

Title	Install electronic security cable support systems and cables		
Level	3	Credits	10

Purpose	<p>This unit standard is intended for the training and assessment of people working in or intending to work in the electronic security industry and covers the installation of cable support systems and cables.</p> <p>People credited with this unit are able to:</p> <ul style="list-style-type: none"> – install electronic security cable support systems in both accessible and difficult locations; – install cables on, or in, cable support systems; and – penetrate cable barriers.
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Classification	Electronic Engineering > Electronic Security
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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 at client premises.
- 2 Persons working or intending to work as a security officer or in related security employment may require a Security Guards Licence or, if an employee of a Security Guard Licence holder, a Certificate of Approval to be the Responsible Employee of a Security Guard. These licences are issued by the Private Security Personnel Licensing Authority available through: www.justice.govt.nz/tribunals/licences-certificates/pspla/.
- 3 Definitions

Accessible locations – may include but are not limited to – open ceiling space, accessible cavities, unobstructed surfaces.

Difficult locations – may include but are not limited to – aerial, fire wall penetration, underground, multi-service duct, floor void.

Hazardous area – area in which an explosive atmosphere is present or may be expected to be present in quantities such as to require special precautions for the construction, installation, use of apparatus.

Hazards – means an activity, arrangement, circumstance, event, occurrence, phenomenon, process, situation, or substance that is an actual or potential cause or source of harm to self, others or property.

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

PVC – polyvinyl chloride.

Safe and sound practice – as it relates to the installation of electrical equipment is defined in AS/NZS 3000:2007, *Electrical Installations (known as the Australian/New Zealand Wiring Rules)*.

TPS – tough plastic sheath.

- 4 References – Specific to Electronic Security Industry
New Zealand Security Association (Inc), *Code of Practice for Alarm Monitoring Centres*, 2007;
New Zealand Security Association (Inc), *Code of Practice for Closed Circuit Television Surveillance Systems*, 2006;
New Zealand Security Association (Inc), *Code of Practice for Electronic Access Control*, 2008;
New Zealand Security Association (Inc), *Code of Practice for Intruder Alarm Systems*, 2007;
Codes of Practice available from: <http://security.org.nz>.

AS/NZS 2201.1:2007, *Intruder alarm systems – Client's premises – Design, installation, commissioning and maintenance*;
AS/NZS 2201.5:2008, *Intruder alarm systems – Alarm transmission systems*;
and all subsequent amendments and replacements.

References – General to Electronic Security Industry

Building Act 2004;

Electricity (Safety) Regulations 2010;

Health and Safety at Work Act 2015;

Private Security Personnel and Private Investigators Act 2010;

Privacy Act 2020;

Telecommunications Act 2001;

Local territorial authority requirements;

AS 4072.1-2005 (R2016)/Amdt 1-2006, *Components for the protection of openings in fire-resistant separating elements Service penetrations and control joints*;

AS/NZS 3000:2018, *Electrical installations (known as the Australian/New Zealand Wiring Rules)*;

AS/NZS ISO/IEC 14763.2:2014 (ISO/IEC 14763-2:2012, IDT), *Information technology—Implementation and operation of customer premises cabling Part 2: Planning and installation*;

NZS 4219:2009, *Seismic performance of engineering systems in buildings*;

NZS 4512:2021, *Fire detection and alarm systems in buildings*;

NZS 4514:2021, *Interconnected smoke alarms for houses*;

and all subsequent amendments and replacements.

- 5 Guidelines for connection of intruder alarm systems to telephone lines are contained in *Access Standards Newsletters* issued periodically by Spark New Zealand Ltd, available from www.telepermit.co.nz.
- 6 Evidence for the number and type of equipment chosen are left to the discretion of the assessor, but must be sufficient to assess competence in all outcomes of the unit standard.

- 7 Range
- a Candidates must refer to current legislation and Standards during assessment.
 - b Demonstration of safe working practices 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;
 - v applicable site, enterprise, and industry practice; and,
 - vi where appropriate, manufacturer instructions, specifications, and data sheets.

Outcomes and performance criteria

Outcome 1

Install electronic security cable support systems in both accessible and difficult locations.

Range cable support systems may include but are not limited to – conduit, mini trunking, catenary wires, cable tray; fire rating, water proofing, seismic; evidence is required for three cable support systems installed in accessible locations and three cable support systems installed in difficult locations.

Performance criteria

1.1 Select cable support systems to suit the application and environment.

1.2 Install cable support systems in a manner that complies with regulations, manufacturer specification and customer requirements and position inspection points or draw boxes correctly.

Range may include but is not limited to – use of turnbuckles and wire supports, technique for fixture to pre-stressed concrete, fixing to steel beams, powered nail guns, avoidance of and separation from other service systems, capacity rating of support system, cable-routing, penetrations; evidence of five is required.

1.3 Install draw wires in the cable support system where specified.

1.4 Observe safety precautions during installation to suit the site hazards.

Range evidence is required for – heights, confined spaces, and one other hazard, which may include but is not limited to – hazardous areas, high voltage wires or equipment, sloping surfaces, high pedestrian traffic, heights.

1.5 Secure the cable support system in a manner that meets the application requirements.

Outcome 2

Install cables on, or in, cable support systems.

Range may include but is not limited to – twinflex, co-axial, PVC multicore, TPS multicore, data cable, fibre optic cable; cable terminations or joints requiring specialist tools are excluded; evidence of three separate cable support systems is required, with a minimum of four different types of cable across the three support systems.

Performance criteria

- 2.1 Fix cables securely in a manner that avoids damage and offers the necessary protection to the cables, and label the cables.
- 2.2 Ensure the cables comply with the requirements for services segregation in accordance with AS/NZS 3000:2007 and AS/NZS ISO/IEC 14763.2:2014 (ISO/IEC 14763-2:2012, IDT).
- 2.3 Ensure that the number of cables installed on, or in, the cable support system allows spare carrying capacity for future installations.
- 2.4 Keep cable joining during installation to a minimum.
- 2.5 Ensure cables fixed to the cable support system are easily identified as to purpose or circuit.
- 2.6 Conceal attached cables, where practicable, to leave neat and tidy fixtures.
- 2.7 Ensure cable attachments follow building lines to optimise aesthetics and appearance of finished work while not exceed recommended cable bending radii or compromising separation requirements.

Outcome 3

Penetrate cable barriers.

Performance criteria

- 3.1 Penetrate three different types of cable barriers in a manner that minimises damage to the surrounding area and maintains the integrity of the barrier.

Range may include but is not limited to – brick, pre-stressed concrete, post-stressed concrete, wood, gib board, glass.
- 3.2 Reinststate the visual appearance of installations through cable barriers to a standard that is suited to the application and is acceptable to the customer.

- 3.3 Reinststate integrity of the cable barrier in accordance with industry practice and in compliance with all relevant building codes.

Range fire rating, water proofing, seismic.

Planned review date	31 December 2023
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	18 November 1997	31 December 2011
Revision	2	3 April 2001	31 December 2011
Revision	3	11 March 2004	31 December 2012
Rollover	4	21 November 2008	31 December 2012
Review	5	19 November 2010	31 December 2022
Revision	6	17 June 2011	31 December 2022
Review	7	14 December 2017	N/A
Rollover and Revision	8	27 October 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 Waihanganga Ara Rau Construction and Infrastructure Workforce Development Council qualifications@waihangaararau.nz if you wish to suggest changes to the content of this unit standard.