



Australian Government

Department of Education, Employment and Workplace Relations

LMFFT4006B Construct prototypes and samples

Revision Number: 1

LMFFT4006B Construct prototypes and samples

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit covers the construction of prototypes and samples in accordance with established plans, drawings or specifications.
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Application of the Unit

Application of the unit	
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	Nil	

Employability Skills Information

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

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>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.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Establish the work requirements	1.1. Purpose of the prototype or sample is identified from plans and drawings 1.2. Materials specifications for the item are identified from workplace documentation 1.3. Ergonomic requirements are identified, clarified and satisfied throughout the work process 1.4. Construction requirements and methods are identified appropriate for the materials used
2. Plan prototype or sample construction	2.1. Work plan for the item construction is drafted 2.2. OHS requirements, including personal protection needs, are observed throughout the work 2.3. Compatibility of materials in specifications is checked and any discrepancies reported 2.4. Steps or stages in construction are identified, noting checkpoints for measurements and tests 2.5. Suitable work area is located and cleared ready for work
3. Obtain materials and equipment	3.1. Materials are selected according to specifications and assembled ready for use 3.2. Compatibility of materials with specifications is checked and any discrepancies reported 3.3. Equipment and accessories suitable for working the specified material are assembled 3.4. Appropriate jigs and other construction aids are identified and where required adjusted to suit the work
4. Construct the prototype or sample	4.1. Work plan is followed to construct the item 4.2. Checks are conducted at the identified points 4.3. Modifications to designs and plans are identified and recommended within workplace procedures 4.4. Modifications to the plan are documented and followed 4.5. Prototype or sample is checked for fitness for purpose

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- collect, organise and understand information related to the construction requirement, including the relevant technical, regulatory, environmental and safety requirements
- communicate ideas and information to enable clarification of the construction requirements, coordination of work with site supervisor, other workers and customers, and the reporting of work outcomes and problems
- plan and organise activities, including the preparation and layout of the worksite and the obtaining of equipment, systems and materials to avoid any backtracking, workflow interruptions or wastage
- work with others and in a team by recognising dependencies and using cooperative approaches to optimise workflow and productivity
- use mathematical ideas and techniques to correctly complete measurements, calculate area and dimensions, create accurate and scaled drawings, and estimate material requirements
- create and apply systematic problem solving techniques to anticipate construction problems, avoid re-working and avoid wastage
- use the workplace technology related to the construction, including machinery, tools and equipment, calculators and measuring devices and computing/computer-aided systems

Required knowledge

- characteristics of the materials used in relation to the use of the end item
- design features and requirements for the prototype or sample
- operation of tools and equipment used and the application of the finished product
- identification of equipment, processes and procedures

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 of evidence

- Interpret work order, plans and specifications and locate and apply relevant information
- Apply safety requirements throughout the work sequence, including the use of personal protective clothing and equipment
- Follow work instructions, operating procedures and inspection practices to:
 - minimise the risk of injury to self and others
 - prevent damage to goods, equipment and products
 - maintain required production output and product quality
- Construct a minimum of two different prototypes/samples and:
 - identify compatibility/incompatibility of materials, adhesives, fittings, fasteners, for the application
 - select and apply appropriate joinery, construction and finishing techniques
 - select and use appropriate materials, equipment and processes for the item being constructed
 - demonstrate how the design of the prototype components will influence the working lifetime of the item
 - ensure that the prototype satisfies the original or varied specification
- Modify activities to cater for variations in workplace contexts and environment
- Work effectively with others

Resource implications

Materials, work order, specifications, plans, tools, equipment and consumables.

Method of assessment

Assessment methods must confirm consistency of performance over time and in a range of workplace relevant contexts.

Assessment should be by direct observation of tasks and/or samples of work and questioning on underpinning

EVIDENCE GUIDE	
	knowledge. Assessment should be conducted over time and will generally be in conjunction with assessment of other units of competency.
Context of assessment	Assessment may occur on the job or in a simulated workplace facility with relevant process equipment, simulated work instructions and deadlines.

Range Statement

RANGE STATEMENT	
<p>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.</p>	
Unit scope	<ul style="list-style-type: none"> • This unit covers the work involved in constructing prototypes and samples of products from plans and drawings • Prototypes and samples may be produced by hand, by using appropriate machines, tools and equipment or by computer assisted production and will reflect the finished products produced by the enterprise • The unit requires the use of hand and power tools, basic static and specialised machines, and the application of joinery, construction and finishing techniques
Unit context	<ul style="list-style-type: none"> • OHS requirements include legislation, building codes, material safety management systems, hazardous substances and dangerous goods codes and safe operating procedures • Work is carried out in accordance with legislative obligations, environmental legislation, relevant health regulations, authorised handling procedures and organisation insurance requirements • Work requires individuals to demonstrate analytical and organisational ability, discretion, judgement and problem solving skills
Workplace environment	<ul style="list-style-type: none"> • The construction of prototypes and samples is undertaken in accordance with established enterprise procedures and practices • Work is generally performed with little external assistance and with minimal supervision or direction • Customers may be internal or external
Machines/equipment may include:	<ul style="list-style-type: none"> • any machine typically used in the furnishing sector concerned • microprocessor or computer-controlled machines

RANGE STATEMENT	
	<ul style="list-style-type: none"> • both production and facility equipment used in the enterprise
Materials	<p>Materials to be used to construct prototypes and samples will represent those normally used by the enterprise in its production processes. They may include but are not limited to:</p> <ul style="list-style-type: none"> • timber • metal alloys • glass • fabrics and textiles • plastics • leather • adhesives • fillers and finishes as appropriate
Personal protective equipment	<p>Personal protective equipment is to include that prescribed under legislation, regulations and enterprise policies and practices</p>
Information and procedures	<ul style="list-style-type: none"> • Work procedures/instructions • Designer/drawer specifications and instructions • Organisation work specifications and requirements • Legislation/regulations/national or industry codes and practices relevant to the prototype/sample construction • Quality and Australian standards and procedures

Unit Sector(s)

Unit sector	Furnishing Technology
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Competency field

Competency field	
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Co-requisite units

Co-requisite units		