



Australian Government

Assessment Requirements for MEM48024 Plan and complete metallurgical projects

Release: 1

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Modification History

Release 1. Supersedes and is equivalent to MSATCM513A Plan and complete metallurgical projects.

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
- researching and reporting context and parameters of the planning process for metallurgical applications
- planning and implementing a significant metallurgical application within a market and industrial context and in conformance with project parameters including financial, legal, resource and scheduling
- documenting and confirming an internal or external client's requirements in accordance with organisational procedures and practices
- informing the client of known work health and safety (WHS), regulatory, ethical, environmental, physical and cost limitations
- writing specifications to meet project requirements on at least two occasions
- documenting and agreeing on acceptance criteria with a client
- reviewing different approaches to technical feasibility, innovation and acceptance to client
- documenting possible metallurgical product or process concepts on at least two occasions
- analysing, comparing and contrasting the relative merits of possible metallurgical processes or products
- documenting an objective analysis of each approach
- discussing proposals with colleagues and specialists
- documenting concept proposal in accordance with organisational procedures
- establishing the planning and implementation team in accordance with organisational procedures
- identifying resources and establish management procedures
- selecting components and systems
- negotiating, documenting and monitoring outcomes and performance measures
- developing work instructions
- monitoring and correcting project progress
- performing risk analysis and corrective action
- evaluating assumptions and calculations for implementation of metallurgical processes
- preparing design diagrams and calculations

- applying metallurgical principles and knowledge in the implementation of the plan and design process
- selecting metallurgy-related materials
- selecting metallurgical methods and processes
- creating demonstration models
- confirming a metallurgical solution and plan on at least two occasions
- authorising modifications to the metallurgical specification in accordance with organisational procedures
- incorporating corrections and improvements to the design into the revised design solution and plan
- applying WHS and environmental requirements and regulatory standards
- completing documentation
- obtaining and reviewing feedback from the commissioning process
- monitoring the project outcomes or performance in the implementation environment on at least two occasions
- addressing deficiencies in project outcomes or performance as measured against specifications.

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 and use of personal protective equipment (PPE)
- planning process for metallurgical applications
- market and industrial context and parameters of the planning and design process for a significant metallurgical application including financial, legal, resourcing and scheduling
- procedures for documenting and confirming client requirements
- codes, standards, specifications and legislative and regulatory requirements
- implications for sustainability and options for improved environmental outcomes
- constraints and risks associated with the development and implementation of metallurgical processes
- process of analysis, comparison and contrasting
- concept proposal review process
- metallurgical fundamentals affecting selection of components and systems
- metallurgy-related hardware and software
- properties of metal and alloys
- significance of the document control process
- procedures for initiating and gaining approval for changes to metallurgy-related processes
- metallurgy-related tests and testing schedules
- reasons for selecting tests and schedules
- corrective actions to return metallurgy-related processes to specification

- report requirements.
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Assessment Conditions

- Assessors must:
 - have vocational competency in planning and completing metallurgical projects 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>