



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **PMBTECH502B Review and analyse production trials and specify retriels**

**Revision Number: 1**

## **PMBTECH502B Review and analyse production trials and specify retrials**

### **Modification History**

Not applicable.

### **Unit Descriptor**

#### **Unit descriptor**

This competency covers the reviewing of trial results, analysing and correcting trial outcomes, and specifying and carrying out retrial procedures.

This competency is typically performed by technicians/technologists in all sectors of the industry.

### **Application of the Unit**

#### **Application of this unit**

This competency applies to technicians who analyse and review production trials. The key factors are the understanding of the purpose of the trials, and the interpretation of the trial results compared to that purpose.

It includes:

- new product trials
- new process trials
- new equipment trials
- modifications to product trials
- modifications to process trials
- modifications to equipment trials.
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### **Licensing/Regulatory Information**

Not applicable.

## Pre-Requisites

### Prerequisites

This unit has the prerequisite of *MSAOPS401A Trial new process or product*.

## 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

| <b>ELEMENT</b><br>ELEMENT                    | <b>PERFORMANCE CRITERIA</b><br>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. Review trial results.                     | 1.1 Confirm trial objectives as a basis for comparison prior to review of results.<br>1.2 Review trial product quality results and compare with trial objectives to identify variations.<br>1.3 Review trial production results and compare with trial objectives to identify variations.                       |
| 2. Analyse and correct trial outcome.        | 2.1 Analyse trial results to establish priorities for the correction of parameters which are outside specifications.<br>2.2 Recommend changes to achieve product quality and production requirements.<br>2.3 Make changes in to procedures to achieve the required product quality and production requirements. |
| 3. Specify and carry out retrial procedures. | 3.1 Specify retrial objectives and priorities to procedures.<br>3.2 Carry out retrial variations to achieve the trial objectives to procedures.<br>3.3 Record trial results to procedures.                                                                                                                      |

## Required Skills and Knowledge

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

Knowledge and understanding of the materials, equipment and process sufficient to interpret trial results and specify appropriate retrial conditions.

Knowledge of organization procedures and policies along with the ability to implement them within appropriate time constraints and in a manner relevant to the job.

Application of the knowledge of managing risks using the hierarchy of controls applied to the process. Application of approved hazard control, safety procedures, the use of PPE in relation to handling materials, equipment operation and cleanup.

Knowledge as a basis for solving processing and material problems, including:

- a thorough understanding of polymer materials and processing
- calculate results from trial data
- interpret trial results in terms of trial objectives
- determine variations to trial procedures to overcome limitations found
- interpret results in terms of product end use requirements
- make recommendations for changes to materials, process and product based on trial results
- trial objectives
- preliminary product specifications (physical properties, size, weight, appearance)
- production requirements (output, rejects, yield, practical operating window)
- trial results
- product quality results
- production results
- changes
- product design and specifications
- mould, die and/or tooling design and construction
- material grade
- machine configuration or specification
- production specifications
- processing parameters
- retrial objectives
- product quality
- production requirements
- variations
- sample size
- machine parameters
- material grade changes
- mould, die and/or tooling changes
- machine configurations.

### Language, literacy and numeracy requirements

This unit requires high levels of numeracy and literacy with the ability to interpret technical specifications and reports. Advanced numeracy allowing the calculation and interpretation of statistics, product formulae and process conditions is also required.

## 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.

Where the assessee does not currently possess evidence of competency in *MSAOPS401A Trial new process or product*, it may be co-assessed with this unit.

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

It is essential that competence is demonstrated in the ability to apply an understanding of polymer materials and processing to the interpretation of trial results and making judgements about the trials in terms of the trial objectives

Consistent performance should be demonstrated. For example, look to see that the performance of at least one type of product or process trial on a typical machine has been correctly analysed and that there is evidence that other types of analyses can also be set up, run and completed satisfactorily.

### Assessment method and context

It is preferred that assessment takes place on industrial equipment in a work-like environment. Competence in this unit may be assessed:

- on a processing plant, allowing for operation under all normal and a range of abnormal conditions
- in a situation allowing for the generation of evidence of the ability to recognise, anticipate and 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 work environments and sectors within the plastics, rubber and cabling industry, but does require both a theoretical/mathematical and a practical analysis of the trial data.

The competency does not require knowledge of industry sectors and materials other than that in which the technician works. It assumes an understanding of the operation of all relevant equipment and processes but does not necessarily require them to be used personally.

### 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:

- procedures
- product specifications
- trial results and data
- data analysing and reporting tools (eg computer spreadsheets).

### Hazards

Typical hazards include operating equipment.

### Problems

'Anticipate and solve problems' means resolve a wide range of routine and non-routine problems, using product and process knowledge to develop solutions to problems which do not have a known solution/a solution recorded in the procedures.

Typical process and product problems may include:

- new products or processes
- new dies, moulds or tooling
- modified equipment or components
- modified or new materials.

### Variables

Key variables to be monitored include production data.

## Unit Sector(s)

Not applicable.