



Australian Government

Assessment Requirements for MEM48009 Undertake and interpret results of chemical analysis on metal samples

Release: 1

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Modification History

Release 1. Supersedes and is equivalent to MSATCM404A Undertake and interpret results of chemical analysis on metal samples

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 occasions and include:

- Following work instructions, standard operating procedures and safe work practices
- Identifying relevant spectra
- Communicating both with other technicians and also with shop floor operatives about technical matters
- Writing technical reports and production specifications
- Understanding and interpreting numeric data as well as manipulating test data in order to obtain the required information
- Calculating concentrations and dilutions
- Applying mathematics relevant to the manipulation and interpretation of test data
- Applying knowledge of the impact of chemical composition on the foundry process and product and what adjustments should be made, and how they can be made
- Implementing, checking results of actions and following up, 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)
- Principles of operation, uses and limitations of:
 - Optical Emission Spectroscopy (OES) (otherwise known as Atomic Emission Spectroscopy (AES))
 - UV - Visible Spectrophotometry (UV Vis)
 - Infrared Spectroscopy (IR)
 - Gas Chromatography (GC)
 - X-Ray Fluorescence (XRF)
 - Flame Photometry
 - Atomic Absorption Spectrometry (AAS)
 - Scanning Electron Microscopy (SEM)
 - Traditional Wet Analysis

Assessment Conditions

- Assessors must:
 - have vocational competency in undertaking and interpreting results of chemical analysis on metal samples 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 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 suitable access to an operating plant or equipment that allows for appropriate and realistic simulation and documentation including relevant workplace procedures, industry codes and standards.
- 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>