Australian Government

PMB50121 Diploma of Polymer Technology

Release: 2

PMB50121 Diploma of Polymer Technology

Modification History

Release	Comments
2	10 elective codes updated to ensure currency of units.
1	This qualification was first released in PMB Plastics, Rubber and Cablemaking Release 2.0.

Qualification Description

This qualification reflects the role of technologists and those in similar paraprofessional roles in the plastics, rubber and cablemaking sectors. They apply in-depth knowledge of materials, process, equipment and problem solving to analyse performance and failure in equipment and products and to assist in the development of new/modified products. They are not required to be competent to operate production equipment but will understand the principles behind the relevant production and support processes.

Products and components may be for commercial, industrial or consumer markets and be made from natural or synthetic polymers covering thermoplastics as well as thermosetting polymers. Production may be long runs of standard products, short runs, or ‘one offs’ of specialised products.

Some units in this qualification may have licensing or regulatory requirements in some jurisdictions. Local regulations should be checked for details.

Licensing/Regulatory Information

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

Entry Requirements

There are no entry requirements for this qualification.

Packaging Rules

Total number of units = 15

- 4 core units
- 11 elective units, consisting of:
    - at least 9 units from the electives listed below, which must include 6 from Group A

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- up to 2 units from any endorsed Training Package or accredited course – these units must be relevant to the work outcome.

Core units		
Unit code	**Unit title**	**Prerequisites**
MSMENV472	Implement and monitor environmentally sustainable work practices	
MEM13015	Work safely and effectively in manufacturing and engineering	
MSMSUP300	Identify and apply process improvements	
MSMSUP390	Use structured problem-solving tools	
Elective units		
Unit code	**Unit Title**	**Prerequisites**
Group A		
PMBTECH501E	Analyse equipment performance	*
PMBTECH502E	Analyse production trials	*
PMBTECH505E	Choose polymer materials for an application	*
PMBTECH506E	Analyse the design of products and tools for polymer injection moulding	*
PMBTECH507E	Develop fibre-composite products using cored-laminate techniques	
PMBTECH508E	Develop a new compound	
PMBTECH509E	Modify an existing product	

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PMBTECH601E	Develop a new product	*
PMBTECH602E	Develop a new die or tool	*
PMBTECH603E	Design structural or mechanical polymer components	*
Other electives		
Unit code	**Unit title**	**Prerequisites**
MEM30031	Operate computer-aided design (CAD) system to produce basic drawing elements	
MEM30033	Use computer-aided design (CAD) to create and display 3D models	*
MSMOPS400	Optimise process/plant area	
MSMOPS401	Trial new process or product	
MSMSUP383	Facilitate a team	
MSMSUP400	Develop and monitor quality systems	
MSMSUP404	Coordinate maintenance	
MSMSUP405	Identify problems in fluid power system	
MSMSUP406	Identify faults in electronic control	
MSMWHS400	Contribute to WHS management system	
MSMWHS401	Assess risk	
MSS015043	Develop strategies for more sustainable use of resources	

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MSS403081	Ensure process improvements are sustained	
MSS404056	Apply statistics to operational processes	
MSS405029	Develop quick changeover procedures	
MSS405034	Develop a Just in Time system	
MSS405038	Optimise process costs	
MSS405047	Undertake analysis of cost and waste in terms of customer value	
MSS405056	Use three or six sigma processes to determine and improve process capability	*
MSS405088	Plan, implement and monitor energy management	
PMBPROD430E	Trial a new injection moulding die	
PMBPROD431E	Trial a new production mould assembly	
PMBTECH301E	Optimise polymer processing operations	
PMBTECH401E	Predict polymer properties and characteristics	
PMBTECH402E	Set advanced or complex injection moulding dies	
PMBTECH403E	Test thermoset composite laminates and materials	
PMBTECH404E	Mould composites with chemically-resistant or fire-retardant properties	

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PMBTECH405E	Repair damaged fibre-composites structures	
PMBTECH406E	Diagnose production equipment problems	

Pre-requisite Requirements

Unit of competency	Prerequisite requirement
MEM30033 Use computer-aided design (CAD) to create and display 3D models	MEM30031 Operate computer-aided design (CAD) system to produce basic drawing elements
MSS405056 Use three or six sigma processes to determine and improve process capability	MSS404056 Apply statistics to operational processes
PMBTECH501E Analyse equipment performance	MSMOPS401 Trial new process or product PMBTECH401E Predict polymer properties and characteristics
PMBTECH502E Analyse production trials	MSMOPS401 Trial new process or product
PMBTECH505E Choose polymer materials for an application	PMBTECH401E Predict polymer properties and characteristics
PMBTECH506E Analyse the design of products and tools for polymer injection moulding	MSMOPS401 Trial new process or product
PMBTECH601E Develop a new product	PMBTECH502E Analyse production trials PMBTECH505E Choose polymer materials for an application
PMBTECH602E Develop a new die or tool	PMBTECH506E Analyse the design of products and tools for polymer injection moulding
PMBTECH603E Design structural or mechanical polymer components	PMBTECH505E Choose polymer materials for an application

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Qualification Mapping Information

Current Code and Title	Previous Code and Title	Comments	Equivalence
PMB50121 Diploma of Polymer Technology	PMB50116 Diploma of Polymer Technology	PMB50121 Diploma of Polymer Technology supersedes and is equivalent to PMB50116 Diploma of Polymer Technology	Equivalent

Links

Companion volumes, including implementation guides, are found on the national training register - https://training.gov.au/training/details/PMB.

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