

Title	Design and manage welded construction		
Level	6	Credits	34

Purpose	<p>People credited with this unit standard are able to: plan welding operations; manage welding operations; and control weld quality.</p> <p>This unit standard is aimed at people with professional engineering experience who have already achieved specialist skills in the industry.</p>
----------------	--

Classification	Mechanical Engineering > Welding
-----------------------	----------------------------------

Available grade	Achieved
------------------------	----------

Prerequisites	A New Zealand Certificate in Engineering (or Science), or the National Diploma in Engineering (Level 6) with strands in Mechanical Engineering, Production Engineering, and an optional Practical Endorsement strand [Ref: 0534].
----------------------	---

Guidance Information

- 1 This unit standard is for people seeking the *International Welding Technologist* qualification from the International Institute of Welding (IIW). Details are available from the Heavy Engineering Research Association, PO Box 76 134, Manukau City.
- 2 Codes and standards relevant to this unit standard include but are not limited to:
 - a AS/NZS 1554.1:2004, *Structural steel welding – Welding of steel structures*.
 - b *The 2004 ASME Boiler and Pressure Vessel Code*.
 - c ISO 15607:2003, *Specification and qualification of welding procedures for metallic materials – General rules*.
- 3 *Company procedures* refer to documented procedures for the worksite.
- 4 *Design specification* refers to client's instructions, drawings, and/or contract.

Outcomes and performance criteria

Outcome 1

Plan welding operations.

Performance criteria

- 1.1 Welding requirements are determined in accordance with contract and/or design specification.
- Range welding requirements include but are not limited to – the welding and associated capability of the fabricator (including the need for subcontracting); materials of construction; relevant standards and/or codes; joint location and design; access for welding, inspection and testing; weld quality and acceptance levels.
- 1.2 Manufacture is planned in accordance with the quality, economic and technical requirements specified by the client and/or the company.
- Range planning includes – determination of the weldability of materials, selection of processes and equipment, traceability of materials (certification, identification, storage and handling), use of jigs and fixtures, welding and assembly sequences, qualification of procedures and personnel.
- 1.3 Welding related health and safety procedures are specified for the job and are in accordance with company procedures and customer requirements.

Outcome 2

Manage welding operations.

Performance criteria

- 2.1 Safety practices are verified as meeting company procedures.
- 2.2 Monitoring and recording of work progress ensures costs are controlled and quality requirements are maintained in accordance with company procedures.
- 2.3 Non-compliance with welding requirements is identified and remedial action taken in accordance with company procedures.

Outcome 3

Control weld quality.

Performance criteria

- 3.1 An explanation of welding inspection requirements is in accordance with contract and/or design specification.
- 3.2 Weld inspection is arranged or specified in accordance with contract and company quality control job requirements.
- 3.3 Corrective action specified for defective welds is consistent with a review of inspection report(s).

- 3.4 Documentation is completed in accordance with contract or company requirements.

Range inspection reports, as-built drawings, project reports.

This unit standard is expiring. Assessment against the standard must take place by the last date for assessment set out below.

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	25 July 1999	31 December 2025
Review	2	4 April 2001	31 December 2025
Rollover and Revision	3	20 April 2006	31 December 2025
Review	4	26 January 2023	31 December 2025

Consent and Moderation Requirements (CMR) reference

0013

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