

Title	Select cables for different applications		
Level	4	Credits	3

Purpose	People credited with this unit standard are able to select cables for different applications.
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Classification	Electrical Engineering > Electrical Installation and Maintenance
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Available grade	Achieved
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Guidance Information

- 1 This unit standard has been developed for learning and assessment on-job.
- 2 Unit standards or equivalent prior knowledge and skills recommended:
Unit 32639, *Demonstrate knowledge of cable selection, underground cable systems, and specialised cables.*
- 3 Definitions

Applications – refers to the different types of installation requirements. Examples include cables installed in air, completely surrounded by thermal insulation, partially surrounded by thermal insulation, in wiring enclosures, in wiring enclosures completely surrounded by thermal insulation, in wiring enclosures partially surrounded by thermal insulation, buried direct in the ground, underground in wiring enclosures, different environmental conditions such as indirect sunlight, very hot or very cold ambient temperatures, bunching/grouping of cables.

Selection of cables – cable selection is influenced by factors such as volt drop, current carrying capacity, short circuit current, earth fault loop impedance, environmental conditions, maximum circuit length.

Safe and sound practice – as it relates to the installation of electrical equipment is defined in AS/NZS 3000.

Stakeholders – refers to clients, installation owners, management, public, other trades people on site, candidate's work team, and any other people affected by work on site and/or the outcome of that work.
- 4 References
AS/NZS 3000 (version as cited in the Electricity (Safety) Regulations), *Electrical Installations (known as the Australian/New Zealand Wiring Rules)*;
AS/NZS 3008.1.2:2017, *Electrical installations - Selection of cables (Cables for alternating voltages up to and including 0.6/1 kV - Typical New Zealand conditions)*;
AS/NZS 4836:2011, *Safe working on or near low-voltage electrical installations and equipment*;
Electricity (Safety) Regulations 2010;
or any current subsequent amended or replacement versions.

- 5 This unit standard can be used together with other relevant unit standards, additional learning and workplace training to meet the requirements of the Electrical Workers Registration Board (EWRB) core competencies, available at <https://www.ewrb.govt.nz>.
- 6 This unit standard applies to installations and equipment rated above extra-low voltage unless specifically stated.
- 7 Range
- Candidates may refer to current legislation and Standards during assessment.
 - Demonstration of safe working practices and installation in accordance with *safe and sound practice* are essential components of assessment of this unit standard.
 - All activities and evidence presented for all outcomes and performance criteria in this unit standard must be in accordance with:
 - legislation;
 - policies and procedures;
 - ethical codes;
 - Standards – may include but are not limited to those listed in Schedule 2 of the Electricity (Safety) Regulations 2010;
 - applicable site, enterprise, and industry practice; and,
 - where appropriate, manufacturers' instructions, specifications, and data sheets.
- 8 Candidates are expected to locate and reference the relevant clauses in the Standards that relate to the electrical work being undertaken.

Outcomes and performance criteria

Outcome 1

Select cables for different applications.

Range three different applications.

Performance criteria

- 1.1 Communicate with stakeholders to establish and meet job requirements.
- 1.2 Carry out maximum demand calculations to establish cable sizes for jobs.
- 1.3 Select appropriate cables using manufacturer's data, AS/NZS 3000 and AS/NZS 3008.1.2.

Planned review date	31 December 2026
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	24 March 2022	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 Waihanga Ara Rau Construction and Infrastructure Workforce Development Council at qualifications@waihanga.nz if you wish to suggest changes to the content of this unit standard.