

REQUIREMENTS FOR PERSON TO CARRY OUT TASKS RELATING TO INSPECTIONS AND TESTING OF ELECTRICAL EQUIPMENT

Axiom Compliance have compiled the following information for the person conducting a business or undertaking at a workplace the responsibility to ensure that electrical equipment is regularly inspected and tested by a competent person. What is a competent person? There is considerable sometimes conflicting information regarding this subject when searching on the web. We decided to create this document with the relevant extracts from current WHS regulation, Code of practice, Australian Standards 3760,3012 and fact sheets so persons responsible can concentrate on the specific and factual, current information regarding requirements of a competent person. Axiom Compliance training with qualified workplace trainers and assessors involves participation in a structured and sequenced learning process. This provides relevant learning experiences which combines formative assessment and summative assessment to determine participants Skills and knowledge. Axiom Compliance Certificate of Achievement training complies with requirements for electrical testing and tagging in NSW. NSW do not currently require any more than what is specified in all the below extracts and do not require a licence or qualification.

There could be additional requirements for some states whom require a licence for testing and inspecting electrical equipment contact your state regulators, some require a statement of attainment from relevant units of the Electrotechnology package to apply for a licence. Axiom Compliance can also perform this training.

Who can test and tag electrical equipment

A competent person as defined in the WHS Regulation 2011 must do the inspecting and testing of your plug-in electrical equipment.

Extract from WHS Regulation.

Work Health and Safety Regulation 2011

150 Inspection and testing of electrical equipment

(1) A person conducting a business or undertaking at a workplace must ensure that electrical equipment is regularly inspected and tested by a competent person if the electrical equipment is:

(a) supplied with electricity through an electrical socket outlet, and

(b) used in an environment in which the normal use of electrical equipment exposes the equipment to operating conditions that are likely to result in damage to the equipment or a reduction in its expected life span, including conditions that involve exposure to moisture, heat, vibration, mechanical damage, corrosive chemicals or dust.

Maximum penalty:

(a) in the case of an individual—\$3,600, or

(b) in the case of a body corporate—\$18,000.

Managing Electrical risks in the Workplace- Code of Practice

Competency requirements for those carrying out inspection and testing of Electrical Equipment

Extract from Managing Electrical Risks in the Workplace – Code of Practice

*Inspection and testing of electrical equipment must be carried out by a **person who has acquired, through training, qualification or experience, the knowledge and skills to carry out the task (i.e. be a ‘competent person’)**. Inspection and testing of electrical equipment must be carried out by a competent person who has the relevant knowledge, skills and test instruments to carry out the relevant inspection and testing. The person carrying out any testing of electrical equipment should also be competent to interpret the test results of any equipment they use. For example, a person carrying out testing under AS/NZS 3760:2010 must be:*

a licensed or registered electrician (whichever applies), or

in some jurisdictions, a licensed electrical inspector, or

a person who has successfully completed a structured training course and been deemed competent in the use of a pass-fail type portable appliance tester and the visual inspection of electrical equipment.

The training should be designed to ensure, so far as is reasonably practicable, that upon completion successful participants:

can use the relevant test equipment safely and effectively

understand electrical risks and appreciate the role that inspection and testing plays in ensuring electrical safety

understand AS/NZS 3760:2010 and AS/NZS 3012:2010 (if testing equipment for construction or demolition sites)

understand the legal requirements relevant to the work.

Some kinds of electrical testing must only be carried out by a licensed electrician or electrical inspector under local electrical safety laws. For example, testing requiring the dismantling of electrical equipment should only be carried out by a licensed electrician.

Additional or different competencies may be required for more complex kinds of testing outside the scope of AS/NZS 3760:2010.

If in doubt, advice should be obtained from a person qualified and experienced in electrical equipment testing, for example an electrician, electrical contractor, electrical inspector, specialist testing provider or relevant regulator.

Appendix A- Meaning of Key terms: pg 50 of the code

Competent person means:

- for electrical work on energised electrical equipment or energised electrical installations (**other than testing referred to in regulations 150 and 165**), a licensed or registered electrician or any other person permitted to carry out or supervise electrical work under relevant State or territory legislation (e.g. electrical engineer, electrical apprentice)*
- for any other case, a person who has acquired through training, qualification or experience and the knowledge and skills to carry out the task.***

Further explained in:

Safe Work Australia: Electrical Risks at the Workplace, Fact Sheet

Extract from Fact Sheet Electrical Risks at the Workplace

Who is competent to carry out inspection and testing of electrical equipment to meet these requirements?

Inspection and testing of electrical equipment under the WHS Regulations must be carried out by a competent person—someone who has acquired through training, qualification or experience the knowledge and skills to carry out the task.

Examples include:

- *a licensed or registered electrician (whichever applies in the jurisdiction)*
- *in some jurisdictions—a licensed electrical inspector*
- *a person who has successfully completed a structured training course and been deemed competent in the use of a pass-fail type portable appliance tester and the visual inspection of electrical equipment.*

Industry Guidelines

Australian Standard AZ/NZS 3760:2010 update Dec 2012

Extract from Australian Standard 3760:2010 (full copy of standard can be purchased through SAI Global)

*The philosophy of the document AS 3760 is to provide an inspection and testing regime capable of implementation with only simple instrumentation, and performed by a person **not necessarily having formal qualifications or registration, but who has the necessary practical and theoretical skills, acquired through training, qualification, experience or a combination of these, to correctly undertake the tasks prescribed by this Standard.***

1.4.4 Competent person

A competent person is one who the responsible person ensures has the necessary practical and theoretical skills, acquired through training, qualification, experience or a combination of these, to correctly undertake the required tasks.

NOTE –

(1) A competent person is not required to be a registered or licensed electrical practitioner. Requirements for registration vary between jurisdictions.

(2) Competency levels may need to be updated following technological advances in both the testing instrumentation available and the equipment being examined.

(3) It is expected that the competent person will:

(i) Be able to use test equipment safely and effectively

(ii) Have an understanding of the dangers of electricity, leading to an appreciation of the need for inspection and testing

(iii) Have an understanding of the construction of Class I and Class II equipment, and of the terms: basic insulation, supplementary insulation, reinforced insulation and double insulation, protective earth and earth continuity, insulation resistance and earth leakage current

(iv) Have an understanding of the application and requirements of this Standard

(v) Have an understanding of the relevant legislative requirements appropriate for the jurisdiction they are operating in.

(4) Guidelines to the knowledge of electrical principles with which a competent person is likely to be familiar are listed in Appendix B.

APPENDIX B

GUIDELINES ON THE ELECTRICAL KNOWLEDGE OF A COMPETENT PERSON (Informative)

B1 GENERAL

Guidelines on the electrical knowledge and other principles with which a competent person is likely to be familiar are provided below on an indicative basis only.

NOTE – Additional information may be available from electrical or OH&S regulators in the various jurisdictions.

B1.1 Basic electrical principles

(a) Introduction to electricity, AC and DC;

(b) Electrical units: Amps, Ohms, Volts.

B1.2 Circuit protection

(a) Fuses;

(b) Circuit breakers;

(c) Residual current devices (RCDs).

B1.3 Electrical safety

(a) Working with electricity;

(b) Effects of current flow.

B1.4 Inspection and testing to AS/NZS 3760

(a) Inclusions and exclusions;

(b) Classes of equipment;

(c) Types of insulation;

(d) Protective earth operation;

(e) Insulation resistance;

(f) Leakage current;

(g) Correct and safe use of test equipment.

B1.5 Applicable to jurisdictional regulations Regulatory requirements of country, state or territory.

Electrical installations - Construction and demolition sites – Australian Standard 3012-2010

Competency requirements for those carrying out inspection and testing of Electrical Equipment

3.3 PERSONNEL

The verification (inspection and testing) required by Clauses 3.4 and 3.7(b) shall be carried out by a qualified person authorized to carry out the electrical installation work required. The verification (inspection and testing) required by Clauses 3.5, 3.6 and 3.7(a) inclusive shall be carried out by a competent person.

3.5 RCDS

RCDS shall—

- (a) be successfully operated by means of their in-built test facility (push-button); and*
- (b) be subject to and comply with a test for operating time of RCDS in accordance with AS/NZS 3760.*

NOTES:

- 1 An RCD tester may be used for this test.*
- 2 Fixed RCDS include switchboard types and socket-outlet types.*
- 3 Portable RCDS include RCDS on portable equipment.*

3.6 OTHER ELECTRICAL EQUIPMENT ON SITE

3.6.1 General

All other electrical equipment on site, including power tools, flexible cords, cord extension sets and portable socket-outlet assemblies, shall be tested in accordance with Clauses 3.6.2 and 3.6.3, as appropriate, and inspected in accordance with the methods of AS/NZS 3760, before being put into service and thereafter at intervals not exceeding those listed in Table 3 of this Standard.

3.6.2 Protective earthing continuity

All Class I (earthed conductive parts) electrical equipment shall have the continuity of the protective earthing conductor from the plug earth pin or supply point to exposed conductive parts tested in accordance with the requirements of AS/NZS 3760.

The measured earthing conductor resistance values shall be less than the maximum values given in AS/NZS 3760.

NOTE: In accordance with AS/NZS 3760, equipment should not be dismantled to perform these tests.

3.6.3 Insulation resistance or leakage current

The insulation resistance or leakage current of Class I (earthed conductive parts) and Class II (double insulated) electrical equipment shall be tested in accordance with the method given in AS/NZS 3760, except that, for fixed equipment, the insulation resistance shall be measured from the earth terminal of the equipment rather than the earth pin of a plug.

The insulation resistance values measured shall be not less than the minimum values given in AS/NZS 3760.NZ

Definitions AS 3012: 2010

1.4.9 Competent person

A person, who has acquired, through training, qualification or experience or a combination of these, the knowledge and skill enabling that person to perform the required task correctly.

(3.6.4 and 3.8-1,2,3,4 also have relevant testing and inspecting to be completed in construction full copy of standard can be purchased through SAI Global)