

Title	Demonstrate knowledge of the installation, commissioning, and maintenance of consumer gas pipework		
Level	4	Credits	10

Purpose	<p>This unit standard is for people who work in the gasfitting industry.</p> <p>People credited with this unit standard are able to demonstrate knowledge of:</p> <ul style="list-style-type: none"> – determining consumer gas supply requirements; – the installation, testing, and commissioning of consumer gas pipework to the requirements of the AS/NZS 5601.1:2013, the Gas (Safety and Measurement) Regulations 2010, and job specifications; – the maintenance of consumer gas pipework; and – regulatory requirements, selection of methods and materials, and underpinning concepts and principles, as applied to the installation, commissioning, and maintenance of consumer gas pipework.
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Classification	Plumbing, Gasfitting and Drainlaying > Gasfitting
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Available grade	Achieved
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Guidance Information

- 1 References
 - Building Act 2004;
 - Health and Safety at Work Act 2015;
 - Gas Act 1992;
 - Gas (Safety and Measurement) Regulations 2010;
 - Plumbers, Gasfitters, and Drainlayers Act 2006;
 - Plumbers, Gasfitters, and Drainlayers Regulations 2010;
 - The following standards, which are available at <http://www.standards.govt.nz>:
 - NZS 3604:2011 *Timber Framed Buildings*,
 - AS/NZS 5601.1:2013 *Gas installation*,
 - NZS 5807:1980 *Codes of practice for industrial identification by colour, wording or other coding*;
 - The following clauses, and any related compliance documents, which are available at <https://www.building.govt.nz/>:
 - New Zealand Building Code Clause G10 Piped Services,
 - New Zealand Building Code Clause G11 Gas as an Energy Source;
 - and all subsequent amendments and replacements.

- 2 Range
Pipework includes but is not limited to – associated fittings and/or fixtures; copper, mild steel, stainless steel, polyethylene, polypropylene, a proprietary system; Jointing methods are determined according to the material being joined and may include but are not limited to – brazed, tapered thread, compression type fitting, flange, proprietary system.
- 3 Definitions
Job requirements – specific requirements of the job at hand not covered by job specifications.
Job specifications – instructions (oral, written, graphic) and may include any of the following: manufacturer instructions; design drawing detail specifications; specifications from a specialist source such as an architect, designer, engineer, or a supervisor; and site or work specific requirements. Where job specifications are in conflict with applicable legislation, standards, and/or codes, such legislation, standards, and/or codes shall take precedence for the purpose of assessment.
Maintain may refer to all or any of – repair, upgrade, alter, remove, replace.
- 4 Candidates must hold a current limited certificate or exemption under supervision as issued under the Plumbers, Gasfitters, and Drainlayers Act 2006.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of determining consumer gas supply requirements.

Performance criteria

- 1.1 Verify gas supply in accordance with AS/NZS 5601:2013.
- 1.2 Calculate pipe size with reference to supply pressure and consumption needs, and in accordance with job requirements and relevant standards and codes.

Outcome 2

Demonstrate knowledge of the installation, testing, and commissioning of consumer gas pipework to the requirements of the AS/NZS 5601.1:2013, the Gas (Safety and Measurement) Regulations 2010, and job specifications.

Performance criteria

- 2.1 Explain the installation of gas pipework including jointing methods, supports and their spacing, protection, and identification (when required).
- 2.2 Explain soundness tests in accordance with NZS 5601.1:2013 Appendix E.

Range installations up to 30 litres, including processes for leakage detection and repair, and final connection methods.
- 2.3 Explain requirements to connect the installation to the gas supply and test final connections.

2.4 Explain gas pipework purging to comply with 5601.1:2013 Appendix D.

Range up to 30 litres, above 30 litres (Appendix D (5)).

Outcome 3

Demonstrate knowledge of the maintenance of consumer gas pipework.

Performance criteria

3.1 Explain methods of inspecting pipe and fittings to determine their physical condition, and testing an installation for soundness.

3.2 Explain methods of identifying causes of faults and possible means of rectifying them.

Range must include but is not limited to – blockage, leaks, physical damage, corrosion.

Outcome 4

Demonstrate knowledge of regulatory requirements, selection of methods and materials, and underpinning concepts and principles, as applied to the installation, commissioning, and maintenance of consumer gas pipework.

Performance criteria

4.1 Describe how relevant sections of legislation, standards, and codes apply to the installation, testing, connecting, purging, and maintenance of consumer gas pipework.

4.2 Justify the selection of methods and materials.

Range job specifications, operation of the installed gas pipework; may include job requirements.

4.3 Explain underpinning concepts and principles in terms of their application to the installation, commissioning, and maintenance of consumer gas pipework.

Range corrosion, electrical earthing and bonding, expansion and contraction, flow, friction, pressure loss, properties of metals, velocity.

Replacement information	This unit standard and unit standard 30716 replaced unit standard 2116.
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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 November 2017	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.