



Australian Government

PMBPROD430E Trial a new injection moulding die

Release: 1

PMBPROD430E Trial a new injection moulding die

Modification History

Release 1. Unit code and title changed. Application changed. Elements and Performance Criteria changed. Range of Conditions removed. Assessment Requirements changed. Supersedes and is equivalent to PMBPROD430 Trial a new die/tool.

Application

This unit covers the skills and knowledge required to trial new injection moulding dies for thermoplastic moulding production, to both optimise existing production processes and install replacement dies.

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

The unit principally refers to the standard die-trialling procedure for all dies, whether simple or complex types, and that the aim of the die trial is to audit the die and establish production settings or tooling modifications.

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

Pre-requisite Unit

Nil.

Competency Field

Production – Injection Moulding

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 trial requirements	1.1 Gather and interpret all relevant, available information including job sheets from workplace and equipment documentation 1.2 Confirm machine or equipment suitability to meet trial requirements 1.3 Confirm die state in readiness for set-up to commence 1.4 Confirm readiness of raw materials for use in trial
2. Set die and machine	2.1 Follow safe working practices according to workplace procedures 2.2 Fit and set up die according to trial requirements and workplace

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
	procedures 2.3 Set up process conditions and machinery to meet product specifications and safe operational requirements during trial 2.4 Dry cycle machine and die according to workplace procedures
3. Perform die trial	3.1 Start trial process according to workplace procedures 3.2 Identify and record variations according to workplace procedures 3.3 Monitor control panel and interpret test results for fluctuations, variations and trends 3.4 Determine process limitations with respect to product and production specifications 3.5 Adjust controls to maintain parameters to job specifications based on interpretation of trial performance
4. Anticipate and solve process control variances	4.1 Identify potential range of process control variances that may occur and their impact on product and production specifications 4.2 Make adjustments to tooling and equipment and accurately record action taken according to workplace procedures 4.3 Identify and respond to actual process control variances according to workplace procedures and their causes 4.4 Monitor process control variances and corrective actions taken until resolved 4.5 Accurately maintain records and logbooks
5. Complete trial	5.1 Shut down equipment in normal and abnormal circumstances according to workplace procedures 5.2 Accurately record and report on trial results 5.3 Return machine to normal service according to production requirements and advise relevant personnel

Foundation Skills

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

- Numeracy skills to record and report on data received from the trial process.
- Reading skills to interpret and apply workplace information to the trial.

- Writing and oral communication skills to record and report on the trial results and process control variances that arose.

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 PMBPROD430 Trial a new die/tool.

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 PMBPROD430E Trial a new injection moulding die

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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:

- trial a new injection moulding die at least once to meet trial requirements.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- the functions of injection moulding dies and ancillary equipment
- the principles of operation of the equipment
- production workflow sequences and materials demand
- types of materials and their characteristics
- the criteria for overall process/equipment readiness for the process or equipment being used
- typical quality standards required at each stage of the trial and production processes
- key variables that may affect product quality and production output, and the importance of process conditions
- typical and atypical process and product problems, including early warning signs, possible causes and corrective actions
- the distinguishing characteristics of causes of problems as being either based on the properties of materials or caused by process variables
- organisational procedures relevant to the work environment or job role, including procedures for the emergency shutdown of equipment
- 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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