



Australian Government

PMBTECH501E Analyse equipment performance

Release: 1

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Modification History

Release 1. Unit code changed. Application changed. Elements and Performance Criteria changed. Range of Conditions removed. Assessment Requirements changed. Supersedes and is equivalent to PMBTECH501 Analyse equipment performance.

Application

This unit covers the skills and knowledge required to analyse and verify equipment performance. It applies to equipment that uses screws and dies/tools used in extrusion, injection moulding and blow moulding.

This unit applies to an experienced technician working alone or as part of a team.

The unit principally refers to both the theoretical/mathematical and practical analysis of the process and, if contextualised, must be aimed at a level equivalent to a screw or die analysis.

No licensing or certification requirements apply to this unit of competency at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

PMBTECH401E Predict polymer properties and characteristics

MSMOPS401 Trial new process or product

Competency Field

Technical

Elements and Performance Criteria

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1. Determine theoretical performance	1.1 Identify item of plant or plant component to be analysed 1.2 Locate and interpret design specification for expected product output 1.3 Identify process materials to be processed during verification trial from job specifications 1.4 Determine process material properties under process conditions from job specifications

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
	1.5 Calculate theoretical performance of component with that material under those conditions
2. Conduct trial	2.1 Design verification trial that is compatible with theoretical analysis 2.2 Determine measurements needed from trial to yield required data 2.3 Select and set up equipment suitable to give required measurements 2.4 Arrange for verification trial with relevant process personnel 2.5 Supervise trial and ensure trial conditions are appropriate 2.6 Collect trial data for analysis
3. Analyse results	3.1 Compare theoretical performance with actual results and determine the significance of variances 3.2 Verify validity of results indicating variance and take action on verified variances
4. Recommend required action	4.1 Determine appropriate actions to bring performance to desired level 4.2 Initiate corrective actions according to workplace procedures 4.3 Determine other measures that will increase equipment productivity 4.4 Recheck performance after corrective action is implemented

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

- Numeracy skills to collect and analyse production data.
- Reading skills to interpret product and equipment specifications and workplace procedures.
- Writing and oral communication skills to record and report on equipment performance and improvement measures taken.

Other foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Supersedes and is equivalent to PMBTECH501 Analyse equipment performance.

Links

Companion Volume implementation guides are found in VETNet – -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=932aacef-7947-4c80-acc6-593719fe4090>

Assessment Requirements for PMBTECH501E Analyse equipment performance

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Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and demonstrated the ability to:

- analyse and verify the performance of one piece of equipment, including making and implementing recommendations for improvements in an operation.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- the functions and operating principles of the equipment being analysed
- characteristics and manufacturing behaviours of polymers involved in the process
- polymer materials, their additives and the rheological, heat and other effects of processing to the design of equipment and components to predict practical performance results
- the impact on performance of a 'limiting' component, and the potential for improved overall performance of a piece of equipment or process based on changes to the 'limiting' component
- types of data and techniques for calculation of theoretical and actual performance
- techniques for establishing and communicating performance improvement measures
- organisational procedures relevant to the work environment or job role
- hazards that may arise in the job or work environment and:
 - their possible causes
 - potential consequences
 - appropriate risk controls.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

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