



Australian Government

MEM06007 Perform basic incidental heat/quenching, tempering and annealing

Release: 1

MEM06007 Perform basic incidental heat/quenching, tempering and annealing

Modification History

Release 1. Supersedes and is equivalent to MEM06007B Perform basic incidental heat/quenching, tempering and annealing

Application

This unit of competency defines the skills and knowledge required to perform straightforward heating/quenching, tempering and annealing materials to specifications.

Work would normally be one-off processes or processes incidental to trade work (e.g. toolmaking and metal spinning).

Where more comprehensive or complex heating treatment is required unit MEM06003 Carry out heat treatment and MEM06004 Select heat treatment processes and test finished product, should also be selected as appropriate.

Where continuous or batch heat treatment of materials is required unit MEM07024 Operate and monitor machine and process should also 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 hand tools is required unit MEM18001 Use hand tools should also be selected.

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

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

Band: A

Unit Weight: 2

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.

- | | | | |
|---|---|-----|--|
| 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 work instructions |
| | | | |
| 2 | Set up equipment for heat/quenching, tempering and annealing | 2.1 | Select appropriate heating process and/or procedure for the given job |
| | | 2.2 | Set up equipment according to manufacturers' instructions and SOPs |
| | | | |
| 3 | Operate heating equipment | 3.1 | Observe all safety procedures |
| | | 3.2 | Follow appropriate heating equipment operating procedures |
| | | 3.3 | Make appropriate equipment adjustments, as required |
| | | 3.4 | Treat material to achieve required result |

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.

**Heating processes
include one (1) or more
of the following:**

- heating/quenching
- tempering
- annealing

**Heating equipment
includes one (1) or more
of the following:**

- oxy acetylene
- LPG gas equipment
- forge

**Materials include one (1)
or more of the following:**

- ferrous
- non-ferrous metals

Unit Mapping Information

Release 1. Supersedes and is equivalent to MEM06007B Perform basic incidental heat/quenching, tempering and annealing

Links

Companion Volume implementation guides are found in VETNet -

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

Assessment Requirements for MEM06007 Perform basic incidental heat/quenching, tempering and annealing

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Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria on at least two (2) occasions and include:

- following work instructions, standard operating procedures (SOPs) and safe work practices
- identifying and interpreting specifications, manufacturer instructions, charts, lists, sketches and other applicable reference documents to perform basic incidental heat/quenching, tempering and annealing
- setting up and operating heating equipment to treat material to achieve required result.

Knowledge Evidence

Evidence required to demonstrate the required knowledge for this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include knowledge of:

- safe work practices and procedures and use of personal protective equipment (PPE)
- characteristics and applications of heating/quenching, tempering and annealing processes
- specifications for heating/quenching, tempering and annealing
- process for heating/quenching, tempering and annealing different materials
- correct operation and adjustment of heating equipment.

Assessment Conditions

- Assessors must:
 - have vocational competency in performing basic incidental heat/quenching, tempering and annealing at least to the level being assessed with relevant industry knowledge and experience
 - satisfy the assessor requirements in the *Standards for Registered Training Organisations 2015* or its replacement and comply with the *National Vocational Education and Training Regulator Act 2011*, its replacement or equivalent legislation covering VET regulation in a non-referring state/territory as the case requires

- Where possible assessment must occur in operational workplace situations. Where this is not possible or where personal safety or environmental damage are limiting factors, assessment must occur in a sufficiently rigorous simulated environment that reflects realistic operational workplace conditions. This must cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

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