



Australian Government

PMBPROD387 Produce welded plastics materials

Release: 1

PMBPROD387 Produce welded plastics materials

Modification History

Release 1. Supersedes and is equivalent to PMBPROD387B Produce welded plastics materials

Application

This unit of competency covers the skills and knowledge required to produce welded plastics materials. It applies to sequenced or continuous welding of plastic pipe, sheet or film.

This unit of competency applies to experienced operators who are required to set up welding equipment; weld materials to specification; make adjustments to correct materials, equipment or process variations; and solve problems within area of responsibility.

This unit of competency applies to an experienced operator demonstrating theoretical and technical knowledge and well developed skills in situations that require some discretion and judgement. The 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

PMBPROD287 Weld plastics materials

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 | Identify required materials and equipment | 1.1 Identify work requirements from production plan |
| | | 1.2 Identify quantity and quality of product required and any special requirements, including welding specifications |
| | | 1.3 Interpret plans, patterns, designs or product specifications |
| | | 1.4 Recognise hazards and steps required to ensure safety |
| | | 1.5 Plan welding operations for a sequence or continuous process to ensure work follows a logical procedure |
| | | 1.6 Examine process requirements to identify suitability of plastic materials for specified welding operations |
| | | |
| 2 | Set up welding equipment and materials for sequence or continuous operation | 2.1 Set up tools and equipment ready for production |
| | | 2.2 Locate materials, components and consumables |
| | | 2.3 Ensure safety equipment is available and fit for use |
| | | 2.4 Identify non-conformances and take required action |
| | | |
| 3 | Prepare plastic materials or components for welding in a sequence or continuous operation | 3.1 Assemble components for welding processes |
| | | 3.2 Take required action to ensure welding process is suitable for the materials being used |
| | | |
| 4 | Weld to specification | 4.1 Organise materials for sequence or continuous production |
| | | 4.2 Weld materials to specification using appropriate welding techniques and conditions |

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|---|--------------------------------------|-----|---|
| 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, equipment and production processes and hazardous materials
- ISO/TR 19480:2005 Polyethylene pipes and fittings for the supply of gaseous fuels or water -- Training and assessment of fusion operators or its replacement
- other 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:

- welding system/equipment, including one or more of:
- hot plate (heated tool)
- extrusion
- high frequency sound (ultrasonic)
- electrostatic (radio frequency)
- thermal induction (heat)
- heating and feeding mechanisms
- material supporting/feeding mechanisms
- 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:

- power tools, leads and power supplies
- hazardous products and materials
- cutting equipment
- sharp edges, swarf and scrap
- protrusions or obstructions
- slippery surfaces, spills or leaks
- rotational equipment or vibration
- 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

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:

- variations in quality
- emergency situations
- intermittent faults.

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.

Unit Mapping Information

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Links

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