



Australian Government

MEM05067 Establish and maintain a welding procedure management system

Release: 1

MEM05067 Establish and maintain a welding procedure management system

Modification History

Release 1. New Unit.

Application

This unit of competency was developed for post trade engineering fabrication training and the recognition of post trade skills in establishing and maintaining a welding procedure specification (WPS) management system for an organisation.

It defines the skills and knowledge associated with welding parameters and processes, Australian and international welding standards, welding terminology, welder qualification requirements, and general record keeping skills and knowledge as defined in the unit in conjunction with its prerequisites. The scope of the unit includes establishing system features to maintain WPS currency, accuracy and fitness for purpose for regulatory, job control, and welder record purposes.

While the unit requires some general record keeping skills and knowledge, it does not cover the skills and knowledge to establish and maintain an enterprise welding record management system. If this is required, the unit MEM05064 Establish and maintain a weld record management system must be selected.

The unit is intended to apply in occupations such as welding supervisor, welding inspector, welding engineer and other personnel responsible for establishing and maintaining a weld procedure management system for an enterprise.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Band: B

Unit Weight: 6

Pre-requisite Unit

MEM05061 Apply basic metallurgy principles to welding applications

MEM05078 Apply welding principles

MEM05085 Select welding processes

MEM11011 Undertake manual handling

MEM12023 Perform engineering measurements

MEM12024 Perform computations

MEM13015 Work safely and effectively in manufacturing and engineering

MEM14006 Plan work activities

MEM16006 Organise and communicate information

Plus one or more of the following units and their prerequisites:

MEM05060 Perform welds to code standards using submerged arc welding process

MEM05079 Perform welds to code standards using flux core arc welding process

MEM05080 Perform welds to code standards using gas metal arc welding process

MEM05081 Perform welds to code standards using gas tungsten arc welding process

MEM05082 Perform pipe welds to code standards using manual metal arc welding process

MEM05083 Perform welds to code standards using manual metal arc welding process

MEM05088 Perform welds to code standards using oxy fuel gas welding process

Competency Field

Fabrication

Elements and Performance Criteria

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1. Determine welding procedure management system requirements	1.1 Establish capability requirements of weld procedure management system in conjunction with relevant stakeholders 1.2 Determine general record keeping requirements including traceability, system access, security and privacy requirements 1.3 Determine scope of weld procedure records and parameters required to be recorded in weld procedure management system 1.4 Investigate available weld procedure management system formats and recommend appropriate format for approval
2. Establish welding procedure management system	2.1 Establish identification system for new and revised weld procedure specifications 2.2 Establish procedures for record data entry, approval or verification before entry 2.3 Establish access and security procedures for storing, retrieving, issuing, amending, backing up and deleting records
3 Establish system for maintaining welder qualifications against	3.1 Identify standards and codes used in enterprise that require qualification of welders 3.2 Identify requalification periods and requirements for welders under

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
standards and codes	each standard 3.3 Establish welder logs for welders working against standards requiring logs as method of requalification
4. Maintain the weld procedure management system	4.1 Establish procedures to maintain accuracy, completeness and availability of records in weld procedure management system 4.2 Ensure that each new and revised WPS in procedure management system is linked to supporting procedure qualification record (PQR) 4.3 Maintain welders' logs and make available for welder continuity audits or certification

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Scope of welding procedure management system must include one or more of the following:	• draft and approved PQRs • WPSs including pre-qualified WPSs, new WPSs and revised WPSs • welding standards and codes relevant to welder continuity • weld mapping traceability records • individual welder's pre-qualifications • other qualifications and certificates held by welders • individuals and/or organisations authorised to approve individual PQR and WPS documents and pre-qualify welders.
Welding parameters include one or more of the	• material specification and grade • material preparation requirements • joint details

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following:	• process type • position • run sequence and pass number • welding process • filler material • material diameter • current • voltage • polarity • wire feed speed • travel speed • pre and post heat input.
Weld procedure management system formats include one or more of the following:	• filing systems for paper-based records • standard PC program records • PC based specific apps and programs for weld record management systems • cloud based specific apps and programs for weld record management systems • microfiche file recoding systems.
Welder requalification requirement as identified in standards include one or more of the following:	• use of a welder log • satisfactory completion of test pieces.
Welder logs data requirements include one or more of the following:	• welder identification • weld process and date • relevant WPS and may also include: • project, customer and/or job number • weld joint identification.

Unit Mapping Information

No equivalent unit.

Links

Companion Volume implementation guides are found in VETNet -

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

Assessment Requirements for MEM05067 Establish and maintain a welding procedure management system

Modification History

Release 1. New Unit.

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 the ability to:

- establish privacy, backup and security procedures for a weld record management system
- make recommendations on the scope and format of a weld procedure management system for a fabrication enterprise
- interpret welder qualification and requalification requirements in at least three Australian or international welding standards
- establish a numbering system that allows for identification of each welding procedure specification (WPS) and links to the matching procedure qualification record (PQR) and other weld records
- issue correct weld procedure specifications for three workplace fabrication designs
- check and/or maintain welder log entries across at least three fabrication projects involving three or more welding processes.

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:

- welding parameters and processes
- technical drawings, welding symbols and weld joint identification
- Australian and international welding related standards and codes
- processes for approving new and revised WPS
- processes for establishing welder qualifications and welder continuity against WPS and welding standards and codes
- privacy procedures and regulations
- formats for weld procedure management systems
- relationship between designs, standards and codes, WPS, PQRs and welder qualification in the fabrication process.

Assessment Conditions

- Assessors must:
 - have vocational competency in establishing and maintaining a welding procedure management system 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.
- Assessment must occur in a functioning workplace. Where assessment in the workplace would be unsafe, impractical or threatens the environment, assessment must occur in a sufficiently rigorous simulated environment that reflects the circumstances that would be experienced in a functioning workplace. Assessment must cover all aspects of workplace performance, including task skills, task management skills, contingency management skills and job role environment skills.
- Knowledge assessment may be either verbal or written but must adequately reflect the knowledge requirements of the unit in a functioning workplace.
- 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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