



Australian Government

PMBPROD315 Produce polyurethane foam

Release: 1

PMBPROD315 Produce polyurethane foam

Modification History

Release 1. Supersedes and is equivalent to PMBPROD315C Produce polyurethane foam

Application

This unit of competency covers the skills and knowledge required to operate and adjust equipment to produce polyurethane foam.

This unit of competency applies to experienced operators who are required to plan the process stages, start up and shut down foaming equipment, monitor equipment operation, 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 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.

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|---|---|---|
| 1 | Plan process stages for polyurethane foam production | <p>1.1 Plan the stages in the polyurethane foaming process and ensure these comply with the quality requirements for production</p> <p>1.2 Identify and allow for changes in materials at each stage of the polyurethane foaming process</p> <p>1.3 Plan the availability of the equipment and components for each production stage</p> <p>1.4 Anticipate the impact of the process on product characteristics and product quality and useability</p> <p>1.5 Plan work requirements based on procedures</p> |
| 2 | Identify work requirements for polyurethane foaming operations | <p>2.1 Prepare materials, including base raw materials and additives</p> <p>2.2 Recognise hazards and follow appropriate hazard control/minimisation methods</p> <p>2.3 Check materials, ancillary supplies and equipment are correct</p> <p>2.4 Check equipment and processes used for materials preparation, production process and for the downstream operations are available</p> <p>2.5 Check product quality requirements for the relevant process stage</p> <p>2.6 Identify and check emergency stops, gauges, guards and controls</p> <p>2.7 Plan the task sequences, including times and locations for product quality checks, equipment operation and required production outputs</p> <p>2.8 Provide for ongoing materials input, waste management and work area housekeeping requirements</p> <p>2.9 Arrange any required supplementary equipment for product quality testing or routine equipment</p> |

		maintenance and/or adjustments	
3	Check polyurethane foaming process set-up	3.1	Comply with equipment information, required quality specifications and set-up procedures
		3.2	Set up equipment in accordance with required quality specifications and standard operating procedures (SOPs)
		3.3	Check polyurethane foaming equipment settings and adjustments and conformity to documented procedures
		3.4	Inspect materials for conformity with requirements, including surface condition and materials thickness
		3.5	Discard non-conforming materials or make adjustments to processing operations in accordance with procedures
4	Operate and make adjustments as required to the foam process	4.1	Start up, operate and shut down foam equipment as required by procedures
		4.2	Monitor polyurethane foaming operations noting product quality, production outputs, equipment operating temperature, amperage, pressures, colour, thickness and product integrity
		4.3	Make adjustments to remedy faults and non-conformity to production standards where applicable
		4.4	Collect material which is able to be reprocessed and reused, and dispose of waste and scrap in accordance with workplace procedures
		4.5	Clean up equipment, lubricate and adjust in accordance with procedures
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, 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
- 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:

- polyurethane foaming equipment/machines
- ancillary equipment that is integral to the process.

Additional tools and equipment will be selected as required from:

- hand tools used in this process
- knives and other bag opening equipment
- 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:

- fumes/vapours
- weight, shape, volume of materials to be handled
- hazardous products and materials
- rotational equipment or vibration
- sharp edges, protrusions or obstructions
- slippery surfaces, spills or leaks
- smoke, dust 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:

- unstable process variables

- sub-optimal operation
- variations in feed rates
- 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:

- processing problems
- equipment malfunctions
- out of specification equipment operation
- variations in materials
- raw material contamination
- incorrect quantity of materials
- contamination of materials.

Unit Mapping Information

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Links

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