



Australian Government

PMBPROD309 Produce electroplated products

Release: 1

PMBPROD309 Produce electroplated products

Modification History

Release 1. Supersedes and is equivalent to PMBPROD309C Produce electroplated products

Application

This unit of competency covers the skills and knowledge required to operate and adjust electroplating processes for rubber, plastic and other non-metallic components.

This unit of competency applies to advanced operators who are required to start up and shut down electroplating equipment, monitor equipment operation, make adjustments to remedy faults and non-conformity, 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 and upstream and downstream operations from production plan or request |
| | | 1.2 | Identify component, electrode and bath materials |
| | | 1.3 | Recognise hazards and follow appropriate hazard control/minimisation methods |
| | | 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 electroplating process set-up | 2.1 | Determine equipment requirements |
| | | 2.2 | Set process to specifications as required |
| | | 2.3 | Set up and adjust bath conditions |
| | | 2.4 | Check materials are correct |
| | | 2.5 | Check racking, baskets or supports are as required |
| | | 2.6 | Discard, or make adjustments to the process for, non-conforming materials |
| | | 2.7 | Set up date, batch and materials markings to specifications, as required |
| | | 2.8 | Complete other pre-start checks in accordance with procedures |
| 3 | Operate electroplating equipment | 3.1 | Start equipment safely and correctly to procedures |
| | | 3.2 | Load components to be plated onto racks, supports or fixtures |

- 3.3 Compare measures of plating deposition and quality against specifications
 - 3.4 Monitor controls, including operating temperatures, voltage/current relationships and plating time
 - 3.5 Record production data as required
 - 3.6 Shut down equipment safely and correctly to procedures
- 4 **Anticipate and solve problems**
- 4.1 Recognise a problem or a potential problem
 - 4.2 Determine problems needing priority action
 - 4.3 Refer problems outside area of responsibility to appropriate person, with possible causes
 - 4.4 Seek information and assistance as required to solve problems
 - 4.5 Solve problems within area of responsibility

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:

- pre-treatment/plating baths
- racks, baskets, clips or supports

- ancillary equipment that is integral to the process.

Additional tools and equipment will be selected as required from:

- hand tools used in this process
- 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
- rotational equipment or vibration
- 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.
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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 and engineering specifications
- remembered experience
- relevant knowledge obtained from appropriate people.

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

- plating solution contamination or out of specification
- electrode material contamination or wrong material/grade
- equipment settings
- temperature variations
- process variations
- sequencing problems
- poor surface coverage contamination
- plating thickness variation blemishes
- missing detail.

Unit Mapping Information

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Links

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