



Australian Government

Department of Education, Employment and Workplace Relations

MSAPMOPS101A Make measurements

Revision Number: 1

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Modification History

Not applicable.

Unit Descriptor

Unit descriptor

This unit covers the making or taking of measurements in a variety of sites and locations.

Application of the Unit

Application of this unit

This unit applies to people who are required to apply basic knowledge and skills in performing routine measurements for industry related operations. It is typically performed by people working either independently or as part of a work team.

The worker will:

- make measurements using physical and/or chemical measuring equipment
- record results using either a manual or computer system
- identify problems and take required action
- complete logs and reports.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisites

This unit has **no** prerequisites.

Employability Skills Information

Employability Skills

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

ELEMENT	PERFORMANCE CRITERIA
Elements describe the essential outcomes of a unit of competency	Performance Criteria describe the required performance needed to demonstrate achievement of the Element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT ELEMENT	PERFORMANCE CRITERIA Performance Criteria describe the required performance needed to demonstrate achievement of the Element. Assessment of performance is to be consistent with the Evidence Guide.
1. Identify appropriate measurements.	1.1 Select appropriate measuring equipment. 1.2 Identify units to be used, and the detail required. 1.3 Check measuring equipment is in calibration.
2. Perform measurements	2.1 Explain range of results that may be obtained 2.2 Identify and take account of relevant external factors. 2.3 Perform measurements using appropriate techniques 2.4 Compare measurements against the range of expected results 2.5 Self-check numerical information for accuracy and correctness. 2.6 Explain the need for calibration and use calibrated equipment to make measurements.
3. Record measurements as required.	3.1 Accurately record the result in the appropriate format. 3.2 Record the result to the appropriate level of detail.
4. Respond to routine problems in accordance with procedures	4.1 Recognise known faults that occur during the measurement. 4.2 Identify and take action on causes of routine faults. 4.3 Log problems as required. 4.4 Identify non-routine problems and report to designated person.

Required Skills and Knowledge

This describes the essential skills and knowledge and their level required for this unit.

Knowledge and understanding of the process sufficient to recognise non-standard situations and then determine appropriate action which is consistent with operating guidelines. For example, in gel coating, a coating less than 5 mils thick may wrinkle, especially when brush marks are present. Thickness is checked using a gel coat thickness gauge.

Knowledge and the ability to implement the organisation's procedures and relevant regulatory requirements, within appropriate time constraints and work standards.

Application of approved hazard control and safety procedures and the use of PPE in relation to handling materials, equipment operation and cleanup.

Knowledge in measurement sufficient for consistent performance to specifications including:

- basic units of measurement (eg kilogram, metre, second)
- correct selection and use of measuring devices
- application of relevant mathematical calculations and procedures, including additions, subtractions, division, fractions, percentages
- use of dial, scale and digital readouts
- the need for calibration and methods of checking equipment is within calibration.

Language, literacy and numeracy requirements

This unit requires the ability to read and interpret typical product specifications, job sheets and material labels as provided.

Writing is required to the level of completing workplace forms.

Numeracy is required to the level of basic arithmetical manipulations and the interpretation of the significance of numbers and variations of readings.

Evidence Guide

The Evidence Guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for this Training Package.

Overview of assessment

A holistic approach should be taken to the assessment.

Assessors must be satisfied that the person can consistently perform the unit as a whole, as defined by the Elements, Performance Criteria and skills and knowledge.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

It is essential that competence is demonstrated in the knowledge and skills defined in this unit. These may include the ability to

- take accurate measures using the appropriate measuring device
- apply approved procedures.

Consistent performance should be demonstrated. For example, look to see that

- standards in taking measurements are met consistently
- all safety procedures are followed.

Assessment method and context

Assessment will occur over a range of situations requiring the taking of measurements and will be undertaken in a work-like environment.

Competence in this unit may be assessed:

- by observation or questioning to indicate understanding and knowledge
- in a situation allowing the generation of evidence of the ability to respond to problems
- by using a suitable simulation and/or a range of case studies/scenarios
- through a combination of these techniques.

In all cases it is expected that practical assessment will be combined with targeted questioning to assess the underpinning knowledge and theoretical assessment will be combined with appropriate practical/simulation or similar assessment. Assessors need to be aware of any cultural issues that may affect responses to questions.

Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the assessee and the work being performed.

Specific resources for assessment

This section should be read in conjunction with the Range Statement for this unit of competency. Resources required include suitable access to an operating plant or equipment that allows for appropriate and realistic simulation. A bank of case studies/scenarios and questions will also be required to the extent that they form part of the assessment method. Questioning may take place either in the workplace, or in an adjacent, quiet facility such as an office or lunchroom. No other special resources are required.

Access must be provided to appropriate learning and/or assessment support when required. Where applicable, physical resources should include equipment modified for people with disabilities.

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. Add any 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. Where reference is made to industry codes of practice, and/or Australian/international standards, the latest version must be used.

Context

This competency applies to all routine measurements within a manufacturing environment.

Procedures

All operations are performed in accordance with procedures.

Procedures include all relevant workplace procedures, work instructions, temporary instructions and relevant industry and government codes and standards.

Tools and equipment

This competency includes use of equipment and tools such as:

- measuring devices, including gauges, dip-sticks, thermometers, weighing scales, length/thickness measuring
- calculators
- computers for recording results

- relevant personal protective equipment.

Hazards

Typical hazards include:

- dusts/vapour
- temperature
- hazardous substances
- manual handling hazards.

Problems

Respond to routine problems means 'apply known solutions to a limited range of predictable problems'.

Typical problems may include:

- measuring instrument not fit for use (eg not within calibration)
- appropriate measuring device not available
- deviations from normal range of readings
- effect of temperature on material properties.

Appropriate action for non-routine problems may be reporting to designated person or other action specified in the procedures.

Variables

Key variables to be monitored include:

- extent
- dimension
- quantity
- mass
- capacity
- capability.
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Unit Sector(s)

Not applicable.