



Australian Government

PMBPROD287E Weld thermoplastics materials

Release: 1

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Modification History

Release 1. Unit code and title changed. Application changed. Elements and Performance Criteria changed. Range of Conditions removed. Assessment Requirements changed. Supersedes and is equivalent to PMBPROD287 Weld plastics materials.

Application

This unit describes the skills and knowledge required to weld thermoplastic materials including sheet, pipe, formed tube, solid section or formed profile using manual techniques and hand-held equipment.

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

The unit principally refers to the standard production tasks associated with welding thermoplastic polymers.

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 – Plastics Fabrication

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. Check work requirements	1.1 Identify requirements from job specifications 1.2 Plan production process and task sequence of welding operations to meet work requirements 1.3 Perform pre-operational checks including checking for and acting on hazards
2. Prepare equipment and materials	2.1 Set up tools and equipment ready for production use 2.2 Check availability of materials, patterns and consumables to meet job requirements 2.3 Ensure safety equipment is available and fit for use

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
3. Perform thermoplastic welding	3.1 Assemble components according to production process, using clamps and jigs when required 3.2 Prepare surfaces as needed for welding to be performed 3.3 Weld materials according to job specifications 3.4 Ensure output meets job specifications and quality standards 3.5 Apply waste management strategies to collect and segregate scrap, trim and other materials according to workplace procedures 3.6 Accurately complete logs and records 3.7 Clean equipment and work area according to equipment specifications and workplace procedures 3.8 Pause or stop equipment in normal and abnormal circumstances according to workplace procedures
4. Respond to process control variances	4.1 Recognise and log process control variances and their causes 4.2 Determine, prioritise and implement remedial and preventative actions based on identified issues and causes 4.3 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 welding 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 PMBPROD287 Weld plastics materials.

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 PMBPROD287E Weld thermoplastics materials

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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:

- weld thermoplastic materials at least once to meet job specifications.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- types of plastics materials commonly used in the sector or work environment and their behaviour when prepared and welded
- types and functions of welding equipment, and their related procedures, including:
 - butt fusion welding
 - electro fusion welding
 - extrusion welding
 - heated wedge welding
 - high speed nozzle
 - hot gas welding
 - infrared welding
 - socket fusion welding
- suitability of use of welding equipment for different materials
- types of welds and how to achieve them
- production workflow sequences and materials demand
- quality standards at each stage of production
- welding symbols
- key variables that may affect product quality and production output, including:
 - weld temperature
 - feed rate of filler rod
 - variations in materials being welded
 - thickness of materials being welded
- typical process and product problems, including early warning signs, possible causes and corrective actions:
 - incorrect patterns or inaccurate assembly or clamping

- incorrect filler rod selection
- poor surface preparation
- incorrect selection of welding nozzle or attachments
- introduction of moisture to welding devices
- sequencing problems
- bonding problems
- incomplete weld deposit
- plastication not achieved
- 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.

Links

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