

<b>Title</b>	<b>Gouge steel using the air carbon arc gouging process</b>		
<b>Level</b>	<b>3</b>	<b>Credits</b>	<b>4</b>

<b>Purpose</b>	<p>This unit standard is for people using air carbon arc gouging for gouging steel with a hand-held torch, as used in metal fabrication and foundries.</p> <p>People credited with this unit standard are able to prepare to gouge; and gouge steel using the air carbon arc gouging process.</p>
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<b>Classification</b>	Mechanical Engineering > Welding
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<b>Available grade</b>	Achieved
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<b>Prerequisites</b>	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.

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

*Workplace procedures* – procedures used by the organisation carrying out the work and applicable to the tasks being carried out. Examples are – standard operating procedures, safety procedures, equipment operating procedures, codes of practice, quality management practices and standards, procedures to comply with legislative and local body requirements.
- 3 Related unit standards
 

This unit standard is one of a metal cutting set:

  - Unit 25783, *Demonstrate knowledge of metal cutting and gouging processes* (Level 3); an introductory standard to provide foundation awareness for cutting and gouging.
  - Unit 30279, *Cut steel using the manual gas cutting process* (Level 3); a cutting standard specific to manual (not automated) gas cutting.

- Unit 30280, *Cut metals using the manual plasma cutting process* (Level 3); a cutting standard specific to manual (not automated) plasma cutting.
- Unit 18106, *Gouge steel using the air carbon arc gouging process* (Level 3); a gouging specific unit standard.
- Unit 2691, *Cut metals using mechanised thermal cutting equipment* (Level 4); a cutting standard for automated cutting using gas or plasma process.

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## 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 manufacturers recommendations.  
  
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.

#### 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.

2.2 Steel is gouged in accordance with accepted industry practice.

- Range three 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).

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.

<b>Planned review date</b>	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	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	N/A

<b>Consent and Moderation Requirements (CMR) reference</b>	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 Competenz [qualifications@competenz.org.nz](mailto:qualifications@competenz.org.nz) if you wish to suggest changes to the content of this unit standard.