

Title	Demonstrate knowledge of electrical equipment for use in hazardous areas		
Level	4	Credits	2

Purpose	<p>This unit standard covers background knowledge relating to electrical equipment used in hazardous areas, for use in training electrical workers.</p> <p>People credited with this unit standard are able to:</p> <ul style="list-style-type: none"> – demonstrate knowledge of explosion protection; and – identify electrical equipment for use in hazardous areas.
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Classification	Electrical Engineering > Core Electrical
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Available grade	Achieved
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Guidance Information

- 1 Recommended skills and knowledge
Unit 5929, *Demonstrate knowledge of hazardous areas and their electrical requirements*; or demonstrate equivalent knowledge and skills.
- 2 This unit standard has been developed for learning and assessment off-job.
- 3 Achievement of this unit standard does not by itself imply competency in performing work in hazardous areas.
- 4 For competency in hazardous areas work see unit standards 17054 - 17056, 17058 - 17059, and 17068 - 17074.
- 5 References
Electricity Act 1992;
Electricity (Safety) Regulations 2010;
Hazardous Substances and New Organisms Act 1996;
Health and Safety at Work Act 2015, and associated regulations;
AS 2380.1-1989, *Electrical equipment for explosive atmospheres – Explosion protection techniques – General requirements*;
AS/NZS 60079.14:2017, *Electrical equipment for explosive atmospheres – Design selection, erection and initial inspection*;
AS/NZS 3000:2018, *Electrical installations (known as the Australian/New Zealand Wiring Rules)*, including Amendment 1;
Standards Australia HB 13-2007, *Electrical equipment for hazardous areas*;
and all subsequent amendments and replacements.

- 6 The term *current regulations and standards* is used in this unit standard to refer to the requirements of the above references.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of explosion protection.

Performance criteria

- 1.1 Explosion protection techniques are described.
- Range Ex d (flame-proof or explosion-proof), Ex e (increased safety), Ex n (non-sparking), Ex o (oil immersion), Ex p (pressurised enclosure), Ex v (ventilation), Ex ia (intrinsic safety), Ex ib (intrinsic safety), Ex s (special protection), Ex m (encapsulation), Ex q (powder or sand filling), gas detection.
- 1.2 Explosion protection techniques for specific hazardous conditions are identified.
- Range zones 0, 1 and 2; divisions 1 and 2.
- 1.3 Requirements of AS/NZS 60079.14:2017 in relation to the use of explosion protection techniques are interpreted.
- 1.4 Reference is made to the use of multiple protection of a single piece of equipment, and where they can be applied.
- 1.5 The principle of using gas detection to protect areas is explained in accordance with industry practice.
- 1.6 The system of temperature classification for electrical equipment is explained in accordance with industry practice.

Outcome 2

Identify electrical equipment for use in hazardous areas.

Performance criteria

- 2.1 Use of equipment labels to identify equipment for use in hazardous areas is explained.
- 2.2 Data supplied on equipment labels is interpreted to industry requirements.
- Range protection method, temperature classification, gas group, approved certificate number, testing lab.

2.3 Equipment for particular hazardous areas is identified from data.

Range zones 0, 1 and 2; division 1 and 2.

2.4 Information on content of equipment certificates is interpreted to assess suitability for installation.

Range zone, gas group, temperature, classification.

This unit standard is expiring. Assessment against the standard must take place by the last date for assessment set out below.

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	23 April 1996	31 December 2013
Review	2	10 February 1999	31 December 2013
Review	3	26 May 2005	31 December 2027
Rollover and Revision	4	15 March 2012	31 December 2027
Revision	5	15 January 2014	31 December 2027
Rollover and Revision	6	28 January 2021	31 December 2027
Review	7	25 May 2023	31 December 2027

Consent and Moderation Requirements (CMR) reference

0003

This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.