

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.

Planned review date	31 December 2022
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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	N/A
Rollover and Revision	4	15 March 2012	N/A
Revision	5	15 January 2014	N/A
Rollover and Revision	6	28 January 2021	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 The Skills Organisation reviewcomments@skills.org.nz if you wish to suggest changes to the content of this unit standard.