



VICTORIAN WORKCOVER AUTHORITY
CONSTRUCTION INDUSTRY PROGRAM

Industry Standard for Electrical Installations on Construction Sites

FREQUENTLY ASKED QUESTIONS

Revised and re-issued, 4 September 2002.
(This edition replaces the original 23 May 2002 edition.)

1: Where can I get a copy?

1. Copies can be ordered from WorkCover publications.
 - Tel. (03) 9641-1333
 - E-mail orders to publications@workcover.vic.gov.au
 - Available at all local WorkSafe offices.
2. Downloaded from the web:
 - www.workcover.vic.gov.au/construction
 - www.ocei.vic.gov.au
 - www.etu.asn.au

2: Why was it produced?

To assist:

- Employers,
- Registered electrical contractors, and
- Licensed electricians

to meet their obligations under the electricity safety legislation and the occupational health and safety legislation.

3: When did it take effect?

It took effect from the date it was launched, 7 March 2002.

4: What did it replace?

The Industry Standard replaced WorkSafe's 1988 *Code of Practice for Temporary Electrical Installations on Building and Construction Sites*, which was revoked on 7 March 2002.

5: Why does the Industry Standard use a mixture of “shall” and “should” statements?

Shall is used to indicate mandatory requirements under the electricity safety legislation.

Should is used to indicate recommended safe practices and procedures to assist compliance with occupational health and safety legislation.

6: Is a Certificate of Electrical Safety needed for an addition or modification to construction wiring?

Yes. All electrical wiring installation work requires a Certificate of Electrical Safety, which should include a detailed description of the work carried out.

7: The switchboard door has a device to hold it open. May it be left open to allow easy access to the socket-outlets during normal construction work?

No. The door should be kept closed during use and only opened to install or remove flexible leads. The latch is only there to hold the door open so that electrical work can be carried out on the switchboard by a licensed electrical worker.

8: Is the fitting of locking devices (lock-dogs) to circuit-breakers and RCDs (set in the ON position so that they cannot be reset in the event of a trip), going to effect the tripping operation of the protection devices?

No. These devices are fitted with a trip-free action as required by Australian Standards and cannot be held in the on position against a fault.

NOTE- These locking devices must not be fitted to main switches or isolating switches and must not prevent or hinder access to these switches. (See Clause 2.1 of the Industry Standard.)

9: Are construction power switchboards which have socket-outlets without manual switches acceptable?

Yes. Socket-outlets may be either the type with a manual switch or the shutter type which switch on when the plug top is inserted and switch off when it is removed.

10: How far apart should construction power switchboards containing socket-outlets be located?

These switchboards should be located so that work can be carried out without exceeding the maximum effective working length of the extension leads. Remember that effective working length will nearly always be less than the maximum length due to the installation requirements for extension leads (such as running leads above head height or around corners).

11: Is it necessary to install a separate construction power switchboard on the upper floors of a house under construction?

Not necessarily. A suitable socket-outlet may be hard-wired to supply the upper floor with construction power, provided:

- The final sub-circuit is protected by an RCD and circuit-breaker in the main switchboard,
- The socket-outlet is positioned to prevent the risk of mechanical damage,
- The wiring is protected from mechanical damage, (eg. conduit),
- The wiring is clearly identified as construction wiring, and
- Where exposed to weather, the socket-outlet is weatherproof (minimum IP23 rating).

12: Can a fence be used to support construction wiring?

Yes, provided that:

- The fence is secured in position and in good repair (see note below),
- The cable is run at the top of the fence and, where practicable, not lower than 2 m,
- The wiring is securely fixed,
- The wiring is protected from mechanical damage,(eg. in conduit),
- The wiring is clearly identified as construction wiring, and
- It is not likely to be damaged in the construction process.

Note:-Temporary wire / security or domestic type timber paling fences cannot be used to support any electrical wiring.

13: During construction work, is it acceptable to use part of the permanent wiring system as construction wiring?

Yes. Permanent wiring can be used for construction purposes, but it has to meet the same installation conditions as ordinary construction wiring including:

- Segregation from the rest of the permanent wiring, and
- The removal of all construction wiring identification labels when the wiring is returned to service as permanent wiring.

14: Does the site's internal permanent wiring left live during the construction project need to be identified as live cables?

If this wiring is accessible to any person on the construction site it should be:

- Labelled to indicate that it is live,
- Supplied with additional mechanical protection if required, and
- Kept segregated from all construction wiring.

15: Is corrugated PVC conduit adequate for protection of wiring?

Yes, provided that the wiring is not at risk of mechanical damage or installation conditions do not indicate that a higher degree of protection is required. This assessment should be made before using this type of conduit. If corrugated conduit is used, heavy duty (orange) is recommended within the actual construction areas due to its higher impact resistance and visibility.

16: If power is needed further away from the switchboard than the maximum extension lead length, can an RCD-protected portable power outlet be plugged on the end of this lead and another lead plugged into it to get the additional length?

No. The addition of the RCD power outlet can not be used to extend the lengths of leads. When such a device is used, its length of lead must be taken into account when measuring the total lead length. (The reason for this is explained in the answer to the next question.)

The only way to use longer leads is to have an extension lead with larger size conductors.

17: Why can't extension leads be used at any length?

The reason extension leads have a maximum length is due to their conductor resistance. If the lead is too long then:

- Under fault conditions, the protection devices (RCD, Circuit-breakers) may not function as intended or provide the required protection for people and wiring.
- Under normal operating conditions, this may result in lower than acceptable voltage (voltage drop) which may cause damage to equipment.

18: Does testing and tagging of leads and portable equipment have to be carried out by a licensed electrician?

Not necessarily. Clause 4.3 of the Industry Standard states that “inspection and testing **should** be undertaken by a licensed electrician or electrician supervised (ES or L)”.

WorkSafe and OCEI accept this is not always practical. An alternative is to use an individual who has satisfactorily completed a competency-assessed training course on testing and tagging.

Any person carrying out these tests must:

- Have the appropriate test instruments and be competent in their use,
- Carry out both visual inspection and electrical tests,
- Use testers that have been re-calibrated within the previous 12 months,
- Keep in a logbook proof of competency and all required test information,
- Have the logbook available for audit purposes within 24 hours of request, and
- Use a tag that identifies the person who carried out the test.

NOTE:-This does not mean that the individual is qualified to repair any defects found during the testing.

19: Why do RCDs have to be tested?

They must be tested to ensure that they operate within the specified time limits for the trip currents, so that they will protect against electric shock to earth. Also, these tests will discover if the device is faulty.

20: The Industry Standard recommends monthly time / current testing of RCD's. Are there any exceptions to this general rule?

On a typical housing construction site, it is considered reasonable that the main RCD protection, either on the typical builder's supply pole or within the permanent switchboard used to supply construction power, be time / current tested:

- Prior to the first use of power,
- When the registered electrical contractor (REC) returns to site to do the "rough in", normally at the 6-7 week mark or where this time frame is exceeded, other arrangements should be made to have the RCD tested, and
- Every month after that.

Where the REC is working locally, it is expected that the testing will be done monthly.

21: Who can do the testing of switchboard RCDs?

- If the equipment is hired, you may request that the hirer arrange for these tests to be carried out as part of the hire agreement. As up stream RCDs may need to be bypassed for testing purposes, a licensed electrician should be used.
- By arrangement with the site registered electrical contractor.
- By a licensed electrician.

Any person carrying out these tests must:

- Have the appropriate test instruments and be competent in their use,
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- Keep in a logbook proof of competency and all required test information,
- Have the logbook available for audit purposes within 24 hours of request, and
- Use a tag that identifies the person who carried out the test.

NOTE:-

- *Any repairs to the installation must be carried out by a licensed electrician employed by a registered electrical contractor and a Certificate of Electrical Safety must be supplied.*

22: If the monthly maximum tripping time test for RCD's is due to be performed on a particular day of each month and that day now falls on a weekend or public holiday can the test be done on the next working day?

Planning should be in place to ensure that the test is carried out by the due date. However, if the due date falls on a weekend or public holiday and access to the construction site is not available, then the test may be carried out on the next available working day. This course of action would not reduce safety outcomes.

Further information

Further advice on the Industry Standard may be obtained from the WorkSafe Construction Industry Program by contacting:

Steve Darnley (03) 9641 1486

Or e-mail:

construction@workcover.vic.gov.au and head your e-mail “Electrical Standard.”

The identification of additional questions may result in further revision and re-issue of this series of *Frequently Asked Questions*.

You can access current advice on these and other construction safety issues by regularly visiting our website:

www.workcover.vic.gov.au/construction