

<b>Title</b>	<b>Demonstrate knowledge of dimensional limitations and accuracy of metal forming processes</b>		
<b>Level</b>	<b>2</b>	<b>Credits</b>	<b>5</b>

<b>Purpose</b>	People credited with this unit standard are able to demonstrate knowledge of dimensional accuracy of metal forming processes and the limitations of metal forming processes.
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<b>Classification</b>	Mechanical Engineering > Metal Forming
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<b>Available grade</b>	Achieved
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### Guidance Information

#### 1 Definition

*Metal forming* refers to the metalworking process of creating metal parts and objects through, for example sand casting, die casting, investment casting, continuous casting, centrifugal casting, forging, extrusion, three-dimensional additive metal manufacturing.

#### 2 Range

Examples of metal forming processes – forging, casting, extrusion, additive manufacturing.

Examples of limitations of processes – accuracy and repeatability.

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### Outcomes and performance criteria

#### Outcome 1

Demonstrate knowledge of dimensional accuracy of metal forming processes.

Range forging, casting, extrusion, additive manufacturing.

#### Performance criteria

1.1 Dimensional accuracy and repeatability achievable using each process is described.

#### Outcome 2

Demonstrate knowledge of the limitations of metal forming processes.

Range forging, casting, extrusion, additive manufacturing.

**Performance criteria**

2.1 Limitations of each process are described.

Range dimensional accuracy, products, quality, cost of manufacturing.

2.2 Advantages and disadvantages of the processes are described.

Range product types, economies of scale, surface finishing, dimensional accuracy, material properties, freedom of product design vs product design constraints.

<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**Status information and last date for assessment for superseded versions**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	17 August 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.