



Australian Government

Department of Education, Employment and Workplace Relations

MSAPMOPS244A Layout and cut materials

Revision Number: 1

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Modification History

Not applicable.

Unit Descriptor

Unit descriptor

This competency covers the cutting of materials to shape and the resolving of routine problems to procedure. It applies to materials used in plastics fabrication, rubber and other manufacturing industries.

Application of the Unit

Application of this unit

This competency applies to operators who are involved in the fabrication of materials which first need to be cut into specified shapes. This competency is typically performed by operators working either independently or as part of a work team.

The operator will:

- check product for quality and conformity to specifications
- set up equipment
- prepare materials as required
- deal with non-conforming products, waste and scrap
- identify and action routine predictable process problems
- complete logs and reports.
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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 or request. 1.2 Check product, materials and equipment meet requirements for job(s). 1.3 Interpret plans, patterns, designs or specifications. 1.4 Recognise requirements which may not be in accordance with usual practice. 1.5 Ask questions of appropriate person to confirm unusual practice. 1.6 Ensure housekeeping is to requirements. 1.7 Identify hazards associated with the job and take appropriate action. 1.8 Complete logs and records as required.
2. Conduct pre-start checks as required.	2.1 Set up tools, jigs, fixtures and equipment ready for production. 2.2 Identify materials, patterns and consumables required. 2.3 Ensure safety equipment is available and fit for use. 2.4 Identify non-conformances and report as required.
3. Layout materials for cutting.	3.1 Translate pattern/specification onto material. 3.2 Develop 3D or complex shapes into 2D shapes which can be cut. 3.3 Place material and prepare it for cutting.
4. Cut materials to shape.	4.1 Cut material to pattern, marking points for further processes. 4.2 Deal with faults and non-conformances by correcting operation or adjusting equipment as required. 4.3 Collect and reprocess/discard scrap/trim and other materials in accordance with workplace procedures.
5. Respond to routine problems in accordance with procedures.	5.1 Recognise known faults that occur during the operation. 5.2 Identify and take action on causes of routine faults. 5.3 Log problems as required. 5.4 Identify non-routine process and quality problems

ELEMENT	PERFORMANCE CRITERIA
ELEMENT	Performance Criteria describe the required performance needed to demonstrate achievement of the Element. Assessment of performance is to be consistent with the Evidence Guide.
	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 the enterprise's procedures, relevant regulatory requirements and 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 fabricated materials process. Application of approved hazard control and safety procedures and the use of PPE in relation to handling materials, equipment operation and clean up.

Knowledge of and skills in the process of fabricating materials and the main components sufficient for consistent production of quality products includes:

- production workflow sequences and material demand.
- identifying different types of materials and their behaviour when cut and joined
- identifying different cutting, forming and joining equipment and suitability for materials
- accurately monitor equipment operation and product quality
- the potential effects of variations in raw materials and outside variables in relation to quality of product.
- waste management and knowing the importance of re-using non-conforming products wherever possible
- identify factors which may affect product quality of production output and appropriate remedies
- radii of bending and related layout data
- development of relevant shapes into 2D cuttable shapes.

Competence also includes the ability to:

- plan own work, including predicting consequences and identifying improvements
- identify when the operator is able to rectify faults, when assistance is required and who is the appropriate source for assistance
- identify and describe own role and role of others involved directly in the fabrication of materials process.

Language, literacy and numeracy requirements

This unit requires the ability to read and interpret typical product specifications, job sheets, procedures, basic machine control panels, 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:

- apply the required skills and knowledge to the fabrication process
- apply approved procedures.

Consistent performance should be demonstrated. For example, look to see that fabrication production standards are met consistently.

Assessment method and context

Assessment will occur using industrial equipment and will be undertaken in a work-like environment.

Competence in this unit may be assessed:

- on an appropriate processing plant requiring demonstration of operation and emergency stop procedures
- 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 unit includes the processes required to layout and cut materials into specified shapes.

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:

- guillotines, power saws, jig saws, band saws, thermal cutting devices
- drilling,
- hand tools as required
- relevant personal protective equipment.

Hazards

Typical hazards include:

- fibres, airborne and handled
- sharp edges, swarf and scrap
- manual handling
- cut hazards
- power tools, leads and power supplies
- stationary and moving machinery, parts and components.

Problems

'Respond to routine problems' means 'apply known solutions to a limited range of predictable problems'. Typical process and product problems may include:

- pattern incorrect
- marking errors
- wear and breakage
- loss of power or drives
- controller sequence, timer issues
- sequencing problems.
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Unit Sector(s)

Not applicable.