Australian Government

Department of Education, Employment and Workplace Relations

MEM15008B Perform advanced statistical quality control

Release: 1

ISC INDUSTRY SKILLS COUNCILS
Creating Australia's Future

MEM15008B Perform advanced statistical quality control

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers constructing control charts.

Application of the Unit

Application of the unit	This unit involves the understanding of statistical processes and the application of these processes to the maintenance and improvement of a quality system. **Band**: **B** **Unit Weight**: **2**

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		
Path 1	MEM12024A	Perform computations
	MEM12025A	Use graphical techniques and perform simple statistical computations
	MEM15001B	Perform basic statistical quality control

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Employability Skills Information

Employability skills	This unit contains employability skills.

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.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Construct control charts	1.1. The key product parameters to be controlled are determined.
	1.2. Control charts/proformas including the determination of control limits from sample data are completed.
	1.3. 1, 2 and 3 sigma limits are used to measure and describe population dispersion as required.

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: • constructing control charts, including determining control limits from sample data   • identifying the key parameters to be controlled from a given specification   • calculating the population dispersion for given data in terms of 1, 2 and 3 sigma limits
Required knowledge
Look for evidence that confirms knowledge of: • procedures for constructing control charts and determining control limits from sample data   • population dispersion in terms of 1, 2 and 3 sigma limits   • safe workplace practices

Evidence Guide

EVIDENCE GUIDE	
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.	
Overview of assessment	A person who demonstrates competency in this unit must be able to perform advanced statistical quality control. Competency in this unit cannot be claimed until all prerequisites have been satisfied.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	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.
Context of and specific resources for assessment	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.

This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with performing advanced statistical quality control or other units requiring the exercise of the skills and knowledge covered by this unit. |
| **Method of assessment** | 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. |

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EVIDENCE GUIDE	
Guidance information for assessment	

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.	
Product parameters	Dimensions, weights, voltages, temperatures, speeds etc.
Control charts/proformas	Shewart Charts or charts for process average, range, or attributes etc.
Sample data	Periodic samples drawn from a trial run of the process

Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

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Competency field

Competency field	Quality