or over sharp edges

Temporary Supply Switchboards

All temporary supply switchboards used on building, construction and demolition sites shall comply with AS/NZS 3012.

Switchboard enclosures must have an insulated or covered tie-bar or similar arrangement for the anchorage of the cables or flexible cords and have door locking facilities and means of retention in the open position.

The door must be provided with signs stating, “KEEP CLOSED” – “RUN ALL LEADS THROUGH BOTTOM” and “PRIOR TO RESETTING RCD REMOVE ALL LEADS”;

Every switchboard needs to be provided with a clearly labelled main isolating switch, which controls all equipment on; and circuits originating from the board.
A clearance of at least 1.2 metres must be maintained in front of all switchboards.

Ingress Protection

The level of protection required to prevent intrusion from foreign bodies (tools, dust etc.) and moisture is determined by a risk assessment taking into account the work environment.

Only leads and tools designed for wet or damp conditions are used in those conditions.

Understanding IP ratings

The second digit in a typical IP code indicates a precise level of protection against moisture ingress under specific test scenarios.

The ratings widely accepted as ‘waterproof’ for most general purposes are IP65, IP66 and IP67.

- IP65 Enclosure - IP rated as "dust tight" and protected against water projected from a nozzle.
- IP66 Enclosure - IP rated as "dust tight" and protected against heavy seas or powerful jets of water.
- IP 67 Enclosures - IP rated as "dust tight" and protected against immersion. for 30 minutes at depths 150mm - 1000mm

Incidents

Electrical incidents are required to be reported to these regulatory agencies, dependent on the type of incident:

(i) Office of the Technical Regulator Electrical incidents resulting in electric shock or electrical burns.

(ii) (ii) SafeWork SA Electric shock, as well as a short circuit or malfunction that results in an injury or immediate and significant risk of injury.