



Australian Government

PMB50116 Diploma of Polymer Technology

Release 1

PMB50116 Diploma of Polymer Technology

Modification History

Release 1. Supersedes and is equivalent to PMB50107 Diploma of Polymer Technology.

Qualification Description

The PMB50116 Diploma of Polymer Technology is intended for technologists and those in similar paraprofessional roles in the plastics, rubber and cabling sectors.

The technologist will 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.

The technologist may be largely based in a laboratory or office but may conduct some of their work in or through the shop floor.

This qualification applies to the production of a wide range of polymer products and components ranging from consumer products to components to be included in other commercial, industrial or consumer products. Products may be made from a wide range of natural and 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.

For people who require a more generalist qualification covering the application of good manufacturing practice and lean principles see MSS50316 Diploma of Competitive Systems and Practices.

There are no specific licences that relate to this qualification. However, units of competency in this qualification may provide the underpinning knowledge and skills required for licences in some jurisdictions. Local regulations should be checked for details.

Entry Requirements

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Packaging Rules

To be awarded the PMB50116 Diploma of Polymer Technology, competency must be achieved in **seventeen (17)** units of competency:

- **four (4)** core units of competency
- **thirteen (13)** elective units of competency, as specified below:
 - a minimum of **eight (8)** units from Group A and B, with a minimum of **four (4)** units from Group A
 - the remainder of units may be chosen from Groups A, B and C, to bring the total number of electives to **thirteen (13)**.

Up to **three (3)** of the elective units can be chosen from other qualifications in this Training Package, other endorsed Training Packages and accredited courses, as specified in Group C.

Note: Units with prerequisites are marked with an asterisk*. Prerequisite units must be counted in the total number of units required for achievement of the qualification. Refer to individual units for details.

Core units of competency

Unit code	Unit title	Prerequisites
MSMENV472	Implement and monitor environmentally sustainable work practices	
MSMWHS200	Work safely	
MSMSUP300	Identify and apply process improvements	*
MSMSUP390	Use structured problem solving tools	
Elective units of competency		
Group A		
Unit code	Unit title	Prerequisites
PMBTECH501	Analyse equipment performance	*
PMBTECH502	Review and analyse production trials and specify	*

	retrials	
PMBTECH503	Determine rheology and output of plastics materials from processing equipment	*
PMBTECH504	Determine heat transfer loads for processing equipment	
PMBTECH505	Choose polymer materials for an application	*
PMBTECH506	Analyse the design of products and tools	*
PMBTECH507	Develop fibre composite products using cored-laminate techniques	*
PMBTECH508	Develop a new compound	
PMBTECH509	Modify an existing product	
PMBTECH510	Analyse failure in polymeric materials	
<p>A maximum of two (2) units may be chosen from the units in Group A of the PMB60116 Advanced Diploma of Polymer Technology.</p>		
<p>Group B</p>		
Unit code	Unit title	Prerequisites
MSMWHS400	Contribute to WHS management system	*
MSMWHS401	Assess risk	
MSMOPS400	Optimise process/plant area	*
MSMOPS401	Trial new process or product	
MSMSUP404	Coordinate maintenance	
MSMSUP405	Identify problems in fluid power system	
MSMSUP406	Identify problems in electronic control systems	
MSL974003	Perform chemical tests and procedures	
MSL974005	Perform physical tests	

MSL974010	Perform mechanical tests	
PMBPROD430	Trial a new die/tool	
PMBPROD431	Trial a new, advanced or complex mould	
PMBTECH401	Predict polymer properties and characteristics	*
PMBTECH402	Set advanced or complex dies	*
PMBTECH403	Test fibre-composites materials and laminates	
PMBTECH404	Mould chemical resistant and/or fire retardant fibre-composites	
PMBTECH405	Repair damaged fibre-composites structures	*
PMBTECH406	Diagnose production equipment problems	
Group C		
Unit code	Unit title	Prerequisites
MEM09003B	Prepare basic engineering drawing	*
MEM15001B	Perform basic statistical quality control	
MEM16006A	Organise and communicate information	
MEM16007A	Work with others in a manufacturing, engineering or related environment	
MEM16008A	Interact with computing technology	
MEM30031A	Operate computer-aided design (CAD) systems to produce basic drawing elements	
MEM30033A	Use computer-aided design (CAD) to create and display 3-D models	*
MSS403002	Ensure process improvements are sustained	
MSS404052	Apply statistics to operational processes	
MSS405020	Develop quick changeover procedures	

MSS405021	Develop a Just in Time system	
MSS405030	Optimise cost of product or service	
MSS405031	Undertake value analysis of product costs in terms of customer requirements	
MSS405050	Determine and improve process capability	*
MSS405070	Develop and manage sustainable energy practices	
MSS015002	Develop strategies for more sustainable use of resources	
MSMSUP383	Facilitate a team	
MSMSUP400	Develop and monitor quality systems	
PSPPM502B	Manage complex projects	
<p>Up to three (3) relevant units may be chosen from this Training Package, other endorsed Training Packages and accredited courses, where those units are available for inclusion in a Diploma.</p>		

Qualification Mapping Information

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Links

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