

Title	Demonstrate knowledge, use, and care of tools and test equipment used in the fire detection and alarm industry sector		
Level	2	Credits	4

Purpose	<p>This unit standard is for the training of fire alarm technicians, and covers the knowledge of knowledge of tools, and test equipment used in the fire alarm industry sector, and their correct use and precautions.</p> <p>People credited with this unit standard are able to: demonstrate knowledge of take measurements using test instruments used in the fire detection and alarm system industry sector; select and use simple measuring devices; select, use, and care for engineering hand tools; and select, use, and care for portable hand held engineering power tools.</p>
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Classification	Mechanical Engineering > Fire Detection and Alarm Systems
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Available grade	Achieved
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Explanatory notes

- 1 Definitions
 - a.c.* – alternating current.
 - d.c.* – direct current.
 - Equipment specifications* refer to manufacturer's specifications for installation, operation, and performance of their equipment.
 - Fire detection and alarm system* refers to an installation of apparatus, which performs specified fire related functions in response to the operation of a detector, manual call point, or other input. It includes manual call points, detectors, control and indication equipment, alerting devices, interconnections, fittings, labels, energy sources, and remote signalling devices and may include emergency warning and intercommunication systems (EWIS) where applicable.
 - Industry practice* refers to the safe and sound trade practice generally accepted by competent persons within the fire protection industry.

- 2 Range
 - All activities must comply with relevant legislative and/or regulatory requirements and recognised codes of practice.

Outcomes and evidence requirements

Outcome 1

Demonstrate knowledge of and take measurements using test instruments used in the fire detection and alarm system industry sector.

Range test instruments may include but are not limited to – voltmeter, ammeter, ohmmeter, insulation tester, multimeter, sound level meter; impedance meter; measurements may include but are not limited to – low ac and dc voltages and current, resistance, continuity, insulation, sound level, impedance.

Evidence requirements

1.1 Correct method of taking measurements using the test instruments is described in accordance with equipment specifications and industry practice.

Range may include but is not limited to – precautions, safety aspects, calibration, connection, units of measure, range, tolerance.

1.2 Consequences of incorrect use of test instruments are stated.

1.3 Test instruments are selected, having regard to the quantity to be measured, expected magnitude, and avoidance of device overload in accordance with equipment specifications and industry practice.

1.4 Test instruments are handled and stored in a manner that maintains their integrity in accordance with equipment specifications.

Outcome 2

Select and use simple measuring devices.

Range measuring devices – rulers, steel tapes, spirit levels, stud finders, laser measures.

Evidence requirements

2.1 Correct method of taking measurements using the measuring devices is described in accordance with equipment specifications and industry practice.

2.2 Measuring devices are selected, having regard to the quantity to be measured in accordance with equipment specifications and industry practice.

2.3 Measuring devices are used to meet given task requirements in accordance with industry practice.

2.4 Measuring devices are handled and stored in a manner that maintains their integrity in accordance with equipment specifications..

Outcome 3

Select, use, and care for engineering hand tools.

Range tools may include but are not limited – to hacksaws, files, hole punches, hammers, drills, spanners, wrenches, screw drivers, side cutters, pliers, cable strippers.

Evidence requirements

- 3.1 Hazards associated with hand tool use are identified in accordance with hand tool type.
- 3.2 Correct method of using the engineering hand tools is described in accordance with industry practice.
- 3.4 Hand tools are used to meet given task requirements in accordance with industry practice.
- 3.5 Hand tools are inspected for damage and faults in accordance with industry practice.
- 3.6 Hand tools are are handled and stored in a manner that maintains their integrity in accordance with industry practice.

Outcome 4

Select, use, and care for portable hand held engineering power tools.

Range power tools may include but are not limited to – drills, grinders, soldering irons.

Evidence requirements

- 4.1 Hazards associated with portable hand held engineering power tool use are identified.

Range may include but is not limited to – electric shock, noise, presence of sharp and/or hot particles, dust, moving parts, cutting tools, stored energy.
- 4.2 Correct method of using the portable hand held engineering power tools is described in accordance with equipment specifications and industry practice.
- 4.3 Electrically operated portable hand held engineering power tools are used in conjunction with appropriate electrical safeguards to reduce risk of electrocution in accordance with equipment specifications and industry practice.

Range safeguards may include but are not limited to – residual current devices, isolating transformers, monitored-earth circuits, double insulated tools.
- 4.4 Portable hand held engineering power tools are selected for given task in accordance with industry practice.
- 4.5 Portable hand held engineering power tools are inspected for damage and faults in accordance with equipment specifications and industry practice.

- 4.6 Portable hand held engineering power tools are are handled and stored in a manner that maintains their integrity in accordance with equipment specifications and industry practice.

Planned review date	31 December 2020
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	15 October 2015	N/A

Accreditation and Moderation Action Plan (AMAP) reference	0013
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This AMAP can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Please note

Providers must be granted consent to assess against standards (accredited) by NZQA, or an inter-institutional body with delegated authority for quality assurance, before they can report credits from assessment against unit standards or deliver courses of study leading to that assessment.

Industry Training Organisations must be granted consent to assess against standards by NZQA before they can register credits from assessment against unit standards.

Providers and Industry Training Organisations, which have been granted consent and which are assessing against unit standards must engage with the moderation system that applies to those standards.

Consent requirements and an outline of the moderation system that applies to this standard are outlined in the Accreditation and Moderation Action Plan (AMAP). The AMAP also includes useful information about special requirements for organisations wishing to develop education and training programmes, such as minimum qualifications for tutors and assessors, and special resource requirements.

Comments on this unit standard

Please contact Competenz qualifications@competenz.org.nz if you wish to suggest changes to the content of this unit standard.