



Australian Government

Assessment Requirements for MEM04002 Perform gravity die casting

Release: 1

Assessment Requirements for MEM04002 Perform gravity die casting

Modification History

Release 1. Supersedes and is equivalent to MEM04002B Perform gravity die casting

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 and other applicable reference documents for gravity die casting operation
- preparing equipment for gravity die casting, including:
 - mixing and applying die coat in correct proportion and sequence
 - lifting and maintaining die temperatures at the correct level
 - locating, placing securing die on machine and attaching air cooling if required
- carrying out manual pouring in a continuous and appropriate rate that reduces porosity and lamination, avoiding conditions that can contribute to inferior castings or rejects
- removing and storing components and removing any flash from the die surface
- cleaning die using a shot blaster in a safe manner
- taking chemical analysis of melt and applying remedial action as required
- drossing and/or degassing furnace to SOPs
- completing records as required.

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) and apparatus
- die coat function(s) in gravity die casting
- correct proportions and consistency of die coats as determined by manufacturers' specifications
- correct identification of die coat materials
- procedures for raising the temperature of the die to the correct level and maintaining the required temperature in accordance with SOPs
- procedures to be followed when pouring molten metal to produce sound castings
- causes of defects in castings

- curing times for castings of various volumes and materials
- timing of die coat application and quantity of die coat to be used for different applications
- correct procedures for removing castings from the die and storing of castings
- die condition and need for shot blasting
- shot blaster operating procedures.

Assessment Conditions

- Assessors must:
 - have vocational competency in performing gravity die casting 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.

Links

Companion Volume implementation guides are found in VETNet -

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