



Australian Government

PMBPROD301 Draw wire

Release: 1

PMBPROD301 Draw wire

Modification History

Release 1. Supersedes and is equivalent to PMBPROD301C Draw wire

Application

This unit of competency covers the skills and knowledge required to operate wire drawing equipment and ancillary equipment that is integral to the process.

This unit of competency applies to advanced operators who are required to start up and shut down wire drawing equipment, monitor equipment operation and make adjustments to remedy faults and nonconformity, maintain continuity of process and solve problems within area of responsibility.

This unit of competency applies to an advanced operator demonstrating theoretical and technical knowledge and well developed skills in situations that require some discretion and judgement. The advanced operator may work alone or as a member of a team or group and will work in liaison with other shift team members, team leader and supervisor, as appropriate.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Production

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

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|---|--|------|--|
| 1 | Plan own work requirements | 1.1 | Identify equipment and processes used for production process, upstream and downstream operations from production plan or request |
| | | 1.2 | Identify materials required including additives |
| | | 1.3 | Recognise hazards and take appropriate action |
| | | 1.4 | Identify and check emergency stops, guards and controls |
| | | 1.5 | Identify requirements for materials, quality, production and equipment checks |
| | | 1.6 | Identify materials, waste management and housekeeping needs |
| 2 | Check wire drawing process set-up | 2.1 | Determine equipment requirements |
| | | 2.2 | Check equipment settings and adjustments are as required |
| | | 2.3 | Select appropriate dies (number and sizes) and arrange in correct production sequence |
| | | 2.4 | Identify and check dies, capstans, head, wire reel pack and gears, replacing or maintaining as required |
| | | 2.5 | Coat wire drawing capstan with lubricant to procedures |
| | | 2.6 | Check materials are correct |
| | | 2.7 | Check material spool sizes for conformity with requirements |
| | | 2.8 | Discard, or make adjustments to the process for non-conforming materials |
| | | 2.9 | Thread new materials checking free operation through dies and secure fixing to reels or spools |
| | | 2.10 | Conduct equipment and component checks to ensure safe and efficient operation to procedures |

- 2.11 Set up date, batch and materials markings as required
- 2.12 Complete other pre-start checks to procedures

- 3 **Operate wire drawing process to procedures**
 - 3.1 Operate wire drawing equipment, noting key variables
 - 3.2 Monitor controls/displays/terminals for production/process data
 - 3.3 Monitor product/process quality
 - 3.4 Make adjustments to remedy faults and nonconformity as required
 - 3.5 Maintain continuity of process
 - 3.6 Collect and reprocess/discard scrap/trim and other materials
 - 3.7 Clean, adjust and lubricate equipment as required
 - 3.8 Complete required workplace documentation/records
 - 3.9 Pause equipment, or stop equipment in an emergency, as required

- 4 **Shut down equipment to procedures**
 - 4.1 Shut down equipment as required
 - 4.2 Complete equipment cleanup, adjustments and waste management.
 - 4.3 Place suitable guards, locks and notices to prevent inadvertent start-up

- 5 **Anticipate and solve problems**
 - 5.1 Recognise a problem or a potential problem
 - 5.2 Determine problems needing priority action
 - 5.3 Refer problems outside area of responsibility to appropriate person, with possible causes
 - 5.4 Seek information and assistance as required to solve problems

- 5.5 Solve problems within area of responsibility
- 5.6 Follow through items initiated until final resolution has occurred

Foundation Skills

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

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Regulatory framework The latest version of all legislation, regulations, industry codes of practice and Australian/international standards, or the version specified by the local regulatory authority, must be used.

Applicable legislation, regulations, standards and codes of practice include:

- health, safety and environmental (HSE) legislation, regulations and codes of practice relevant to the workplace, manual handling and hazardous materials
- Australian/international standards relevant to the materials being used and products being made
- any relevant licence and certification requirements.

All operations to which this unit applies are subject to stringent HSE requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and such requirements the legislative requirements take precedence.

Procedures All operations must be performed in accordance with relevant procedures.

Procedures are written, verbal, visual, computer-based or in some other form, and include one or any combination of:

- emergency procedures
- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- formulas/recipes
- batch sheets
- temporary instructions
- any similar instructions provided for the smooth running of the plant.

Tools and equipment Tools and equipment include:

- wire drawing equipment and components
- wire drawing dies which may be diamond, tungsten, carbide, compax or

similar

- ancillary equipment that is integral to the process.

Additional tools and equipment will be selected as required from:

- hand tools used in the process
- pointers
- taggers
- welders
- lubrication system
- measuring equipment
- hoists/lifting equipment not requiring any special permits or licences
- manual handling aids, such as hand carts and trolleys
- relevant personal protective equipment (PPE).

Hazards

Hazards must be identified and controlled. Identifying hazards requires consideration of:

- weight, shape, volume of materials to be handled
- hazardous products and materials
- sharp edges, protrusions or obstructions
- slippery surfaces, spills or leaks
- smoke, dust, vapours or other atmospheric hazards
- high temperatures
- electricity
- gas
- gases and liquids under pressure
- structural hazards
- equipment failures
- machinery, equipment and product mass
- other hazards that might arise.

Problems

Routine and non-routine problems must be resolved.

Non-routine problems must be resolved by applying operational knowledge to develop new solutions, either individually or in collaboration with relevant experts, to:

- determine problems needing action
- determine possible fault causes
- develop solutions to problems which do not have a known solution
- follow through items initiated until final resolution has occurred

- report problems outside area of responsibility to designated person.

Non-routine problems are unexpected problems or variations of previous problems and include one or more of:

- unstable process variables
- sub-optimal operation
- variations in feed rates
- variations in quality
- emergency situations.

Operational knowledge includes one or more of:

- procedures
- training
- technical information such as journals, engineering specifications
- remembered experience
- relevant knowledge obtained from appropriate people.

Routine problems are predictable and have known solutions and include one or more of:

- routine and non-routine product faults
- machine malfunction
- mould/tooling/ die problems
- variations in materials and/or contamination of materials
- processing problems.

Unit Mapping Information

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Links

MSA Training Package Implementation Guides - <http://mskills.org.au/training-packages/info/>