

Title	Inspect and test metal formed products		
Level	3	Credits	10

Purpose	People credited with this unit standard are able to inspect and identify defective metal formed products and complete documentation, and test metal formed products for possible defects and complete documentation.
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Classification	Mechanical Engineering > Metal Forming
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Available grade	Achieved
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Guidance Information

- 1 References and legislation
 Health and Safety at Work Act 2015 and supporting regulations.
 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>.
- 2 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.
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.
Workplace procedures refer to the 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 Assessment Information
 - a All activities must comply with applicable workplace procedures and must be consistent with accepted industry practice.

- b Demonstrated competence in using measuring instruments and interpreting technical drawings will be useful to those seeking credit for this unit standard.

Outcomes and performance criteria

Outcome 1

Inspect and identify defective metal formed products and complete documentation.

Range Types of inspections - visual, dimensional (measurement).
Evidence of a minimum of two visual and two-dimensional inspections of metal formed products is required.

Performance criteria

- 1.1 Sampling procedure for identifying defective metal formed products is applied.
- 1.2 Products are inspected and measured for conformance with component specifications.
- 1.3 Non-compliant product is identified, segregated, quarantined, and reported.
- 1.4 Documentation for inspection is completed.

Outcome 2

Test metal formed products for possible defects and complete documentation.

Range Evidence of a minimum of two visual; and one of hardness, physical, or chemical testing of metal formed products is required.

Performance criteria

- 2.1 Products are tested for surface defects.
Range examples are dye penetrant, magnetic particle.
- 2.2 Products are hardness tested for conformance with specifications.
- 2.3 Products are pressure tested for porosity to conformance with specifications.
- 2.4 Product testing to specifications is arranged.
Range examples are – physical, chemical, metal forming integrity.
- 2.5 Documentation for testing is completed.

Planned review date	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	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 2018
Review	7	15 September 2016	31 December 2022
Review	8	17 August 2017	N/A

Consent and Moderation Requirements (CMR) reference

0013

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 if you wish to suggest changes to the content of this unit standard.