

Title	Gouge steel using the air carbon arc gouging process		
Level	3	Credits	4

Purpose	<p>This unit standard is for people using air carbon arc gouging for gouging steel with a hand-held torch.</p> <p>People credited with this unit standard are able to prepare to gouge steel using the air carbon arc gouging process; and gouge steel using the air carbon arc gouging process.</p>
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Classification	Mechanical Engineering > Welding
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Available grade	Achieved
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Prerequisites	Unit 33135, <i>Demonstrate knowledge of safety and health while welding and thermal cutting</i> , or demonstrate equivalent knowledge and skills.
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Guidance Information

- 1 Legislation and references

Legislation, regulations and/or industry standards relevant to this unit standard include but are not limited to the:

Health and Safety at Work Act 2015.

WorkSafe Good Practice Guide “Health and Safety in Welding”. Available at: <https://www.worksafe.govt.nz/assets/dmsassets/WKS-13-Welding-GPG.pdf>.

Weld Australia (formerly Welding Technology Institute of Australia (WTIA) Technical Note 7 – Health and Safety in Welding (2020). Available at: [Product Details Weld Australia Member Portal](#).
- 2 Definitions

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

Air carbon arc gouging – also known as air arc gouging.

Manufacturer’s instructions – instructions provided by manufacturers of substances, equipment, and machinery. These instructions may include details on safe and correct handling, use and storage of substances and/or details on substance properties. Examples are labels on substance containers, product data sheets, and operator’s manuals.

Workplace procedures – organisation policies and procedures that are documented in memo, electronic, or manual format and available in the workplace, and are consistent with manufacturer's requirements. They may include but are not limited to – standard operating procedures, site specific procedures, site safety procedures, equipment operating procedures, quality assurance procedures, product quality specifications, references, approved codes of practice, housekeeping standards, environmental considerations, on-site briefings, supervisor's instructions, and procedures to comply with legislative and local body requirements relevant to the industry sector.

Outcomes and performance criteria

Outcome 1

Prepare to gouge steel using the air carbon arc gouging process.

Performance criteria

- 1.1 Equipment is assembled and maintained ready for use in accordance with manufacturer's instructions.
- 1.2 Gouging parameters are established in accordance with job requirements.
- 1.3 Consumables are selected in accordance with gouging requirements.

Range electrode type and size.
- 1.4 Equipment is set up to meet job requirements in accordance with manufacturer's instructions.

Range current type and amperage, air pressure and volume.
- 1.5 Steel is positioned and supported for gouging in accordance with workplace procedures.

Outcome 2

Gouge steel using the air carbon arc gouging process.

- Range 3 different gouging jobs;
back gouging of a butt weld, using plate of at least 12 mm thickness, and for a length of at least 500 mm;
plate edge preparation for welding (e.g., a bevel or 'J' preparation), using plate of at least 12 mm thickness, and for a length of at least 500 mm
removal of a weld around a heavy section (e.g., column to base plate weld).

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, protection from arc radiation, protection from electrocution.

2.2 Steel is gouged in accordance with accepted industry practice.

2.3 Gouges are visually inspected for conformance with parameters and corrective action taken to address any faults.

Range examples of faults are – gouges not of uniform depth or straightness, excessive adhering slag.

2.4 Equipment is checked, set-up, and used for cutting and gouging of metal.

2.5 Equipment is shut down.

Planned review date	31 December 2027
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	4 April 2001	31 December 2022
Rollover and Revision	2	20 April 2006	31 December 2022
Review	3	22 May 2009	31 December 2022
Review	4	20 July 2017	31 December 2025
Review	5	26 January 2023	N/A

Consent and Moderation Requirements (CMR) reference	0013
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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 Hanga-Aro-Rau Manufacturing, Engineering and Logistics Workforce Development Council qualifications@hangaarorau.nz if you wish to suggest changes to the content of this unit standard.