



Australian Government

PMBPROD375E Vulcanise products using an autoclave

Release: 1

PMBPROD375E Vulcanise products using an autoclave

Modification History

Release 1. Unit code changed. Application changed. Elements and Performance Criteria changed. Range of Conditions removed. Assessment Requirements changed. Supersedes and is equivalent to PMBPROD375 Vulcanise products using an autoclave.

Application

This unit covers the skills and knowledge required to operate and adjust an autoclave to vulcanise/cure rubber products.

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

The unit principally refers to the practical, theoretical and technical knowledge and well-developed skills required in situations that require some discretion and judgement.

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 – Generic

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. Plan work requirements	1.1 Identify requirements from job specifications 1.2 Identify equipment and processes required for production and for upstream and downstream operations from job specifications 1.3 Perform pre-operational checks including checking for and controlling hazards 1.4 Identify and check emergency stops, guards and controls 1.5 Identify checks and testing processes required for equipment, materials, quality and production management to meet job specifications 1.6 Identify housekeeping tasks and waste management strategies

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
	to collect excess, discarded or nonconforming materials to be disposed of, recycled or reprocessed according to workplace procedures
2. Set up autoclave vulcanising process	2.1 Identify and read equipment information, quality specifications and standard operating procedures to correctly set up autoclave vulcanising process 2.2 Check heat and pressure settings and process adjustments against equipment specifications 2.3 Set up, check and adjust equipment and materials according to equipment and job specifications
3. Operate and make adjustments to autoclave process	3.1 Load and close autoclave and bring online ready for operation 3.2 Operate equipment and process, and make adjustments to settings to meet job specifications 3.3 Ensure process, including equipment operation temperatures and pressures, is operating according to equipment specifications 3.4 Follow checking and testing processes to confirm if output meets job specifications and quality standards, and apply strategies to manage nonconforming outputs 3.5 Maintain continuity of process to support production 3.6 Accurately complete logs and records 3.7 Shut down, vent and unload autoclave according to equipment instructions 3.8 Work efficiently to minimise scrap and trim according to workplace procedures 3.9 Clean work area, and clean, adjust and lubricate equipment according to equipment instructions and workplace procedures 3.10 Pause or stop equipment in normal and abnormal circumstances according to workplace procedures
4. Respond to product quality improvement requests	4.1 Monitor vulcanising process and note conditions that may affect product quality standards 4.2 Report process variations according to workplace procedures 4.3 Implement and document procedural and specifications changes
5. Anticipate and solve process control	5.1 Recognise existing or potential process control variances and their causes

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
variances	5.2 Determine, prioritise and implement remedial and preventative actions based on identified issues and causes 5.3 Monitor process control variances and corrective actions taken until resolved 5.4 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 effectively monitor equipment readings.
- Reading skills to interpret job and equipment specifications and workplace procedures.
- Writing and oral communication skills to record and report on vulcanising, process control variances and procedural updates.

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 PMBPROD375 Vulcanise products using an autoclave.

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 PMBPROD375E Vulcanise products using an autoclave

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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:

- vulcanise products using an autoclave at least once to meet job specifications.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- the functions and operating principles of vulcanising equipment, machine components and ancillary equipment
- production workflow sequences and materials demand
- characteristics of materials and their behaviour in relation to process conditions and stages of production
- impact of variations in machine process conditions and raw materials on product quality and production output
- the criteria for overall process/equipment readiness for the process or equipment being used
- typical quality standards required at each stage of production
- key variables that may affect product quality and production output, including:
 - operating temperatures
 - stacking and loading of product for autoclaving
 - material composition
 - operating pressure
 - cycle time
 - output rate
 - product integrity and general conformance to specification
- common adjustments in process variables and their impact on product quality and production output
- typical and atypical process and product problems, including early warning signs, possible causes and corrective actions
- 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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