



Australian Government

Department of Education, Employment and Workplace Relations

MEM26012A Record and trial work processes for one-off composite products

Release: 1

MEM26012A Record and trial work processes for one-off composite products

Modification History

Release 1 New unit

Unit Descriptor

This unit of competency covers the skills and knowledge required to take a one-off/prototype product or a new product/process from an internal or external developer and turn this into a standard manufacturing process which works and can be used in the plant. Refer also to MEM26018A Organise composite trials.

This unit can be used for recording composite materials and processing steps for one-off and prototype production.

Application of the Unit

This unit covers the drafting of appropriate procedures for use in routine production or repair situations. It also requires the examination of a process and the comparison of it with standard practice in the workplace so that a workable procedure can be developed. The procedures are drafted from a developing process and are evaluated as part of this unit.

This unit would typically be undertaken by an individual in liaison with relevant stakeholders and by working closely with personnel developing the prototype.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

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.

Elements and Performance Criteria

1	Identify proposed benefits/outcomes of new product/process	1.1	Confirm deliverables expected by customer
		1.2	Confirm benefits expected by organisation
		1.3	Identify any existing products with similar expectations
		1.4	Note any relevant issues with existing similar products
2	Sketch a process map/flow chart of proposed process	2.1	Determine processes to be used
		2.2	Identify order of process steps
		2.3	Draw process map/flow chart of proposed process
		2.4	Annotate key resources to map/flow chart
		2.5	Examine map/flow chart for possible improvements
		2.6	Redraw map/flow chart, as appropriate
3	Compare proposed process with current standard processes	3.1	Identify processes which will be new to/changed from/deleted from existing similar process used by the organisation
		3.2	Identify materials which will be new to/changed from/deleted from existing similar process or the organisation
		3.3	Identify areas of improvement in the existing similar process
		3.4	Identify hazards and appropriate hazard controls
		3.5	Develop procedures for new/modified steps

- | | | | |
|---|---|-----|--|
| 4 | Draft procedures for new product/process | 4.1 | Locate appropriate template for procedures |
| | | 4.2 | Observe and record prototype |
| | | 4.3 | Draft procedures from successful prototype steps in appropriate format |
| 5 | Evaluate draft procedures | 5.1 | Keep tally of resources used |
| | | 5.2 | Compare production to procedures |
| | | 5.3 | Compare outcomes with expectations |
| | | 5.4 | Identify any required changes |
| | | 5.5 | Take appropriate action |
| 6 | Draft new procedures and obtain authorisation | 6.1 | Draft workable procedures |
| | | 6.2 | Obtain authorisation of new procedures, as required |
| | | 6.3 | Standardise procedures |

Required Skills and Knowledge

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

Required skills

Required skills includes:

- writing
- developing procedures
- evaluating outcomes
- following authorisation procedures
- communicating with relevant personnel

Required knowledge

Required knowledge includes:

- use of production tools (e.g. one-off or multiple products)
- limits of size which suggest easiest/most cost effective way to produce product
- fibre/resin ratio

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	It is essential that the process and equipment be understood and that the importance of critical material properties, settings and readings is known. Competence must be demonstrated in the ability to recognise and analyse potential situations requiring action and then in implementing appropriate corrective action. Consistent performance should be demonstrated. In particular look to see that: • a set of workable procedures have been developed • procedures have taken account of process mapping. Competence must be demonstrated in the operation of all ancillary equipment to the level required for this unit of
---	--

	competency.
--	-------------

Context of and specific resources for assessment	Assessment will require the development of new manufacturing specifications/procedures for composite products or components. Assessment will occur over a range of situations which will include disruptions to normal, smooth operation.
Method of assessment	A single assessment event is not appropriate. On-the-job assessment should be included as part of the assessment process wherever possible. Where assessment occurs off the job, judgement must consider evidence of the candidate's performance in a productive work environment that includes a sufficient range of appropriate tasks and materials to cover the scope of application for this unit. Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways, including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for assessment	Assessment processes and techniques must be culturally appropriate and appropriate to the language and literacy capacity of the candidate and the work being performed.

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.

Procedures	Procedures may be written, verbal, computer-based or in some other form, and may include: • all work instructions • standard operating procedures • formulas/recipes
-------------------	---

	• batch sheets • temporary instructions • any similar instructions provided for the smooth running of the plant • good operating practice as may be defined by industry codes of practice (e.g. Responsible Care) and government regulations
--	--

Deliverables expected by customer	Deliverables expected by customer may include: • technical specification • aesthetic requirements • other quality expectations • cost/price expectations • quantity and delivery schedules
Key resources	Key resources include: • materials • labour • time • money
Process map improvements	Improvements made from process maps are typically a reduction in wastes (muda) as defined by • over-production • delay • transportation • over-processing • excess inventory/work in progress (WIP) • excess motion • defects • untapped human potential
Logs and reports	Logs and reports may include: • paper or electronic based • verbal reports • items found which require action
Appropriate action	Appropriate action includes: • determining problems needing action • determining possible fault causes • rectifying problem using appropriate solution within area of responsibility • following through items initiated until final resolution has occurred • reporting problems outside area of responsibility to designated person
Typical problems	Typical problems may include: • multiple ways of doing the same job • waste built into procedures • aligning procedures with good practice

Health, safety and environment (HSE)	All operations to which this unit applies are subject to stringent HSE requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between Performance Criteria and HSE requirements, the HSE requirements take precedence
---	--

Unit Sector(s)

Composites

Custom Content Section

Not applicable.