



Australian Government

PMB50121 Diploma of Polymer Technology

Release 1

PMB50121 Diploma of Polymer Technology

Modification History

Release 1. Supersedes and is equivalent to PMB50116 Diploma of Polymer Technology.

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.

There are no specific licenses that relate to this qualification. However, some units in this qualification may have licensing or regulatory requirements in some jurisdictions. Local regulations should be checked for details.

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
 - 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
MSMENV47 2	Implement and monitor environmentally sustainable work practices	
MEM13015	Work safely and effectively in manufacturing and engineering	

Core units		
Unit code	Unit title	Prerequisites
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	PMBTECH401E MSMOPS401
PMBTECH502E	Analyse production trials	MSMOPS401
PMBTECH505E	Choose polymer materials for an application	PMBTECH401E
PMBTECH506E	Analyse the design of products and tools for polymer injection moulding	MSMOPS401
PMBTECH507E	Develop fibre-composite products using cored-laminate techniques	
PMBTECH508E	Develop a new compound	
PMBTECH509E	Modify an existing product	
PMBTECH601E	Develop a new product	PMBTECH502E (prerequisite chain MSMOPS401) PMBTECH505E
PMBTECH602E	Develop a new die or tool	PMBTECH506E (prerequisite chain MSMOPS401)
PMBTECH603E	Design structural or mechanical polymer components	PMBTECH505E (prerequisite chain PMBTECH401E)

Elective units		
Unit Code	Unit Title	Prerequisites
Other electives		
Unit code	Unit title	Prerequisites
MEM30031A	Operate computer-aided design (CAD) system to produce basic drawing elements	
MEM30033A	Use computer-aided design (CAD) to create and display 3-D models	MEM30031A
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	
MSS015022	Develop strategies for more sustainable use of resources	
MSS403085	Ensure process improvements are sustained	
MSS404054	Apply statistics to operational processes	
MSS405020	Develop quick changeover procedures	
MSS405021	Develop a Just in Time system	
MSS405030	Optimise cost of a product or service	
MSS405031	Undertake value analysis of product or process costs in terms of customer requirements	
MSS405054	Determine and improve process capability	MSS404054

Elective units		
Unit Code	Unit Title	Prerequisites
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	
PMBTECH405E	Repair damaged fibre-composites structures	
PMBTECH406E	Diagnose production equipment problems	

Qualification Mapping Information

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Links

Companion Volume implementation guides are found in VETNet --

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=932aacef-7947-4c80-acc6-593719fe4090>