



Australian Government

PMBPREP305E Change extrusion die and calibrator

Release: 1

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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 PMBPREP305 Change extrusion die and setup.

Application

This unit covers the skills and knowledge required to remove and change dies, pins, sizing dies (calibrator/s), vacuum blocks and seals used in extrusion line processes.

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

The unit principally refers to extrusion technology equivalent to die-setting in injection moulding technology and making the required changes to enable a shift to make a new product or use a different polymer.

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

Preparation – Extrusion

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 dies or cores	1.1 Plan process for shutting down machinery and inform relevant personnel 1.2 Take last-off samples from machine to complete die reports 1.3 Select dies or cores to match product or process specification 1.4 Implement measures to control identified hazards
2. Shut down extruder	2.1 Shut down downstream equipment according to equipment specifications and shutdown process plan 2.2 Shut down feed, drop temperatures, shut down vacuum pump and purge extruder according to equipment specifications

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
	2.3 Activate isolating locks and disconnect power to heaters according to equipment specifications
3. Change extruder set-up	3.1 Remove, clean and store die to prepare for replacement 3.2 Fit replacement die, ensuring that locating devices and marks are matched, and securing devices are installed and tightened to specification 3.3 Remove and refit calibrator sleeve and seals to meet requirements 3.4 Set heats according to pre-startup procedures
4. Restart and test new set-up	4.1 Check operation of die against product quality and expected operational standard 4.2 Compare machine setting ranges against documented requirements and machine specifications 4.3 Check a first-off sample for compliance with required standards 4.4 Fine-tune settings and other production variables to achieve required output quality 4.5 Compare standard operating procedures with actual production run and note variances 4.6 Accurately complete documentation
5. Anticipate and solve process control variances	5.1 Recognise existing or potential process control variances and their causes 5.2 Determine, prioritise and implement remedial and preventative actions based on identified issues and causes 5.3 Monitor process control variances and corrective actions taken until resolved

Foundation Skills

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

- Numeracy skills to interpret technical specifications and equipment readings.
- Reading skills to interpret specifications and workplace procedures.
- Writing and oral communication skills to record and report equipment preparation and process control variances.

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 PMBPREP305 Change extrusion die and setup.

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 PMBPREP305E Change extrusion die and calibrator

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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:

- change extrusion die and calibrator at least once to meet requirements, including selecting dies, calibration sleeves, seals and tools.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- function and principles of the operation of extrusion equipment
- methods of connecting extrusion dies to machines
- extruder and ancillary equipment shutdown processes
- the function of each machine setting and the appropriate ranges of settings for specific dies
- key variables that may affect product quality or production output and appropriate remedies
- typical and atypical process and product problems, including early warning signs, possible causes and corrective actions
- 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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