

Title	Install duct-work for mechanical building services		
Level	4	Credits	10

Purpose	<p>This unit standard is intended primarily for use in the training of personnel in the mechanical building services industry and covers installing duct-work for mechanical building services.</p> <p>People credited with this unit standard are able to: prepare to install duct-work; install duct-work; and install terminal fittings and components.</p>
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Classification	Mechanical Engineering > Heating, Ventilating, and Air Conditioning
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Available grade	Achieved
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Guidance Information

- 1 Reference and legislation

Health and Safety at Work Act 2015.

ANSI/SMACNA 006-2006, *HVAC Duct Construction Standards – Metal and Flexible, 3rd Edition*. USA: Sheet Metal and Air Conditioning Contractors' National Association Inc, 2005.

NZS 4219:2009, *Seismic performance of engineering systems in buildings*.
- 2 Definitions

Accepted industry practice refers to approved codes of practice and standardised procedures accepted by the mechanical building services industry sector as examples of best practice.

Specifications refer to systems documentation that include technical standards, documented operating and maintenance procedures or instructions for the system, installation drawings, manufacturers' data, installation instructions, installation programme schedules, material schedules, and site instructions.

Workplace procedures refer to procedures used by the organisation carrying out the work and applicable to the tasks being carried out. They may include but are not limited to – standard operating procedures, safety procedures, equipment operating procedures, codes of practice, quality management practices and standards, procedures to comply with legislative and local body requirements.
- 3 Range

Pieces for site measure make-up include brackets, bends, transitions, branches, sets supports, and extensions.

Evidence of one or more jobs with a minimum combined total duct area of 100 square meters is required.

- 4 Assessment information
- a Evidence may be gathered by the candidate over several work sites and may need to be spread between several time periods. There will typically be jobs where part of the job is completed in conjunction with other mechanical building services personnel. The evidence relates to the candidates own specific work, not work jointly performed with other team members, except where the other team member is checking or assessing the candidate.
 - b All activities must comply with applicable workplace procedures and must be consistent with accepted industry practice.

Outcomes and performance criteria

Outcome 1

Prepare to install duct-work.

Performance criteria

- 1.1 On-site measurements are conducted to determine components, component sizes, and spatial requirements.
- 1.2 Materials on site are verified against specifications.
- 1.3 Setting-out of job is in accordance with specifications.

Outcome 2

Install duct-work.

Performance criteria

- 2.1 Hangers are installed to structural and seismic standards and spaced in accordance with specifications.
- 2.2 Duct work is installed to structural and seismic standards in accordance with specifications and NZS 4219.
- 2.3 All penetrations are appropriately sealed to maintain the integrity of the passive fire protection of the walls and ceilings.
- 2.4 Installation is completed within the time frame specified and without unplanned cost or waste, and includes duct cleaning and flushing.
- 2.5 Duct work is sealed and exhibits no air leakage.

Outcome 3

Install terminal fittings and components.

Performance criteria

- 3.1 Fittings and components are installed in accordance with specifications.

- 3.2 All penetrations are appropriately sealed to maintain the integrity of the passive fire protection of the walls and ceilings.
- 3.3 Installed fittings and components exhibit no air leakage.

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	30 January 1995	31 December 2018
Revision	2	14 April 1997	31 December 2018
Review	3	25 September 1997	31 December 2018
Revision	4	18 May 2001	31 December 2018
Revision	5	16 April 2002	31 December 2022
Review	6	16 July 2010	31 December 2023
Review	7	29 March 2018	N/A

Consent and Moderation Requirements (CMR) reference	0013
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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 Competenz qualifications@competenz.org.nz if you wish to suggest changes to the content of this unit standard.