



Australian Government

PMBPROD357 Construct jigs and fixtures

Release: 1

PMBPROD357 Construct jigs and fixtures

Modification History

Release 1. Supersedes and is equivalent to PMBPROD357C Construct jigs and fixtures

Application

This unit of competency covers the skills and knowledge required to construct jigs and fixtures as typically used in the manufacture of plastics and other polymer products.

This unit of competency applies to experienced operators who are required to plan the construction of jigs and fixtures, construct and check/test them, make adjustments to remedy faults and non-conformity 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 experienced 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.

- | | |
|--------------------------------------|--|
| 1 Identify the purpose of the | 1.1 Identify the purpose of the jigs and fixtures |
| | 1.2 Identify the performance requirements of the jigs and |

	jigs and fixtures	fixtures
		1.3 Establish the service life of the jigs and fixtures
		1.4 Establish availability of sample products, prototypes or existing jigs and fixtures for the specified duty
2	Plan construction of jigs and fixtures	2.1 Produce a plan for the jigs and fixtures
		2.2 Have design approved as necessary
		2.3 Plan all steps of the production of the jigs and fixtures, noting check points for measurements and tests
		2.4 Locate a suitable work area
3	Set up equipment, tools and materials	3.1 Clear and set up work area
		3.2 Identify and locate materials for the construction of the jigs and fixtures
		3.3 Identify and locate sample products, prototypes or existing jigs and fixtures associated with the duty
4	Construct jigs and fixtures	4.1 Construct jigs and fixtures
		4.2 Check dimensions, structural strength and operability are to the specifications or design
		4.3 Install jigs and fixtures to the production area and recheck features to the requirements
		4.4 Modify the jigs and fixtures to suit the requirements
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 Solve problems within area of responsibility

- 5.5 Seek information and assistance as required to solve problems
- 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:

- hand tools
- power tools

- ancillary equipment that is integral to the process.

Additional tools and equipment will be selected as required from:

- 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
- power tools, leads
- 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:

- 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.

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

- equipment malfunctions
- out of specification equipment operation
- variations in materials
- raw material contamination
- structural strength, rigidity and durability of the jigs and fixtures
- dimensional accuracy of the jigs and fixtures
- placement of components to allow convenient application.

Unit Mapping Information

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Links

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