



Australian Government

PMBPROD307E Produce calendered rubber or vinyl products

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 PMBPROD307 Produce calendered products.

Application

This unit describes the skills and knowledge required to operate, control and optimise calendering processes and equipment to convert vinyl or rubber compounds ready for intermediate or final production.

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

The unit principally refers to the practical skills required to operate a calender, as well as being able to set up, optimise and shut down rubber calendering equipment, organise and use QA testing, and manage the end-to-end process, either working alone on a small machine or supervising a larger one, or managing several machines in the workplace.

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 – Conveyor Belt Manufacturing

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 including input materials from job specifications 1.2 Identify processes and equipment required for production and upstream and downstream operations from job specifications and according to workplace procedures 1.3 Perform pre-operational checks including checking for and controlling hazards 1.4 Identify and check emergency stops, guards and controls

Elements Elements describe the essential outcomes.	Performance Criteria Performance criteria describe the performance needed to demonstrate achievement of the element.
	1.5 Identify checks and testing processes required for equipment, materials, quality and production management to meet job requirements 1.6 Identify housekeeping tasks and waste management strategies to collect excess, discarded or nonconforming materials to be disposed of, recycled or reprocessed according to workplace procedures
2. Perform pre-production tasks	2.1 Verify equipment process requirements against job specifications 2.2 Set production process according to equipment specifications and job requirements, and adjust process to optimise output based on selected materials 2.3 Verify materials are correct against job specifications 2.4 Set up date, batch and materials markings to specification according to workplace procedures 2.5 Undertake or supervise other pre-startup checks according to equipment specifications and workplace procedures
3. Operate and adjust calender equipment	3.1 Start up and operate calendering process, and make adjustments to settings to meet job specifications 3.2 Ensure process is operating according to equipment specifications and workplace procedures 3.3 Follow checking and testing processes to assess if output meets job specifications and quality standards, and apply strategies for managing nonconforming outputs 3.4 Maintain continuity of process to support production 3.5 Accurately complete logs and records 3.6 Work efficiently to minimise scrap and trim according to workplace procedures 3.7 Clean work area, and clean, adjust and lubricate equipment, according to equipment specifications and workplace procedures 3.8 Pause or stop machine cycle in normal and abnormal circumstances according to workplace procedures
4. Shut down calendering machine	4.1 Determine type of shutdown and process to be followed from equipment instructions and workplace procedures 4.2 Shut down equipment according to workplace shutdown procedures 4.3 Complete equipment clean-up and post-production adjustments

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
	according to equipment instructions 4.4 Put guards, locks and notices in place to prevent inadvertent startup 4.5 Accurately complete workplace shutdown documentation
5. Anticipate and solve process control variances	5.1 Recognise existing or potential process control variances and their causes 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 interpret technical information and equipment readings.
- Reading skills to interpret specifications and workplace procedures.
- Writing and oral communication skills to record and report on calender 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 PMBPROD307 Produce calendered products.

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 PMBPROD307E Produce calendered rubber or vinyl products

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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:

- produce calendered rubber or vinyl products at least once to meet job specifications.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- the functions and operating principles of calendering equipment, machine components and ancillary equipment
- mechanical, hydraulic, pneumatic, electrical and electronic principles that affect machine operation
- calendering workflow sequences and materials demand
- products, materials and material characteristics and behaviour of materials in the calender in relation to:
 - heat
 - pressure
 - flow rate
 - tension
 - time
- 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:
 - operating temperatures
 - speed
 - nip settings
 - tension
 - materials consistency
 - surface finish
 - product integrity and general conformance to specification

- typical 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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