



Australian Government

PMBPROD313E Produce extruded polymer products

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 PMBPROD313 Produce extruded products.

Application

This unit describes the skills and knowledge required to, set-up, operate and optimise extrusion equipment to produce products such as pipe, sheet, profile, film and cable.

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

The unit principally refers to a 'trade-level' operator competency in the field of regular polymer extrusion. It may be specialised in the particular workplace or field of polymer extrusion, but it is expected that a competent operator is able to adapt to set up, operate and control the extrusion of other polymers.

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 – 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. Plan work requirements	1.1 Identify and check materials requirements, including additives and regrind and amounts or percentage ratios required, from job specifications 1.2 Identify processes and equipment required for production and upstream and downstream operations from job specifications 1.3 Perform pre-operational checks including checking for and controlling hazards according to workplace procedures 1.4 Identify and check emergency stops, guards and controls 1.5 Identify checks and testing processes required for equipment,

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	materials, quality and production management to meet job requirements 1.6 Perform housekeeping tasks to support work to be undertaken
2. Perform pre-production tasks	2.1 Identify and set production process according to equipment and job specifications, and adjust process to optimise output based on selected materials 2.2 Set up and adjust polymer extrusion equipment settings to meet job specifications 2.3 Verify materials are correct against job specifications 2.4 Set up date, batch and materials markings according to workplace procedures 2.5 Undertake other pre-startup checks according to equipment specifications and workplace procedures
3. Operate extrusion process to make production	3.1 Start up and operate extrusion process equipment, and make adjustments to settings to meet job specifications 3.2 Ensure process is operating according to equipment specifications and workplace procedures 3.3 Follow checking and testing processes to assess if output meets job specifications and quality standards, and apply strategies for managing non-conforming outputs 3.4 Maintain continuity of process to support production 3.5 Work efficiently to minimise scrap and trim according to workplace procedures 3.6 Clean work area, and clean, adjust and lubricate equipment, according to equipment specifications and workplace procedures 3.7 Pause or stop machine cycle in normal and abnormal circumstances according to workplace procedures
4. Shut down extruder	4.1 Determine type of shutdown and process to be followed from equipment instructions and workplace procedures 4.2 Shut down equipment according to equipment instructions and workplace procedures 4.3 Purge machine using appropriate methods and materials 4.4 Complete equipment clean-up and post-production adjustments according to equipment specifications and workplace procedures 4.5 Put guards, locks and notices in place to prevent inadvertent

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	startup 4.6 Accurately complete workplace shutdown documentation 4.7 Clean and clear work area after the shutdown in readiness for the next startup
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 5.4 Accurately maintain records and logbooks

Foundation Skills

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

- Numeracy skills to interpret technical information and equipment readings.
- Reading skills to interpret specifications and workplace procedures.
- Writing and oral communication skills to record and report on polymer extrusion production.

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 PMBPROD313 Produce extruded products.

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 PMBPROD313E Produce extruded polymer products

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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:

- produce extruded polymer products at least once to meet job specifications.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- the functions of polymer extrusion equipment
- the principles of operation of polymer extrusion equipment
- the polymer extrusion process and materials demand
- the criteria for overall process/equipment readiness for the process or equipment being used types and characteristics of materials and their behaviour in relation to process conditions and stages of production
- typical quality standards required at each stage of production
- mechanical, hydraulic, pneumatic, electrical and electronic principles that effect machine operation
- the impact of variations in raw materials and equipment operation in relation to final product
- key variables that may affect product quality and production output, including:
 - actual and set temperatures
 - speeds
 - colour and uniformity
 - surface finish or appearance
 - output rate
 - product integrity and general conformance to specification
- typical and atypical process and product problems, including early warning signs, possible causes and corrective actions
- methods and materials for purging equipment, and their combinations and applications
- organisational procedures relevant to the work environment and 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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