

Title	Connect, test, purge and commission a polyethylene service in a gas network		
Level	4	Credits	8

Purpose	People credited with this unit standard are able to demonstrate knowledge of company procedures, documentation, hazards and equipment to connect, test, purge and commission a polyethylene (PE) gas service; prepare to connect, test, and purge a PE gas service; connect a gas PE service to a gas main; carry out a pneumatic pressure test on a PE gas service; purge and commission a PE gas service; and complete reporting and documentation.
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Classification	Gas Industry > Gas Network Construction
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Available grade	Achieved
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Guidance Information

- 1 This unit standard is intended for, but is not limited to, workplace assessment. The range statements relate to enterprise specific equipment, procedures, and processes.
- 2 Evidence presented for assessment against this unit standard must be consistent with safe working practices and be in accordance with applicable manufacturer's specifications, company procedures and legislative requirements. This includes the knowledge and use of suitable tools and equipment.
- 3 Legislation, regulations and/or industry standards relevant to this unit standard include but are not limited to the current version of:
Health and Safety at Work Act 2015;
Resource Management Act 1991;
AS/NZS 4645.1:2018 *Gas distribution networks – Network management*;
AS/NZS 4645.3:2018 *Gas distribution networks – Plastics pipe systems*;
- 4 References
Australian standards (AS) may be found at www.standards.org.au;
Australian/New Zealand standards (AS/NZS) may be found at www.standards.govt.nz.
- 5 Any new, amended or replacement Acts, regulations, standards, codes of practice, guidelines, or authority requirements or conditions affecting this unit standard will take precedence for assessment purposes, pending review of this unit standard.

6 Definitions

Company procedures mean the documented methods for performing work activities, and include health and safety, operational, environmental, and quality management requirements. They may refer to legislation, regulations, guidelines, standard operating procedures, manuals, codes of practice, or policy statements.

Connect refers to connecting a polyethylene service to an established connection point. Such connection points include equal tee, polyethylene saddle tee, mechanical saddle tee, steel self-tapping tee, welded punch tee. The installation of these connection points is not covered by this unit standard.

Service refers to a polyethylene pipe to a single point of supply up to and including 50mm in diameter and a length up to 50 meters. Services outside of this definition are covered by Unit 32335, *Test, connect, purge and commission a polyethylene (PE) main in a gas network*.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of company procedures, documentation, hazards and equipment to connect, test, purge and commission a PE gas service.

Performance criteria

- 1.1 Company procedures for connecting, testing, purging and commissioning a gas service are located and interpreted.
- Range may include – company standard, safe work procedure, operating procedure, maintenance procedure, work instruction, equipment operating manual, job hazard analysis, job risk assessment.
- 1.2 Documentation and instructions for a specified job are obtained.
- Range may include – site location, network drawing, utility plans, job card, consents, easement conditions.
- 1.3 Methods of connecting PE services to different types of gas mains are described.
- Range methods may include – equal tee, PE saddle tee, mechanical saddle tee, steel self-tapping tee, welded punch tee; types may include – PE main, metallic main.

- 1.4 Potential environmental and safety hazards and their controls associated with connecting, testing, purging and commissioning a PE gas service are described.
- Range hazards may include – gas release, flames, other utilities, excavations, confined spaces, pneumatic release, noise, vehicles and public, static electricity, electrical current; controls may include – temporary traffic control, signage, barriers, personal protective equipment, safe access and egress, restraints, anchoring, exclusion zones, continuity bond, environmental protection; evidence of four hazards and their controls are required.
- 1.5 Pressure test criteria are described.
- Range pressure range, duration, allowable pressure loss, strength test, leakage test.
- 1.6 The equipment required for pneumatic pressure testing and purging a PE gas services is described in terms of its function.
- Range test gauge, air compressor, inert gas supply, test piece, leak detection equipment, purge stack, flare stack, gas detection equipment, continuity bond, fire extinguisher.
- 1.7 The potential hazards associated with incorrect pneumatic pressure testing and purging of PE gas services are described.

Outcome 2

Prepare to connect, test and purge a PE gas service.

Performance criteria

- 2.1 Hazards for the specified job are identified and controlled.
- 2.2 Connecting, testing and purging equipment and materials are prepared and positioned.
- Range may include – test gauge, test medium, test piece, leak detection equipment, purge stack, gas detection equipment, continuity bond, earthing equipment, restraints, fire extinguisher, pressure gauge, tools, fittings.

Outcome 3

Connect a gas PE service to a gas main.

Performance criteria

3.1 Type of gas main is prepared for connection, according to type.

Range type may include – polyethylene, metallic.

3.2 Gas service is connected.

Outcome 4

Carry out a pneumatic pressure test on a PE gas service.

Performance criteria

4.1 Pneumatic pressure test safety controls are applied.

4.2 Pneumatic test pressure is applied.

4.3 Test equipment and pipe joints are tested for strength and leakage.

4.4 Test period is timed, and pressure and time readings are recorded.

Range initial readings, final readings.

4.5 Where test results show a pressure loss, leaks are traced and repaired, and re-testing is completed.

4.6 On completion of the test, pipe is depressurised in a controlled manner and test equipment is disconnected.

4.7 Record of test is completed.

Outcome 5

Purge and commission a PE gas service.

Performance criteria

5.1 Gas is introduced into the service at the connection to the main.

5.2 Purging is carried out and pressure and flow conditions are monitored until the required gas concentration level is confirmed at the purge outlet.

5.3 The purge outlet is closed and the service pipe and purge equipment are fully pressurised to operating pressure and final joints are checked for leakage.

5.4 Any leaks are identified and repaired as required.

5.5 Purging equipment is depressurised and disconnected.

Outcome 6

Complete reporting and documentation.

Performance criteria

6.1 Records and documents are completed and processed, and information is communicated to internal or external parties as required.

Range may include – job card, test records, as-built records, special conditions, completion notice, additional work.

Replacement information	This unit standard, unit standard 32335 and unit standard 32337 replaced unit standard 30373.
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Planned review date	31 December 2025
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	27 May 2021	N/A

Consent and Moderation Requirements (CMR) reference	0014
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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 MITO New Zealand Incorporated info@mito.org.nz if you wish to suggest changes to the content of this unit standard.