



Australian Government

PMBPROD290 Operate filament winding equipment

Release: 1

PMBPROD290 Operate filament winding equipment

Modification History

Release 1. Supersedes and is equivalent to PMBPROD290B Operate filament winding equipment

Application

This unit of competency covers the skills and knowledge required to operate filament winding equipment as used to manufacture filament wound composite products.

This unit of competency applies to operators who are required to take product off the machine, check materials and moulds, operate the equipment, check product quality and conformity to specifications, 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.

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	Conduct pre-operational checks as	1.1	Check safety equipment is in place and working
		1.2	Check moulds, closures and fitting to procedures

	required	1.3	Check moulds for cracks, chips marks and cleanliness
		1.4	Check materials, including fibres, resins, additives and release agents are correct
		1.5	Undertake other pre-operational checks in accordance with procedures
2	Operate equipment to procedures	2.1	Check process is operating within required limits
		2.2	Check product is in specification and to required quality standard
		2.3	Collect products and store as required
		2.4	Maintain supply of materials as required
		2.5	Complete logs and records as required.
		2.6	Collect and segregate scrap, waste and other materials as required
		2.7	Keep equipment and work area clean
		2.8	Pause machine cycle and perform emergency stop as required
3	Respond to routine problems in accordance with procedures	3.1	Recognise known faults that occur during the operation
		3.2	Identify and take action on causes of routine faults
		3.3	Log problems as required
		3.4	Identify non-routine problems and report to designated person

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
- 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:

- filament winding equipment and its major components
- programmable logic controllers (PLC) if fitted

- ancillary equipment that is integral to the process.

Additional tools and equipment will be selected as required from:

- 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:

- hazardous products and materials
- 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:

- equipment malfunction
- variations in process conditions
- variations in materials or contamination of materials
- equipment, tool and die damage
- machine malfunction
- mould/tooling problems
- variations in materials and/or contamination of materials
- product voids
- poor surface finish
- colour contamination
- release from mandrel damage

- routine product faults.

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

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Links

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