



Australian Government

**Assessment Requirements for MEM234020
Coordinate small lot manufacture using
rapid manufacture processes**

Release: 1

Assessment Requirements for MEM234020 Coordinate small lot manufacture using rapid manufacture processes

Modification History

Release 1. Supersedes and is equivalent to MEM234020A Coordinate small lot manufacture using rapid manufacture processes.

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:

- interpreting features of object, materials, machinery and processes and parameters for rapid processes
- advising client based on discipline knowledge and work health and safety (WHS) and regulatory standards
- researching sustainability implications and current industrial design techniques
- determining WHS, regulatory and risk management requirements
- investigating, measuring and considering options
- modelling and calculating using appropriate software and validation techniques
- generating and evaluating solutions for feasibility against design criteria
- communicating, negotiating and reviewing with stakeholders and client throughout the process to obtain agreement on proposal and sign-off on design
- coordinating small lot manufacture on at least two occasions, producing a batch quantity of objects using rapid manufacture (RM) principles and processes
- documenting design with drawings, specifications and instructions.

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:

- technical and professional support services required to comply with ethical, licensing, legal and indemnity requirements
- economic, social and environmental implications of rapid processes
- WHS and regulatory requirements, codes of practice, standards, risk management and registration requirements
- rapid manufacturing applications
- rapid prototyping applications
- factors affecting prototype material, machine and process selection

- current developments in machine and process capabilities for direct and indirectly manufactured components or tools
- machine data including:
- data digitising
- reverse engineering
- computer-aided devices and CAD files including:
 - CAD functions, features and techniques related to rapid prototyping (RP)
 - CAD model requirements for effective post-processing and suitability for the rapid process
 - file formats
 - post-processing
- current developments in materials including:
- materials for additive printing processes
- materials for sprayed metal deposition
- materials for rapid casting
- other materials including:
 - thermoplastics for vacuum forming
 - materials for rapid machining and fabrication
- required documentation, drawings, specifications, instructions, programming and processing information.
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Assessment Conditions

- Assessors must:
 - have vocational competency in coordinating small lot manufacture using rapid manufacture processes 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.

Links

Companion Volume Implementation Guides are available on VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>