



Australian Government

PMBTECH601 Develop a new product

Release: 1

PMBTECH601 Develop a new product

Modification History

Release 1. Supersedes and is equivalent to PMBTECH601B Develop a new product

Application

This unit of competency covers the skills and knowledge required to develop a new product to meet a specified end use.

This unit of competency applies to advanced technologists, technical experts or those in similar roles who are required to apply significant depth and breadth of theoretical polymer, product and process knowledge in order to design a product and manufacturing process to meet customer needs; balance business, technical and production issues; determine process capability; coordinate product trials and optimise the process for the new product.

The technologist will perform a lead technical role typically as part of a product design, development and implementation team and is not required to demonstrate 'hands on' operation of equipment as part of this competency.

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

Pre-requisite Unit

PMBTECH502 Review and analyse production trials and specify retrials

PMBTECH505 Choose polymer materials for an application

MEM15001B Perform basic statistical quality control

Competency Field

Technical

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.

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| 1 | Confirm design brief of new product | 1.1 | Communicate with customer and other key stakeholders and agree on technical specification, aesthetic requirements, timelines, cost and other market requirements |
| | | 1.2 | Determine regulatory/industry code/intellectual property requirements for product |
| | | 1.3 | Identify possible tooling/process/equipment needs |
| | | 1.4 | Develop design brief, including relevant drawings, to meet needs |
| | | 1.5 | Obtain sign-off on total design brief from all relevant persons |
| 2 | Determine material requirements for product | 2.1 | Select base polymer grade/polymer blend or range of polymers/grades for evaluation |
| | | 2.2 | Select types of reinforcement and other additives needed |
| | | 2.3 | Determine material testing and evaluation regime required to meet product end use requirements, including regulatory/industry code requirements |
| | | 2.4 | Arrange for compounding, testing and evaluation of trial materials |
| | | 2.5 | Interpret material trial results and guide material trial process |
| | | 2.6 | Determine final materials specification |
| 3 | Determine process requirements for product | 3.1 | Select process to make product to meet requirements |
| | | 3.2 | Determine any special process/equipment requirements for the product |
| | | 3.3 | Communicate with production personnel to determine their concerns and/or special needs |

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| 4 | Ensure process needs for new product have been met | 4.1 | Liaise with tool/die/mould/equipment design/procurement personnel |
| | | 4.2 | Interpret hardware specifications and ensure they are appropriate for the job required |
| | | 4.3 | Liaise with process personnel to ensure appropriate draft procedures for new product have been developed |
| 5 | Trial new product through the process | 5.1 | Design trialling procedure to deliver required information |
| | | 5.2 | Ensure health, safety and environment (HSE) requirements are stringently observed |
| | | 5.3 | Coordinate the trialling of the new product |
| | | 5.4 | Interpret product trial results and guide product trial process |
| | | 5.5 | Tune process to optimise production of new product |
| 6 | Determine process capability | 6.1 | Plot appropriate statistical process control charts |
| | | 6.2 | Determine 3-sigma confidence limits |
| | | 6.3 | Compare confidence limits with product specification |
| 7 | Coordinate product trials | 7.1 | Determine product testing and evaluation regime required to meet end use requirements, including regulatory/industry code requirements |
| | | 7.2 | Arrange for testing and evaluation of trial product/prototype |
| | | 7.3 | Interpret product trial results and guide product trial process |
| | | 7.4 | Determine final product specification |
| | | 7.5 | Make required changes to materials, process and equipment |

8	Implement standard procedures for new product	8.1	Monitor initial production and adjust process, conditions and materials to make the process a smooth operation
		8.2	Ensure process specifications reflect the optimised operation developed
		8.3	Ensure standard operating procedures (SOPs) are correct for the new product
		8.4	Ensure equipment and other hardware records are updated to reflect additions/changes
		8.5	Ensure project records are complete and all required reports have been completed and submitted
		8.6	Archive records according to company procedure

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.

Regulatory framework The latest version of all legislation, regulations, industry codes of practice and Australian/international standards, or the version specified by the local regulatory authority, must be used.

Applicable legislation, regulations, standards and codes of practice include:

- HSE legislation, regulations and codes of practice relevant to the workplace, materials and processes being used and products being made
- Australian/international standards relevant to the materials being used and products being made
- any relevant licence and certification requirements.

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 such requirements the legislative requirements take precedence.

Procedures All operations must be performed in accordance with relevant procedures.

Procedures are written, verbal, visual, computer-based or in some other form, and include one or any combination of:

- test procedures
- technical specifications
- technical drawings
- emergency procedures
- work instructions
- SOPs
- safe work method statements (SWMS)
- formulas/recipes
- batch sheets
- temporary instructions
- any similar instructions provided for the smooth running of the plant.

Unit Mapping Information

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Links

MSA Training Package Implementation Guides - <http://mskills.org.au/training-packages/info/>