

## Demonstrate metal welding for plumbing or gasfitting

**Level** 3

**Credits** 9

**Purpose** This unit standard is for people who work, or intend to work, in the plumbing or gasfitting industries.

People credited with this unit standard are able to: select metal welding processes for plumbing or gasfitting; demonstrate metal welding for plumbing or gasfitting; work safely and with care; and demonstrate knowledge of regulatory requirements, selection of methods and materials, and underpinning concepts and principles, as applied to metal welding for plumbing or gasfitting.

**Subfield** Plumbing, Gasfitting and Drainlaying

**Domain** Core Plumbing, Gasfitting, and Drainlaying

**Status** Registered

**Status date** 25 October 2007

**Date version published** 25 October 2007

**Planned review date** 31 December 2012

**Entry information** Open.

**Replacement information** This unit standard replaced unit standard 2135 and unit standard 2162.

**Accreditation** Evaluation of documentation and visit by NZQA and industry.

**Standard setting body (SSB)** The Skills Organisation

**Accreditation and Moderation Action Plan (AMAP) reference** 0008

This AMAP can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

---

### Special notes

- 1 Legislation and standards applicable to this unit standard include but are not limited to:  
Health and Safety in Employment Act 1992;  
NZS 4781:1973 *Code of practice for safety in welding and cutting*, available at <http://www.standards.co.nz>.

Any legislation or standard superseding any of the above will apply, pending review of this unit standard.

## 2 Definitions

*Job requirements* refers to specific requirements of the job at hand not covered by job specifications.

*Job specifications*, for the purpose of this unit standard, refers to instructions (oral, written, graphic) and may include any of the following: manufacturers' 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.

*Other services* refers to existing installed services.

*Regulatory requirements*, for the purpose of this unit standard, refers to applicable legislation, standards, and codes.

---

## Elements and performance criteria

### Element 1

Select metal welding processes for plumbing or gasfitting.

Range arc, spot, gas (fusion, bronze), Mig, Tig.

### Performance criteria

1.1 Welding processes are selected to meet job specifications.

### Element 2

Demonstrate metal welding for plumbing or gasfitting.

### Performance criteria

2.1 Sheet joints on sheets up to 3mm thickness are prepared and welded in accordance with NZS 4781:1973 and job requirements to meet job specifications.

Range spot welding – lap jointing;  
butt, lap, and fillet done in horizontal and vertical with arc, gas (fusion, bronze), Mig, and Tig welding.

2.2 Pipe joints for installed pipes of up to 50mm diameter are prepared and welded in accordance with NZS 4781:1973 and job requirements to meet job specifications.

Range butt and fillet done in horizontal and vertical with arc, gas (fusion, bronze), Mig, and Tig welding.

### Element 3

Work safely and with care.

#### Performance criteria

- 3.1 Practical activities are carried out avoiding harm to people and damage to property, other services, materials, tools, and equipment.

### Element 4

Demonstrate knowledge of regulatory requirements, selection of methods and materials, and underpinning concepts and principles, as applied to metal welding for plumbing or gasfitting.

#### Performance criteria

- 4.1 Applicable sections of legislation, standards, and codes are described in terms of their application to metal welding for plumbing or gasfitting.
- 4.2 Selection of methods and materials is justified.
- Range job specifications, job requirements.
- 4.3 Underpinning concepts and principles are explained in terms of their application to metal welding for plumbing or gasfitting.
- Range capillary attraction, oxidisation, properties of gases, properties of metals.

---

#### Please note

Providers must be 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 accredited by NZQA before they can register credits from assessment against unit standards.

Accredited providers and Industry Training Organisations assessing against unit standards must engage with the moderation system that applies to those standards.

Accreditation 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 The Skills Organisation [info@skills.org.nz](mailto:info@skills.org.nz) if you wish to suggest changes to the content of this unit standard.