

<b>Title</b>	<b>Produce metal castings using gravity die casting machine</b>		
<b>Level</b>	<b>2</b>	<b>Credits</b>	<b>5</b>

<b>Purpose</b>	<p>People credited with this unit standard are able to: prepare gravity die casting equipment; produce castings using gravity die casting machine; and clean the die body in the machine.</p> <p>This unit standard applies to gravity casting into a permanent die.</p>
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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 Unit 2373, *Work safely with molten metals* is recommended for entry into this unit standard.
- 2 References and legislations  
 Health and Safety at Work Act 2015.  
 Hazardous Substances and New Organisms Act 1996.  
 Resource Management Act 1991.  
 WorkSafe New Zealand. *Health and Safety Guidelines on the Management of Hazards in the Metal Casting Industry*. Available at:  
<http://www.business.govt.nz/worksafe/information-guidance/all-guidance-items/metal-casting-industry-health-and-safety-guidelines-for-the-management-of-hazards-in/metal-casting-hs-guidelines.pdf>.
- 3 Definitions  
*Accepted industry practice* refers to approved codes of practice and standardised procedures accepted by the wider mechanical engineering industry sectors as examples of best practice.  
*Workplace procedures* refer to procedures used by the organisation carrying out the work and applicable to the tasks being carried out. They may include but are not limited to – 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.
- 4 Assessment Information
  - a All activities must comply with applicable workplace procedures and must be consistent with accepted industry practice.
  - b The material used in gravity die casting is non-ferrous metal.

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## Outcomes and performance criteria

### Outcome 1

Prepare gravity die casting equipment.

#### Performance criteria

- 1.1 Die is inspected to ensure that it matches with the job to be cast.
- 1.2 Die coat is mixed.
- 1.3 Die temperature is maintained at level scheduled on job sheet.
- 1.4 Personal Protective Equipment (PPE) is used.
- 1.5 Die coat is applied in sequence and in a safe manner.
- 1.6 Die is securely located on machine and closed.

### Outcome 2

Produce castings using gravity die casting machine.

#### Performance criteria

- 2.1 Molten metal is transferred into die in machine.
- 2.2 Conditions that contribute to inferior and/or reject castings are monitored.
- 2.3 Solidification time meets job requirements.
- 2.4 Castings are removed from die and stored in a manner that minimises damage.
- 2.5 Die condition is monitored and coating reapplied as required.

### Outcome 3

Clean the die body in the machine.

#### Performance criteria

- 3.1 PPE is used.
- 3.2 Body of die is cleaned using abrasive blaster.
- 3.3 Work area is cleaned of coating and abrasive blasting residue.

<b>Planned review date</b>	31 December 2021
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**Status information and last date for assessment for superseded versions**

Process	Version	Date	Last Date for Assessment
Registration	1	25 October 1994	31 December 2012
Revision	2	14 April 1997	31 December 2012
Revision	3	5 January 1999	31 December 2012
Review	4	19 October 1999	31 December 2012
Review	5	19 May 2006	31 December 2016
Rollover and Revision	6	17 November 2011	31 December 2022
Review	7	15 September 2016	N/A
Revision	8	23 November 2017	N/A

<b>Consent and Moderation Requirements (CMR) reference</b>	0013
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**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.