



Australian Government

PMBPROD287 Weld plastics materials

Release: 1

PMBPROD287 Weld plastics materials

Modification History

Release 1. Supersedes and is equivalent to PMBPROD287B Weld plastics materials

Application

This unit of competency covers the skills and knowledge required to weld plastics materials using manual techniques and hand held equipment. It applies to thermoplastic materials for which a compatible welding polymer rod or filler can be provided to form a homogeneous melt. The plastics materials may be in any form for example sheet, pipe, formed tube, solid section or formed profile.

This unit of competency applies to operators who are required to confirm work specifications, identify the priority in which jobs/product will be made/completed, set up equipment, prepare materials, weld plastic, and recognise routine and non-routine problems and take appropriate action.

This unit of competency applies to an individual working alone or as part of a team or group and working in liaison with other shift team members, team leader and supervisor, as appropriate.

Where materials need to be cut as part of the job see also PMBPROD240 Cut materials.

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.

- | | |
|--|--|
| 1 Identify required materials and equipment | <ul style="list-style-type: none">1.1 Identify work requirements from production plan or request1.2 Identify quantity and quality of product required and any special requirements, including welding specifications1.3 Interpret plans, patterns, designs or product specifications1.4 Recognise hazards and steps required to ensure safety1.5 Plan sequence of welding operations for the whole process to ensure work follows a logical procedure1.6 Recognise requirements which may not be in accordance with usual practice1.7 Ask questions of appropriate person to confirm unusual practice1.8 Examine process requirements to identify suitability of plastics materials for manual welding operations |
| 2 Set up equipment and materials | <ul style="list-style-type: none">2.1 Set up tools and equipment ready for production2.2 Locate materials, patterns and consumables2.3 Ensure safety equipment is available and fit for use2.4 Identify non-conformances and take required action |
| 3 Weld to specification | <ul style="list-style-type: none">3.1 Assemble components using clamps and jigs as required3.2 Organise materials and equipment prior to welding3.3 Weld materials to specification3.4 Collect and segregate scrap, trim and other materials as required3.5 Complete logs and records as required |

- 3.6 Keep equipment and work area clean
- 4 **Respond to routine problems in accordance with procedures**
 - 4.1 Check finished welds or products against specifications
 - 4.2 Recognise known faults that occur during the operation
 - 4.3 Identify and take action on causes of routine faults
 - 4.4 Log problems as required
 - 4.5 Identify non-routine process and quality problems and take appropriate action

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 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)
- formulae/recipes
- batch sheets
- temporary instructions
- any similar instructions provided for the smooth running of the plant.

Tools and equipment

Tools and equipment include:

- welding equipment, including one or more of:
 - butt fusion welding
 - electro fusion welding
 - extrusion welding
 - heated wedge welding
 - high speed nozzle
 - hot gas welding
 - infrared welding
 - socket fusion welding.

Additional tools and equipment will be selected as required from:

- hot air and other hand held welding equipment
- jigs, clamps and other fixing devices
- hand tools
- 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.

Routine problems

Routine problems must be resolved by applying known solutions.

Routine problems are predictable and include one or more of:

- pattern incorrect or inaccurate assembly or clamping
- incorrect filler rods selected
- poor surface preparation
- incorrect selection of welding nozzle or attachments
- moisture contacting welding devices
- burns to electrical leads
- sequencing problems, weld run too fast or too slow
- bonding problems
- weld deposit incomplete
- plastication not achieved.

Known solutions are drawn from one or more of:

- procedures
- training
- remembered experience.

Non-routine problems must be reported according to according to relevant procedures.

Unit Mapping Information

Release 1. Supersedes and is equivalent to PMBPROD287B Weld plastics materials

Links

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