



Australian Government

MEM15017 Use and maintain reference standards

Release: 1

MEM15017 Use and maintain reference standards

Modification History

Release 1. Supersedes and is equivalent to MEM15017B Use and maintain reference standards.

Application

This unit of competency defines the skills and knowledge required to care for and maintain reference standards and test equipment used to undertake trade measurement activities and is designed for those personnel performing trade measurement inspection/certification activities in public or private enterprises.

This unit can be applied in relation to inspection of pre-packed articles, examining trading practices, auditing servicing licensees, investigating consumer complaints, performing verification/certification and in-service inspection.

Where interpretation of technical drawings is required, unit MEM09002 Interpret technical drawing should also be selected.

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

Band: B

Unit Weight: 3

Pre-requisite Unit

MEM11011 Undertake manual handling

MEM12003 Perform precision mechanical measurement

MEM12004 Perform precision electrical/electronic measurement

MEM12005 Calibrate measuring equipment

MEM12023 Perform engineering measurements

MEM13015 Work safely and effectively in manufacturing and engineering

MEM16006 Organise and communicate information

MEM18001 Use hand tools

MEM18002 Use power tools/hand held operations

Competency Field

Quality

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Determine job requirements	1.1 Follow standard operating procedures (SOPs) 1.2 Comply with work health and safety (WHS) requirements at all times 1.3 Identify tolerances required for reference standards in relation to testing trade measuring instruments and legislation from appropriate research materials 1.4 Select the correct classes of reference standards to test trade measuring instruments
2. Use reference standards and test equipment in a safe and metrologically sound manner	2.1 Perform an operational assessment of reference standards and test equipment prior to use 2.2 Assess and follow documented operating policies and procedures for reference standards and test equipment 2.3 Follow safety requirements for the use of reference standards and test equipment within the work environment
3. Store and transport reference standards and test equipment	3.1 Store specialised equipment and reference standards in accordance with organisational procedures 3.2 Transport specialised equipment and reference standards in accordance with organisational procedures
4. Perform required maintenance of reference standards and test equipment	4.1 Identify maintenance requirements of reference standards and test equipment 4.2 Undertake regular maintenance of reference standards and test equipment in accordance with maintenance register 4.3 Identify defective reference standards and test equipment and report for repair in accordance with organisational procedures
5. Interpret documentation relating to the use of maintenance of reference standards and test equipment	5.1 Check information contained in the certificate of verification and compare with reference standards and test equipment being used 5.2 Use reference standards in accordance with documented instructions and certificates

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.

WHS considerations include one or more of the following:	• storage and transportation of test equipment • handling test equipment • handling hazardous materials • safety clothing • manual handling techniques • site/premises conditions.
Reference standards include one or more of the following:	• mass • volume • density • area • length • master meters • temperature.
Legislation includes one or more of the following:	• enabling legislation • WHS • environmental legislation.
Research materials and operating policies and procedures include one or more of the following:	• <i>Australian Standards</i> • legislation • handbook of verifying authority • manufacturers' operating manuals • manufacturers' specifications • organisational procedures • quality assured manual • industry guidelines.
Specialised equipment includes one or more of the following:	• reference standards • measuring devices • safety equipment.
Maintenance requirements of reference standards and test equipment includes	• cleaning and painting • electrical safety testing and tagging

one or more of the following:	• continuity testing • pressure testing • manufacturers' service requirements.
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Unit Mapping Information

Release 1. Supersedes and is equivalent to MEM15017B Use and maintain reference standards.

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 MEM15017 Use and maintain reference standards

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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
- accessing correct reference manuals and legislation
- identifying correct class of reference standard and matching with the appropriate trade measuring instrument
- accessing documented operating policies and procedures
- using specialised equipment in a safe and metrologically sound manner on at least two occasions
- calibrating/maintaining reference standards and test equipment and maintaining a maintenance register on at least two occasions
- identifying and recording/reporting malfunction of, or damage to, reference standards or test equipment
- interpreting certificates of verification in relation to the use of reference standards.

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
- WHS requirements relating to reference standards and test equipment
- personal responsibility for work, health and safety (WHS) requirements
- definition of legal metrology
- hierarchy of reference standards in relation to legal metrology
- Australian legal units of measurement used for trade
- organisations involved in legal metrology in Australia
- action to be taken where legal traceability cannot be confirmed
- application of different classes of reference standards used to test measuring instruments
- maintenance requirements for reference standards and test equipment

- test equipment and reference standards storage specifications and procedures
- specialised equipment, reference standards and transport specifications and procedures
- variations from storage and transport specifications and procedures requiring appropriate approval
- maintenance required for test equipment where manufacturers' requirements are unavailable
- actions to be taken if reference standards and test equipment are found to be defective
- range of maintenance and calibration procedures
- procedure for reporting faults
- purpose of certificates of verification issued under the national legislation
- information in graphs and tables within certificates.
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Assessment Conditions

- Assessors must:
 - have vocational competency in using and maintaining reference standards 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.

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