



Australian Government

Department of Education, Employment and Workplace Relations

PMBPROD209C Operate cable winding equipment

Revision Number: 1

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Modification History

Not applicable.

Unit Descriptor

Unit descriptor

This competency covers the operation of cable winding equipment for storing of products on reels and spools and the resolving of routine problems to procedure. It applies to the cable making industry.

This competency is typically performed by operators working either independently or as part of a work team.

Application of the Unit

Application of this unit

This competency applies to operators who organise the storage of finished products and/or raw materials for production, post production and despatch. The key factors are identifying of products, storing of products/materials on reels and spools and keeping appropriate records.

The operator will:

- check settings and adjustments of preset equipment
- check cable winding equipment operation and report process variations
- check materials for quality and conformity to product requirements
- emergency shut down of equipment
- cleaning equipment as required.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisites

This unit has **no** prerequisites.

Employability Skills Information

Employability Skills

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

ELEMENT	PERFORMANCE CRITERIA
Elements describe the essential outcomes of a unit of competency	Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT ELEMENT	PERFORMANCE CRITERIA Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.
1. Check work requirements.	1.1 Identify work requirements from production plan. 1.2 Identify product, materials and equipment requirements for job(s). 1.3 Identify hazards associated with the job and take appropriate action. 1.4 Check with supervisor/appropriate person if requirements are not in accordance with usual practice.
2. Conduct pre-start checks as required.	2.1 Check safety gates, guards and emergency stops are in position and working. 2.2 Check raw materials are correct. 2.3 Undertake other pre-start checks to procedures.
3. Check winding equipment setup.	3.1 Observe spool condition and tag and return non-conforming spools to procedures. 3.2 Check winding equipment settings and adjustments, spool size and length settings to procedures. 3.3 Ensure product is checked for conformity with quality requirements. 3.4 Tag and deal with non-conforming product to procedures 3.5 Thread product through the equipment and feed on to the spool. 3.6 Use appropriate fixing devices, methods or materials. 3.7 Adjust tensions and check laying pattern to procedures 3.8 Check emergency cut-off switches and other safety devices to procedures.
4. Operate equipment.	4.1 Start machine safely and correctly when required. 4.2 Check product/process is within required limits. 4.3 Check product is in specification. 4.4 Maintain supply of material(s) as required. 4.5 Complete logs and records when required. 4.6 Clean up equipment and work area to procedures. 4.7 Pause equipment, or stop equipment in an

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	emergency, to procedures.
5. Monitor winding machine operation.	5.1 Monitor winding machine equipment operations noting cooling line temperatures, amperages, tensions, colour, thickness and product integrity compared to product specification. 5.2 Identify sections of product requiring repair and follow procedures to remedy the fault. 5.3 Make adjustments to remedy faults and non-conformity to specifications where applicable. 5.4 Collect material for reprocessing and reuse where possible, and deal with waste and scrap to procedures. 5.5 Complete equipment cleanup, lubrications, adjustments and waste management to procedures.
6. Complete work process.	6.1 Cut product and secure free ends. 6.2 Remove and set down reel using appropriate manual handling techniques. 6.3 Relocate reel and transport without damage to materials, personnel or equipment. 6.4 Fit new spool and recommence product winding operations.
7. Respond to routine problems to procedures.	7.1 Recognise known faults that occur during the operation. 7.2 Identify and take action on causes of routine faults. 7.3 Log problems as required. 7.4 Identify non-routine process and quality problems and take appropriate action.

Required Skills and Knowledge

This describes the essential skills and knowledge and their level required for this unit.

Application of knowledge of the materials, equipment and process sufficient to recognise out-of-specification products, process problems and materials faults.

Knowledge of organization procedures and relevant regulatory requirements along with the ability to implement them within appropriate time constraints and work standards.

Application of the knowledge of managing risks using the hierarchy of controls applied to the polystyrene shape moulding process. Application of approved hazard control and safety procedures and the use of PPE in relation to handling materials, equipment operation and cleanup.

Knowledge of and skills in the operation of cable winding equipment and main components sufficient for consistent production of quality products including:

- the function of winding equipment machine components and the materials used
- the impact of winding machine cooling temperatures, tension, wind off speed on product quality and product output
- the effect of unauthorised shutdown of equipment on the winding process.

Competence also includes the ability to:

- plan own work sequence, including identification of key checkpoints for equipment monitoring, product quality checks and monitoring of supplies and downstream operations
- monitor equipment operation and product quality
- explain own role and the roles of others involved directly in the winding process
- identify factors which may influence product quality and production output and appropriate remedies
- make appropriate authorised alterations to own work plan and equipment to maintain both product quality and required production output
- locate, interpret and apply relevant information and maintain workplace records
- identify and safely handle products and materials, read relevant safety information and apply safety precautions appropriate to the task.

Language, literacy and numeracy requirements

This unit requires the ability to read and interpret typical product specifications, job sheets, procedures, material labels and safety information as provided to operators.

Writing is required to the level of completing workplace forms.

Basic numeracy is required, eg to determine that two 25 kg bags are needed to make up a requirement for 50 kg.

Evidence Guide

The Evidence Guide provides advice on assessment and must be read in conjunction with the Performance Criteria, required skills and knowledge, the Range Statement and the Assessment Guidelines for this Training Package.

Overview of assessment

A holistic approach should be taken to the assessment.

Assessors must be satisfied that the person can consistently perform the unit as a whole, as defined by the Elements, Performance Criteria and skills and knowledge.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

It is essential that competence is demonstrated in the knowledge and skills defined in this unit.

These may include the ability to:

- recognise the importance of material properties and qualities
- apply approved procedures
- take appropriate action to resolve faults or report faults to appropriate personnel
- explain and implement emergency shutdown procedures

Consistent performance should be demonstrated. For example, look to see that:

- cable winding production standards are met consistently
- upstream and downstream communication is timely and effective
- operating procedures and work instructions are read and interpreted correctly
- problems are identified and appropriate action is taken (ie the problem is fixed or reported)
- all safety procedures are followed.

Assessment method and context

It is preferred that assessment takes place on an industrial cable winder in a work environment.

Competence in this unit may be assessed:

- on a processing plant, allowing for operation under all normal and a range of abnormal conditions
- in a situation allowing for the generation of evidence of the ability to respond to problems
 - by using a suitable simulation and/or a range of case studies/scenarios
 - through a combination of these techniques.

In all cases it is expected that practical assessment will be combined with targeted questioning to assess the underpinning knowledge and theoretical assessment will be combined with appropriate practical/simulation or similar assessment. Assessors need to be aware of any cultural issues that may affect responses to questions.

Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the assessee and the work being performed.

Specific resources for assessment

This section should be read in conjunction with the Range Statement for this unit of competency. Resources required include suitable access to an operating plant or equipment that allows for appropriate and realistic simulation. A bank of case studies/scenarios and questions will also be required to the extent that they form part of the assessment method. Questioning may take place either in the workplace, or in an adjacent, quiet facility such as an office or lunchroom. No other special resources are required.

Access must be provided to appropriate learning and/or assessment support when required. Where applicable, physical resources should include equipment modified for people with disabilities.

Range Statement

RANGE STATEMENT

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts. Where reference is made to industry codes of practice, and/or Australian/international standards, the latest version must be used.

Context

This competency applies to all cable winding operations within the plastics, rubber and cabling sectors. It includes the operation of all relevant additional equipment where that equipment is integral to the cable winding process.

Procedures

All operations are performed in accordance with procedures.

Procedures include all relevant workplace procedures, work instructions, temporary instructions and relevant industry and government codes and standards.

Tools and equipment

This competency includes use of equipment and tools such as:

- reels and spools used in storing cable
- mechanical handling equipment
- computers
- traverse controls
- hand tools and safety equipment
- mechanical and computerised measuring devices
- relevant personal protective equipment
- cable (eg power, single cable, multi-core)
- other relevant winding/cables/products.

Hazards

Typical hazards include:

- moving equipment, cable and reels
- manual handling hazards.

Problems

Respond to/rectify 'non-routine problems' means 'apply known solutions to a variety of predictable problems'. Typical process and product problems may include:

- incorrect reel/spool size and winding speed
- quality problems
- equipment failure.

Variables

Key variables to be monitored include:

- differences between actual and set conditions (eg speeds, temperature)
- product colour, uniformity, surface condition and appearance
- output rate
- product integrity and general conformance to specification.
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Unit Sector(s)

Not applicable.