



Australian Government

Department of Education, Employment and Workplace Relations

MSAPCII299A Make an object from plastic

Revision Number: 1

MSAPCII299A Make an object from plastic

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This competency standard covers the skills required to make a component from plastic in accordance with the requirements of an established design and in a simulated or trial manufacturing environment where there is a high degree of supervision. The work may or may not involve plastics processing machinery. The elements of this unit should always be assessed in conjunction with other units that relate to the requirements of a specified work or job function. Training and assessment against this competency unit must incorporate all relevant OHS and related legislative requirements.
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Application of the Unit

Application of the unit	This unit applies to a learning and assessment environment where access to normal production operations is not available . A typical environment will be for application in a VET in Schools delivery environment or other simulated or trial manufacturing environment where a high degree of supervision exists. The unit has applications in qualifications for the broad manufacturing of plastic products where the project scope can be based upon the construction of a simple plastic item such as:, tool trays and picture frame or could extend to include the production of consumer products or moulded components. The unit should be applied to a specific 'project'/ or task which has a defined beginning, middle and end, occurs over an extended period of time, and is reflective of the plastics manufacturing industry and/or organisation. When delivered/assessed as part of a qualification the unit should be customised to ensure its relevance to a real or simulated work activity and related workplaces and must be delivered and assessed over a period of time.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify job requirements	1.1. Specifications for plastic product are identified from work instructions. 1.2. Customer requirements are recognised and identified in the product specification 1.3. Assembly and finishing requirements are identified 1.4. Health, safety and environmental hazards are identified and hazard control measures are implemented. 1.5. Materials, housekeeping and waste management needs are considered
2. Prepare for work	2.1. Equipment requirements are checked and equipment adjusted to appropriate process settings 2.2. Materials requirements are checked and adjusted as required 2.3. Records are kept according to company requirements 2.4. Pre-start checks are completed as required 2.5.
3. Operate equipment to produce component	3.1. Equipment is started up following workplace and hazard control procedures 3.2. Process is monitored to ensure quality 3.3. Product quality is monitored as required 3.4. Quality and other problems are identified and rectified
4. Complete work	4.1. Product is assembled according to specifications as required 4.2. Completed work is checked against specifications and customer requirements 4.3. Unused materials are returned to storage and waste and scrap are dealt with following workplace procedures. 4.4. Work area is cleaned; tools and equipment are returned to storage. 4.5. Documentation is completed following workplace procedures.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communicate and work effectively and safely with others
- complete a basic plastic product manufacturing project to specifications
- comply with OHS&E requirements,
- correct and safe use of hand tools and power equipment
- comply with safety instructions and any OH&S legislation /regulations /codes of practice applicable to workplace operations
- collect, organise and understand information related to basic plans
- plan and organise activities
- use mathematical ideas and techniques for measuring and calculation of areas and estimated materials requirements.
- follow instructions and specifications and ask for help where needed

Required knowledge

- workplace procedures and work instructions
- quality requirements
- plastics industry terminology
- tool, equipment and material types and uses
- plans, drawings and specifications
- safety precautions with hazardous materials and equipment
- organisational or workplace structure
- evaluation and review procedures
- creative thinking techniques

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

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

Knowledge and application of relevant sections of:

- occupational, health and safety legislation; statutory legislation;
- enterprise/site safety procedures;
- enterprise/site emergency procedures
- environmental requirements

Preparation and planning of work

Perform normal operator maintenance of work area to enable work to be conducted safely and efficiently

Relevant standards and procedures

Interpretation of work instructions and locate and apply relevant information.

Application of safe handling requirements for equipment, products and materials, including use of personal protective equipment.

Following work instructions, operating procedures and inspection practices to:

- minimise the risk of injury to self or others
- prevent damage to goods, equipment or products
- achieve required production output and product quality.

Ability to adapt or vary plastic component designs.

Ability to construct, assemble and finish at least one basic plastic component from the list in the range statement.

Ability to work effectively with others.

Ability to modify activities to cater for variations in workplace contexts and environment.

Context of assessment

Assessment may occur on the job or in a workplace simulated facility with relevant equipment, materials, work instructions and deadlines.

Specific resources required for

Access to plans, equipment, materials

EVIDENCE GUIDE**assessment**

Access is required to opportunities and appropriate resources to either:

Carry out a range of suitably simulated practical and knowledge assessments that demonstrate the skills and knowledge to work safely as part of a holistic assessment involving other competency units, and/or

Participate in actual workplace activities that demonstrate the skills and knowledge to work safely

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. Bold italicised wording, if used in the performance criteria, is detailed below. 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) may also be included.

What can a plastic product include?

A plastic product can include:

- small container
- picture frame
- toys
- tool box
- automotive plastic products
- household items
- electrical goods
- playground equipment
- small boat
- any other product made from polymers

What processes can be used to make a plastic product?

A plastic product can be made from:

- injection moulding
- blow moulding
- thermo forming
- composite
- extrusion
- fabrication
- rotational moulding
- other plastic processing methods

What are the work instructions?

Work instructions may include:

- job sheets
- patterns
- plans
- drawings and sketches
- verbal or illustrated directions from supervisor
- number and type of objects to be produced
- quality requirements.
- OHS&E requirements

What can OHS& E

OHS&E requirements may include:

RANGE STATEMENT	
requirements include?	• equipment safety instructions • hazardous and dangerous goods codes • local safe operating procedures • specific workplace rules regarding personal protective wear and equipment. • environmental controls • risk assessment • emergency procedures
What can a suitable work area include?	A suitable work area may include: • on-site host company maintenance or tooling workshop • simulated workshop in RTO • on-site production facilities
What can appropriate tools, equipment and materials include?	Appropriate tools will vary according to the project, but may include: • manual saw • jigsaw • hacksaw • clamp • hammer • mallet • screw driver • punch • pliers and pincers • file • miter cutter • 90 degree angle • staple gun • paintbrush • rags • measuring tapes/ rulers • spirit level • bevel • chisel • rollers/scissors Appropriate equipment could include: • electric saw • electric sander • electric screw driver

RANGE STATEMENT	
	• power drills • vertical drill presses • pedestal grinders • plastics processing equipment • plastics welders such as hot air guns, ultrasonic • injection moulders/blow moulders/rotational moulding equipment/thermoforming equipment Appropriate materials could include: • plastics raw material • extruded plastic sheeting (e.g. perspex, acrylic, polycarbonate) • adhesives • screws • bolts • glue • hinges and metal fasteners • sandpapers • primers • paints
What could potential hazards include?	Potential hazards may include: • broken or faulty equipment • unnoticed sharp objects • poor lighting • inadequate ventilation • inadequate attention to the activities of others • electrical shortages and power overload • disorganised or cluttered workspace (poor housekeeping) • poor attention when dealing with tools and equipment. • environmental chemicals, heat, dust, noise, gas and oil • hot equipment and materials • cuts • back strain
What could records include?	Records could include: • plant and maintenance records • set up, date, batch and materials • check sheets

RANGE STATEMENT	
	• reporting requirements • documenting equipment and/or material defects • workplace procedures relating to the use of tools and equipment. • equipment booking forms and records • attendance records • quality reports • production reports • log sheets
What could specifications include?	Specifications could include: • measurements and dimensions • shape • joining methods • quality standard • materials to be used • appearance • colour/finish
What is involved in making sure plastic pieces are joined?	Plastic pieces can be joined together by: • glue • ultrasonic/hot air welding • clips • metal fasteners (e.g. screws, bolts, rivets.).
What is involved in making sure non-conformities are rectified?	Rectifying non-conformities could involve: • disassembly of the furniture item • reshaping /resizing or re-cutting component materials • reassembly • refinishing • adjusting process conditions.
What is involved in making sure work is finished?	Finishing work can include: • sanding • priming • painting • decorating. • assembly • polishing • trimming

Unit Sector(s)

Unit sector	Manufacturing Pathways
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Competency field

Competency field	
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Co-requisite units

Co-requisite units		