

Title	Join metals using the resistance welding process		
Level	3	Credits	4

Purpose	<p>This unit standard is for people joining light gauge metals using the resistance welding (RW) process which is commonly used in engineering fabrication.</p> <p>People credited with this unit standard are able to prepare for welding; and join metals using the RW process; and assess and repair RW welds.</p>
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Classification	Mechanical Engineering > Welding
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Available grade	Achieved
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Prerequisites	Unit 29651, <i>Demonstrate knowledge of health and safety when welding and thermal cutting</i> , or demonstrate equivalent knowledge and skills.
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Guidance Information

- 1 References

Health and Safety at Work Act 2015.
Health and Safety in Welding. Wellington: Department of Labour, 2006. Available from <http://www.worksafe.govt.nz>.
- 2 Definitions

Accepted industry practice – approved codes of practice and standardised procedures accepted by the wider mechanical engineering industry sectors as examples of best practice.

Resistance welding – includes three process variations: spot welding, projection welding, seam welding.

Welding procedure – written work instruction or equipment supplier’s guidelines providing the necessary technical details for a specific welding application.

Outcomes and performance criteria

Outcome 1

Prepare for welding using the RW process.

Performance criteria

- 1.1 Equipment is selected and set up for RW in accordance with job requirements and welding procedure.
- Range power source rating and duty cycle, electrodes, cooling system, electrode force.
- 1.2 Maintenance procedures are implemented for copper electrodes in accordance with manufacturer's instructions.

Outcome 2

Join metals using the RW process.

Performance criteria

- 2.1 Workplace safety procedures are followed.
- Range examples are – use of personal protective equipment, checking of equipment for faults, use of fume extraction equipment, elimination of risk of fire or explosion.
- 2.2 Metals are joined using the RW process in accordance with welding procedures.
- Range six weld test pieces;
sheet thickness – 0.8 mm-1.6 mm;
metal – carbon steel, stainless steel e.g. AISI 304, galvanised steel;
RW process may be any of – spot welding, projection welding, seam welding.

Outcome 3

Assess and repair RW welds.

Performance criteria

- 3.1 Weld quality is assessed by visual examination and peel test or chisel test for each test piece from outcome 2, in accordance with accepted industry practice.
- 3.2 Any defective joints are rewelded to accepted industry practice.

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	30 November 1994	31 December 2022
Revision	2	14 April 1997	31 December 2022
Revision	3	5 January 1999	31 December 2022
Review	4	4 April 2001	31 December 2022
Rollover and Revision	5	20 April 2006	31 December 2022
Review	6	22 May 2009	31 December 2022
Review	7	20 July 2017	N/A

Consent and Moderation Requirements (CMR) reference

0013

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.