



Australian Government

MSMPCII299 Make an object from plastic

Release: 1

MSMPCII299 Make an object from plastic

Modification History

Release 1. Supersedes and is equivalent to MSAPCII299A Make an object from plastic

Application

This unit of competency covers the skills and knowledge required to make a component from plastic in accordance with the requirements of an established design 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.

This unit of competency applies to learners seeking practical skills that are relevant and useful to the area in which the learner hopes to gain employment, is currently working, and/or as a pathway to further study.

This unit of competency applies to a learning and assessment environment where access to normal production operations is not available. Typically this will be a VET in Schools delivery environment but it may be another simulated or trial manufacturing environment where a high degree of supervision exists. Students may be on work placement.

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 relevant to the manufacturing industry.

When delivered/assessed as part of a qualification the unit must be customised to ensure its relevance to real or simulated work activities and related workplaces.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Manufacturing pathways

Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes

Performance criteria describe the performance needed to demonstrate achievement of the element

- | | | | |
|---|--|-----|---|
| 1 | Identify job requirements | 1.1 | Identify specifications for plastic product from work instructions |
| | | 1.2 | Interpret product specification to determine the process, tools, equipment and materials required |
| | | 1.3 | Identify assembly and finishing requirements |
| | | 1.4 | Identify work health and safety (WHS) and environmental hazards, and implement hazard control measures |
| | | 1.5 | Identify materials, housekeeping, waste management requirements and personal protective equipment (PPE) |
| 2 | Prepare for work | 2.1 | Check equipment requirements and adjust equipment to appropriate process settings |
| | | 2.2 | Check and adjust material requirements |
| | | 2.3 | Keep records according to workplace requirements |
| | | 2.4 | Complete pre-start checks of equipment |
| 3 | Operate equipment to produce component | 3.1 | Start up equipment following workplace and hazard control procedures |
| | | 3.2 | Monitor the process to ensure quality |
| | | 3.3 | Monitor the product quality |
| | | 3.4 | Identify and rectify quality and other problems |
| 4 | Complete work | 4.1 | Assemble the product according to specifications |
| | | 4.2 | Check completed work against specifications and customer requirements |
| | | 4.3 | Return unused materials to storage and deal with waste and scrap following workplace procedures |
| | | 4.4 | Clean the work area and return tools and equipment to storage |

4.5 Complete documentation following workplace procedures.

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

A plastic product

A plastic product includes one or more of the following:

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

Plastic processing techniques

Plastic processing techniques include one or more of the following:

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

Work instructions

Work instructions include one or more of the following:

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

WHS requirements

WHS requirements include one or more of the following:

- 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

Suitable work area

A suitable work area includes one or more of the following:

- on-site host company maintenance or tooling workshop
- simulated workshop in Registered Training Organisation (RTO)
- on-site production facilities

Appropriate tools, equipment and materials

Appropriate tools, equipment and materials include one or more of the following:

- 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
- electric saw
- electric sander
- electric screw driver
- 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
- plastics raw material
- extruded plastic sheeting (e.g. Perspex, acrylic and polycarbonate)
- adhesives
- screws
- bolts
- glue
- hinges and metal fasteners
- sandpapers
- primers
- paints

Potential hazards

Potential hazards include one or more of the following:

- 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

Workplace records

Workplace records include one or more of the following:

- plant and maintenance records
- set-up, date, batch and materials
- check sheets
- 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

Specifications

Specifications include one or more of the following:

- measurements and dimensions
- shape
- joining methods
- quality standard
- materials to be used
- appearance
- colour/finish

Joining plastic

Joining plastic includes one or more of the following:

- glue
- ultrasonic/hot air welding
- clips
- metal fasteners (e.g. screws, bolts and rivets)

Rectifying non-conformities

Rectifying non-conformities includes one or more of the following

- disassembly of the item
- reshaping, resizing or re-cutting component materials
- reassembly
- refinishing
- adjusting process conditions

Finishing work

Finishing work includes one or more of the following:

- sanding
- priming
- painting
- decorating
- assembly
- polishing
- trimming

Unit Mapping Information

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Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027>

Assessment Requirements for MSMPCII299 Make an object from plastic

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Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria, and demonstrate the ability to:

- construct, assemble and finish at least one (1) basic plastic object using one (1) plastic processing technique
- follow 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
 - modify activities to cater for variations in workplace contexts and environment
- use hand and power tools correctly and safely
- perform normal operator maintenance of work area to enable work to be conducted safely and efficiently
- communicate and work effectively and safely with others
- comply with work health and safety (WHS) requirements and safety instructions
- apply safe handling requirements for equipment, products and materials, including the use of personal protective equipment (PPE)
- collect, organise and understand information related to basic plans
- use mathematical ideas and techniques for measuring and calculating areas and estimating materials requirements
- follow instructions and specifications and ask for help where needed.

Knowledge Evidence

Must provide evidence that demonstrates knowledge of:

- 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.

Assessment Conditions

- Assessment should occur on the job or in a workplace simulated facility with relevant equipment, materials, work instructions and deadlines.
- This unit must always be assessed holistically in conjunction with other units of competency that form part of a specified job function.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Performance must be demonstrated consistently over a period of time.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including work instructions, specifications, hand and/or power tools, machinery, workplace records and a suitable work area.
- Assessors must:
 - as a minimum, satisfy the Standards for Registered Training Organisations 2015 assessor requirements
 - have vocational competency in the manufacturing industry at least to the level being assessed, with broad industry knowledge and experience, usually combined with a relevant industry qualification
 - be familiar with the current skills and knowledge used and have relevant, current experience in the manufacturing industry.

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