



**Australian Government**

# **MEM15022 Verify reference standards**

**Release: 1**

# MEM15022 Verify reference standards

## Modification History

Release 1. Supersedes and is equivalent to MEM15022B Verify reference standards.

## Application

This unit of competency defines the skills and knowledge required to verify reference standards used for legal purposes and applies to those performing verification of reference standards in a verifying authority organisation. This work would mainly occur under laboratory conditions.

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

Band: B

Unit Weight: 8

## Pre-requisite Unit

MEM09002 Interpret technical drawing

MEM11011 Undertake manual handling

MEM12003 Perform precision mechanical measurement

MEM12023 Perform engineering measurements

MEM13015 Work safely and effectively in manufacturing and engineering

MEM16006 Organise and communicate information

MEM18001 Use hand tools

## 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)<br>1.2 Comply with work health and safety (WHS) requirements at all times<br>1.3 Identify the categories of reference standards that the organisation is |

| <b>Elements</b>                                                                                 | <b>Performance Criteria</b>                                                                                                                                                                                                                                                                                                                                                        |
|-------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Elements describe the essential outcomes.</i>                                                | <i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>                                                                                                                                                                                                                                                                             |
|                                                                                                 | authorised to verify<br>1.4 Identify the classes of reference standards required to verify a range of standards<br>1.5 Identify tolerances for reference standards within organisation's scope                                                                                                                                                                                     |
| 2. Maintain suitable environmental conditions to facilitate verification of reference standards | 2.1 Record reference standard details in accordance with organisational guidelines<br>2.2 Identify sources of possible operational procedures errors in the verification of reference standards<br>2.3 Apply required atmospheric conditions for the verification of reference standards<br>2.4 Assess environmental conditions to determine whether verification can be conducted |
| 3. Examine the design and required markings for a range of reference standards                  | 3.1 Locate and interpret the identification marking required for reference standards<br>3.2 Identify and apply design features of reference standards<br>3.3 Interpret and apply the function of major components of reference standards<br>3.4 Identify the fundamental features of reference standards                                                                           |
| 4. Perform verification of reference standards                                                  | 4.1. Verify a variety of reference standards.<br>4.2. Apply uncertainty and tolerances for reference standards.<br>4.3. Document results of verification, and issue certificate of verification in accordance with organisational procedures, legislation and policies.                                                                                                            |

## 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.

|                                                                          |                                                                                                                                                                                                                                                                                         |
|--------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Reference standards include one or more of the following:                | <ul style="list-style-type: none"> <li>• mass</li> <li>• volume</li> <li>• density</li> <li>• area</li> <li>• length</li> <li>• master meters</li> <li>• temperature.</li> </ul>                                                                                                        |
| Sources of verification procedures include one or more of the following: | <ul style="list-style-type: none"> <li>• manufacturers' specifications</li> <li>• industry guidelines</li> <li>• Australian Standards</li> <li>• legislation</li> <li>• organisational procedures and guidelines.</li> </ul>                                                            |
| Legislation and policies include one or more of the following:           | <ul style="list-style-type: none"> <li>• enabling legislation</li> <li>• organisational procedures and guidelines.</li> </ul>                                                                                                                                                           |
| WHS considerations include one or more of the following:                 | <ul style="list-style-type: none"> <li>• storage and transportation of test equipment</li> <li>• handling of test equipment</li> <li>• handling of hazardous materials</li> <li>• site/premises conditions</li> <li>• safety clothing</li> <li>• manual handling techniques.</li> </ul> |
| Documentation includes one or more of the following:                     | <ul style="list-style-type: none"> <li>• fees</li> <li>• verification work sheets</li> <li>• certificate of verification.</li> </ul>                                                                                                                                                    |

## Unit Mapping Information

Release 1. Supersedes and is equivalent to MEM15022B Verify 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 MEM15022 Verify 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
- researching and identifying suitable reference standards within standards hierarchy
- accessing reference manuals on at least two occasions to gain appropriate information concerning tolerances for reference standards
- completing the organisation's information tracking documentation
- identifying sources of operational procedural errors relevant to the verification
- performing verification of reference standards on at least two occasions by locating identification marks and researching design features on range of reference standards
- documenting results in line with legislation and policies
- completing all documentation in accordance with procedures.

*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
- relevant categories of reference standards which the organisation is authorised to verify
- reference standard verification procedures
- different classes for reference standards
- appropriate tolerances for different reference standards
- current status of clients' reference standards
- atmospheric factors required for verifying reference standards and remedial action for atmospheric deficiencies
- environmental factors that may adversely influence the integrity of the reference standards and remedial action for different environmental deficiencies
- requirements for identification marking on reference standards
- purpose of design specifications
- purpose of the major components and functions of reference standards

- fundamental features of reference standards
- process for maintaining integrity of results, including calculation
- reference material for uncertainty and maximum permissible errors for reference standards
- process for producing certificates of verification in accordance with verifying authority status.
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## Assessment Conditions

- Assessors must:
  - have vocational competency in verifying 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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