

Title	Demonstrate and apply knowledge of safeguards for use with portable electrical appliances		
Level	2	Credits	3

Purpose	<p>This unit standard covers knowledge of safeguards used in conjunction with electrical tools and appliances to prevent electrical accidents.</p> <p>People credited with this unit standard are able to:</p> <ul style="list-style-type: none"> – demonstrate knowledge of basic electrical protection – demonstrate knowledge of the regulations covering portable electrical appliances safeguards – demonstrate knowledge of isolating transformers – demonstrate knowledge of double insulation for the purpose of protection – inspect portable electrical appliances for defects.
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Classification	Electrical Engineering > Core Electrical
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Available grade	Achieved
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Guidance Information

- 1 This unit standard has been developed for learning and assessment off-job.
- 2 Definitions

Industry practice – those practices that competent practitioners within the industry recognise as current industry best practice.

Safe and sound practice – as it relates to the installation of electrical equipment is defined in AS/NZS 3000 (version as cited in the Electricity (Safety) Regulations), *Electrical Installations (known as the Australian/New Zealand Wiring Rules)*.
- 3 Range
 - a Candidates may refer to current legislation and Standards during assessment.
 - b Demonstration of safe working practices and installation in accordance with *safe and sound practice* are essential components of assessment of this unit standard.

- c All activities and evidence presented for all outcomes and performance criteria in this unit standard must be in accordance with:
 - i legislation
 - ii policies and procedures
 - iii ethical codes
 - iv Standards – may include but are not limited to those listed in Schedule 2 of the Electricity (Safety) Regulations 2010
 - v applicable site, enterprise, and industry practice
 - vi where appropriate, manufacturers' instructions, specifications, and data sheets.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of basic electrical protection.

Performance criteria

1.1 Describe requirements of electrical protection for people and property.

1.2 Describe electrical safety, isolation, and testing procedures.

1.3 Outline the requirements of mains protection.

Range	RCDs, isolating transformers, circuit breakers, protection of electrical circuits and equipment, protection of overhead cables, protection of underground cables, electrical barriers, service segregation.
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1.4 Outline protection issues and requirements for temporary supplies facilities.

Outcome 2

Demonstrate knowledge of the regulations covering portable electrical appliances safeguards.

Performance criteria

2.1 Describe situations that require safeguards.

2.2 Identify the type of safeguards that may be used for each situation.

Outcome 3

Demonstrate knowledge of isolating transformers.

Performance criteria

3.1 Describe the construction and operation of an isolating transformer with reference to its component parts.

3.2 Describe the manner in which an isolating transformer protects people from electric shock in terms of electric current path through the body.

3.3 State test requirements for isolating transformers.

3.4 Explain conditions for safe use of isolating transformers.

Range one appliance for maximum safety, interconnection of earth conductors when used with multiple appliances, use of other safeguards in conjunction with isolating transformer.

Outcome 4

Demonstrate knowledge of double insulation for the purpose of protection.

Performance criteria

4.1 Describe double insulation of an appliance in terms of what it is and how it protects the user from electric shock.

4.2 Recognise the symbol for double insulation from appliance nameplate or graphical representation.

4.3 State typical uses of double insulation.

Range portable tools, domestic appliances, extension leads.

4.4 State essential differences between an earthed appliance and a double insulated appliance.

4.5 Give reasons as to why exposed metalwork must not be connected to earth.

Outcome 5

Inspect portable electrical appliances for defects.

Range may include but is not limited to – portable power tool, extension cord, home or office appliance;
evidence of three different appliances is required.

Performance criteria

5.1 Visually check appliance and cord for defects.

Range appliance defects may include but are not limited to – missing screws, handles, guards, controls; cracked body or hand grips, damaged chucks, blade clamps, tool holders, cord grips;
cord defects may include but are not limited to – cuts, nicks, abrasions, tightly twisted or knotted, flattened, compressed, plug top incomplete, plug not securely fitted to cord;
evidence of three defects is required.

5.2 Verify operation of appliance that it works as intended.

5.3 Label defective appliances and put aside for repair by a competent person.

Replacement information	This unit standard replaced unit standard 1183.
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Planned review date	31 December 2025
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	10 February 1999	31 December 2013
Revision	2	3 April 2001	31 December 2013
Review	3	26 May 2005	31 December 2021
Rollover and Revision	4	15 March 2012	31 December 2021
Revision	5	15 January 2014	31 December 2021
Review	6	21 July 2016	N/A
Revision	7	16 March 2017	N/A
Rollover and Revision	8	25 May 2023	N/A

Consent and Moderation Requirements (CMR) reference	0003
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Comments on this unit standard

Please contact Waihangara Ara Rau Construction and Infrastructure Workforce Development Council qualifications@WaihangaraAraRau.nz if you wish to suggest changes to the content of this unit standard.