



Australian Government

MSTTF3003 Produce patterns for 3-D products

Release: 1

MSTTF3003 Produce patterns for 3-D products

Modification History

Release 1. Supersedes and is equivalent to LMTTF3003A Produce patterns for 3D products

Application

This unit of competency covers the skills and knowledge required to use a computer to develop 3-D patterns for the production of complex shapes in sails and canvas products, and to perform work-related calculations.

The unit of competency applies to the computerised development of 3-D drawings, computerised cutting of shapes using a plotting table, calculation of material requirements and costing. Competence must be demonstrated working largely independently and being accountable for own results, including carrying out assigned tasks, coordinating processes and setting and working to deadlines.

Work is conducted in operational indoor workplaces, using computers, plotters and associated software applications, including spreadsheets and computer-aided design (CAD), involving a range of canvas and sail products.

Work may be conducted in small to large scale enterprises and may involve individual and team activities. Work is performed within defined procedures under direct supervision.

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

Pre-requisite Unit

MSTTF2007 Produce patterns for 2-D products

Competency Field

Textile fabrication

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.

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

- | | |
|------------------------|--|
| 1 Determine job | 1.1 Follow standard operating procedures (SOPs) |
|------------------------|--|

	requirements	1.2	Comply with work health and safety (WHS) requirements at all times
		1.3	Use appropriate personal protective equipment (PPE) in accordance with SOPs
		1.4	Identify job requirements from specifications, drawings, job sheets or work instructions
2	Prepare to produce 3-D patterns	2.1	Read and interpret preliminary drawings, sketches or diagrams provided by customer or developed by the enterprise
		2.2	Determine missing dimensions or other unknown features of the proposed product through consultation with customer or enterprise personnel
		2.3	Read, interpret and apply workplace procedures and instructions
		2.4	Identify appropriate computer applications and key in required information or transfer from other sources to initiate design or production processes
3	Mark out and cut out shapes	3.1	Construct drawings, based on customer information, using appropriate software applications
		3.2	Make appropriate adjustment for shrinkage and other allowances, as required
		3.3	Mark out and cut shapes based on customer or workplace information, and cut out using a plotting table and appropriate software applications
		3.4	Check finished work is accurate and conforms with specifications
4	Perform calculations	4.1	Use spreadsheets or other appropriate software applications to perform complex materials calculations, financial tasks and costing
		4.2	Develop and apply spreadsheets

		4.3	Save data, drawings and other outputs electronically and in hard copy form using established workplace file and documentation formats
5	Save, document and communicate data	5.1	Store other work-related information in accordance with established workplace procedures
		5.2	Pass on data and associated information to personnel responsible for further action within the organisation
		5.3	Exit software applications and close down and switch off computer

Foundation Skills

This section describes those required skills (language, literacy and numeracy) 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.

Workplace procedures include one or more of the following:	• requirements prescribed by legislation, awards, agreements and conditions of employment • SOPs • work instructions • oral, written and visual communication • quality practices, including responsibility for maintenance of own work quality and contribution to quality improvement of team or section output • housekeeping • tasks related to environmental protection, waste disposal, pollution control and recycling • WHS practices
Australian Standards include:	• the relevant industry or Australian Standards that are current at the time this unit is being undertaken

WHS practices

WHS practices include hazard identification and control, risk assessment and implementation of risk reduction measures specific to the tasks described by this unit, and include one or more of the following:

- manual handling techniques
- SOPs
- PPE
- safe materials handling
- taking of rest breaks
- ergonomic arrangement of workplaces
- following marked walkways
- safe storage of equipment
- housekeeping
- reporting accidents and incidents
- environmental practices

Unit Mapping Information

Release 1. Supersedes and is equivalent to LMTTF3003A Produce patterns for 3D products

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=a203ec5c-de7d-406b-b3e1-8f1a9b76e92e>

Assessment Requirements for MSTTF3003 Produce patterns for 3-D products

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Performance Evidence

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

- reading and following work instructions, standard operating procedures (SOPs), safe work practices and other reference material
- applying relevant standards
- interpreting work orders and customer information
- interpreting specifications for components that are to form part of finished products
- identifying appropriate computer applications and keying in required information or transferring from other sources to initiate design or production processes
- operating a desktop or laptop computer and relevant software to produce at least two (2) patterns for 3-D products
- using spreadsheets or other appropriate software applications to perform complex materials calculations, financial tasks and costing
- operating a plotter to construct 3-D drawings, mark out templates, or cut complex shapes in material
- complying with all relevant safety requirements, including safe use of plotting tables for cutting out materials
- checking product quality
- making calculations and costings according to workplace procedures
- documenting, saving and communicating work-related data information according to workplace procedures.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- safe work practices and procedures and use of personal protective equipment (PPE)
- relevant Australian Standards
- range of products and services offered by the workplace
- product construction processes
- computer hardware
- software packages used in the workplace
- computer or plotter interfaces
- 3-D drawing and calculation processes
- mathematical processes and formulae for area and volume

- geometry and geometrical shapes
- principles and practices of engineering drawing
- quality practices
- workplace procedures
- practices for recording and reporting.

Assessment Conditions

- Assessors must:
 - satisfy the assessor competency requirements that are in place at the time of the assessment, as set by the VET regulator
 - have vocational competency in producing patterns for 3-D products, at least to the level being assessed, with relevant industry knowledge and experience.
- Assessment should occur in operational workplace situations. Where this is not possible, or where personal safety or environmental damage are limiting factors, assessment must occur in a sufficiently rigorous simulated environment reflecting realistic operational workplace conditions. This must cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.

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