

<b>Title</b>	<b>Lay out and mark off heavy fabrication shapes</b>		
<b>Level</b>	<b>4</b>	<b>Credits</b>	<b>15</b>

<b>Purpose</b>	<p>This unit standard is for use in training of fabrication trades and covers laying out and marking-off of heavy fabrication components.</p> <p>People credited with this unit standard are able to: prepare for layout and marking off heavy fabrication shapes; lay out and mark off heavy fabrication shapes; and inspect work after marking off and laying out.</p>
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<b>Classification</b>	Mechanical Engineering > Engineering - Fabrication
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<b>Available grade</b>	Achieved
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### Explanatory notes

#### 1 References

Health and Safety in Employment Act 1992.

Accident Compensation Corporation and Department of Labour. *Metal Industry Guidelines for Safe Work*. Wellington: ACC, 2007. Available from <http://www.acc.co.nz>.

#### 2 Definitions

*Industry practice* – safe and sound practices generally accepted by competent trade persons within the fabrication industry.

*Job specifications* – instructions relevant to the safe completion of the specific task, such as technical specifications, assembly instructions, drawings, parts lists, standards, codes of practice, test and commissioning procedures, and verbal instructions.

*Safety guidelines* – guidelines for the safe operation of machinery and tools, such as those listed in the references, as well as guidelines for specific machines in workshops.

*Worksite procedures* – operational procedures put in place by the candidate's employer. These include site safety procedures, equipment operating procedures, job procedures, quality assurance, and procedures for the handling and disposal of materials and waste.

#### 3 Range

a All activities must demonstrate safe working practices.

b All activities must be completed independently and reported within reasonable timeframes.

c Materials must be of 3mm or greater thickness.

d Materials may include plate, heavy structural sections, angles, channels, pipes, and tubes.

e Evidence of at least six unique projects is required.

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## Outcomes and evidence requirements

### Outcome 1

Prepare for layout and marking-off of heavy fabrication shapes.

#### Evidence requirements

- 1.1 Preparation includes verification of requirements, planning of work sequences, and identification of potential problems.
- 1.2 Potential hazards are identified and addressed in accordance with the safety guidelines.
- 1.3 Materials are selected in accordance with job specifications and worksite procedures.
- 1.4 Marking out tools are selected, checked, and used in accordance with industry practice and worksite procedures.
- 1.5 Lines of intersection are determined from patterns in accordance with job specifications and industry practice, and modification sketches made where required.

### Outcome 2

Lay out and mark off heavy fabrication shapes.

#### Evidence requirements

- 2.1 Sections are marked off in accordance with job specifications, industry practice, and worksite procedures.
- 2.2 Fabrications made up of heavy sections are laid out in accordance with job specifications, industry practice and worksite procedures.

### Outcome 3

Inspect work after marking off and laying out.

#### Evidence requirements

- 3.1 Layout and surface developments are inspected and measured for compliance with job specifications, and deviations rectified, in accordance with industry practice and worksite procedures.
- 3.2 Completion of work is reported in accordance with worksite procedures.

<b>Replacement information</b>	<p>This unit standard and unit standard 25874 were replaced by unit standard 30440.</p> <p>This unit standard and unit standard 25874 replaced unit standard 2418, unit standard 2422, and unit standard 18107.</p>
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**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	17 July 2009	31 December 2022
Review	2	20 July 2017	31 December 2022

<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>.

#### Please note

Providers must be granted consent to assess against standards (accredited) by NZQA, before they can report credits from assessment against unit standards or deliver courses of study leading to that assessment.

Industry Training Organisations must be granted consent to assess against standards by NZQA before they can register credits from assessment against unit standards.

Providers and Industry Training Organisations, which have been granted consent and which are assessing against unit standards must engage with the moderation system that applies to those standards.

Requirements for consent to assess and an outline of the moderation system that applies to this standard are outlined in the Consent and Moderation Requirements (CMR). The CMR 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.