



Australian Government

MEM06003 Carry out heat treatment

Release: 1

MEM06003 Carry out heat treatment

Modification History

Release 1. Supersedes and is equivalent to MEM06003C Carry out heat treatment

Application

This unit of competency defines the skills and knowledge required to carry out heat treatment using a variety of equipment for cast metal products, machine tooling, and forged and machined components.

Where simple heat treatment applications like annealing and/or heat/quench processes undertaken as incidental to trade work (e.g. toolmaking) is required unit MEM06007 Perform basic incidental heat/quenching, tempering and annealing should be selected.

Where the interpretation of technical drawings is required unit MEM09002 Interpret technical drawing should also be selected.

Where the selection and use of engineering measurement is required unit MEM12023 Perform engineering measurements should also be selected.

Where the selection and use of tools is required unit MEM18001 Use hand tools and unit MEM18002 Use power tools/hand held operations, should also be selected as appropriate.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Band: A

Unit Weight: 6

Pre-requisite Unit

MEM11011	Undertake manual handling
MEM13015	Work safely and effectively in manufacturing and engineering
MEM16006	Organise and communicate information

Competency Field

Forging

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

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|---|---|-----|--|
| 1 | Determine job requirements | 1.1 | Follow standard operating procedures (SOPs) |
| | | 1.2 | Comply with work health and safety (WHS) requirements at all times |
| | | 1.3 | Use appropriate personal protective equipment (PPE) in accordance with SOPs |
| | | 1.4 | Identify job requirements from specifications, sketches, job sheets or verbal instructions from metallurgist or supervisor |
| 2 | Select and set up heat treatment equipment | 2.1 | Select appropriate equipment for the required heat treatment |
| | | 2.2 | Set up equipment according to SOPs and manufacturers' instructions |
| 3 | Work safely with hot metals | 3.1 | Demonstrate emergency procedures according to approved safety instructions and identify and follow safety signs |
| | | 3.2 | Use equipment according to specifications and SOPs |
| 4 | Heat treat material | 4.1 | Treat material to achieve required result, which may include preparation processes |
| | | 4.2 | Piece or batch load and unload material using equipment according to SOPs |
| | | 4.3 | Maintain correct temperature according to SOPs |

Foundation Skills

This section describes those required skills (reading, writing, oral communication and numeracy) that are essential to workplace performance in this unit of competency.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, accessibility of the item, and local industry and regional contexts) are included.

- Equipment includes one (1) or more of the following:**
- gas
 - electric
 - oil fired furnaces
 - vacuum furnace
 - induction heating
 - kilns
 - heated baths
 - salt baths
 - specialised tongs/tools
 - lifting equipment

- Materials include one (1) or more of the following:**
- carbon steels
 - alloy steels
 - non-ferrous

- Preparation processes include one (1) or more of the following:**
- coatings and packings
 - preheating
 - soaking
 - quenching
 - tempering
 - annealing
 - normalising
 - carburizing
 - sintering

Unit Mapping Information

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Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>