



Australian Government

Department of Education, Employment and Workplace Relations

MEM15017B Use and maintain reference standards

Release: 1

MEM15017B Use and maintain reference standards

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	The unit covers caring for and maintaining reference standards and test equipment used to undertake trade measurement activities.
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Application of the Unit

Application of the unit	<p>This unit is designed for those performing trade measurement inspection/certification activities in public or private enterprises.</p> <p>This unit may 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.</p> <p>Reference material relevant to this competency includes Australian standards, handbook of verifying authority, manufacturers' operating manuals, organisational procedures and quality assured manual.</p> <p>Workplace and health and safety considerations include storage and transportation of test equipment, handling of test equipment, handling of hazardous materials, safety clothing, manual handling techniques and site/premises conditions.</p> <p>Band: B</p> <p>Unit Weight: 3</p>
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Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		
Path 1	MEM11011B	Undertake manual handling
	MEM12003B	Perform precision mechanical measurement
	MEM12004B	Perform precision electrical/electronic measurement
	MEM12005B	Calibrate measuring equipment
	MEM12023A	Perform engineering measurements
	MEM18001C	Use hand tools
	MEM18002B	Use power tools/hand held operations

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify the appropriate class of reference standard suitable to verify a range of trade measuring instruments	<p>1.1. Tolerances required for reference standards are researched in relation to testing a range of trade measuring instruments and legislation.</p> <p>1.2. The correct classes of reference standards are selected to test a range of trade measuring instruments.</p>
2. Use reference standards and test equipment in a safe and metrologically sound manner	<p>2.1. Standards Laboratory purpose and function are explained.</p> <p>2.2. An operational assessment on reference standards and test equipment is performed prior to use.</p> <p>2.3. Documented operating policies and procedures for reference standards and test equipment are accessed and followed.</p> <p>2.4. Safety requirements for the use of reference standards and test equipment within the work environment are demonstrated.</p>
3. Store and transport reference standards and test equipment to maintain their integrity	<p>3.1. Specialised equipment and reference standards are stored in accordance with organisational procedures.</p> <p>3.2. Specialised equipment and reference standards are transported in accordance with organisational procedures.</p>
4. Perform required maintenance of reference standards and test equipment	<p>4.1. Maintenance requirements of reference standards and test equipment are identified.</p> <p>4.2. Regular maintenance of reference standards and test equipment is undertaken in accordance with maintenance register.</p> <p>4.3. Defective reference standards and test equipment are identified and reported for repair.</p>
5. Interpret documentation relating to the use of maintenance of reference standards and test equipment	<p>5.1. Information contained in the certificate of verification is checked and compared with reference standards and test equipment being used.</p> <p>5.2. Reference standards are used in accordance with documented instructions and certificates.</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Look for evidence that confirms skills in:

- accessing correct reference manuals for appropriate information concerning tolerances for reference standards
- identifying correct class of reference standard and matching with the appropriate trade measuring instrument
- accessing documented operating procedures for reference standards and test equipment
- using reference standards and test equipment
- calibrating/maintaining reference standards and test equipment
- maintaining maintenance register
- 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
- using graphs and tables within certificates

Required knowledge

Look for evidence that confirms knowledge of:

- definition of 'legal metrology'
- the hierarchy of reference standards in relation to legal metrology
- Australian legal units of measurement used for trade
- the organisations involved in legal metrology in Australia
- application of different classes of reference standards used to test measuring instruments
- maintenance requirements for reference standards and test equipment
- major function and purpose of the Standards Laboratory
- the actions to be taken if reference standards and test equipment are found to be defective
- test equipment and reference standards storage specifications and procedures
- personal responsibility for workplace, health and safety requirements
- specialised equipment, reference standards and transport specifications and procedures
- transport specifications and procedures
- variations from storage specifications and procedures requiring appropriate approval
- variations from transport specifications and procedures requiring appropriate approval
- maintenance required for test equipment where manufacturers' requirements are

REQUIRED SKILLS AND KNOWLEDGE

unavailable

- a range of maintenance and calibration procedures
- procedure for reporting faults
- action to be taken where legal traceability can not be confirmed
- the purpose of certificates of verification issued under the national legislation
- information in graphs and tables within certificates
- workplace, health and safety requirements relating to reference standards and test equipment

Evidence Guide

EVIDENCE GUIDE	
<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>A person who demonstrates competency in this unit must be able to use and maintain reference standards. Competency in this unit cannot be claimed until all prerequisites have been satisfied.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.</p>
<p>Context of and specific resources for assessment</p>	<p>This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.</p> <p>This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with using and maintaining reference standards, or other units requiring the exercise of the skills and knowledge covered by this unit.</p>
<p>Method of assessment</p>	<p>Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.</p>

EVIDENCE GUIDE

Guidance information for assessment	
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Range Statement**RANGE STATEMENT**

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Reference standards	Mass, volume, density, area, length, master meters, temperature
Legislation	Enabling legislation, workplace, health and safety, environmental legislation
Operating policies and procedures	Manufacturers' specifications, industry guidelines, Australian standards, legislation, organisational procedures and guidelines
Specialised equipment	Reference standards, measuring devices, safety equipment
Maintenance requirements of reference standards and test equipment	Cleaning and painting, electrical safety testing and tagging, continuity and pressure testing, manufacturers' service requirements

Unit Sector(s)

Unit sector	
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Co-requisite units

Co-requisite units		

Competency field

Competency field	Quality
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