



Australian Government

Assessment Requirements for MEM48023 Apply metallurgical principles and practice to optimise furnace operation

Release: 1

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Modification History

Release 1. Supersedes and is equivalent to MSATCM512A Apply metallurgy principles and practice to optimise furnace operation.

Performance Evidence

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

- following work instructions, standard operating procedures (SOPs) and safe work practices
- selecting appropriate metallurgical principles to suit specific furnace applications
- selecting appropriate techniques and associated technologies, software and hardware to optimise furnace operation to suit specific applications on at least two occasions
- applying and manipulating appropriate formulas for applications involving engineering and metallurgical calculations
- applying appropriate calculations to metallurgical situations
- referring solutions to the original aim of the metallurgical application
- reporting results in appropriate units using appropriate significant figures
- stating limitations of solutions due to assumptions, scientific principles and techniques used
- presenting and recommending solutions.

Note: Where a volume and/or frequency is not specified, demonstration must be provided at least once.

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
- information sources
- furnace operation
- metallurgical techniques and principles as specified in the Range of Conditions
- limitations of selected basic scientific principles
- basic metallurgical techniques and related software and hardware technologies
- limitations of basic techniques and associated software and hardware technologies.
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Assessment Conditions

- Assessors must:
 - have vocational competency in applying metallurgical principles and practice to optimise furnace operation 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 that 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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Links

Companion Volume implementation guides are found in VETNet -

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