



Australian Government

# **PMBTECH402E Set advanced or complex injection moulding dies**

Release: 1

# PMBTECH402E Set advanced or complex injection moulding dies

## 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 PMBTECH402 Set advanced or complex dies.

## Application

This unit covers the skills and knowledge required to remove, refit and set advanced or complex dies used in injection moulding.

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

The unit principally refers to the advanced skills and knowledge needed for setting the class of large, complex or special-purpose production dies.

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

Technical – 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. Prepare to change advanced or complex dies | <ul style="list-style-type: none"><li>1.1 Determine when changeover will be required, and plan requirements for die change</li><li>1.2 Prepare dies and all required parts, tools and equipment related to changing advanced or complex dies</li><li>1.3 Prepare the moulding machine for shutdown and die removal according to workplace procedures</li><li>1.4 Take last-off samples from the machine for die reports</li><li>1.5 Close down machine according to machine specifications and workplace procedures</li><li>1.6 Prepare machine for changeover according to workplace</li></ul> |

| <b>Elements</b>                                | <b>Performance Criteria</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Elements describe the essential outcomes.      | Performance criteria describe the performance needed to demonstrate achievement of the element.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|                                                | procedures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 2. Change dies                                 | 2.1 Plan removal process according to equipment safety requirements, work health and safety regulations and workplace procedures<br>2.2 Remove, clean and store die according to workplace procedures<br>2.3 Attach replacement die, ensuring that locating devices and marks are matches and securing devices are installed and tightened according to specifications                                                                                                                                                                                                                                            |
| 3. Set advanced or complex dies                | 3.1 Set machine conditions for new die according to machine specifications<br>3.2 Restart machine according to workplace procedures<br>3.3 Run machine and die through dry cycle to check operation of die and power and control devices against die set-up specifications and product quality specifications<br>3.4 Check a first-off sample for compliance with required standards<br>3.5 Fine-tune settings and other production variables to meet specifications<br>3.6 Accurately update workplace documentation and note any equipment variances between actual production and documented set-up conditions |
| 4. Anticipate and rectify die-setting problems | 4.1 Identify potential problems that may occur during the die changing and setting process and their causes<br>4.2 Determine, prioritise and implement preventative actions based on identified issues and causes<br>4.4 Recommend improvements in systems or process to relevant personnel                                                                                                                                                                                                                                                                                                                       |

## Foundation Skills

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

- Reading skills to interpret job and equipment specifications and workplace procedures.
- Writing and oral communication skills to maintain process documentation and recommend process improvements.

*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 PMBTECH402 Set advanced or complex dies.

## **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 PMBTECH402E Set advanced or complex injection moulding dies

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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 of competency, and demonstrated the ability to:

- set at least one advanced or complex injection moulding die to meet operational requirements and specifications.

## Knowledge Evidence

There must be evidence the candidate has knowledge of:

- types and features of advanced or complex dies, including:
  - unscrewing systems
  - external power and control sources
  - sliding blocks or cores
  - safety interlocks
- special features of tooling for injection moulding production of thin-wall takeaway containers
- special features of hot-runner multi-cavity tooling
- special features of tooling for thermoset silicone injection moulding
- special features of tooling for large products such as bread crates
- typical process and product problems, including early warning signs, possible causes and corrective actions.

## 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.

## Links

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