



Australian Government

PMBPROD301E Draw wire

Release: 1

PMBPROD301E Draw wire

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 PMBPROD301 Draw wire.

Application

This unit covers the skills and knowledge required to operate wire drawing equipment.

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

The unit principally refers to the practical, theoretical and technical knowledge and well-developed skills required in situations that require some discretion and judgement.

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 – Generic

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 materials required, including additives, from job specifications 1.2 Identify equipment and processes required for production and upstream and downstream operations from job specifications 1.3 Perform pre-operational checks including checking for and controlling hazards 1.4 Identify and check emergency stops, guards and controls 1.5 Identify checks and testing processes required for materials, quality production management and equipment to meet job requirements 1.6 Identify housekeeping needs and waste management strategies to

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	collect excess, discarded or nonconforming materials to be disposed of, recycled or reprocessed according to workplace procedures
2. Perform pre-production tasks	2.1 Verify equipment requirements from job specifications 2.2 Check equipment settings and adjustments match requirements 2.3 Set production process according to equipment specifications and job requirements, and adjust process to optimise output based on selected materials 2.4 Check dies, capstans, head, wire reel pack and gears to identify replacement or maintenance requirements 2.5 Coat wire drawing capstan with lubricant according to workplace procedures 2.6 Verify materials and spool sizes are correct against job specifications 2.7 Thread new materials through dies, checking for free operation, and secure fixing to reels or spools 2.8 Conduct equipment and component checks to ensure safe and efficient operation 2.9 Set up date, batch and materials markings required according to workplace procedures 2.10 Undertake other pre-startup checks according to equipment specifications
3. Operate wire drawing process and make adjustments	3.1 Start up and operate wire drawing 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 Assess if output meets job specifications and quality standards, and apply strategies for managing nonconforming outputs 3.4 Maintain continuity of process to support production 3.5 Accurately complete logs and records 3.6 Apply waste management strategies to collect excess, discarded or nonconforming materials to be disposed of, recycled or reprocessed according to workplace procedures 3.7 Clean, adjust and lubricate equipment according to equipment instructions 3.8 Pause or stop equipment in normal and abnormal circumstances

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
	according to workplace procedures
4. Shut down equipment	4.1 Shut down equipment according to equipment instructions and workplace procedures 4.2 Complete equipment clean-up and post-production adjustments according to equipment instructions and workplace procedures 4.3 Place guards, locks and notices to prevent inadvertent startup 4.4 Accurately complete workplace shutdown 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 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 wire drawing operations.

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 PMBPROD301 Draw wire.

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 PMBPROD301E Draw wire

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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:

- draw wire at least once to meet job specifications.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- products, materials and material characteristics
- behaviour of materials in relation to key process variables
- function and operating principles of wire drawing equipment, equipment components and ancillary equipment, including:
 - wire-drawing dies
 - hand tools
 - pointers
 - taggers
 - welders
 - lubrication systems
- wire drawing manufacturing processes
- the criteria for overall process/equipment readiness for the process or equipment being used
- behaviour of materials in relation to speed, temperature and tension
- impact of machine operating parameters on product quality and production output
- typical quality standards required at each production stage
- key variables that may affect product quality or production output, including:
 - machine speed
 - lubrication
 - wire properties
- wire properties and their interactions with process conditions
- impact of variations in raw materials and equipment operation in relation to final product
- impact of die wear and build up, faulty capstan and wire welds on product quality and production output

- 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, 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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