Australian Government

PMB07 Plastics, Rubber and Cablemaking Training Package

Release: 2.0

CONTENTS

Modification History

Version	Release Date	Comments
2	8 July 2013	**Endorsed changes** Addition of five new PMB electives and one new imported unit for inclusion in PMB30107 and PMB40107. **ISC upgrades** Imported units updated to current versions **Refer to mapping for details.**
1.1	May 2011	ISC upgrades to PMB07: • All qualifications adjusted for flexibility and sustainability requirements • Imported units updated Refer to history for details.
1	16/11/07	Initial release

Imprint Oct 24

Preliminary Information

Important Note to Users

Training Packages are not static documents; they are amended periodically to reflect the latest industry practices and are version controlled. It is essential that the latest version is always used.

Check the version number before commencing training or assessment

This Training Package is Version 2 check whether this is the latest version by going to training.gov.au and locating information about the Training Package. Alternatively, contact Manufacturing Industry Skills Council at confirm the latest version number.

Explanation of version number conventions

The primary release Training Package is Version 1. When changes are made to a Training Package, sometimes the version number is changed and sometimes it is not, depending on the extent of the change. When a Training Package is reviewed it is considered to be a new Training Package for the purposes of version control, and is Version 1. Do not confuse the version number with the Training Packages national code (which remains the same during its period of endorsement).

History

PMB07v2 Project background

In 2012, Development Dynamics (DD, a Melbourne based RTO) intended establishing an approved course in HOTR tyre repair in liaison with Rema Tip Top Australia Pty Ltd (RTT, a Sydney based supplier of materials and technology). To contribute to this development industry consultation occurred, in particular two 'round tables' one in Perth and one in Newcastle.

As part of this process Development Dynamics approached Manufacturing Skills Australia (MSA) for support. As a result of discussions with MSA personnel it was then decided that a Training Package qualification should be developed and that the appropriate Training Package is PMB07 Plastics, Rubber and Cablemaking Training Package.

TaPS was contracted to undertake the work to develop any required new units of competency to be packaged as electives in existing PMB07 Plastics, Rubber and Cablemaking Training Package qualifications. The existing Certificate III in Polymer Processing currently includes a specialisation for tyre manufacture and retreading and it was agreed that TaPS should develop new electives for inclusion in this stream. The units will also be included in the Certificate IV in Polymer Technology.

The development covered competencies required from the time the injured tyre is delivered to the repair facility until it is repaired and ready to leave. It did not cover:

- loading or unloading trucks
- fitting to or removal from the rim (there are existing units covering this)
- fitting to or removal of the wheel from the truck (there are existing units covering this)
- retreading tyres (there are existing units in this qualification covering this).

PMB07v1.1 – summary of changes

Flexibility/sustainability changes to packaging rules

- Qualifications reworded to refer to Core and Elective Groups A, B, C, etc.

- MSAPMSUP200A replaced by MSAENV272B in the core of PMB20107, 30107 and 40107
- No changes to core and elective ratio, or proportion of imported units.
- Importation allowance reworded to include ‘and accredited courses’.

Imported units

- Superseded imported units replaced (refer to mapping of units for details).

List of AQF Qualifications

Qualification Code	Title
PMB20107	Certificate II in Polymer Processing
PMB30107	Certificate III in Polymer Processing
PMB40107	Certificate IV in Polymer Technology
PMB50107	Diploma of Polymer Technology
PMB60107	Advanced Diploma of Polymer Technology

Units of competency in this Training Package and their prerequisites

Code	Title	Prerequisite
PMBFIN201C	Finish products and components	None
PMBFIN202C	Fit attachments to products	None
PMBFIN203C	Repair product imperfections	None
PMBFIN205C	Hand decorate products	None
PMBHAN103C	Shift materials safely by hand	None
PMBHAN208C	Store products	None
PMBPREP201B	Prepare moulds for composites production	None
PMBPREP205C	Assemble materials and equipment for	None

	production	
PMBPREP206C	Prepare materials to formulae	None
PMBPREP301C	Set up and prepare for production	None
PMBPREP303C	Set up equipment for continuous operation	None
PMBPREP304C	Set a die	None
PMBPREP305B	Change extrusion die and setup	None
PMBPROD206B	Operate ancillary equipment	None
PMBPROD207B	Operate calender	None
PMBPROD209C	Operate cable winding equipment	None
PMBPROD210B	Operate injection moulding equipment	None
PMBPROD211B	Operate blow moulding equipment	None
PMBPROD212B	Operate thermoforming equipment	None
PMBPROD213B	Operate extruders	None
PMBPROD216B	Operate blown film equipment	None
PMBPROD217B	Operate printing equipment	None
PMBPROD221B	Operate rotational moulding equipment	None
PMBPROD229B	Operate polystyrene shape moulding equipment	None
PMBPROD233B	Operate film conversion equipment	None
PMBPROD235C	Use materials and process knowledge to complete work operations	None
PMBPROD236C	Operate hand held air/power equipment for production processes	None
PMBPROD237C	Splice cables	None
PMBPROD238A	Perform creel rack operations	None
PMBPROD239A	Build reinforced conveyor belts	None
PMBPROD240C	Cut materials	None
PMBPROD241C	Lay up rubber lining or lag pulleys	None
PMBPROD242A	Bond polymers to surfaces	None
PMBPROD245C	Fabricate materials	None
PMBPROD246C	Hand mix materials	None
PMBPROD247C	Hand lay up composites	None

PMBPROD248C	Prepare surfaces for coating	None
PMBPROD249B	Apply liquid surface coatings	None
PMBPROD251B	Apply gel coat or other polymer surface finish	None
PMBPROD252C	Operate compounding equipment	None
PMBPROD253C	Operate an internal mill blender	None
PMBPROD254C	Operate an open mill blender	None
PMBPROD255C	Operate mixing equipment	None
PMBPROD259C	Operate granulating equipment	None
PMBPROD261B	Operate continuous vulcanising equipment	None
PMBPROD262B	Operate tyre curing equipment	None
PMBPROD263B	Operate retread curing equipment	None
PMBPROD264C	Check recycle wash process	None
PMBPROD265C	Operate portable vulcanising equipment	None
PMBPROD266B	Prepare tyre casings for retreading	None
PMBPROD267B	Operate steel cutting equipment	None
PMBPROD268B	Operate bead coiling equipment	None
PMBPROD270B	Operate injection blow moulding equipment	None
PMBPROD280B	Operate resin-glass depositor equipment	None
PMBPROD281B	Finish composite products	None
PMBPROD282B	Assemble mould	None
PMBPROD283B	Demould product	None
PMBPROD284B	Operate open flame moulding equipment	None
PMBPROD285A	Operate computer controlled equipment	None
PMBPROD287B	Weld plastics materials	None
PMBPROD290B	Operate filament winding equipment	None
PMBPROD291B	Operate resin infusion moulding equipment	None
PMBPROD292B	Operate pultrusion equipment	None
PMBPROD293B	Operate vacuum bagging equipment	None

PMBPROD294B	Operate resin transfer moulding equipment	None
PMBPROD295B	Operate composite sheeting equipment	None
PMBPROD296B	Operate centrifugal casting equipment	None
PMBPROD297B	Operate equipment using moulding compounds	None
PMBPROD298B	Operate equipment using pre-preg material	None
PMBPROD300B	Produce products	Any PROD200 Unit
PMBPROD301C	Draw wire	None
PMBPROD302C	Bunch and strand wire	None
PMBPROD303C	Lay up and tape cables	None
PMBPROD304C	Wind products onto drums	None
PMBPROD305C	Colour optical fibre	None
PMBPROD306B	Prepare and start equipment for production	Any PROD200 Unit
PMBPROD307C	Produce calendered products	PMBPROD207A
PMBPROD308B	Take a machine out of production	None
PMBPROD309C	Produce electroplated products	None
PMBPROD310C	Produce injection moulded products	PMBPROD210B
PMBPROD311C	Produce blow moulded products	PMBPROD211A
PMBPROD312C	Produce continuous thermoforming products	PMBPROD212A
PMBPROD313C	Produce extruded products	PMBPROD213A
PMBPROD314C	Produce compression moulded products	None
PMBPROD315C	Produce polyurethane foam	None
PMBPROD316C	Produce blown film	PMBPROD216A
PMBPROD317C	Print and decorate rigid products	PMBPROD217A
PMBPROD318C	Build first stage tyres	None
PMBPROD319C	Build up rollers	None
PMBPROD320C	Produce foam injected mouldings	None
PMBPROD321B	Produce rotational moulded products	PMBPROD221A
PMBPROD323C	Produce powder coated products	None

PMBPROD324B	Inspect tyres for retreading	None
PMBPROD325B	Lay on tyre retreads	None
PMBPROD326B	Inspect tyres	None
PMBPROD327B	Produce finished tyres	None
PMBPROD328C	Produce sheet feed vacuum forming products	None
PMBPROD329C	Produce polystyrene shape moulded products	PMBPROD229B
PMBPROD330A	Make moulds for formed products	None
PMBPROD331C	Produce printed and decorated film	None
PMBPROD332C	Produce thermally bent products	None
PMBPROD333B	Convert plastic film	PMBPROD233A
PMBPROD334A	Produce products using twin screw extruders	None
PMBPROD335C	Build second stage tyres	None
PMBPROD336A	Inspect heavy off-the-road tyres	None
PMBPROD337A	Prepare heavy off-the-road tyres for repair	None
PMBPROD338A	Repair heavy off-the-road tyres	None
PMBPROD339A	Produce reinforced conveyor belts	(PMBPROD238A PMBPROD239A)
PMBPROD340A	Cure heavy off-the-road tyre repairs	None
PMBPROD341A	Finish heavy off-the-road tyre repairs	None
PMBPROD343C	Shut down plant area	None
PMBPROD347B	Produce composites using hand lamination	PMBPROD247C
PMBPROD349B	Produce liquid surface coated products	PMBPROD249B
PMBPROD352A	Produce compounded materials	PMBPROD252C
PMBPROD353B	Compound materials using an internal mill blender	PMBPROD253C
PMBPROD354B	Compound materials using an open mill blender	PMBPROD254C
PMBPROD355B	Make pattern/plug for composites moulds	(PMBPROD247B MEM09002B)
PMBPROD356C	Construct moulds for composite	(PMBPREP201B

	products	PMBPROD247C)
PMBPROD357C	Construct jigs and fixtures	None
PMBPROD358C	Develop patterns	MEM09002B
PMBPROD360B	Produce centrifugally cast polyurethane products	PMBPROD246B
PMBPROD362B	Produce gravity cast polyurethane products	PMBPROD246B
PMBPROD367B	Remove and replace conveyor belts	None
PMBPROD368B	Repair conveyor belt carcass	PMBPROD265B
PMBPROD369B	Repair conveyor belt covers	PMBPROD265B
PMBPROD370B	Produce injection blow moulded products	PMBPROD270A
PMBPROD372B	Produce fibre optic preforms	None
PMBPROD373B	Draw optical fibre	None
PMBPROD375B	Vulcanise products using an autoclave	None
PMBPROD376A	Splice steel cord conveyor belts	PMBPROD265B
PMBPROD377A	Splice fabric ply conveyor belts	PMBPROD265B
PMBPROD378A	Splice solid woven conveyor belts	PMBPROD265B
PMBPROD380B	Produce composites using chopper gun/depositor	PMBPROD280A
PMBPROD384A	Operate multi-axis router	None
PMBPROD385A	Program computer controlled equipment	None
PMBPROD387B	Produce welded plastics materials	PMBPROD287B
PMBPROD390B	Produce composites using filament winding	PMBPROD290B
PMBPROD391B	Produce composites using resin infusion	PMBPROD291B
PMBPROD349B	Produce liquid surface coated products	PMBPROD249B
PMBPROD352A	Produce compounded materials	PMBPROD252C
PMBPROD353B	Compound materials using an internal mill blender	PMBPROD253C
PMBPROD354B	Compound materials using an open mill blender	PMBPROD254C
PMBPROD355B	Make pattern/plug for composites moulds	(PMBPROD247B MEM09002B)

PMBPROD356C	Construct moulds for composite products	(PMBPREP201B PMBPROD247C)
PMBPROD357C	Construct jigs and fixtures	None
PMBPROD358C	Develop patterns	MEM09002B
PMBPROD360B	Produce centrifugally cast polyurethane products	PMBPROD246B
PMBPROD362B	Produce gravity cast polyurethane products	PMBPROD246B
PMBPROD367B	Remove and replace conveyor belts	None
PMBPROD368B	Repair conveyor belt carcass	PMBPROD265B
PMBPROD369B	Repair conveyor belt covers	PMBPROD265B
PMBPROD370B	Produce injection blow moulded products	PMBPROD270A
PMBPROD372B	Produce fibre optic preforms	None
PMBPROD373B	Draw optical fibre	None
PMBPROD375B	Vulcanise products using an autoclave	None
PMBPROD376A	Splice steel cord conveyor belts	PMBPROD265B
PMBPROD377A	Splice fabric ply conveyor belts	PMBPROD265B
PMBPROD378A	Splice solid woven conveyor belts	PMBPROD265B
PMBPROD380B	Produce composites using chopper gun/depositor	PMBPROD280A
PMBPROD384A	Operate multi-axis router	None
PMBPROD385A	Program computer controlled equipment	None
PMBPROD387B	Produce welded plastics materials	PMBPROD287B
PMBPROD390B	Produce composites using filament winding	PMBPROD290B
PMBPROD391B	Produce composites using resin infusion	PMBPROD291B
PMBPROD392B	Produce composites using pultrusion	PMBPROD292B
PMBPROD393B	Produce composites using vacuum bagging	PMBPROD293B
PMBPROD394B	Produce composites using resin transfer moulding	PMBPROD294B
PMBPROD395B	Produce composite sheet products	PMBPROD295B
PMBPROD396B	Produce composites using centrifugal	PMBPROD296B

	casting	
PMBPROD397B	Produce composites using moulding compounds	PMBPROD297B
PMBPROD398B	Produce composites using pre-pregs	PMBPROD298B
PMBPROD430B	Trial a new die_tool	None
PMBPROD431B	Trial a new, advanced or complex mould	None
PMBTECH301B	Use material and process knowledge to solve problems	None
PMBTECH302A	Modify existing compounds	None
PMBTECH303A	Make minor modifications to products	None
PMBTECH401B	Predict polymer properties and characteristics	PMBTECH301B
PMBTECH402B	Set advanced or complex dies	PMBPREP304C
PMBTECH403B	Test fibre-composites materials and laminates	None
PMBTECH404B	Mould chemical resistant and_or fire retardant fibre-composites	PMBPRPD374B PMBPROD380B
PMBTECH405B	Repair damaged fibre-composites structures	PMBPROD247C
PMBTECH406A	Diagnose production equipment problems	None
PMBTECH501B	Analyse equipment performance	PMBTECH401B MSAPMOPS401A
PMBTECH502B	Review and analyse production trials and specify retrials	MSAPMOPS401A
PMBTECH503B	Determine rheology and output of plastics materials from processing	PMBTECH401B
PMBTECH504B	Determine heat transfer loads for processing equipment	None
PMBTECH505B	Choose polymer materials for an application	PMBTECH401B
PMBTECH506B	Analyse the design of products and tools	MEM09002B MSAPMOPS401A
PMBTECH507B	Develop fibre composite products using cored- laminate techniques	MEM09003B

PMBTECH508A	Develop a new compound	None
PMBTECH509A	Modify an existing product	None
PMBTECH510A	Analyse failure in polymeric materials	None
PMBTECH601B	Develop a new product	(PMBTECH502B MEM15001B PMBTECH505B)
PMBTECH602B	Develop a new die or tool	(MEM09003B PMBTECH506B)
PMBTECH603B	Design structural/mechanical polymer components	PMBTECH505B
PMBWASTE101C	Collect waste for recycling or safe disposal	None
PMBWASTE302C	Coordinate waste disposal	None
PMBWELD301B	Butt weld polyethylene plastic pipelines	None
PMBWELD302B	Electrofusion weld polyethylene pipelines	None
PMBWELD303B	Install polyethylene (non- pressure) drainage pipelines	None
PMBWELD304B	Design polyethylene (non- pressure) drainage pipelines	PMBWELD303B
PMBWELD305B	Install polyethylene plastic pressure pipelines	None
PMBWELD306B	Design polyethylene plastic pressure pipelines	PMBWELD305B
PMBWELD307B	Install high temperature plastic pressure pipelines	None
PMBWELD308B	Install PVC plastic pressure pipelines	None
PMBWELD309B	Weld plastic using extrusion techniques	None
PMBWELD310B	Design PVC plastic pressure pipelines	PMBWELD308B
PMBWELD311B	Design high temperature plastic pressure pipelines	PMBWELD307B

Imported units of competency in this Training Package

Code	Title	Origin

FPICOT2206B	Cross cut materials with a hand-held chainsaw	FPI05
LMTGN2008B	Coordinate work of team or section	LMT07
LMTGN5004A	Manage installation and commissioning of equipment and systems	LMT07
MEM03001B	Perform manual production assembly	MEM05
MEM03006B	Set assembly stations	MEM05
MEM09002B	Interpret technical drawing	MEM05
MEM09003B	Prepare basic engineering drawing	MEM05
MEM11005B	Pick and process order	MEM05
MEM11006B	Perform production packaging	MEM05
MEM11007B	Administer inventory procedures	MEM05
MEM12023A	Perform engineering measurements	MEM05
MEM13003B	Work safely with industrial chemicals and materials	MEM05
MEM15001B	Perform basic statistical quality control	MEM05
MEM15003B	Use improvement processes in team activities	MEM05
MEM15004B	Perform inspection	MEM05
MEM16006A	Organise and communicate information	MEM05
MEM16007A	Work with others in a manufacturing, engineering or related environment	MEM05
MEM16008A	Interact with computing technology	MEM05
MEM18001C	Use hand tools	MEM05
MEM18002B	Use power tools/hand held operations	MEM05
MEM30031A	Use computer-aided design (CAD) systems to produce basic drawing elements	MEM05
MEM30033A	Use computer-aided design (CAD) to create and display 3-D models	MEM05

MSAENV272B	Participate in environmentally sustainable work practices	MSA07
MSAENV472B	Implement and monitor environmentally sustainable work practices	MSA07
MSAENV672B	Develop workplace policy and procedures for environmental sustainability	MSA07
MSAPMOHS100A	Follow OHS procedures	MSA07
MSAPMOHS110A	Follow emergency response procedures	MSA07
MSAPMOHS200A	Work safely	MSA07
MSAPMOHS205A	Control minor incidents	MSA07
MSAPMOHS210B	Undertake first response to non-fire incidents	MSA07
MSAPMOHS212A	Undertake first response to fire incidents	MSA07
MSAPMOHS216A	Operate breathing apparatus	MSA07
MSAPMOHS217A	Gas test atmospheres	MSA07
MSAPMOHS220A	Provide initial first aid response	MSA07
MSAPMOHS300A	Facilitate the implementation of OHS for a work group	MSA07
MSAPMOHS400A	Contribute to OHS management system	MSA07
MSAPMOHS401A	Assess risk	MSA07
MSAPMOHS503A	Maintain the workplace OHS management system	MSA07
MSAPMOHS510A	Manage risk	MSA07
MSAPMOHS601A	Establish workplace OHS management system	MSA07
MSAPMOPS100A	Use equipment	MSA07
MSAPMOPS101A	Make measurements	MSA07
MSAPMOPS102A	Perform tasks to support production	MSA07
MSAPMOPS200A	Operate equipment	MSA07
MSAPMOPS212A	Use enterprise computers or data systems	MSA07

MSAPMOPS244A	Layout and cut materials	MSA07
MSAPMOPS363A	Organise on site work	MSA07
MSAPMOPS400A	Optimise process/plant area	MSA07
MSAPMOPS401A	Trial new process or product	MSA07
MSAPMOPS404A	Co-ordinate maintenance	MSA07
MSAPMOPS405A	Identify problems in fluid power system	MSA07
MSAPMOPS406A	Identify problems in electronic control systems	MSA07
MSAPMOPS601A	Design equipment and systems modifications	MSA07
MSAPMPER200C	Work in accordance with an issued permit	MSA07
MSAPMPER201A	Monitor and control work permits	MSA07
MSAPMPER205C	Enter confined space	MSA07
MSAPMPER300C	Issue work permits	MSA07
MSAPMSUP100A	Apply workplace procedures	MSA07
MSAPMSUP101A	Clean workplace or equipment	MSA07
MSAPMSUP102A	Communicate in the workplace	MSA07
MSAPMSUP106A	Work in a team	MSA07
MSAPMSUP172A	Identify and minimise environmental hazards	MSA07
MSAPMSUP200A	Achieve work outcomes	MSA07
MSAPMSUP201A	Receive or despatch goods	MSA07
MSAPMSUP204A	Pack products or materials	MSA07
MSAPMSUP205A	Transfer loads	MSA07
MSAPMSUP210A	Process and record information	MSA07
MSAPMSUP230A	Monitor process operations	MSA07
MSAPMSUP240A	Undertake minor maintenance	MSA07
MSAPMSUP273A	Handle goods	MSA07

MSAPMSUP280A	Manage conflict at work	MSA07
MSAPMSUP291A	Participate in continuous improvement	MSA07
MSAPMSUP292A	Sample and test materials and product	MSA07
MSAPMSUP300A	Identify and implement opportunities to maximise production efficiencies	MSA07
MSAPMSUP301A	Apply HACCP to the workplace	MSA07
MSAPMSUP303A	Identify equipment faults	MSA07
MSAPMSUP309A	Maintain and organise workplace records	MSA07
MSAPMSUP310A	Contribute to development of plant documentation	MSA07
MSAPMSUP330A	Develop and adjust a production schedule	MSA07
MSAPMSUP382A	Provide coaching/mentoring in the workplace	MSA07
MSAPMSUP383A	Facilitate a team	MSA07
MSAPMSUP390A	Use structured problem solving tools	MSA07
MSAPMSUP400A	Develop and monitor quality systems	MSA07
MSL973001A	Perform basic tests	MSL09
MSL974003A	Perform chemical tests and procedures	MSL09
MSL974005A	Perform physical tests	MSL09
MSL974010A	Perform mechanical tests	MSL09
MSS015002A	Develop strategies for more sustainable use of resources	MSS11
MSS403006A	Facilitate change in an organisation implementing competitive systems and practices	MSS11
MSS402002A	Sustain process improvements	MSS11
MSS403002A	Ensure process improvements are sustained	MSS11
MSS402020A	Apply quick changeover procedures	MSS11
MSS402021A	Apply Just in Time procedures	MSS11

MSS402030A	Apply cost factors to work practices	MSS11
MSS402040A	Apply 5S procedures	MSS11
MSS402050A	Monitor process capability	MSS11
MSS402051A	Apply quality standards	MSS11
MSS402060A	Use planning software systems in manufacturing	MSS11
MSS402080A	Undertake root cause analysis	MSS11
MSS403021A	Facilitate a Just in Time system	MSS11
MSS403040A	Facilitate and improve implementation of 5S	MSS11
MSS404050A	Undertake process capability improvements	MSS11
MSS403051A	Mistake proof an operational process	MSS11
MSS404052A	Apply statistics to operational processes	MSS11
MSS405020A	Develop quick changeover procedures	MSS11
MSS405021A	Develop a Just in Time system	MSS11
MSS405030A	Optimise cost of product or service	MSS11
MSS405031A	Undertake value analysis of product costs in terms of customer requirements	MSS11
MSS405040A	Manage 5S system in an organisation	MSS11
MSS405050A	Determine and improve process capability	MSS11
MSS405070A	Develop and manage sustainable energy practices	MSS11
PSPPM502B	Manage complex projects	PSP04
RIIRIS201B	Conduct local risk control	RII09
TAEASS301B	Contribute to assessment	TAE10
TAEASS401B	Plan assessment activities and processes	TAE10
TAEASS402B	Assess competence	TAE10
TAEASS403B	Participate in assessment validation	TAE10

TAEDEL301A	Provide work skill instruction	TAE10
TLID2010A	Operate a forklift	TLI10
TLID3011A	Conduct specialised forklift operation	TLI10

Mapping to Previous Training Package

PMB07v2 Summary Mapping

Qualifications

V1 Code	V2 Code	Title	Comment
PMB20107	PMB20107	Certificate II in Polymer Processing	Imported units updated to current versions - equivalent
PMB30107	PMB30107	Certificate III in Polymer Processing	Additional electives for rubber/tyre repair sector Imported units updated to current versions - equivalent
PMB40107	PMB40107	Certificate IV in Polymer Technology	Additional electives for rubber/tyre repair sector Imported units updated to current versions - equivalent
PMB50107	PMB50107	Diploma of Polymer Technology	Imported units updated to current versions - equivalent
PMB60107	PMB60107	Advanced Diploma of Polymer Technology	Imported units updated to current versions - equivalent

New units

Unit code	Unit title
PMBPROD336A	Inspect heavy off-the-road tyres
PMBPROD337A	Prepare heavy off-the-road tyres for repair

PMBPROD338A	Repair heavy off-the-road tyres
PMBPROD340A	Cure heavy off-the-road tyre repairs
PMBPROD341A	Finish heavy off-the-road tyre repairs

Additional imported unit

Unit code	Unit title
TLID3011A	Conduct specialised forklift operation

Revised imported units

PMB07v2 unit code	PMB07v2 unit title	PMB07v1.1 unit code	PMB07v1.1 unit title	Equivalence
MEM30031A	Operate computer-aided design (CAD) systems to produce basic drawing elements	MEM30001A	Use computer aided drafting systems to produce basic engineering drawings	New unit - Not equivalent
MEM30033A	Use computer-aided design (CAD) to create and display 3-D models	MEM30004A	Use CAD to create and display 3D models	New unit - Not equivalent
MSS402002A	Sustain process improvements	MSACMS201A	Sustain process improvements	New unit - Not equivalent
MSS402020A	Apply quick changeover procedures	MSACMT220A	Apply quick changeover procedures	New unit - Equivalent
MSS402021A	Apply Just in Time procedures	MSACMT221A	Apply Just in Time (JIT) procedures	New unit - Equivalent
MSS402030A	Apply cost factors to work	MSACMT230A	Apply cost factors to work	New unit - Equivalent

	practices		practices	
MSS402040A	Apply 5S procedures	MSACMT240A	Apply 5S procedures in a manufacturing environment	New unit - Equivalent
MSS402050A	Monitor process capability	MSACMT250A	Monitor process capability	New unit - Equivalent
MSS402051A	Apply quality standards	MSACMT251A	Apply quality standards	New unit - Equivalent
MSS402060A	Use planning software systems in operations	MSACMT260A	Use planning software systems in manufacturing	New unit - Not equivalent
MSS402080A	Undertake root cause analysis	MSACMT280A	Undertake root cause analysis	New unit - Equivalent
MSS403002A	Ensure process improvements are sustained	MSACMS401A	Ensure process improvements are sustained	New unit - Not equivalent
MSS403010A	Facilitate change in an organisation implementing competitive systems and practices	MSACMC410A	Lead change in a manufacturing environment	New unit - Equivalent
MSS403021A	Facilitate a Just in Time system	MSACMT421A	Facilitate a Just in Time (JIT) system	Equivalent
MSS403040A	Facilitate and improve implementation of 5S	MSACMT440A	Lead 5S in a manufacturing environment	New unit - Not equivalent
MSS404050A	Undertake process capability improvements	MSACMT450A	Undertake process capability improvements	New unit - Equivalent New prerequisite
MSS403051A	Mistake proof an operational process	MSACMT451A	Mistake proof a production process	New unit - Equivalent

MSS404052A	Apply statistics to operational processes	MSACMT452A	Apply statistics to processes in manufacturing	New unit - Equivalent
MSS405020A	Develop quick changeover procedures	MSACMT620A	Develop quick changeover procedures	New unit - Equivalent
MSS405021A	Develop a Just in Time system	MSACMT621A	Develop a Just in Time (JIT) system	New unit – Not equivalent
MSS405030A	Optimise cost of a product or service	MSACMT630A	Optimise cost of product	New unit – Not equivalent
MSS405031A	Undertake value analysis of product or process costs in terms of customer requirements	MSACMT631A	Undertake value analysis of product costs in terms of customer requirements	New unit – Not equivalent
MSS405050A	Determine and improve process capability	MSACMT650A	Determine and improve process capability	New unit - Equivalent New prerequisite
MSS405070A	Develop and manage sustainable energy practices	MSACMT670A	Develop and manage sustainable energy practices	New unit – Equivalent
MSS015002A	Develop strategies for more sustainable use of resources	MSACMT671A	Develop and manage sustainable environmental practices	New unit - Equivalent
RIIRIS201B	Conduct local risk control	RIIRIS201A	Conduct local risk control	E
TAEASS301B	Contribute to assessment	TAEASS301A	Contribute to assessment	E
TAEASS401B	Plan assessment activities and processes	TAEASS401A	Plan assessment activities and processes	E

TAEASS402B	Assess competence	TAEASS402B	Assess competence	E
TAEASS403B	Participate in assessment validation	TAEASS403B	Participate in assessment validation	E
TLID2010A	Operate a forklift	TLID2010A	Operate a forklift	E

PMB07v1.1 – ISC Upgrades

Changes to qualifications – PMB07v1.1

Code	Title	Change	Relationship
PMB20107	Certificate II in Polymer Processing	MSAPMSUP200A replaced with MSAENV272B in core, no change to numbers required, reworded to comply with flexibility requirements.	Equivalent
PMB30107	Certificate III in Polymer Processing	MSAPMSUP200A replaced with MSAENV272B in core, no change to numbers required, reworded to comply with flexibility requirements.	Equivalent
PMB40107	Certificate IV in Polymer Technology	MSAPMSUP200A replaced with MSAENV272B in core, no change to numbers required, reworded to comply with flexibility requirements.	Equivalent
PMB50107	Diploma of Polymer Technology	Reworded to comply with flexibility requirements, no change to numbers required.	Equivalent

PMB60107	Advanced Diploma of Polymer Technology	Reworded to comply with flexibility requirements, no change to numbers required.	Equivalent

Changes to imported units – PMB07v1 to PMB07v1.1

	PMB07v1		**PMB07v1.1**	**Relationship**
		RIIRIS201A	Conduct local risk control	New to PMB – prerequisite to MSAPMPER300 C
FPICOT2206A	Cross cut materials with a hand-held chainsaw	FPICOT2206B	Cross cut materials with a hand-held chainsaw	Equivalent
LMTEMGN06A	Design equipment and system modifications	MSAPMOPS601 A	Design equipment and system modifications	New unit to replace deleted LMT unit - equivalent
LMTEMGN07A	Manage installation and commissioning of equipment and systems	LMTGN5004A	Manage Installation and commissioning of equipment and systems	Equivalent
LMTPDHL06A	Manage product development projects			Deleted – no replacement unit
LMTPRGN15A	Coordinate work of team/section	LMTGN2008B	Coordinate work of team/section	Equivalent
MCMC410A	Lead change in a manufacturing environment	MSACMC410A	Lead change in a manufacturing environment	Equivalent

MCMS201A	Sustain process improvements	MSACMS201A	Sustain process improvements	Equivalent
MCMS401A	Ensure process improvements are sustained	MSACMS401A	Ensure process improvements are sustained	Equivalent
MCMT220A	Apply quick changeover procedures	MSACMT220A	Apply quick changeover procedures	Equivalent
MCMT221A	Apply Just in Time (JIT) procedures	MSACMT221A	Apply Just in Time (JIT) procedures	Equivalent
MCMT230A	Apply cost factors to work practices	MSACMT230A	Apply cost factors to work practices	Equivalent
MCMT240A	Apply 5S procedures in a manufacturing environment	MSACMT240A	Apply 5S procedures in a manufacturing environment	Equivalent
MCMT250A	Monitor process capability	MSACMT250A	Monitor process capability	Equivalent
MCMT251A	Apply quality standards	MSACMT251A	Apply quality standards	Equivalent
MCMT260A	Use planning software systems in manufacturing	MSACMT260A	Use planning software systems in manufacturing	Equivalent
MCMT280A	Undertake root cause analysis	MSACMT280A	Undertake root cause analysis	Equivalent
MCMT421A	Facilitate a Just in Time (JIT) system	MSACMT421A	Facilitate a Just in Time (JIT) system	Equivalent
MCMT440A	Lead 5S in a manufacturing environment	MSACMT440A	Lead 5S in a manufacturing environment	Equivalent
MCMT450A	Undertake process	MSACMT450A	Undertake process	Equivalent

	capability improvements		capability improvements	
MCMT451A	Mistake proof a production process	MSACMT451A	Mistake proof a production process	Equivalent
MCMT452A	Apply statistics to processes in manufacturing	MSACMT452A	Apply statistics to processes in manufacturing	Equivalent
MCMT620A	Develop quick changeover procedures	MSACMT620A	Develop quick changeover procedures	Equivalent
MCMT621A	Develop a Just in Time (JIT) system	MSACMT621A	Develop a Just in Time (JIT) system	Equivalent
MCMT630A	Optimise cost of product	MSACMT630A	Optimise cost of product	Equivalent
MCMT631A	Develop value analysis of product costs in terms of customer requirements	MSACMT631A	Develop value analysis of product costs in terms of customer requirements	Equivalent
MCMT640A	Manage 5S system in a manufacturing environment	MSACMT640A	Manage 5S system in a manufacturing environment	Equivalent
MCMT650A	Determine and improve process capability	MSACMT650A	Determine and improve process capability	Equivalent
MCMT670A	Develop and manage sustainable energy practices	MSACMT670A	Develop and manage sustainable energy practices	Equivalent
MCM671A	Develop and manage sustainable environmental	MSACMT671A	Develop and manage sustainable energy	Equivalent

	practices		practices	
MSAENV272A	Participate in environmentally sustainable work practices	MSAENV272B	Participate in environmentally sustainable work practices	Equivalent
MSAENV472A	Implement and monitor environmentally sustainable work practices	MSAENV472B	Implement and monitor environmentally sustainable work practices	Equivalent
MSAENV672A	Develop workplace policy and procedures for sustainability	MSAENV672B	Develop workplace policy and procedures for environmental sustainability	Equivalent
MSAPMOHS210A	Undertake first response to non-fire incidents	MSAPMOHS210B	Undertake first response to non-fire incidents	Equivalent
MSAPMPER200A	Work in accordance with an issued permit	MSAPMPER200C	Work in accordance with an issued permit	Equivalent
MSAPMPER205A	Enter confined space	MSAPMPER205C	Enter confined space	Equivalent
MSAPMPER300A	Issue work permits	MSAPMPER300C	Issue work permits	Equivalent
MSAPMPER302A	Issue work permits (hot work/confined space)			Deleted – no equivalent unit
PMLTEST300B	Perform basic tests	MSL973001A	Perform basic tests	Equivalent
PMLTEST404A	Perform chemical tests and procedures	MSL974003A	Perform chemical tests and procedures	Equivalent
PMLTEST406A	Perform	MSL974005A	Perform	Equivalent

	physical tests		physical tests	
PMLTEST411A	Perform mechanical tests	MSL974010A	Perform mechanical tests	Equivalent
TAAASS401A	Plan and organise assessment	TAEASS401A	Plan assessment activities and processes	Equivalent
TAAASS402A	Assess competence	TAEASS402A	Assess competency	Equivalent
TAAASS404A	Participate in assessment validation	TAEASS403A	Participate in assessment validation	Equivalent
TAADEL301A	Provide training through instruction and demonstration of work skills	TAEDEL301A	Provide work skill instruction	Equivalent
TDTD1097B	Operate a forklift	TLID1007C	Operate a forklift	Equivalent

PMB07v1

Mapping of Qualifications - PMB01 to PMB07

PMB01		**PMB07**		**Relationship**
Code	**Title**	**Code**	**Title**	
PMB10101	Certificate I in Plastics, Rubber and Cablemaking			Not carried forward. Replaced by MSA10207 Certificate I in Process Manufacturing – equivalent outcomes.
PMB20101	Certificate II in Plastics		Certificate II in	New certificate is generic and applicable across all sectors -

PMB01		**PMB07**		**Relationship**
Code	**Title**	**Code**	**Title**	
PMB20201	Certificate II in Rubber	PMB20107	Polymer Processing	equivalent outcomes.
PMB20301	Certificate II in Cablemaking			
PMB20401	Certificate II in Process Manufacturing			Replaced by MSA20107 Certificate II in Process Manufacturing – equivalent outcomes.
PMB30101	Certificate III in Plastics	PMB30107	Certificate III in Polymer Processing	New certificate is applicable across all sectors. Content updated, similar outcomes to previous certificates but not equivalent.
PMB30201	Certificate III in Rubber			
PMB30301	Certificate III in Cablemaking			
PMB30401	Certificate III in Process Manufacturing			Replaced by MSA30107 Certificate III in Process Manufacturing – equivalent outcomes.
PMB40101	Certificate IV in Polymer Technology	PMB40107	Certificate IV in Polymer Technology	Content updated, equivalent outcomes.
PMB50101	Diploma of Polymer Technology	PMB50107	Diploma of Polymer Technology	Content updated, equivalent outcomes.
PMB60101	Advanced Diploma of Polymer Technology	PMB60107	Advanced Diploma of Polymer Technology	Content updated, equivalent outcomes

Mapping of Units of Competency - PMB07 to PMB01

The following mapping is of units of competency in PMB01 to units of competency in PMB07. Two versions are shown, mapping PMB01 to PMB07 and mapping PMB07 to PMB01.

PMB01		**PMB07**		**PMB07/PMB01 equivalence, comment**
Original unit		**New unit**		
Code 01	**Unit Title 01**	**Code 07**	**Unit Title 07**	
		FPICOT2206A	Cross cut materials with a hand-held chainsaw	New to PMB07
		MCMC410A	Lead change in a manufacturing environment	New to PMB
		MCMS201A	Sustain process improvements	New to PMB
		MCMT220A	Apply quick changeover procedures	New to PMB
		MCMT221A	Apply Just in Time (JIT) procedures	New to PMB
		MCMT230A	Apply cost factors to work practices	New to PMB
		MCMT240A	Apply 5S procedures in a manufacturing environment	New to PMB
		MCMT250A	Monitor process capability	New to PMB
		MCMT251A	Apply quality standards	New to PMB
		MCMT260A	Use planning software systems in manufacturing	New to PMB

PMB01		**PMB07**		**PMB07/PMB01 equivalence, comment**
Original unit		**New unit**		
Code 01	**Unit Title 01**	**Code 07**	**Unit Title 07**	
		MCMT280A	Undertake root cause analysis	New to PMB
		MCMT421A	Facilitate a Just in Time (JIT) system	New to PMB
		MCMT440A	Lead 5S in a manufacturing environment	New to PMB
		MCMT450A	Undertake process capability improvements	New to PMB
		MCMT451A	Mistake proof a production process	New to PMB
		MCMT452A	Apply statistics to processes in manufacturing	New to PMB
		MCMT620A	Develop quick changeover procedures	New to PMB
		MCMT621A	Develop a Just in Time (JIT) system	New to PMB
		MCMT630A	Optimise cost of product	New to PMB
		MCMT631A	Undertake value analysis of product costs in terms of customer requirements	New to PMB
		MCMT640A	Manage 5S system in a manufacturing environment	New to PMB
		MCMT650A	Determine and improve process	New to PMB

PMB01		**PMB07**		**PMB07/PMB01 equivalence, comment**
Original unit		**New unit**		
Code 01	**Unit Title 01**	**Code 07**	**Unit Title 07**	
			capability	
		MCMT670A	Develop and manage sustainable energy practices	New to PMB
		MCMT671A	Develop and manage sustainable environmental practices	New to PMB
		MEM03001B	Perform manual production assembly	New to PMB
		MEM03006B	Set assembly stations	New to PMB
		MEM11005B	Pick and process order	New to PMB
		MEM11006B	Perform production packaging	New to PMB
		MEM11007B	Administer inventory procedures	New to PMB
		MEM15003B	Use improvement processes in team activities	New to PMB
		MEM15004B	Perform inspection	New to PMB
		MEM13003B	Work safely with industrial chemicals	New to PMB

PMB01		**PMB07**		**PMB07/PMB01 equivalence, comment**
Original unit		**New unit**		
Code 01	**Unit Title 01**	**Code 07**	**Unit Title 07**	
		MEM16006A	Organise and communicate information	New to PMB
		MEM16007A	Work with others in a manufacturing, engineering or related environment	New to PMB
		MEM16008A	Interact with computing technology	New to PMB
		MEM18001C	Use hand tools	New to PMB
		MEM18002B	Use power tools/hand held operations	New to PMB
		MEM30001A	Use computer aided drafting systems to produce basic engineering drawings	New to PMB
		MEM30004A	Use CAD to create and display 3D models	New to PMB
		MSAPMOHS205A	Control minor incidents	New unit
		MSAPMOHS210A	Undertake first response to non-fire incidents	New unit
		MSAPMOHS212A	Undertake first response to fire incidents	New unit

PMB01		**PMB07**		**PMB07/PMB01 equivalence, comment**
Original unit		**New unit**		
Code 01	**Unit Title 01**	**Code 07**	**Unit Title 07**	
		MSAPMOHS216A	Operate breathing apparatus	New unit
		MSAPMOHS217A	Gas test atmospheres	New unit
		MSAPMOHS220A	Provide initial First Aid response	New unit
		MSAPMOHS400A	Contribute to OHS management system	New unit
		MSAPMOHS401A	Assess risk	New unit
		MSAPMOHS503A	Maintain the workplace OHS management system	New unit
		MSAPMOHS510A	Manage risk	New unit
		MSAPMOHS601A	Establish workplace OHS management system	New unit
		MSAPMPER205A	Enter confined space	New unit
		MSAPMPER302A	Issue work permits (hot work/confined space)	New unit
		MSAPMOPS244A	Layout and cut materials	New unit
		MSAPMSUP210A	Process and record information	New unit

PMB01		**PMB07**		**PMB07/PMB01 equivalence, comment**
Original unit		**New unit**		
Code 01	**Unit Title 01**	**Code 07**	**Unit Title 07**	
		MSAPMSUP280A	Manage conflict at work	New unit
		MSAPMSUP300A	Identify and implement opportunities to maximise production efficiencies	New unit
		MSAPMSUP310A	Contribute to development of plant documentation	New unit
		MSAPMSUP330A	Develop and adjust a production schedule	New unit
		MSAPMSUP382A	Provide coaching/mentoring in the workplace	New unit
		MSAENV272A	Participate in environmentally sustainable work practices	New unit – based on generic Guideline Unit
		MSAENV472A	Implement and monitor environmentally sustainable work practices	See above
		MSAENV672A	Develop workplace policy and procedures for sustainability	See above
		PMBPROD238A	Perform creel rack operations	New unit

PMB01		**PMB07**		**PMB07/PMB01 equivalence, comment**
Original unit		**New unit**		
Code 01	**Unit Title 01**	**Code 07**	**Unit Title 07**	
		PMBPROD239A	Build reinforced conveyor belts	New unit
		PMBPROD242A	Bond polymers to surfaces	New unit
		PMBPROD285A	Operate computer controlled equipment	New unit
		PMBPROD330A	Make moulds for formed products	New unit
		PMBPROD334A	Produce products using twin screw extruders	New unit
		PMBPROD339A	Produce reinforced conveyor belts	New unit
		PMBPROD352A	Produce compounded materials	New unit
	Subsumes PROD374A	PMBPROD376A	Splice steel cord conveyor belts	New unit
		PMBPROD377A	Splice fabric ply conveyor belts	New unit
		PMBPROD378A	Splice solid woven conveyor belts	New unit
		PMBPROD384A	Operate multi-axis router	New unit
		PMBPROD385A	Program computer controlled equipment	New unit
		PMBTECH302A	Modify existing compounds	New unit

PMB01		**PMB07**		**PMB07/PMB01 equivalence, comment**
Original unit		**New unit**		
Code 01	**Unit Title 01**	**Code 07**	**Unit Title 07**	
		PMBTECH303A	Make minor modifications to products	New unit
		PMBTECH406A	Diagnose production equipment problems	New unit
		PMBTECH508A	Develop a new compound	New unit
		PMBTECH509A	Modify an existing product	New unit
		PMBTECH510A	Analyse failure in polymeric materials	New unit
		PMLTEST406A	Perform physical tests	New to PMB
		PMLTEST411A	Perform mechanical tests	New to PMB
BSXFMI401A	Manage personal work priorities and professional development			Not carried forward
BSXFMI402A	Provide leadership in the workplace			Not carried forward
BSXFMI403A	Establish and manage effective workplace relationships			Not carried forward
BSXFMI404A	Participate in, lead and facilitate workteams			Not carried forward

PMB01		**PMB07**		**PMB07/PMB01 equivalence, comment**
Original unit		**New unit**		
Code 01	**Unit Title 01**	**Code 07**	**Unit Title 07**	
BSXFMI405A	Manage operations to achieve planned outcomes			Not carried forward
BSXFMI406A	Manage workplace information			Not carried forward
BSXFMI407A	Manage quality customer service			Not carried forward
BSXFMI408A	Develop and maintain a safe workplace and environment			Not carried forward
BSXFMI409A	Implement and monitor continuous improvement systems and processes			Not carried forward
BSXFMI410A	Facilitate and capitalise on change and innovation			Not carried forward
BSXFMI411A	Contribute to the development of a workplace learning environment			Not carried forward
BSZ401A	Plan assessment	TAAASS401A	Plan and organise assessment	Equivalent
BSZ402A	Conduct assessment	TAAASS402A	Assess competence	Equivalent
BSZ403A	Review assessment	TAAASS404A	Participate in assessment validation	Partial equivalence

PMB01		**PMB07**		**PMB07/PMB01 equivalence, comment**
Original unit		**New unit**		
Code 01	**Unit Title 01**	**Code 07**	**Unit Title 07**	
BSZ404A	Train small groups	TAADEL301A	Provide training through instruction and demonstration of work skills	Partial equivalence
LMTEMGN06A	Design equipment and system modifications	LMTEMGN06A	Design equipment and system modifications	No change
LMTEMGN07A	Manage installation and commissioning of equipment and systems	LMTEMGN07A	Manage installation and commissioning of equipment and systems	No change
LMTPDHL06A	Manage product development projects	LMTPDHL06A	Manage product development projects	No change
LMTPRGN15A	Coordinate work of team/section	LMTPRGN15A	Coordinate work of team/section	No change
MEM15.1AA	Perform basic statistical quality control	MEM15001B	Perform basic statistical quality control	Equivalent
MEM9.1AA	Draw and interpret a sketch			Unit deleted – 9.1AA Content incorporated into unit 12.23A
MEM9.2AA	Interpret technical drawing	MEM09002B	Interpret technical drawing	Equivalent
PMACOM300A	Contribute to the development of plant documentation	MSAPMSUP310A	Contribute to the development of plant documentation	Equivalent
PMAPER200A	Work in accordance with	MSAPMPER200	Work in accordance with	Equivalent

PMB01		**PMB07**		**PMB07/PMB01 equivalence, comment**
Original unit		**New unit**		
Code 01	**Unit Title 01**	**Code 07**	**Unit Title 07**	
	an issued permit	A	an issued permit	
PMAPER300A	Issue work permits	MSAPMPER300A	Issue work permits	Equivalent
PMAPER301A	Monitor and control work permits	MSAPMPER201A	Monitor and control work permits	Equivalent
PMBCALC101A	Make measurements	MSAPMOPS101A	Make measurements	Equivalent
PMBCALC303B	Use precision measuring equipment	MEM12023A	Perform engineering measurements	Equivalent
PMBCOMM102B	Complete workplace documents	MSAPMSUP102A	Communicate in the workplace	Broader unit. Includes basic communication, not just filling in forms.
PMBCOMP201B	Use computers in the workplace	MSAPMOPS212A	Use enterprise computers or data systems	Equivalent
PMBENV100A	Identify and minimise environmental hazards	MSAPMSUP172A	Identify and minimise environmental hazards	Equivalent
PMBENV200A	Respond to environmental hazards	MSAENV272A	Participate in environmentally sustainable work practices	Equivalent. New unit is based on generic Guideline Unit.
PMBENV300A	Minimise environmental impact of process	MSAENV472A	Implement and monitor environmentally sustainable work practices	Similar outcomes. New unit is based on generic Guideline Unit.

PMB01		**PMB07**		**PMB07/PMB01 equivalence, comment**
Original unit		**New unit**		
Code 01	**Unit Title 01**	**Code 07**	**Unit Title 07**	
PMBFIN201B	Finish products and components	PMBFIN201C	Finish products and components	Equivalent
PMBFIN202B	Fit attachments to products	PMBFIN202C	Fit attachments to products	Equivalent
PMBFIN203B	Repair product imperfections	PMBFIN203C	Repair product imperfections	Equivalent
PMBFIN205B	Hand decorate products	PMBFIN205C	Hand decorate products	Equivalent
PMBHAN103B	Shift materials safely by hand	PMBHAN103C	Shift materials safely by hand	Equivalent
PMBHAN201B	Process orders and despatch products	MSAPMSUP201A	Receive or despatch goods	Equivalent
PMBHAN202B	Load and unload goods	MSAPMSUP273A	Handle goods	Equivalent
PMBHAN204B	Package goods/ materials	MSAPMSUP204A	Pack products or materials	Equivalent
PMBHAN205B	Transfer loads with slings	MSAPMSUP205A	Transfer loads	Slightly broader as does not specify slinging or strapping but equivalent outcomes
PMBHAN208B	Store products	PMBHAN208C	Store products	Equivalent
PMBMAINT101B	Conduct housekeeping activities	MSAPMSUP101A	Clean workplace or equipment	Equivalent
PMBMAINT202B	Undertake basic maintenance	MSAPMSUP240A	Undertake minor maintenance	Equivalent
PMBMAINT303B	Identify equipment faults	MSAPMSUP303A	Identify equipment faults	Equivalent

PMB01		**PMB07**		**PMB07/PMB01 equivalence, comment**
Original unit		**New unit**		
Code 01	**Unit Title 01**	**Code 07**	**Unit Title 07**	
PMBMAINT404B	Coordinate the conduct of maintenance	MSAPMOPS404A	Co-ordinate maintenance	Equivalent
PMBMAINT405A	Identify problems in fluid power systems	MSAPMOPS405A	Identify problems in fluid power system	Equivalent
PMBMAINT406A	Identify problems in electronic control systems	MSAPMOPS406A	Identify problems in electronic control systems	Equivalent
PMBOHS101B	Follow OH&S policies and procedures	MSAPMOHS100A	Follow OHS procedures	Equivalent
PMBOHS204B	Apply emergency/incident procedures	MSAPMOHS110A MSAPMOHS205A MSAPMOHS210A MSAPMOHS212A	Follow emergency response procedures Control minor incidents Undertake first response to non-fire incidents Undertake first response to fire incidents	No direct equivalent – emergency response now covered by four units developed to comply with current OHS practices.
PMBOHS207B	Implement and monitor OH&S policies and procedures	MSAPMOHS200A	Work safely	Equivalent. A smaller unit better focussed on basic OHS. See above re other OHS units.
PMBOHS409A	Establish, maintain & evaluate an OH&S system	MSAPMOHS300A	Facilitate the implementation of OHS for a work group	A smaller unit better focussed at team leader/ committee member

PMB01		**PMB07**		**PMB07/PMB01 equivalence, comment**
Original unit		**New unit**		
Code 01	**Unit Title 01**	**Code 07**	**Unit Title 07**	
				responsibilities with higher aspects taken by OHS4## and 5## units.
PMBORG205B	Receive goods	MSAPMSUP201A	Receive or despatch goods	Equivalent
PMBORG403B	Conduct trials on products or processes	MSAPMOPS401A	Trial new process or product	Equivalent
PMBPREP201A	Prepare moulds for composites production	PMBPREP201B	Prepare moulds for composites production	Equivalent
PMBPREP205B	Assemble materials and equipment for production	PMBPREP205C	Assemble materials and equipment for production	Equivalent
PMBPREP206B	Prepare materials to formulae	PMBPREP206C	Prepare materials to formulae	Equivalent
PMBPREP301B	Set up and prepare for production	PMBPREP301C	Set up and prepare for production	Equivalent
PMBPREP303B	Set up equipment for continuous operation	PMBPREP303C	Set up equipment for continuous operation	Equivalent
PMBPREP304B	Change equipment dies	PMBPREP304C	Set a die	Equivalent
PMBPREP305A	Change extrusion die and calibration setup	PMBPREP305B	Change extrusion die and setup	Equivalent
PMBPREP508A	Produce drawings	MEM09003B	Prepare basic engineering drawing	Equivalent outcomes but does have a prerequisite

PMB01		**PMB07**		**PMB07/PMB01 equivalence, comment**
Original unit		**New unit**		
Code 01	**Unit Title 01**	**Code 07**	**Unit Title 07**	
				(MEM9.2)
PMBPROD101A	Use equipment	MSAPMOPS100A	Use equipment	Equivalent
PMBPROD102A	Perform tasks to support production	MSAPMOPS102A	Perform tasks to support production	Equivalent
PMBPROD200A	Operate equipment	MSAPMOPS200A	Operate equipment	Equivalent
PMBPROD206A	Operate ancillary equipment	PMBPROD206B	Operate ancillary equipment	Equivalent
PMBPROD207A	Operate calender	PMBPROD207B	Operate calender	Equivalent
PMBPROD209B	Operate cable winding equipment	PMBPROD209C	Operate cable winding equipment	Equivalent
PMBPROD210A	Operate injection moulding equipment	PMBPROD210B	Operate injection moulding equipment	Equivalent
PMBPROD211A	Operate blow moulding equipment	PMBPROD211B	Operate blow moulding equipment	Equivalent
PMBPROD212A	Operate thermoforming equipment	PMBPROD212B	Operate thermoforming equipment	Equivalent
PMBPROD213A	Operate extruders	PMBPROD213B	Operate extruders	Equivalent
PMBPROD216A	Operate blown film equipment	PMBPROD216B	Operate blown film equipment	Equivalent
PMBPROD217A	Operate printing equipment	PMBPROD217B	Operate printing equipment	Equivalent
PMBPROD221	Operate rotational	PMBPROD221B	Operate rotational	Equivalent

PMB01		**PMB07**		**PMB07/PMB01 equivalence, comment**
Original unit		**New unit**		
Code 01	**Unit Title 01**	**Code 07**	**Unit Title 07**	
A	moulding equipment		moulding equipment	
PMBPROD229A	Operate polystyrene shape moulding equipment	PMBPROD229B	Operate polystyrene shape moulding equipment	Equivalent
PMBPROD230B	Monitor process operations	MSAPMSUP230A	Monitor process operations	Equivalent
PMBPROD233A	Operate film conversion equipment	PMBPROD233B	Operate film conversion equipment	Equivalent
PMBPROD235B	Use materials and process knowledge to complete work operations	PMBPROD235C	Use materials and process knowledge to complete work operations	Equivalent
PMBPROD236B	Operate hand held air/power equipment for production processes	PMBPROD236C	Operate hand held air/power equipment for production processes	Equivalent
PMBPROD237B	Splice cables	PMBPROD237C	Splice cables	Equivalent
PMBPROD240B	Cut materials	PMBPROD240C	Cut materials	Equivalent
PMBPROD241A	Lay up rubber lining	PMBPROD241C	Lay up rubber lining or lag pulleys	Equivalent
PMBPROD245B	Fabricate materials	PMBPROD245C	Fabricate materials	Equivalent
PMBPROD246B	Hand mix materials	PMBPROD246C	Hand mix materials	Equivalent
PMBPROD247B	Hand lay up composites	PMBPROD247C	Hand lay up composites	Equivalent
PMBPROD248B	Prepare surfaces	PMBPROD248C	Prepare surfaces	Equivalent

PMB01		**PMB07**		**PMB07/PMB01 equivalence, comment**
Original unit		**New unit**		
Code 01	**Unit Title 01**	**Code 07**	**Unit Title 07**	
	for coating		for coating	
PMBPROD249A	Apply liquid surface coatings	PMBPROD249B	Apply liquid surface coatings	Equivalent
PMBPROD251A	Apply gel coat or other polymer surface finish	PMBPROD251B	Apply gel coat or other polymer surface finish	Equivalent
PMBPROD252B	Operate compounding equipment	PMBPROD252C	Operate compounding equipment	Equivalent
PMBPROD253B	Operate an internal mill blender	PMBPROD253C	Operate an internal mill blender	Equivalent
PMBPROD254B	Operate an open mill blender	PMBPROD254C	Operate an open mill blender	Equivalent
PMBPROD255B	Operate mixing equipment	PMBPROD255C	Operate mixing equipment	Equivalent
PMBPROD259B	Operate granulating equipment	PMBPROD259C	Operate granulating equipment	Equivalent
PMBPROD261A	Operate continuous vulcanising equipment	PMBPROD261B	Operate continuous vulcanising equipment	Equivalent
PMBPROD262A	Operate tyre curing equipment	PMBPROD262B	Operate tyre curing equipment	Equivalent
PMBPROD263A	Operate retread curing equipment	PMBPROD263B	Operate retread curing equipment	Equivalent
PMBPROD264B	Check recycle wash process	PMBPROD264C	Check recycle wash process	Equivalent
PMBPROD265B	Operate portable vulcanising	PMBPROD265C	Operate portable vulcanising	Equivalent

PMB01		**PMB07**		**PMB07/PMB01 equivalence, comment**
Original unit		**New unit**		
Code 01	**Unit Title 01**	**Code 07**	**Unit Title 07**	
	equipment		equipment	
PMBPROD266A	Prepare tyre casings for retreading	PMBPROD266B	Prepare tyre casings for retreading	Equivalent
PMBPROD267A	Operate steel cutting equipment	PMBPROD267B	Operate steel cutting equipment	Equivalent
PMBPROD268A	Operate bead coiling equipment	PMBPROD268B	Operate bead coiling equipment	Equivalent
PMBPROD270A	Operate injection blow moulding equipment	PMBPROD270B	Operate injection blow moulding equipment	Equivalent
PMBPROD280A	Operate resin-glass depositor equipment	PMBPROD280B	Operate resin-glass depositor equipment	Equivalent
PMBPROD281A	Finish composite products	PMBPROD281B	Finish composite products	Equivalent
PMBPROD282A	Assemble mould	PMBPROD282B	Assemble mould	Equivalent
PMBPROD283A	Demould product	PMBPROD283B	Demould product	Equivalent
PMBPROD284A	Operate open flame moulding equipment	PMBPROD284B	Operate open flame moulding equipment	Equivalent
PMBPROD287A	Weld plastics materials	PMBPROD287B	Weld plastics materials	Equivalent
PMBPROD290A	Operate filament winding equipment	PMBPROD290B	Operate filament winding equipment	Equivalent
PMBPROD291A	Operate resin infusion moulding	PMBPROD291B	Operate resin infusion moulding	Equivalent

PMB01		**PMB07**		**PMB07/PMB01 equivalence, comment**
Original unit		**New unit**		
Code 01	**Unit Title 01**	**Code 07**	**Unit Title 07**	
	equipment		equipment	
PMBPROD292A	Operate pultrusion equipment	PMBPROD292B	Operate pultrusion equipment	Equivalent
PMBPROD293A	Operate vacuum bagging equipment	PMBPROD293B	Operate vacuum bagging equipment	Equivalent
PMBPROD294A	Operate resin transfer moulding equipment	PMBPROD294B	Operate resin transfer moulding equipment	Equivalent
PMBPROD295A	Operate composite sheeting equipment	PMBPROD295B	Operate composite sheeting equipment	Equivalent
PMBPROD296A	Operate centrifugal casting equipment	PMBPROD296B	Operate centrifugal casting equipment	Equivalent
PMBPROD297A	Operate equipment using moulding compounds	PMBPROD297B	Operate equipment using moulding compounds	Equivalent
PMBPROD298A	Operate equipment using pre- preg material	PMBPROD298B	Operate equipment using pre- preg material	Equivalent
PMBPROD300A	Produce products	PMBPROD300B	Produce products	Equivalent
PMBPROD301B	Draw wire	PMBPROD301C	Draw wire	Equivalent
PMBPROD302B	Bunch and strand wire	PMBPROD302C	Bunch and strand wire	Equivalent
PMBPROD303B	Lay up and tape cables	PMBPROD303C	Lay up and tape cables	Equivalent
PMBPROD304B	Wind products onto drums	PMBPROD304C	Wind products onto drums	Equivalent

PMB01		**PMB07**		**PMB07/PMB01 equivalence, comment**
Original unit		**New unit**		
Code 01	**Unit Title 01**	**Code 07**	**Unit Title 07**	
PMBPROD305B	Colour optical fibre	PMBPROD305C	Colour optical fibre	Equivalent
PMBPROD306A	Prepare and start equipment for production	PMBPROD306B	Prepare and start equipment for production	Equivalent
PMBPROD307B	Produce calendered products	PMBPROD307C	Produce calendered products	Equivalent
PMBPROD308A	Take a machine out of production	PMBPROD308B	Take a machine out of production	Equivalent
PMBPROD309B	Produce electroplated products	PMBPROD309C	Produce electroplated products	Equivalent
PMBPROD310B	Produce injection moulded products	PMBPROD310C	Produce injection moulded products	Equivalent
PMBPROD311B	Produce blow moulded products	PMBPROD311C	Produce blow moulded products	Equivalent
PMBPROD312B	Produce continuous thermoforming products	PMBPROD312C	Produce continuous thermoforming products	Equivalent
PMBPROD313B	Produce extruded products	PMBPROD313C	Produce extruded products	Equivalent
PMBPROD314B	Produce compression moulded products	PMBPROD314C	Produce compression moulded products	Equivalent
PMBPROD315B	Produce polyurethane foam	PMBPROD315C	Produce polyurethane foam	Equivalent
PMBPROD316B	Produce blown film	PMBPROD316C	Produce blown film	Equivalent
PMBPROD317B	Print and decorate	PMBPROD317C	Print and decorate	Equivalent

PMB01		**PMB07**		**PMB07/PMB01 equivalence, comment**
Original unit		**New unit**		
Code 01	**Unit Title 01**	**Code 07**	**Unit Title 07**	
	rigid products		rigid products	
PMBPROD318B	Build first stage tyres	PMBPROD318C	Build first stage tyres	Equivalent
PMBPROD319B	Build up rollers	PMBPROD319C	Build up rollers	Equivalent
PMBPROD320B	Produce foam injected mouldings	PMBPROD320C	Produce foam injected mouldings	Equivalent
PMBPROD321A	Produce rotational moulded products	PMBPROD321B	Produce rotational moulded products	Equivalent
PMBPROD323B	Produce powder coated products	PMBPROD323C	Produce powder coated products	Equivalent
PMBPROD324A	Inspect tyres for retreading	PMBPROD324B	Inspect tyres for retreading	Equivalent
PMBPROD325A	Lay on tyre retreads	PMBPROD325B	Lay on tyre retreads	Equivalent
PMBPROD326A	Inspect tyres	PMBPROD326B	Inspect tyres	Equivalent
PMBPROD327A	Produce finished tyres	PMBPROD327B	Produce finished tyres	Equivalent
PMBPROD328B	Produce sheet feed vacuum forming products	PMBPROD328C	Produce sheet feed vacuum forming products	Equivalent
PMBPROD329B	Produce polystyrene shape moulded products	PMBPROD329C	Produce polystyrene shape moulded products	Equivalent
PMBPROD331B	Produce printed and decorated film	PMBPROD331C	Produce printed and decorated film	Equivalent
PMBPROD332B	Produce thermally bent products	PMBPROD332C	Produce thermally bent products	Equivalent
PMBPROD333	Convert plastic	PMBPROD333B	Convert plastic	Equivalent

PMB01		**PMB07**		**PMB07/PMB01 equivalence, comment**
Original unit		**New unit**		
Code 01	**Unit Title 01**	**Code 07**	**Unit Title 07**	
A	film		film	
PMBPROD335B	Build second stage tyres	PMBPROD335C	Build second stage tyres	Equivalent
PMBPROD343B	Shut down plant or plant area	PMBPROD343C	Shut down plant area	Equivalent
PMBPROD347A	Produce composites using hand lamination	PMBPROD347B	Produce composites using hand lamination	Equivalent
PMBPROD349A	Produce liquid surface coated products	PMBPROD349B	Produce liquid surface coated products	Equivalent
PMBPROD353A	Compound materials using an internal mill blender	PMBPROD353B	Compound materials using an internal mill blender	Equivalent
PMBPROD354A	Compound materials using an open mill blender	PMBPROD354B	Compound materials using an open mill blender	Equivalent
PMBPROD355A	Make pattern/plug for composites moulds	PMBPROD355B	Make pattern/plug for composites moulds	Equivalent
PMBPROD356B	Construct moulds for composite products	PMBPROD356C	Construct moulds for composite products	Equivalent
PMBPROD357B	Construct jigs and fixtures	PMBPROD357C	Construct jigs and fixtures	Equivalent
PMBPROD358B	Develop patterns	PMBPROD358C	Develop patterns	Equivalent
PMBPROD360A	Produce centrifugally cast polyurethane products	PMBPROD360B	Produce centrifugally cast polyurethane products	Equivalent

PMB01		**PMB07**		**PMB07/PMB01 equivalence, comment**
Original unit		**New unit**		
Code 01	**Unit Title 01**	**Code 07**	**Unit Title 07**	
PMBPROD362A	Produce gravity cast polyurethane products	PMBPROD362B	Produce gravity cast polyurethane products	Equivalent
PMBPROD363B	Splice conveyor belts on site	MSAPMOPS363A	Organise on site work	Equivalent. This unit covers any on site work, not just belt repair
PMBPROD367A	Remove and replace belts	PMBPROD367B	Remove and replace conveyor belts	Equivalent
PMBPROD368A	Repair conveyor belt carcass	PMBPROD368B	Repair conveyor belt carcass	Equivalent
PMBPROD369A	Repair conveyor belt covers	PMBPROD369B	Repair conveyor belt covers	Equivalent
PMBPROD370A	Produce injection blow moulded products	PMBPROD370B	Produce injection blow moulded products	Equivalent
PMBPROD372A	Produce fibre optic preforms	PMBPROD372B	Produce fibre optic preforms	Equivalent
PMBPROD373A	Draw optical fibre	PMBPROD373B	Draw optical fibre	Equivalent
PMBPROD374A	Splice new belts or used belts off site			Splicing of belts is now split to reflect core type and not where it is done – see new units PMBPROD376A, 377A and 378A
PMBPROD375	Vulcanise products using an	PMBPROD375B	Vulcanise products using an	Equivalent

PMB01		**PMB07**		**PMB07/PMB01 equivalence, comment**
Original unit		**New unit**		
Code 01	**Unit Title 01**	**Code 07**	**Unit Title 07**	
A	autoclave		autoclave	
PMBPROD380A	Produce composites using chopper gun/depositor	PMBPROD380B	Produce composites using chopper gun/depositor	Equivalent
PMBPROD387A	Produce welded plastics materials	PMBPROD387B	Produce welded plastics materials	Equivalent
PMBPROD390A	Produce composites using filament winding	PMBPROD390B	Produce composites using filament winding	Equivalent
PMBPROD391A	Produce composites using resin infusion	PMBPROD391B	Produce composites using resin infusion	Equivalent
PMBPROD392A	Produce composites using pultrusion	PMBPROD392B	Produce composites using pultrusion	Equivalent
PMBPROD393A	Produce composites using vacuum bagging	PMBPROD393B	Produce composites using vacuum bagging	Equivalent
PMBPROD394A	Produce composites using resin transfer moulding	PMBPROD394B	Produce composites using resin transfer moulding	Equivalent
PMBPROD395A	Produce composite sheet products	PMBPROD395B	Produce composite sheet products	Equivalent
PMBPROD396A	Produce composites using centrifugal casting	PMBPROD396B	Produce composites using centrifugal casting	Equivalent
PMBPROD397A	Produce composites using moulding compounds	PMBPROD397B	Produce composites using moulding compounds	Equivalent

PMB01		**PMB07**		**PMB07/PMB01 equivalence, comment**
Original unit		**New unit**		
Code 01	**Unit Title 01**	**Code 07**	**Unit Title 07**	
PMBPROD398A	Produce composites using pre- pregs	PMBPROD398B	Produce composites using pre- pregs	Equivalent
PMBPROD430A	Trial a new die/tool	PMBPROD430B	Trial a new die/tool	Equivalent
PMBPROD431A	Trial a new, advanced or complex mould	PMBPROD431B	Trial a new, advanced or complex mould	Equivalent
PMBPROD444B	Apply materials and process knowledge to coordinate work operations			Content covered in other PROD units
PMBQUAL101A	Apply quality processes	MSAPMSUP100A	Apply workplace procedures	Equivalent. Quality processes are contained in SUP100A.
PMBQUAL290A	Monitor and maintain product quality	MSAPMSUP200A	Achieve work outcomes	Partial equivalence - MSAPMSUP200 allows a broader range of factors to be considered. MCMT251A also covers quality.
PMBQUAL291A	Participate in continuous improvement	MSAPMSUP291A	Participate in continuous improvement	Equivalent
PMBQUAL390A	Solve problems using ‘quality tools’	MSAPMSUP390A	Use structured problem solving tools	Equivalent

PMB01		**PMB07**		**PMB07/PMB01 equivalence, comment**
Original unit		**New unit**		
Code 01	**Unit Title 01**	**Code 07**	**Unit Title 07**	
PMBQUAL400A	Develop and monitor quality systems	MSAPMSUP400A	Develop and monitor quality systems	Equivalent
PMBSUP301A	Apply HACCP to the workplace	MSAPMSUP301A	Apply HACCP to the workplace	Equivalent
PMBSUP383A	Facilitate a team	MSAPMSUP383A	Facilitate a team	Equivalent
PMBTECH301A	Use material and process knowledge to solve problems	PMBTECH301B	Use material and process knowledge to solve problems	Equivalent
PMBTECH401A	Predict polymer properties and characteristics	PMBTECH401B	Predict polymer properties and characteristics	Equivalent
PMBTECH402A	Set up and remove complex dies	PMBTECH402B	Set advanced or complex dies	Equivalent
PMBTECH403A	Test fibre-composites materials and laminates	PMBTECH403B	Test fibre-composites materials and laminates	Equivalent
PMBTECH404A	Mould chemical resistant and/or fire retardant fibre-composites	PMBTECH404B	Mould chemical resistant and/or fire retardant fibre-composites	Equivalent
PMBTECH405A	Repair damaged fibre-composites structures	PMBTECH405B	Repair damaged fibre-composites structures	Equivalent
PMBTECH501A	Analyse equipment performance	PMBTECH501B	Analyse equipment performance	Equivalent
PMBTECH502A	Review and analyse production trials and specify	PMBTECH502B	Review and analyse production trials and specify	Equivalent

PMB01		**PMB07**		**PMB07/PMB01 equivalence, comment**
Original unit		**New unit**		
Code 01	**Unit Title 01**	**Code 07**	**Unit Title 07**	
	retrials		retrials	
PMBTECH503A	Determine rheology and output of plastics materials from processing equipment	PMBTECH503B	Determine rheology and output of plastics materials from processing equipment	Equivalent
PMBTECH504A	Determine heat transfer loads for processing equipment	PMBTECH504B	Determine heat transfer loads for processing equipment	Equivalent
PMBTECH505A	Choose polymer materials for an application	PMBTECH505B	Choose polymer materials for an application	Equivalent
PMBTECH506A	Analyse the design of products and tools	PMBTECH506B	Analyse the design of products and tools	Equivalent
PMBTECH507A	Develop fibre composite products using cored- laminate techniques	PMBTECH507B	Develop fibre composite products using cored- laminate techniques	Equivalent
PMBTECH601A	Develop a new product	PMBTECH601B	Develop a new product	Equivalent
PMBTECH602A	Develop a new die or tool	PMBTECH602B	Develop a new die or tool	Equivalent
PMBTECH603A	Design structural/mechanical polymer components	PMBTECH603B	Design structural/mechanical polymer components	Equivalent
PMBTRAIN201A	Assist in the provision of on the job training	TAADEL301A	Provide training through instruction and demonstration of work skills	Equivalent

PMB01		**PMB07**		**PMB07/PMB01 equivalence, comment**
Original unit		**New unit**		
Code 01	**Unit Title 01**	**Code 07**	**Unit Title 07**	
PMBWASTE101B	Collect waste for recycling or safe disposal	PMBWASTE101C	Collect waste for recycling or safe disposal	Equivalent
PMBWASTE302B	Coordinate waste disposal	PMBWASTE302C	Coordinate waste disposal	Equivalent
PMBWELD301A	Butt weld polyethylene plastic pipelines	PMBWELD301B	Butt weld polyethylene plastic pipelines	Equivalent
PMBWELD302A	Electrofusion weld polyethylene pipelines	PMBWELD302B	Electrofusion weld polyethylene pipelines	Equivalent
PMBWELD303A	Install polyethylene (non-pressure) drainage pipelines	PMBWELD303B	Install polyethylene (non-pressure) drainage pipelines	Equivalent
PMBWELD304A	Design polyethylene (non-pressure) drainage pipelines	PMBWELD304B	Design polyethylene (non-pressure) drainage pipelines	Equivalent
PMBWELD305A	Install polyethylene plastic pressure pipelines	PMBWELD305B	Install polyethylene plastic pressure pipelines	Equivalent
PMBWELD306A	Design polyethylene plastic pressure pipelines	PMBWELD306B	Design polyethylene plastic pressure pipelines	Equivalent
PMBWELD307A	Install high temperature plastic pressure pipelines	PMBWELD307B	Install high temperature plastic pressure pipelines	Equivalent
PMBWELD308A	Install PVC plastic pressure pipelines	PMBWELD308B	Install PVC plastic pressure pipelines	Equivalent

PMB01		**PMB07**		**PMB07/PMB01 equivalence, comment**
Original unit		**New unit**		
Code 01	**Unit Title 01**	**Code 07**	**Unit Title 07**	
PMBWELD309A	Weld plastic using extrusion techniques	PMBWELD309B	Weld plastic using extrusion techniques	Equivalent
PMBWELD310A	Design PVC plastic pressure pipelines	PMBWELD310B	Design PVC plastic pressure pipelines	Equivalent
PMBWELD311A	Design high temperature plastic pressure pipelines	PMBWELD311B	Design high temperature plastic pressure pipelines	Equivalent
PMBWKOPS101B	Apply work procedures and practices	MSAPMSUP100A	Apply workplace procedures	Partial equivalence – unit considered too broad. Need to add OHS110 and SUP106 for equivalence.
PMBWKOPS106B	Work with others in a team	MSAPMSUP106A	Work in a team	Equivalent. Communication is also covered by SUP102
PMBWKOPS303B	Induct new team members			This unit covers one specific training activity. It has been replaced by more general training units and SUP210.
PMBWKOPS304B	Interpret job specifications			Incorporated in all PROD units.
PMBWKOPS305B	Perform shift handover			This is covered by MSAPMSUP210 and parts of

PMB01		**PMB07**		**PMB07/PMB01 equivalence, comment**
Original unit		**New unit**		
Code 01	**Unit Title 01**	**Code 07**	**Unit Title 07**	
				relevant PROD units.
PMBWKOPS309A	Maintain and organise workplace records	MSAPMSUP309A	Maintain and organise workplace records	Equivalent
PMBWKOPS402B	Apply workplace procedures to improve workplace performance	MCMS401A	Ensure process improvements are sustained	Not equivalent. MCMS401 is of broader scope and allows consideration of a wider range of possible improvements.
PMCOPS400A	Optimise process systems	MSAPMOPS400A	Optimise process/plant area	Equivalent
PMCSUP272A	Identify and act upon hazards in the workplace			No direct equivalent. Merged into MSAPMOHS200
PMCSUP292A	Sample and test materials and product	MSAPMSUP292A	Sample and test materials and product	Equivalent
PMLTEST300A	Perform basic tests	PMLTEST300B	Perform basic tests	Equivalent
PMLTEST401A	Perform non-instrumental tests/procedures	PMLTEST404A	Perform chemical tests and procedures	Not equivalent. This change has been made in PML04
PSPPM502A	Manage projects	PSPPM502B	Manage complex projects	Equivalent
TDTD1097A	Operate a forklift	TDTD1097B	Operate a forklift	Equivalent

Note: advice re equivalences for imported units is drawn from the host Training Package.

PMB07 to PMB01

PMB07		**PMB01**		**PMB07/PMB01 equivalence, comment**
New unit		**Original unit**		
Code 06	**Unit Title 06**	**Code 01**	**Unit Title 01**	
		BSXFMI401A	Manage personal work priorities and professional development	Not carried forward
		BSXFMI402A	Provide leadership in the workplace	Not carried forward
		BSXFMI403A	Establish and manage effective workplace relationships	Not carried forward.
		BSXFMI405A	Manage operations to achieve planned outcomes	Not carried forword
		BSXFMI406A	Manage workplace information	Not carried forward.
		BSXFMI407A	Manage quality customer service	Not carried forward.
		BSXFMI408A	Develop and maintain a safe workplace and environment	Not carried forward.
		BSXFMI409A	Implement and monitor continuous improvement systems and processes	Not carried forward.

PMB07		**PMB01**		**PMB07/PMB01 equivalence, comment**
New unit		**Original unit**		
Code 06	**Unit Title 06**	**Code 01**	**Unit Title 01**	
		BSXFMI410A	Facilitate and capitalise on change and innovation	Not carried forward.
		BSXFMI411A	Contribute to the development of a workplace learning environment	Not carried forward.
		MEM9.1AA	Draw and interpret a sketch	Unit deleted – 9.1AA Content incorporate into unit 12.23A
		PMBPROD374A	Splice new belts or used belts off site	Not carried forward. Splicing of belts is now split to reflect core type and not where it is done.
		PMBPROD444B	Apply materials and process knowledge to coordinate work operations	Not carried forward. Content is overed in other units.
		PMBWKOPS303B	Induct new team members	Covered by more general training units.
		PMBWKOPS304B	Interpret job specifications	Incorporated into PROD units
	.	PMBWKOPS305B	Perform shift handover	Not carried forward. This is

PMB07		**PMB01**		**PMB07/PMB01 equivalence, comment**
New unit		**Original unit**		
Code 06	**Unit Title 06**	**Code 01**	**Unit Title 01**	
				covered by MSAPMSUP210 and parts of relevant PROD units.
		PMCSUP272A	Identify and act upon hazards in the workplace	Merged into MSAPMOHS200
FPICOT2206A	Cross cut materials with a hand-held chainsaw			New to PMB07
LMTEMGN06A	Design equipment and system modifications	LMTEMGN06A	Design equipment and system modifications	No change
LMTEMGN07A	Manage installation and commissioning of equipment and systems	LMTEMGN07A	Manage installation and commissioning of equipment and systems	No change
LMTPDHL06A	Manage product development projects	LMTPDHL06A	Manage product development projects	No change
LMTPRGN15A	Coordinate work of team/section	LMTPRGN15A	Coordinate work of team/section	No change
MCMC410A	Lead change in a manufacturing environment			New to PMB
MCMS201A	Sustain process improvements			New to PMB
MCMS401A	Ensure process improvements are	PMBWKOPS402B	Apply workplace procedures to	Not equivalent. MCMS401 is of

PMB07		**PMB01**		**PMB07/PMB01 equivalence, comment**
New unit		**Original unit**		
Code 06	**Unit Title 06**	**Code 01**	**Unit Title 01**	
	sustained		improve workplace performance	broader scope and allows a wider range of possible improvements to be considered
MCMT220A	Apply quick changeover procedures			New to PMB
MCMT221A	Apply Just in Time (JIT) procedures			New to PMB
MCMT230A	Apply cost factors to work practices			New to PMB
MCMT240A	Apply 5S procedures in a manufacturing environment			New to PMB
MCMT250A	Monitor process capability			New to PMB
MCMT251A	Apply quality standards	PMBQUAL290A	Monitor and maintain product quality	Partial equivalence. See also MSAPMSUP200
MCMT260A	Use planning software systems in manufacturing			New to PMB
MCMT280A	Undertake root cause analysis			New to PMB
MCMT421A	Facilitate a Just in Time (JIT) system			New to PMB

PMB07		**PMB01**		**PMB07/PMB01 equivalence, comment**
New unit		**Original unit**		
Code 06	**Unit Title 06**	**Code 01**	**Unit Title 01**	
MCMT440A	Lead 5S in a manufacturing environment			New to PMB
MCMT450A	Undertake process capability improvements			New to PMB
MCMT451A	Mistake proof a production process			New to PMB
MCMT452A	Apply statistics to processes in manufacturing			New to PMB
MCMT620A	Develop quick changeover procedures			New to PMB
MCMT621A	Develop a Just in Time (JIT) system			New to PMB
MCMT630A	Optimise cost of product			New to PMB
MCMT631A	Undertake value analysis of product costs in terms of customer requirements			New to PMB
MCMT640A	Manage 5S system in a manufacturing environment			New to PMB
MCMT650A	Determine and improve process capability			New to PMB
MCMT670A	Develop and manage sustainable energy			New to PMB

PMB07		**PMB01**		**PMB07/PMB01 equivalence, comment**
New unit		**Original unit**		
Code 06	**Unit Title 06**	**Code 01**	**Unit Title 01**	
	practices			
MCMT671A	Develop and manage sustainable environmental practices			New to PMB
MEM03001B	Perform manual production assembly			New to PMB
MEM03006B	Set assembly stations			New to PMB
MEM09002B	Interpret technical drawing	MEM9.2AA	Interpret technical drawing	Equivalent
MEM09003B	Prepare basic engineering drawing	PMBPREP508A	Produce drawings	Equivalent outcomes but does have a prerequisite (MEM9.2)
MEM11005B	Pick and process order			New to PMB
MEM11006B	Perform production packaging			New to PMB
MEM11007B	Administer inventory procedures			New to PMB
MEM12023A	Perform engineering measurements	PMBCALC303B	Use precision measuring equipment	Equivalent
MEM13003B	Work safely with industrial chemicals			New to PMB

PMB07		**PMB01**		**PMB07/PMB01 equivalence, comment**
New unit		**Original unit**		
Code 06	**Unit Title 06**	**Code 01**	**Unit Title 01**	
MEM15001B	Perform basic statistical quality control	MEM15.1AA	Performs basic statistical quality control	Equivalent
MEM15003B	Use improvement processes in team activities			New to PMB
MEM15004B	Perform inspection			New to PMB
MEM16006A	Organise and communicate information			New to PMB
MEM16007A	Work with others in a manufacturing, engineering or related environment			New to PMB
MEM16008A	Interact with computing technology			New to PMB
MEM18001C	Use hand tools			New to PMB
MEM18002B	Use power tools/hand held operations			New to PMB
MEM30001A	Use computer aided drafting systems to produce basic engineering drawings			New to PMB
MEM30004A	Use CAD to create and display 3D models			New to PMB

PMB07		**PMB01**		**PMB07/PMB01 equivalence, comment**
New unit		**Original unit**		
Code 06	**Unit Title 06**	**Code 01**	**Unit Title 01**	
MSAENV272A	Participate in environmentally sustainable work practices	PMBENV200A	Respond to environmental hazards	Equivalent. New unit is based on generic Guideline Unit.
MSAENV472A	Implement and monitor environmentally sustainable work practices	PMBENV300A	Minimise environmental impact of process	Similar outcomes. New unit is based on generic Guideline Unit.
MSAENV672A	Develop workplace policy and procedures for sustainability			New to PMB
MSAPMOHS100A	Follow OHS procedures	PMBOHS101B	Follow OH&S policies and procedures	Equivalent
MSAPMOHS110A	Follow emergency response procedures			No direct equivalent – emergency response covered by MSA110A, 205A, 210A and 212A.
MSAPMOHS200A	Work safely	PMBOHS207B	Implement and monitor OHS policies and procedures	Equivalent outcomes, but see above re other OHS units.
MSAPMOHS205A	Control minor incidents			New unit
MSAPMOHS210A	Undertake first response to non-fire incidents			New unit

PMB07		**PMB01**		**PMB07/PMB01 equivalence, comment**
New unit		**Original unit**		
Code 06	**Unit Title 06**	**Code 01**	**Unit Title 01**	
MSAPMOHS212A	Undertake first response to fire incidents			New unit
MSAPMOHS216A	Operate breathing apparatus			New unit
MSAPMOHS217A	Gas test atmospheres			New unit
MSAPMOHS220A	Provide initial First Aid response			New unit
MSAPMOHS300A	Facilitate the implementation of OHS for a work group	PMBOHS409A	Establish, maintain and evaluate an OHS system	A smaller unit better focussed at team leader/ committee member responsibilities with higher aspects taken by OHS4## and 5## units.
MSAPMOHS400A	Contribute to OHS management system			New unit
MSAPMOHS401A	Assess risk			New unit
MSAPMOHS503A	Maintain the workplace OHS management system			New unit
MSAPMOHS510A	Manage risk			New unit
MSAPMOHS601A	Establish workplace OHS management			New unit

PMB07		**PMB01**		**PMB07/PMB01 equivalence, comment**
New unit		**Original unit**		
Code 06	**Unit Title 06**	**Code 01**	**Unit Title 01**	
	system			
MSAPMOPS100A	Use equipment	PMBPROD101A	Use equipment	Equivalent
MSAPMOPS101A	Make measurements	PMBCALC101A	Make measurements	Equivalent
MSAPMOPS102A	Perform tasks to support production	PMBPROD102A	Perform tasks to support production	Equivalent
MSAPMOPS200A	Operate equipment	PMBPROD200A	Operate equipment	Equivalent
MSAPMOPS212A	Use enterprise computers or data systems	PMBCOMP201B	Use computers in the workplace	Equivalent
MSAPMOPS244A	Layout and cut materials			New unit
MSAPMOPS363A	Organise on site work	PMBPROD363B	Splice conveyor belts on site	This unit covers any on site work, not just belt repair. See new PROD376, 377 & 378 for belt splicing
MSAPMOPS400A	Optimise process/plant area	PMCOPS400A	Optimise process systems	Equivalent
MSAPMOPS401A	Trial new process or product	PMBORG403B	Conduct trials on products or processes	Equivalent
MSAPMOPS404A	Co-ordinate maintenance	PMBMAINT404B	Coordinate the conduct of maintenance	Equivalent
MSAPMOPS405A	Identify problems in fluid power system	PMBMAINT405A	Identify problems in fluid power systems	Equivalent

PMB07		**PMB01**		**PMB07/PMB01 equivalence, comment**
New unit		**Original unit**		
Code 06	**Unit Title 06**	**Code 01**	**Unit Title 01**	
MSAPMOPS406A	Identify problems in electronic control systems	PMBMAINT406A	Identify problems in electronic control systems	Equivalent
MSAPMPER200A	Work in accordance with an issued permit	PMAPER200A	Work in accordance with an issued permit	Equivalent
MSAPMPER201A	Monitor and control work permits	PMAPER301A	Monitor and control work permits	Equivalent
MSAPMPER205A	Enter confined space			New unit
MSAPMPER300A	Issue work permits	PMAPER300A	Issue work permits	Equivalent
MSAPMPER302A	Issue work permits (hot work/confined space)			New unit
MSAPMSUP100A	Apply workplace procedures	PMBWKOPS101B PMBQUAL101	Apply work procedures and practices Apply quality processes	Partial equivalence – unit considered too broad. Need to add OHS110 and SUP106 for equivalence. Equivalent
MSAPMSUP101A	Clean workplace or equipment	PMBMAINT101B	Conduct housekeeping activities	Equivalent
MSAPMSUP102A	Communicate in the workplace	PMBCOMM102B	Complete workplace documents	Broader as includes basic communication, not just filling

PMB07		**PMB01**		**PMB07/PMB01 equivalence, comment**
New unit		**Original unit**		
Code 06	**Unit Title 06**	**Code 01**	**Unit Title 01**	
				in forms.
MSAPMSUP106A	Work in a team	PMBWKOPS106B	Work with others in a team	Equivalent. Communication is also covered in SUP102
MSAPMSUP172A	Identify and minimise environmental hazards	PMBENV100A	Identify and minimise environmental hazards	Equivalent
MSAPMSUP200A	Achieve work outcomes	PMBQUAL290A	Monitor and maintain product quality	Partial equivalence. MSAPMSUP200 allows a broader range of factors to be considered. Quality is covered in MCMT251A.
MSAPMSUP201A	Receive or despatch goods	PMBHAN201B PMBORG205B	Process orders and despatch products Receive goods	Equivalent Subsumed
MSAPMSUP204A	Pack products or materials	PMBHAN204B	Package goods/ materials	Equivalent
MSAPMSUP205A	Transfer loads	PMBHAN205B	Transfer loads with slings	Slightly broader as does not specify slinging or strapping but equivalent outcomes
MSAPMSUP210A	Process and record information			New unit
MSAPMSUP230	Monitor process	PMBPROD230B	Monitor process	Equivalent

PMB07		**PMB01**		**PMB07/PMB01 equivalence, comment**
New unit		**Original unit**		
Code 06	**Unit Title 06**	**Code 01**	**Unit Title 01**	
A	operations		operations	
MSAPMSUP240A	Undertake minor maintenance	PMBMAINT202B	Undertake basic maintenance	Equivalent
MSAPMSUP273A	Handle goods	PMBHAN202B	Load and unload goods	Equivalent
MSAPMSUP280A	Manage conflict at work			New unit
MSAPMSUP291A	Participate in continuous improvement	PMBQUAL291A	Participate in continuous improvement	Equivalent
MSAPMSUP292A	Sample and test materials and product	PMCSUP292A	Sample and test materials and product	Equivalent
MSAPMSUP300A	Identify and implement opportunities to maximise production efficiencies			New unit
MSAPMSUP301A	Apply HACCP to the workplace	PMBSUP301A	Apply HACCP to the workplace	Equivalent
MSAPMSUP303A	Identify equipment faults	PMBMAINT303B	Identify equipment faults	Equivalent
MSAPMSUP309A	Maintain and organise workplace records	PMBWKOPS309A	Maintain and organise workplace records	New unit
MSAPMSUP310A	Contribute to the development of plant documentation	PMACOM300A	Contribute to the development of plant documentation	Equivalent
MSAPMSUP330A	Develop and adjust a			New unit

PMB07		**PMB01**		**PMB07/PMB01 equivalence, comment**
New unit		**Original unit**		
Code 06	**Unit Title 06**	**Code 01**	**Unit Title 01**	
	production schedule			
MSAPMSUP382A	Provide coaching/mentoring in the workplace			New unit
MSAPMSUP383A	Facilitate a team	PMBSUP383A	Facilitate a team	Equivalent
MSAPMSUP390A	Use structured problem solving tools	PMBQUAL390A	Solve problems using ‘quality tools’	Equivalent
MSAPMSUP400A	Develop and monitor quality systems	PMBQUAL400A	Develop and monitor quality systems	Equivalent
PMBFIN201C	Finish products and components	PMBFIN201B	Finish products and components	Equivalent
PMBFIN202C	Fit attachments to products	PMBFIN202B	Fit attachments to products	Equivalent
PMBFIN203C	Repair product imperfections	PMBFIN203B	Repair product imperfections	Equivalent
PMBFIN205C	Hand decorate products	PMBFIN205B	Hand decorate products	Equivalent
PMBHAN103C	Shift materials safely by hand	PMBHAN103B	Shift materials safely by hand	Equivalent
PMBHAN208C	Store products	PMBHAN208B	Store products	Equivalent
PMBPREP201B	Prepare moulds for composites production	PMBPREP201A	Prepare moulds for composites production	Equivalent
PMBPREP205C	Assemble materials and equipment for production	PMBPREP205B	Assemble materials and equipment for production	Equivalent

PMB07		**PMB01**		**PMB07/PMB01 equivalence, comment**
New unit		**Original unit**		
Code 06	**Unit Title 06**	**Code 01**	**Unit Title 01**	
PMBPREP206C	Prepare materials to formulae	PMBPREP206B	Prepare materials to formulae	Equivalent
PMBPREP301C	Set up and prepare for production	PMBPREP301B	Set up and prepare for production	Equivalent
PMBPREP303C	Set up equipment for continuous operation	PMBPREP303B	Set up equipment for continuous operation	Equivalent
PMBPREP304C	Set a die	PMBPREP304B	Change equipment dies	Equivalent
PMBPREP305B	Change extrusion die and setup	PMBPREP305A	Change extrusion die and calibration setup	Equivalent
PMBPROD206B	Operate ancillary equipment	PMBPROD206A	Operate ancillary equipment	Equivalent
PMBPROD207B	Operate calender	PMBPROD207A	Operate calender	Equivalent
PMBPROD209C	Operate cable winding equipment	PMBPROD209B	Operate cable winding equipment	Equivalent
PMBPROD210B	Operate injection moulding equipment	PMBPROD210A	Operate injection moulding equipment	Equivalent
PMBPROD211B	Operate blow moulding equipment	PMBPROD211A	Operate blow moulding equipment	Equivalent
PMBPROD212B	Operate thermoforming equipment	PMBPROD212A	Operate thermoforming equipment	Equivalent
PMBPROD213B	Operate extruders	PMBPROD213A	Operate extruders	Equivalent
PMBPROD216B	Operate blown	PMBPROD216	Operate blown	Equivalent

PMB07		**PMB01**		**PMB07/PMB01 equivalence, comment**
New unit		**Original unit**		
Code 06	**Unit Title 06**	**Code 01**	**Unit Title 01**	
	film equipment	A	film equipment	
PMBPROD217B	Operate printing equipment	PMBPROD217A	Operate printing equipment	Equivalent
PMBPROD221B	Operate rotational moulding equipment	PMBPROD221A	Operate rotational moulding equipment	Equivalent
PMBPROD229B	Operate polystyrene shape moulding equipment	PMBPROD229A	Operate polystyrene shape moulding equipment	Equivalent
PMBPROD233B	Operate film conversion equipment	PMBPROD233A	Operate film conversion equipment	Equivalent
PMBPROD235C	Use materials and process knowledge to complete work operations	PMBPROD235B	Use materials and process knowledge to complete work operations	Equivalent
PMBPROD236C	Operate hand held air/power equipment for production processes	PMBPROD236B	Operate hand held air/power equipment for production processes	Equivalent
PMBPROD237C	Splice cables	PMBPROD237B	Splice cables	Equivalent
PMBPROD238A	Perform creel rack operations			New unit
PMBPROD239A	Build reinforced conveyor belts			New unit
PMBPROD240C	Cut materials	PMBPROD240B	Cut materials	Equivalent
PMBPROD241C	Lay up rubber lining or lag pulleys	PMBPROD241A	Lay up rubber lining	Equivalent

PMB07		**PMB01**		**PMB07/PMB01 equivalence, comment**
New unit		**Original unit**		
Code 06	**Unit Title 06**	**Code 01**	**Unit Title 01**	
PMBPROD242A	Bond polymers to surfaces			New unit
PMBPROD245C	Fabricate materials	PMBPROD245B	Fabricate materials	Equivalent
PMBPROD246C	Hand mix materials	PMBPROD246B	Hand mix materials	Equivalent
PMBPROD247C	Hand lay up composites	PMBPROD247B	Hand lay up composites	Equivalent
PMBPROD248C	Prepare surfaces for coating	PMBPROD248B	Prepare surfaces for coating	Equivalent
PMBPROD249B	Apply liquid surface coatings	PMBPROD249A	Apply liquid surface coatings	Equivalent
PMBPROD251B	Apply gel coat or other polymer surface finish	PMBPROD251A	Apply gel coat or other polymer surface finish	Equivalent
PMBPROD252C	Operate compounding equipment	PMBPROD252B	Operate compounding equipment	Equivalent
PMBPROD253C	Operate an internal mill blender	PMBPROD253B	Operate an internal mill blender	Equivalent
PMBPROD254C	Operate an open mill blender	PMBPROD254B	Operate an open mill blender	Equivalent
PMBPROD255C	Operate mixing equipment	PMBPROD255B	Operate mixing equipment	Equivalent
PMBPROD259C	Operate granulating equipment	PMBPROD259B	Operate granulating equipment	Equivalent
PMBPROD261B	Operate continuous vulcanising equipment	PMBPROD261A	Operate continuous vulcanising equipment	Equivalent

PMB07		**PMB01**		**PMB07/PMB01 equivalence, comment**
New unit		**Original unit**		
Code 06	**Unit Title 06**	**Code 01**	**Unit Title 01**	
PMBPROD262B	Operate tyre curing equipment	PMBPROD262A	Operate tyre curing equipment	Equivalent
PMBPROD263B	Operate retread curing equipment	PMBPROD263A	Operate retread curing equipment	Equivalent
PMBPROD264C	Check recycle wash process	PMBPROD264B	Check recycle wash process	Equivalent
PMBPROD265C	Operate portable vulcanising equipment	PMBPROD265B	Operate portable vulcanising equipment	Equivalent
PMBPROD266B	Prepare tyre casings for retreading	PMBPROD266A	Prepare tyre casings for retreading	Equivalent
PMBPROD267B	Operate steel cutting equipment	PMBPROD267A	Operate steel cutting equipment	Equivalent
PMBPROD268B	Operate bead coiling equipment	PMBPROD268A	Operate bead coiling equipment	Equivalent
PMBPROD270B	Operate injection blow moulding equipment	PMBPROD270A	Operate injection blow moulding equipment	Equivalent
PMBPROD280B	Operate resin-glass depositor equipment	PMBPROD280A	Operate resin-glass depositor equipment	Equivalent
PMBPROD281B	Finish composite products	PMBPROD281A	Finish composite products	Equivalent
PMBPROD282B	Assemble mould	PMBPROD282A	Assemble mould	Equivalent
PMBPROD283B	Demould product	PMBPROD283A	Demould product	Equivalent
PMBPROD284B	Operate open flame moulding	PMBPROD284A	Operate open flame moulding	Equivalent

PMB07		**PMB01**		**PMB07/PMB01 equivalence, comment**
New unit		**Original unit**		
Code 06	**Unit Title 06**	**Code 01**	**Unit Title 01**	
	equipment		equipment	
PMBPROD285A	Operate computer controlled equipment			New unit
PMBPROD287B	Weld plastics materials	PMBPROD287A	Weld plastics materials	Equivalent
PMBPROD290B	Operate filament winding equipment	PMBPROD290A	Operate filament winding equipment	Equivalent
PMBPROD291B	Operate resin infusion moulding equipment	PMBPROD291A	Operate resin infusion moulding equipment	Equivalent
PMBPROD292B	Operate pultrusion equipment	PMBPROD292A	Operate pultrusion equipment	Equivalent
PMBPROD293B	Operate vacuum bagging equipment	PMBPROD293A	Operate vacuum bagging equipment	Equivalent
PMBPROD294B	Operate resin transfer moulding equipment	PMBPROD294A	Operate resin transfer moulding equipment	Equivalent
PMBPROD295B	Operate composite sheeting equipment	PMBPROD295A	Operate composite sheeting equipment	Equivalent
PMBPROD296B	Operate centrifugal casting equipment	PMBPROD296A	Operate centrifugal casting equipment	Equivalent
PMBPROD297B	Operate equipment using moulding compounds	PMBPROD297A	Operate equipment using moulding compounds	Equivalent
PMBPROD298B	Operate equipment using pre- preg material	PMBPROD298A	Operate equipment using pre- preg material	Equivalent

PMB07		**PMB01**		**PMB07/PMB01 equivalence, comment**
New unit		**Original unit**		
Code 06	**Unit Title 06**	**Code 01**	**Unit Title 01**	
PMBPROD300B	Produce products	PMBPROD300A	Produce products	Equivalent
PMBPROD301C	Draw wire	PMBPROD301B	Draw wire	Equivalent
PMBPROD302C	Bunch and strand wire	PMBPROD302B	Bunch and strand wire	Equivalent
PMBPROD303C	Lay up and tape cables	PMBPROD303B	Lay up and tape cables	Equivalent
PMBPROD304C	Wind products onto drums	PMBPROD304B	Wind products onto drums	Equivalent
PMBPROD305C	Colour optical fibre	PMBPROD305B	Colour optical fibre	Equivalent
PMBPROD306B	Prepare and start equipment for production	PMBPROD306A	Prepare and start equipment for production	Equivalent
PMBPROD307C	Produce calendered products	PMBPROD307B	Produce calendered products	Equivalent
PMBPROD308B	Take a machine out of production	PMBPROD308A	Take a machine out of production	Equivalent
PMBPROD309C	Produce electroplated products	PMBPROD309B	Produce electroplated products	Equivalent
PMBPROD310C	Produce injection moulded products	PMBPROD310B	Produce injection moulded products	Equivalent
PMBPROD311C	Produce blow moulded products	PMBPROD311B	Produce blow moulded products	Equivalent
PMBPROD312C	Produce continuous thermoforming products	PMBPROD312B	Produce continuous thermoforming products	Equivalent

PMB07		**PMB01**		**PMB07/PMB01 equivalence, comment**
New unit		**Original unit**		
Code 06	**Unit Title 06**	**Code 01**	**Unit Title 01**	
PMBPROD313C	Produce extruded products	PMBPROD313B	Produce extruded products	Equivalent
PMBPROD314C	Produce compression moulded products	PMBPROD314B	Produce compression moulded products	Equivalent
PMBPROD315C	Produce polyurethane foam	PMBPROD315B	Produce polyurethane foam	Equivalent
PMBPROD316C	Produce blown film	PMBPROD316B	Produce blown film	Equivalent
PMBPROD317C	Print and decorate rigid products	PMBPROD317B	Print and decorate rigid products	Equivalent
PMBPROD318C	Build first stage tyres	PMBPROD318B	Build first stage tyres	Equivalent
PMBPROD319C	Build up rollers	PMBPROD319B	Build up rollers	Equivalent
PMBPROD320C	Produce foam injected mouldings	PMBPROD320B	Produce foam injected mouldings	Equivalent
PMBPROD321B	Produce rotational moulded products	PMBPROD321A	Produce rotational moulded products	Equivalent
PMBPROD323C	Produce powder coated products	PMBPROD323B	Produce powder coated products	Equivalent
PMBPROD324B	Inspect tyres for retreading	PMBPROD324A	Inspect tyres for retreading	Equivalent
PMBPROD325B	Lay on tyre retreads	PMBPROD325A	Lay on tyre retreads	Equivalent
PMBPROD326B	Inspect tyres	PMBPROD326A	Inspect tyres	Equivalent
PMBPROD327B	Produce finished tyres	PMBPROD327A	Produce finished tyres	Equivalent
PMBPROD328C	Produce sheet feed	PMBPROD328B	Produce sheet feed	Equivalent

PMB07		**PMB01**		**PMB07/PMB01 equivalence, comment**
New unit		**Original unit**		
Code 06	**Unit Title 06**	**Code 01**	**Unit Title 01**	
	vacuum forming products		vacuum forming products	
PMBPROD329C	Produce polystyrene shape moulded products	PMBPROD329B	Produce polystyrene shape moulded products	Equivalent
PMBPROD330A	Make moulds for formed products			New unit
PMBPROD331C	Produce printed and decorated film	PMBPROD331B	Produce printed and decorated film	Equivalent
PMBPROD332C	Produce thermally bent products	PMBPROD332B	Produce thermally bent products	Equivalent
PMBPROD333B	Convert plastic film	PMBPROD333A	Convert plastic film	Equivalent
PMBPROD334A	Produce products using twin screw extruders			New unit
PMBPROD335C	Build second stage tyres	PMBPROD335B	Build second stage tyres	Equivalent
PMBPROD339A	Produce reinforced conveyor belts			New unit
PMBPROD343C	Shut down plant area	PMBPROD343B	Shut down plant or plant area	Equivalent
PMBPROD347B	Produce composites using hand lamination	PMBPROD347A	Produce composites using hand lamination	Equivalent
PMBPROD349B	Produce liquid surface coated products	PMBPROD349A	Produce liquid surface coated products	Equivalent
PMBPROD352A	Produce compounded materials			New unit

PMB07		**PMB01**		**PMB07/PMB01 equivalence, comment**
New unit		**Original unit**		
Code 06	**Unit Title 06**	**Code 01**	**Unit Title 01**	
PMBPROD353B	Compound materials using an internal mill blender	PMBPROD353A	Compound materials using an internal mill blender	Equivalent
PMBPROD354B	Compound materials using an open mill blender	PMBPROD354A	Compound materials using an open mill blender	Equivalent
PMBPROD355B	Make pattern/plug for composites moulds	PMBPROD355A	Make pattern/plug for composites moulds	Equivalent
PMBPROD356C	Construct moulds for composite products	PMBPROD356B	Construct moulds for composite products	Equivalent
PMBPROD357C	Construct jigs and fixtures	PMBPROD357B	Construct jigs and fixtures	Equivalent
PMBPROD358C	Develop patterns	PMBPROD358B	Develop patterns	Equivalent
PMBPROD360B	Produce centrifugally cast polyurethane products	PMBPROD360A	Produce centrifugally cast polyurethane products	Equivalent
PMBPROD362B	Produce gravity cast polyurethane products	PMBPROD362A	Produce gravity cast polyurethane products	Equivalent
PMBPROD367B	Remove and replace conveyor belts	PMBPROD367A	Remove and replace belts	Equivalent
PMBPROD368B	Repair conveyor belt carcass	PMBPROD368A	Repair conveyor belt carcass	Equivalent
PMBPROD369B	Repair conveyor belt covers	PMBPROD369A	Repair conveyor belt covers	Equivalent
PMBPROD370B	Produce injection blow moulded	PMBPROD370	Produce injection blow moulded	Equivalent

PMB07		**PMB01**		**PMB07/PMB01 equivalence, comment**
New unit		**Original unit**		
Code 06	**Unit Title 06**	**Code 01**	**Unit Title 01**	
	products	A	products	
PMBPROD372B	Produce fibre optic preforms	PMBPROD372A	Produce fibre optic preforms	Equivalent
PMBPROD373B	Draw optical fibre	PMBPROD373A	Draw optical fibre	Equivalent
PMBPROD375B	Vulcanise products using an autoclave	PMBPROD375A	Vulcanise products using an autoclave	Equivalent
PMBPROD376A	Splice steel cord conveyor belts			New unit (PMBPROD374A subsumed)
PMBPROD377A	Splice fabric ply conveyor belts			New unit (see above)
PMBPROD378A	Splice solid woven conveyor belts			New unit (see above)
PMBPROD380B	Produce composites using chopper gun/depositor	PMBPROD380A	Produce composites using chopper gun/depositor	Equivalent
PMBPROD384A	Operate multi-axis router			New unit
PMBPROD385A	Program computer controlled equipment			New unit
PMBPROD387B	Produce welded plastics materials	PMBPROD387A	Produce welded plastics materials	Equivalent
PMBPROD390B	Produce composites using filament winding	PMBPROD390A	Produce composites using filament winding	Equivalent
PMBPROD391B	Produce composites using	PMBPROD391A	Produce composites using	Equivalent

PMB07		**PMB01**		**PMB07/PMB01 equivalence, comment**
New unit		**Original unit**		
Code 06	**Unit Title 06**	**Code 01**	**Unit Title 01**	
	resin infusion		resin infusion	
PMBPROD392B	Produce composites using pultrusion	PMBPROD392A	Produce composites using pultrusion	Equivalent
PMBPROD393B	Produce composites using vacuum bagging	PMBPROD393A	Produce composites using vacuum bagging	Equivalent
PMBPROD394B	Produce composites using resin transfer moulding	PMBPROD394A	Produce composites using resin transfer moulding	Equivalent
PMBPROD395B	Produce composite sheet products	PMBPROD395A	Produce composite sheet products	Equivalent
PMBPROD396B	Produce composites using centrifugal casting	PMBPROD396A	Produce composites using centrifugal casting	Equivalent
PMBPROD397B	Produce composites using moulding compounds	PMBPROD397A	Produce composites using moulding compounds	Equivalent
PMBPROD398B	Produce composites using pre- pregs	PMBPROD398A	Produce composites using pre- pregs	Equivalent
PMBPROD430B	Trial a new die/tool	PMBPROD430A	Trial a new die/tool	Equivalent
PMBPROD431B	Trial a new, advanced or complex mould	PMBPROD431A	Trial a new, advanced or complex mould	Equivalent
PMBTECH301B	Use material and process knowledge to solve problems	PMBTECH301A	Use material and process knowledge to solve problems	Equivalent
PMBTECH302A	Modify existing			New unit

PMB07		**PMB01**		**PMB07/PMB01 equivalence, comment**
New unit		**Original unit**		
Code 06	**Unit Title 06**	**Code 01**	**Unit Title 01**	
	compounds			
PMBTECH303A	Make minor modifications to products			New unit
PMBTECH401B	Predict polymer properties and characteristics	PMBTECH401A	Predict polymer properties and characteristics	Equivalent
PMBTECH402B	Set advanced or complex dies	PMBTECH402A	Set up and remove complex dies	Equivalent
PMBTECH403B	Test fibre-composites materials and laminates	PMBTECH403A	Test fibre-composites materials and laminates	Equivalent
PMBTECH404B	Mould chemical resistant and/or fire retardant fibre-composites	PMBTECH404A	Mould chemical resistant and/or fire retardant fibre-composites	Equivalent
PMBTECH405B	Repair damaged fibre-composites structures	PMBTECH405A	Repair damaged fibre-composites structures	Equivalent
PMBTECH406A	Diagnose production equipment problems			New unit
PMBTECH501B	Analyse equipment performance	PMBTECH501A	Analyse equipment performance	Equivalent
PMBTECH502B	Review and analyse production trials and specify retrials	PMBTECH502A	Review and analyse production trials and specify retrials	Equivalent
PMBTECH503B	Determine rheology and	PMBTECH503A	Determine rheology and	Equivalent

PMB07		**PMB01**		**PMB07/PMB01 equivalence, comment**
New unit		**Original unit**		
Code 06	**Unit Title 06**	**Code 01**	**Unit Title 01**	
	output of plastics materials from processing equipment		output of plastics materials from processing equipment	
PMBTECH504B	Determine heat transfer loads for processing equipment	PMBTECH504A	Determine heat transfer loads for processing equipment	Equivalent
PMBTECH505B	Choose polymer materials for an application	PMBTECH505A	Choose polymer materials for an application	Equivalent
PMBTECH506B	Analyse the design of products and tools	PMBTECH506A	Analyse the design of products and tools	Equivalent
PMBTECH507B	Develop fibre composite products using cored- laminate techniques	PMBTECH507A	Develop fibre composite products using cored- laminate techniques	Equivalent
PMBTECH508A	Develop a new compound			New unit
PMBTECH509A	Modify an existing product			New unit
PMBTECH510A	Analyse failure in polymeric materials			New unit
PMBTECH601B	Develop a new product	PMBTECH601A	Develop a new product	Equivalent
PMBTECH602B	Develop a new die or tool	PMBTECH602A	Develop a new die or tool	Equivalent
PMBTECH603B	Design structural/mechanical polymer	PMBTECH603A	Design structural/mechanical polymer	Equivalent

PMB07		**PMB01**		**PMB07/PMB01 equivalence, comment**
New unit		**Original unit**		
Code 06	**Unit Title 06**	**Code 01**	**Unit Title 01**	
	components		components	
PMBWASTE101C	Collect waste for recycling or safe disposal	PMBWASTE101B	Collect waste for recycling or safe disposal	Equivalent
PMBWASTE302C	Coordinate waste disposal	PMBWASTE302B	Coordinate waste disposal	Equivalent
PMBWELD301B	Butt weld polyethylene plastic pipelines	PMBWELD301A	Butt weld polyethylene plastic pipelines	Equivalent
PMBWELD302B	Electrofusion weld polyethylene pipelines	PMBWELD302A	Electrofusion weld polyethylene pipelines	Equivalent
PMBWELD303B	Install polyethylene (non-pressure) drainage pipelines	PMBWELD303A	Install polyethylene (non-pressure) drainage pipelines	Equivalent
PMBWELD304B	Design polyethylene (non-pressure) drainage pipelines	PMBWELD304A	Design polyethylene (non-pressure) drainage pipelines	Equivalent
PMBWELD305B	Install polyethylene plastic pressure pipelines	PMBWELD305A	Install polyethylene plastic pressure pipelines	Equivalent
PMBWELD306B	Design polyethylene plastic pressure pipelines	PMBWELD306A	Design polyethylene plastic pressure pipelines	Equivalent
PMBWELD307B	Install high temperature plastic pressure pipelines	PMBWELD307A	Install high temperature plastic pressure pipelines	Equivalent
PMBWELD308B	Install PVC plastic pressure pipelines	PMBWELD308A	Install PVC plastic pressure pipelines	Equivalent

PMB07		**PMB01**		**PMB07/PMB01 equivalence, comment**
New unit		**Original unit**		
Code 06	**Unit Title 06**	**Code 01**	**Unit Title 01**	
PMBWELD309B	Weld plastic using extrusion techniques	PMBWELD309A	Weld plastic using extrusion techniques	Equivalent
PMBWELD310B	Design PVC plastic pressure pipelines	PMBWELD310A	Design PVC plastic pressure pipelines	Equivalent
PMBWELD311B	Design high temperature plastic pressure pipelines	PMBWELD311A	Design high temperature plastic pressure pipelines	Equivalent
PMLTEST300B	Perform basic tests	PMLTEST300A	Perform basic tests	Equivalent
PMLTEST404A	Perform chemical tests and procedures	PMLTEST401A	Perform non-instrumental tests/procedures	Not equivalent. This change has been made in PML04
PMLTEST406A	Perform physical tests			New to PMB
PMLTEST411A	Perform mechanical tests			New to PMB
PSPPM502B	Manage complex projects	PSPPM502A	Manage projects	Equivalent
TAAASS401A	Plan and organise assessment	BSZ401A	Plan assessment	Equivalent
TAAASS402A	Assess competence	BSZ402A	Conduct assessment	Equivalent
TAAASS404A	Participate in assessment validation	BSZ403A	Review assessment	Partial equivalence. This change has been made in the new TAA Training Package

PMB07		**PMB01**		**PMB07/PMB01 equivalence, comment**
New unit		**Original unit**		
Code 06	**Unit Title 06**	**Code 01**	**Unit Title 01**	
TAADEL301A	Provide training through instruction and demonstration of work skills	BSZ404A PMBTRAIN201A	Train small groups Assist in the provision of on the job training	Partial equivalence. This change has been made in the new TAA Training Package Equivalent
TDTD1097B	Operate a forklift	TDTD1097A	Operate a forklift	Equivalent

Note: Advice re equivalences for imported units is drawn from the host Training Package.

List of units of competency in PMB07v1 and their prerequisites

Code	**Unit title**	**Code**	**Unit title**
FPICOT2206A	Cross cut materials with a hand-held chainsaw		
LMTEMGN06A	Design equipment and system modifications		
LMTEMGN07A	Manage installation and commissioning of equipment and systems		
LMTPDHL06A	Manage product development projects		
LMTPRGN15A	Coordinate work of team/section		
MCMC410A	Lead change in a manufacturing environment		

Code	Unit title	Code	Unit title
MCMS201A	Sustain process improvements		
MCMS401A	Ensure process improvements are sustained		
MCMT220A	Apply quick changeover procedures		
MCMT221A	Apply Just in Time (JIT) procedures		
MCMT230A	Apply cost factors to work practices		
MCMT240A	Apply 5S procedures in a manufacturing environment		
MCMT250A	Monitor process capability		
MCMT251A	Apply quality standards		
MCMT260A	Use planning software systems in manufacturing		
MCMT280A	Undertake root cause analysis		
MCMT421A	Facilitate a Just in Time (JIT) system		
MCMT440A	Lead 5S in a manufacturing environment		
MCMT450A	Undertake process capability improvements	MCMT452	Apply statistics to processes in manufacturing
MCMT451A	Mistake proof a production process		
MCMT452A	Apply statistics to processes in manufacturing		

Code	Unit title	Code	Unit title
MCMT620A	Develop quick changeover procedures		
MCMT621A	Develop a Just in Time (JIT) system	MCMC410A	Lead change in a manufacturing environment
MCMT630A	Optimise cost of product	MCMT631A	Undertake value analysis of product costs in terms of customer requirements
MCMT631A	Undertake value analysis of product costs in terms of customer requirements		
MCMT640A	Manage 5S system in a manufacturing environment		
MCMT650A	Determine and improve process capability	MCMT452	Apply statistics to processes in manufacturing
MCMT670A	Develop and manage sustainable energy practices		
MCMT671A	Develop and manage sustainable environmental practices		
MEM03001B	Perform manual production assembly		
MEM03006B	Set assembly stations	MEM03001B MEM18001C	Perform manual production assembly Use hand tools
MEM09002B	Interpret technical drawing		
MEM09003B	Prepare basic engineering drawing	MEM09002B	Interpret technical drawing
MEM11005B	Pick and process order		

Code	Unit title	Code	Unit title
MEM11006B	Perform production packaging		
MEM11007B	Administer inventory procedures		
MEM12023A	Perform engineering measurements		
MEM13003B	Work safely with industrial chemicals		
MEM15001B	Perform basic statistical quality control		
MEM15003B	Use improvement processes in team activities	MEM16007A	Work with others in a manufacturing, engineering or related environment
MEM15004B	Perform inspection		
MEM16006A	Organise and communicate information		
MEM16007A	Work with others in a manufacturing, engineering or related environment		
MEM16008A	Interact with computing technology		
MEM18001C	Use hand tools		
MEM18002B	Use power tools/hand held operations		
MEM30001A	Use computer aided drafting systems to produce basic engineering drawings	MEM16006A MEM16008A	Organise and communicate information Interact with computing technology
MEM30004A	Use CAD to create and	MEM16008A	Interact with computing

Code	Unit title	Code	Unit title
	display 3D models	MEM30001A	technology Use computer aided drafting systems to produce basic engineering drawings
MSAPMOHS100A	Follow OHS procedures		
MSAPMOHS110A	Follow emergency response procedures		
MSAPMOHS200A	Work safely		
MSAPMOHS205A	Control minor incidents		
MSAPMOHS210A	Undertake first response to non-fire incidents	MSAPMOHS110A	Follow emergency response procedures
MSAPMOHS212A	Undertake first response to fire incidents		
MSAPMOHS216A	Operate breathing apparatus		
MSAPMOHS217A	Gas test atmospheres		
MSAPMOHS220A	Provide initial First Aid response		
MSAPMOHS300A	Facilitate the implementation of OHS for a work group	MSAPMOHS200A	Work safely
MSAPMOHS400A	Contribute to OHS management system	MSAPMOHS300A MSAPMOHS200A	Facilitate the implementation of OHS for a work group Work safely
MSAPMOHS401A	Assess risk		
MSAPMOHS503A	Maintain the workplace OHS management system		
MSAPMOHS510A	Manage risk	MSAPMOHS401A	Assess risk

Code	Unit title	Code	Unit title
MSAPMOHS601A	Establish workplace OHS management system	MSAPMOHS503A	Maintain the workplace OHS management system
MSAPMOPS100A	Use equipment		
MSAPMOPS101A	Make measurements		
MSAPMOPS102A	Perform tasks to support production		
MSAPMOPS200A	Operate equipment		
MSAPMOPS212A	Use enterprise computers or data systems		
MSAPMOPS363A	Organise on site work		
MSAPMOPS400A	Optimise process/plant area	MSAPMSUP390A	Use structured problem solving tools
MSAPMOPS401A	Trial new process or product		
MSAPMOPS404A	Co-ordinate maintenance		
MSAPMOPS405A	Identify problems in fluid power system		
MSAPMOPS406A	Identify problems in electronic control systems		
MSAPMPER200A	Work in accordance with an issued permit		
MSAPMPER201A	Monitor and control work permits		
MSAPMPER205A	Enter confined space	MSAPMPER200A	Work in accordance with an issued permit
MSAPMPER300A	Issue work permits	MSAPMOHS200A	Work safely
MSAPMPER302A	Issue work permits (hot work/confined space)	MSAPMOHS200A	Work safely
MSAPMOPS244A	Layout and cut materials		

Code	Unit title	Code	Unit title
MSAPMSUP100A	Apply workplace procedures		
MSAPMSUP101A	Clean workplace or equipment		
MSAPMSUP102A	Communicate in the workplace		
MSAPMSUP106A	Work in a team		
MSAPMSUP172A	Identify and minimise environmental hazards		
MSAPMSUP200A	Achieve work outcomes		
MSAPMSUP201A	Receive or despatch goods		
MSAPMSUP204A	Pack products or materials		
MSAPMSUP205A	Transfer loads		
MSAPMSUP210A	Process and record information		
MSAPMSUP230A	Monitor process operations		
MSAPMSUP240A	Undertake minor maintenance		
MSAPMSUP273A	Handle goods		
MSAPMSUP280A	Manage conflict at work		
MSAPMSUP291A	Participate in continuous improvement		
MSAPMSUP292A	Sample and test materials and product		
MSAPMSUP300A	Identify and implement opportunities to maximise production efficiencies	MSAPMSUP200A	Achieve work outcomes
MSAPMSUP301A	Apply HACCP to the workplace		

Code	Unit title	Code	Unit title
MSAPMSUP303A	Identify equipment faults		
MSAPMSUP309A	Maintain and organise workplace records		
MSAPMSUP310A	Contribute to development of plant documentation		
MSAPMSUP330A	Develop and adjust a production schedule		
MSAPMSUP382A	Provide coaching/mentoring in the workplace		
MSAPMSUP383A	Facilitate a team		
MSAPMSUP390A	Use structured problem solving tools		
MSAPMSUP400A	Develop and monitor quality systems		
MSAENV272A	Participate in environmentally sustainable work practices		
MSAENV472A	Implement and monitor environmentally sustainable work practices		
MSAENV672A	Develop workplace policy and procedures for sustainability		
PMBFIN201C	Finish products and components		
PMBFIN202C	Fit attachments to products		
PMBFIN203C	Repair product imperfections		
PMBFIN205C	Hand decorate products		
PMBHAN103C	Shift materials safely by hand		

Code	Unit title	Code	Unit title
PMBHAN208C	Store products		
PMBPREP201B	Prepare moulds for composites production		
PMBPREP205C	Assemble materials and equipment for production		
PMBPREP206C	Prepare materials to formulae		
PMBPREP301C	Set up and prepare for production		
PMBPREP303C	Set up equipment for continuous operation		
PMBPREP304C	Set a die		
PMBPREP305B	Change extrusion die and setup		
PMBPROD206B	Operate ancillary equipment		
PMBPROD207B	Operate calender		
PMBPROD209C	Operate cable winding equipment		
PMBPROD210B	Operate injection moulding equipment		
PMBPROD211B	Operate blow moulding equipment		
PMBPROD212B	Operate thermoforming equipment		
PMBPROD213B	Operate extruders		
PMBPROD216B	Operate blown film equipment		
PMBPROD217B	Operate printing equipment		

Code	Unit title	Code	Unit title
PMBPROD221B	Operate rotational moulding equipment		
PMBPROD229B	Operate polystyrene shape moulding equipment		
PMBPROD233B	Operate film conversion equipment		
PMBPROD235C	Use materials and process knowledge to complete work operations		
PMBPROD236C	Operate hand held air/power equipment for production processes		
PMBPROD237C	Splice cables		
PMBPROD238A	Perform creel rack operations		
PMBPROD239A	Build reinforced conveyor belts		
PMBPROD240C	Cut materials		
PMBPROD241C	Lay up rubber lining or lag pulleys		
PMBPROD242A	Bond polymers to surfaces		
PMBPROD245C	Fabricate materials		
PMBPROD246C	Hand mix materials		
PMBPROD247C	Hand lay up composites		
PMBPROD248C	Prepare surfaces for coating		
PMBPROD249B	Apply liquid surface coatings		
PMBPROD251B	Apply gel coat or other polymer surface finish		

Code	Unit title	Code	Unit title
PMBPROD252C	Operate compounding equipment		
PMBPROD253C	Operate an internal mill blender		
PMBPROD254C	Operate an open mill blender		
PMBPROD255C	Operate mixing equipment		
PMBPROD259C	Operate granulating equipment		
PMBPROD261B	Operate continuous vulcanising equipment		
PMBPROD262B	Operate tyre curing equipment		
PMBPROD263B	Operate retread curing equipment		
PMBPROD264C	Check recycle wash process		
PMBPROD265C	Operate portable vulcanising equipment		
PMBPROD266B	Prepare tyre casings for retreading		
PMBPROD267B	Operate steel cutting equipment		
PMBPROD268B	Operate bead coiling equipment		
PMBPROD270B	Operate injection blow moulding equipment		
PMBPROD280B	Operate resin-glass depositor equipment		
PMBPROD281B	Finish composite products		
PMBPROD282B	Assemble mould		

Code	Unit title	Code	Unit title
PMBPROD283B	Demould product		
PMBPROD284B	Operate open flame moulding equipment		
PMBPROD285A	Operate computer controlled equipment		
PMBPROD287B	Weld plastics materials		
PMBPROD290B	Operate filament winding equipment		
PMBPROD291B	Operate resin infusion moulding equipment		
PMBPROD292B	Operate pultrusion equipment		
PMBPROD293B	Operate vacuum bagging equipment		
PMBPROD294B	Operate resin transfer moulding equipment		
PMBPROD295B	Operate composite sheeting equipment		
PMBPROD296B	Operate centrifugal casting equipment		
PMBPROD297B	Operate equipment using moulding compounds		
PMBPROD298B	Operate equipment using pre- preg material		
PMBPROD300B	Produce products		Any PROD 200 series unit
PMBPROD301C	Draw wire		
PMBPROD302C	Bunch and strand wire		
PMBPROD303C	Lay up and tape cables		
PMBPROD304C	Wind products onto drums		

Code	Unit title	Code	Unit title
PMBPROD305C	Colour optical fibre		
PMBPROD306B	Prepare and start equipment for production		Any PROD 200 series unit
PMBPROD307C	Produce calendered products	PMBPROD207A	Operate calender
PMBPROD308B	Take a machine out of production		
PMBPROD309C	Produce electroplated products		
PMBPROD310C	Produce injection moulded products	PMBPROD210B	Operate injection moulding equipment
PMBPROD311C	Produce blow moulded products	PMBPROD211A	Operate blow moulding equipment
PMBPROD312C	Produce continuous thermoforming products	PMBPROD212A	Operate thermoforming equipment
PMBPROD313C	Produce extruded products	PMBPROD213A	Operate extruders
PMBPROD314C	Produce compression moulded products		
PMBPROD315C	Produce polyurethane foam		
PMBPROD316C	Produce blown film	PMBPROD216A	Operate blown film equipment
PMBPROD317C	Print and decorate rigid products	PMBPROD217A	Operate printing equipment
PMBPROD318C	Build first stage tyres		
PMBPROD319C	Build up rollers		
PMBPROD320C	Produce foam injected mouldings		
PMBPROD321B	Produce rotational moulded products	PMBPROD221A	Operate rotational moulding equipment

Code	Unit title	Code	Unit title
PMBPROD323C	Produce powder coated products		
PMBPROD324B	Inspect tyres for retreading		
PMBPROD325B	Lay on tyre retreads		
PMBPROD326B	Inspect tyres		
PMBPROD327B	Produce finished tyres		
PMBPROD328C	Produce sheet feed vacuum forming products		
PMBPROD329C	Produce polystyrene shape moulded products	PMBPROD229B	Operate polystyrene shape moulding equipment
PMBPROD330A	Make moulds for formed products		
PMBPROD331C	Produce printed and decorated film		
PMBPROD332C	Produce thermally bent products		
PMBPROD333B	Convert plastic film	PMBPROD233A	Operate film conversion equipment
PMBPROD334A	Produce products using twin screw extruders		
PMBPROD335C	Build second stage tyres		
PMBPROD339A	Produce reinforced conveyor belts	PMBPROD238A PMBPROD239A	Perform creel rack operations Build reinforced conveyor belts
PMBPROD343C	Shut down plant area		
PMBPROD347B	Produce composites using hand lamination	PMBPROD247C	Hand lay up composites.

Code	Unit title	Code	Unit title
PMBPROD349B	Produce liquid surface coated products	PMBPROD249B	Apply liquid surface coatings.
PMBPROD352A	Produce compounded materials	PMBPROD252C	Operate compounding equipment
PMBPROD353B	Compound materials using an internal mill blender	PMBPROD253	Operate an internal mill blender,
PMBPROD354B	Compound materials using an open mill blender	PMBPROD254C	Operate an open mill blender
PMBPROD355B	Make pattern/plug for composites moulds	PMBPROD247B MEM09002B	Hand lay up composites Interpret technical drawing,
PMBPROD356C	Construct moulds for composite products	PMBPROD247B PMBPREP201A	Hand lay up composites Prepare moulds for composites production
PMBPROD357C	Construct jigs and fixtures		
PMBPROD358C	Develop patterns	MEM09002B	Interpret technical drawing
PMBPROD360B	Produce centrifugally cast polyurethane products	PMBPROD246B	Hand mix materials
PMBPROD362B	Produce gravity cast polyurethane products	PMBPROD246B	Hand mix materials
PMBPROD367B	Remove and replace conveyor belts		
PMBPROD368B	Repair conveyor belt carcass	PMBPROD265C	Operate portable vulcanising equipment
PMBPROD369B	Repair conveyor belt covers	PMBPROD265C	Operate portable vulcanising equipment

Code	Unit title	Code	Unit title
PMBPROD370B	Produce injection blow moulded products	PMBPROD270A	Operate injection blow moulding equipment
PMBPROD372B	Produce fibre optic preforms		
PMBPROD373B	Draw optical fibre		
PMBPROD375B	Vulcanise products using an autoclave		
PMBPROD376A	Splice steel cord conveyor belts	PMBPROD265C	Operate portable vulcanising equipment
PMBPROD377A	Splice fabric ply conveyor belts	PMBPROD265C	Operate portable vulcanising equipment
PMBPROD378A	Splice solid woven conveyor belts	PMBPROD265C	Operate portable vulcanising equipment
PMBPROD380B	Produce composites using chopper gun/depositor	PMBPROD2980A	Operate resin-glass depositor equipment
PMBPROD384A	Operate multi-axis router		
PMBPROD385A	Program computer controlled equipment		
PMBPROD387B	Produce welded plastics materials	PMBPROD287B	Weld plastics materials
PMBPROD390B	Produce composites using filament winding	PMBPROD290B	Operate filament winding equipment
PMBPROD391B	Produce composites using resin infusion	PMBPROD291B	Operate resin infusion moulding equipment
PMBPROD392B	Produce composites using pultrusion	PMBPROD292B	Operate pultrusion equipment.
PMBPROD393B	Produce composites using vacuum bagging	PMBPROD293	Produce composites using vacuum

Code	Unit title	Code	Unit title
			bagging
PMBPROD394B	Produce composites using resin transfer moulding	PMBPROD294B	Operate resin transfer moulding equipment
PMBPROD395B	Produce composite sheet products	PMBPROD295A	Operate composite sheeting equipment
PMBPROD396B	Produce composites using centrifugal casting	PMBPROD296A	Operate centrifugal casting equipment
PMBPROD397B	Produce composites using moulding compounds	PMBPROD297	Operate equipment using moulding compounds
PMBPROD398B	Produce composites using pre- pregs	PMBPROD298A	Operate equipment using pre-pregs material
PMBPROD430B	Trial a new die/tool		
PMBPROD431B	Trial a new, advanced or complex mould		
PMBTECH301B	Use material and process knowledge to solve problems		
PMBTECH302A	Modify existing compounds		
PMBTECH303A	Make minor modifications to products		
PMBTECH401B	Predict polymer properties and characteristics	PMBTECH301A	Use material and process knowledge to solve problems
PMBTECH402B	Set advanced or complex dies	PMBPREP304C	Set a die
PMBTECH403B	Test fibre- composites materials and laminates		
PMBTECH404B	Mould chemical resistant and/or fire retardant fibre-composites	PMBPROD347A	Produce composites using hand lamination

Code	Unit title	Code	Unit title
		OR PMBPROD380A	OR Produce composites using chopper gun/depositors.
PMBTECH405B	Repair damaged fibre-composites structures	PMBPROD247B	Hand lay up composites
PMBTECH406A	Diagnose production equipment problems		
PMBTECH501B	Analyse equipment performance	MSAPMOPS401A PMBTECH401A PMBTECH301A	Trial new process or product Predict polymer properties and characteristics Use material and process knowledge to solve problems
PMBTECH502B	Review and analyse production trials and specify retrials	MSAPMOPS401A	Trial new process or product
PMBTECH503B	Determine rheology and output of plastics materials from processing equipment	PMBTECH401B	Predict polymer properties and characteristics.
PMBTECH504B	Determine heat transfer loads for processing equipment		
PMBTECH505B	Choose polymer materials for an application	PMBTECH401B PMBTECH301A	Predict polymer properties and characteristics Use material and process knowledge to solve problems
PMBTECH506B	Analyse the design of products and tools	MEM09002B MSAPMOPS401A	Interpret technical drawing Trial new process or product

Code	Unit title	Code	Unit title
PMBTECH507B	Develop fibre composite products using cored-laminate techniques	MEM09003B	Prepare basic engineering drawing
PMBTECH508A	Develop a new compound		
PMBTECH509A	Modify an existing product		
PMBTECH510A	Analyse failure in polymeric materials		
PMBTECH601B	Develop a new product	PMBTECH502B PMBTECH505B MEM15001B PMBTECH401B PMBTECH301A	Review and analyse production trials and specify retrials Choose polymer materials for an application Perform basic statistical quality control Predict polymer properties and characteristics Use material and process knowledge to solve problems
PMBTECH602B	Develop a new die or tool	PMBTECH506B MEM09003B MEM09002B MSAPMOPS401A	Analyse the design of products and tools Prepare basic engineering drawing Interpret technical drawing Trial new process or product
PMBTECH603B	Design structural/mechanical polymer components	PMBTECH505B PMBTECH401B PMBTECH301A	Choose polymer materials for an application Predict polymer properties and characteristics

Code	Unit title	Code	Unit title
			Use material and process knowledge to solve problems
PMBWASTE101C	Collect waste for recycling or safe disposal		
PMBWASTE302C	Coordinate waste disposal		
PMBWELD301B	Butt weld polyethylene plastic pipelines		
PMBWELD302B	Electrofusion weld polyethylene pipelines		
PMBWELD303B	Install polyethylene (non-pressure) drainage pipelines		
PMBWELD304B	Design polyethylene (non-pressure) drainage pipelines	PMBWELD303B	Install polyethylene (non pressure)
PMBWELD305B	Install polyethylene plastic pressure pipelines		
PMBWELD306B	Design polyethylene plastic pressure pipelines	PMBWELD305B	Install polyethylene plastic pressure pipelines
PMBWELD307B	Install high temperature plastic pressure pipelines		
PMBWELD308B	Install PVC plastic pressure pipelines		
PMBWELD309B	Weld plastic using extrusion techniques		
PMBWELD310B	Design PVC plastic pressure pipelines	PMBWELD308B	Install PVC plastic pressure pipelines
PMBWELD311B	Design high temperature plastic pressure pipelines	PMBWELD307B	Install high temperature plastic pressure pipelines
PMLTEST300B	Perform basic tests		

Code	Unit title	Code	Unit title
PMLTEST404A	Perform chemical tests and procedures		
PMLTEST406A	Perform physical tests		
PMLTEST411A	Perform mechanical tests		
PSPPM502B	Manage complex projects		
TAAASS401A	Plan and organise assessment		
TAAASS402A	Assess competence		
TAAASS404A	Participate in assessment validation	TAAASS402A	Assess competence
TAADEL301A	Provide training through instruction and demonstration of work skills		
TDTD1097B	Operate a forklift		

Overview

What is a Training Package?

A Training Package is an integrated set of nationally endorsed competency standards, assessment guidelines and Australian Qualifications Framework (AQF) qualifications for a specific industry, industry sector or enterprise.

Each Training Package:

- provides a consistent and reliable set of components for training, recognising and assessing peoples skills, and may also have optional support materials
- enables nationally recognised qualifications to be awarded through direct assessment of workplace competencies
- encourages the development and delivery of flexible training which suits individual and industry requirements
- encourages learning and assessment in a work-related environment which leads to verifiable workplace outcomes.

How do Training Packages fit within the National Skills Framework?

The National Skills Framework applies nationally, is endorsed by the Ministerial Council for Vocational and Technical Education, and comprises the Australian Quality Training Framework 2010 (AQTF 2010), and Training Packages endorsed by the National Quality Council (NQC).

How are Training Packages developed?

Training Packages are developed by Industry Skills Councils or enterprises to meet the identified training needs of specific industries or industry sectors. To gain national endorsement of Training Packages, developers must provide evidence of extensive research, consultation and support within the industry area or enterprise.

How do Training Packages encourage flexibility?

Training Packages describe the skills and knowledge needed to perform effectively in the workplace without prescribing how people should be trained. Training Packages acknowledge that people can achieve vocational competency in many ways by emphasising what the learner can do, not how or where they learned to do it. For example, some experienced workers might be able to demonstrate competency against the units of competency, and even gain a qualification, without completing a formal training program.

With Training Packages, assessment and training may be conducted at the workplace, off-the-job, at a training organisation, during regular work, or through work experience, work placement, work simulation or any combination of these.

Who can deliver and assess using Training Packages?

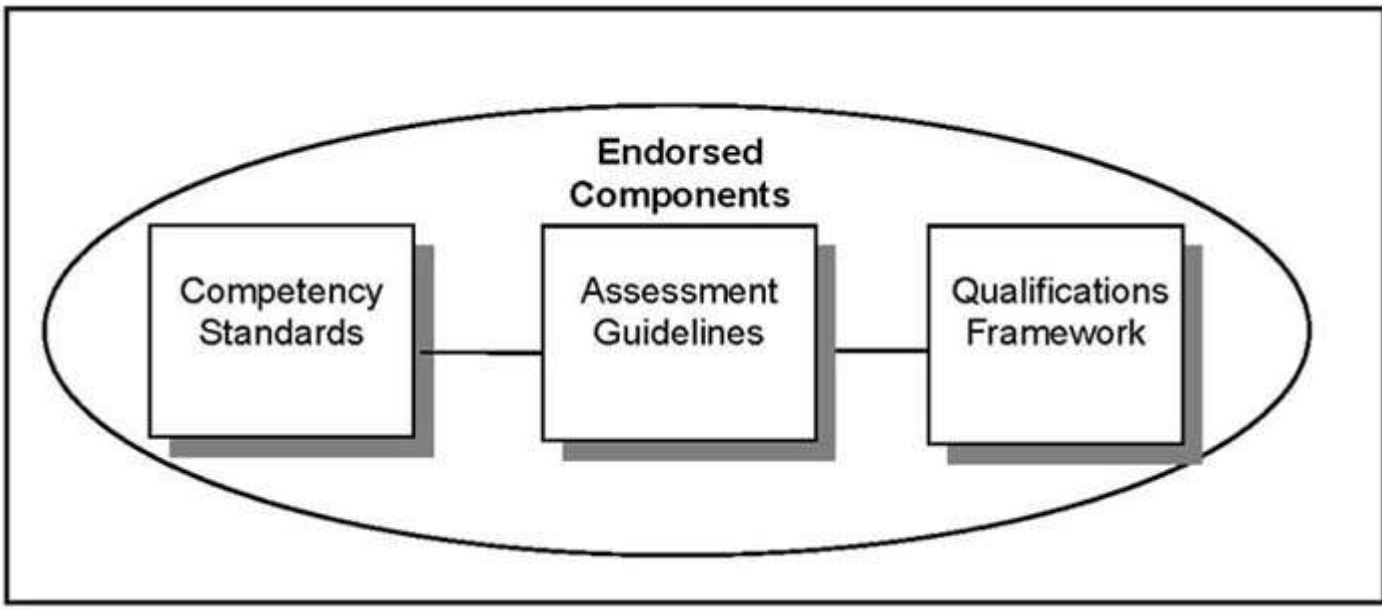
Training and assessment using Training Packages must be conducted by a Registered Training Organisation (RTO) that has the qualifications or specific units of competency on its scope of registration, or that works in partnership with another RTO, as specified in the AQTF 2010.

Training Package Components

Training Packages are made up of mandatory components endorsed by the NQC, and optional support materials.

Training Package Endorsed Components

The nationally endorsed components include the Competency Standards, Assessment Guidelines and Qualifications Framework. These form the basis of training and assessment in the Training Package and, as such, they must be used.



Competency Standards

Each unit of competency identifies a discrete workplace requirement and includes the knowledge and skills that underpin competency as well as language, literacy and numeracy; and occupational health and safety requirements. The units of competency must be adhered to in training and assessment to ensure consistency of outcomes.

Assessment Guidelines

The Assessment Guidelines provide an industry framework to ensure all assessments meet industry needs and nationally agreed standards as expressed in the Training Package and the AQTF 2010. The Assessment Guidelines must be followed to ensure the integrity of assessment leading to nationally recognised qualifications.

Qualifications Framework

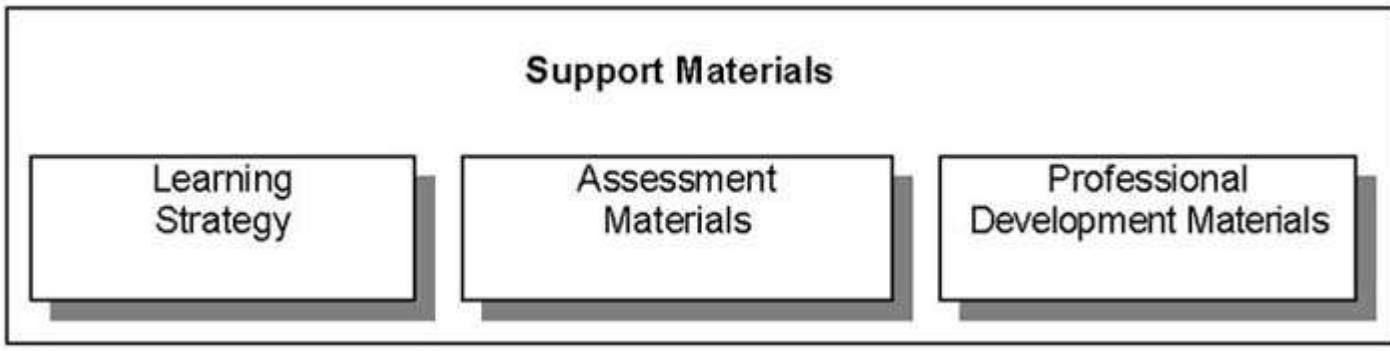
Each Training Package provides details of those units of competency that must be achieved

to award AQF qualifications. The rules around which units of competency can be combined to make up a valid AQF qualification in the Training Package are referred to as the "packaging rules". The packaging rules must be followed to ensure the integrity of nationally recognised qualifications issued.

Training Package Support Materials

The endorsed components of Training Packages are complemented and supported by optional support materials that provide for choice in the design of training and assessment to meet the needs of industry and learners.

Training Package support materials can relate to single or multiple units of competency, an industry sector, a qualification or the whole Training Package. They tend to fall into one or more of the categories illustrated below.



Training Package support materials are produced "by a range of stakeholders such as RTOs, individual trainers and assessors, private and commercial developers and Government agencies.

Where such materials have been quality assured through a process of "noting" by the NQC, they display the following official logo. Noted support materials are listed on the National Training Information Service (NTIS), together with a detailed description and information on the type of product and its availability < www.ntis.gov.au>.

It is not compulsory to submit support materials for noting; any resources that meet the requirements of the Training Package can be used.

Training Package, Qualification and Unit of Competency Codes

There are agreed conventions for the national codes used for Training Packages and their components. Always use the correct codes, exactly as they appear in the Training Package, and with the code always before the title.

Training Package Codes

Each Training Package has a unique five-character national code assigned when the Training Package is endorsed, for example PMB07. The first three characters are letters identifying the Training Package industry coverage and the last two characters are numbers identifying the year of endorsement.

Qualification Codes

Within each Training Package, each qualification has a unique eight-character code, for example PMB20107. Qualification codes are developed as follows:

- the first three letters identify the Training Package;

- the first number identifies the qualification level (noting that, in the qualification titles themselves, arabic numbers are not used);
- the next two numbers identify the position in the sequence of the qualification at that level; and
- the last two numbers identify the year in which the qualification was endorsed. (Where qualifications are added after the initial Training Package endorsement, the last two numbers may differ from other Training Package qualifications as they identify the year in which those particular qualifications were endorsed.)

Unit of Competency Codes

Within each Training Package, each unit of competency has a unique code. Unit of competency codes are assigned when the Training Package is endorsed, or when new units of competency are added to an existing endorsed Training Package. Unit codes are developed as follows:

- a typical code is made up of 12 characters, normally a mixture of uppercase letters and numbers, as in PMBPROD238A;
- the first three characters signify the Training Package - PMB07 - in the above example and up to eight characters, relating to an industry sector, function or skill area, follow;
- the last character is always a letter and identifies the unit of competency version. An "A" at the end of the code indicates that this is the original unit of competency. "B", or another incremented version identifier means that minor changes have been made. Typically this would mean that wording has changed in the range statement or evidence guide, providing clearer intent; and
- where changes are made that alter the outcome, a new code is assigned and the title is changed.

Training Package, Qualification and Unit of Competency Titles

There are agreed conventions for titling Training Packages and their components. Always use the correct titles, exactly as they appear in the Training Package, and with the code always placed before the title.

Training Package Titles

The title of each endorsed Training Package is unique and relates the Training Packages broad industry coverage.

Qualification Titles

The title of each endorsed Training Package qualification is unique. Qualification titles use the following sequence:

- first, the qualification is identified as either Certificate I, Certificate II, Certificate III, Certificate IV, Diploma, Advanced Diploma, Vocational Graduate Certificate, or Vocational Graduate Diploma;
- this is followed by the words "in" for Certificates I to IV, and "of" for Diploma, Advanced
- Diploma, Vocational Graduate Certificate and Vocational Graduate Diploma;
- then, the industry descriptor, for example Telecommunications; and

- then, if applicable, the occupational or functional stream in brackets, for example (Computer Systems).

For example:

- PMB20107 Certificate II in Polymer Processing

Unit of Competency Titles

Each unit of competency title is unique. Unit of competency titles describe the competency outcome concisely, and are written in sentence case.

For example:

- PMBFIN201C Finish products and components

Development of PMB07

PMB07 replaces PMB01. It has been developed as a result of extensive consultation and

validation that took place between August 2005 and February 2007. The package has been revised to address the needs of all sectors of the polymer processing (plastics, rubber and cablemaking) industries.

The review process

PMB01 was endorsed in 2001, with a requirement that it be reviewed after a three year period to ensure the package remained current and relevant to industry needs. At the same time, there was a requirement to update PMB01 to comply with latest DEST/NTIS requirements.

Stage 1 of the review was undertaken between February-June 2005 and was based on the DEST guidelines for reviewing an existing Training Package. The Stage 1 Report was validated nationally and endorsed unanimously by the Project Reference Group. Phase 2 commenced in August 2005 and was completed in February 2007.

Both Phase 1 and Phase 2 were overseen by a Project Reference Group comprising industry and RTO stakeholders and the Process Manufacturing Industry Advisory Committee.

Membership of the Project Reference Group

Organisation	**Nominee**	**Representing**
PACIA NSW	Stephen Holland	Plastics
Viscount Plastics (Australia) P/L	Ian Kidd	Plastics industry
National Union of Workers	Julie Warren	Union
Assoc of Rotational Moulders A'sia	Leisa Donlan	Rotational moulding
Ai Group	John Quick	Plastics
Buchanan Advanced Composites	Norm Watt	Composites
TAFE NSW - MECATCC	Kim Peterson	Public provider - NSW

Kangan Batman Institute	Bill Rees	Public provider - Vic
Newskills Ltd	Stephen de Rozairo	Private provider - Vic
Applied Training Solutions	Carlo Lauricella	Private provider - NSW
OTTE	John Scott	State Government

Members of Process Manufacturing Industry Advisory Committee

Member	**Organisation**	**Representing**
David Graham	Huntsman Chemical Co (MSA Director)	PACIA (plastics and chemicals)
Doug Stevens	National Union of Workers (MSA Director)	NUW (plastics)
Julie Warren	National Union of Workers	NUW (plastics)
Brian Tobin	Readymix Beenleigh Quarry	Concrete Products (premix)
John Turton	Cement, Concrete & Aggregates Australia0	CCAA (cement and concrete)
Don Sanders	Australian Petroleum Production &	APPEA (hydrocarbons)
	Exploration Assn Ltd	
Leisa Donlan	Assoc of Rotational Moulders Australasia	ARMA (plastics)
Alan Bugg	Huntsman Chemical Co Aust Ltd	AWU (chemical)
Vince Lloyd	Qenos	AWU (chemical)
Chris Nail	Foseco Pty Ltd	Manufactured Mineral Products (Refractories)
Norm Watt	Buchanan Advanced Composites	Composites Australia

Consultation and development

Consultations were undertaken nationally. The consultation process included:

- advanced composites
- targeted meetings with small groups
- individual meetings with RTOs and/or industry representatives
- input via State ITAB networks
- Delphi email groups to review and validate changes.

Validation of drafts has been via email, phone and targeted meetings. Any issues regarding proposed changes were resolved by broad national consultation and decisions based on the majority viewpoint. An issues register was maintained throughout the project.

A list of participants and contributors can be found at Appendix 1.

Changes resulting from the review

All the work undertaken in Phase 2 of this review has been based on the agreed recommendations in the Phase 1 Report.

Layout of the package and unit template has been based on the current DEST/NTIS guidelines.

Changes to units of competency

All existing units have been revised and over 20 new technical units have been developed to meet the skill needs identified in Phase 1.

- advanced composites
- belt splicing
- sterility and HACCP requirements
- robotics (pick and place, intelligent, etc)
- environmental and sustainability
- engineering drawing and CAD
- CNC machine operation and Computer Aided Manufacturing (CAM)
- Occupational Health and Safety.

Where existing units have been substantially changed, this has been based on advice from industry and RTOs.

To increase flexibility and recognition across sectors, duplication has been minimised and over 50 units imported from other Training Packages such as TDT, MCM04, MEM05, LMT02, TAA05 and MSA07.

Where PMB units have been replaced by imported units, the intent of the original units has not been altered.

To minimise duplication across the three Process Manufacturing Training Packages (PMA, PMC and PMB) the mandatory and other support units in the three packages were reviewed and a range of common units developed. These units have been imported to PMB07, reducing the number of generic support units across process manufacturing.

For a mapping of changes to units and a general indication of equivalences, refer to the Mapping of PMB01 to PMB07.

For advice on contextualising units of competency, refer to the Competency Standards section of this Training Package.

Refer to Appendix 2 for a glossary of terms in the PMB07 units of competency.

Qualifications in PMB07

Packaging rules for all qualifications in PMB07 have been revised to:

- provide increased flexibility
- remove ambiguity and duplication
- ensure adequate rigour and parity with the AQF Guidelines
- increase opportunities for RTOs
- generate greater training efficiencies and opportunities for industry and workers.

The new Qualifications Framework is designed to maximise recognition, flexibility and portability for people employed in all sectors of the polymer industries.

The numbers of units required for each qualification have remained essentially the same.

All qualifications in PMB01 were effectively 'nested' and carried the implicit assumption that a person entered at Certificate I and progressed to Advanced Diploma (or their limit). To better reflect market needs, PMB07 has been restructured so that there is direct entry to both Certificate II and the Diploma.

Associated with this and to address an identified need to ensure parity with the AQF descriptors, there have been some changes to the mandatory (core) units required.

The Certificate I in Plastics, Rubber and Cablemaking has not been carried forward. The Manufacturing (Pathways) was considered as an optional Certificate I, however, it was agreed that the Certificate I in Process Manufacturing be retained as job outcomes have been identified at this level for these industries. It has however been recast as a common certificate across all of process manufacturing and as such will be available to for use across the PMA, PMB and PMC Training Packages.

There were three 'technical' qualifications at each of Certificate II and III in PMB01. These have not been carried forward as in reality there are minimal differences between these qualifications. PMB07 has only one 'technical' qualification at any level.

Separate rules for packaging for industry specialisations (or 'streams') are no longer included in the packaging rules. These were never intended as actual rules, rather were provided as advice on how qualifications could be packaged for some of the major streams.

Refer to Appendix 3 for advice on how to package a certificate to accommodate industry specialisations.

A mapping of the qualifications in PMB07 to qualifications in PMB01 is included in the Qualifications Framework section.

Process Manufacturing Certificates I, II and III

To minimise duplication of similar production support qualifications in PMA, PMC and PMB, three common process manufacturing certificates have been developed. These certificates have been endorsed as part of the generic Manufacturing Training Package (MSA07) and have replaced the PMB specific production support certificates. All the relevant MSA units have been imported to PMB07.

In keeping with the high market penetration of the Process Manufacturing Certificates in

PMB01, the 'Process Manufacturing' title has been maintained.

Transition arrangements

People with an existing qualification from PMB01 will still have that qualification recognised. People who are currently enrolled in training based on PMB01 will be able to complete those

certificates. However, anyone who has achieved recognition of some units towards a qualification in PMB01 (while not having a full qualification) may have the equivalent unit(s) granted then be assessed for the relevant qualification against the packaging rules for PMB07. The name of the qualification will change to accord with the titles of the qualifications available under PMB07.

The transition from PMB01 to PMB07 is not expected too disadvantage anyone.

Historical and General Information

Development of PMB07

PMB07 replaces PMB01. It has been developed as a result of extensive consultation and validation that took place between August 2005 and February 2007. The package has been revised to address the needs of all sectors of the polymer processing (plastics, rubber and cablemaking) industries.

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Stage 1 of the review was undertaken between February-June 2005 and was based on the DEST guidelines for reviewing an existing Training Package. The Stage 1 Report was validated nationally and endorsed unanimously by the Project Reference Group. Phase 2 commenced in August 2005 and was completed in February 2007.

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Layout of the package and unit template has been based on the current DEST/NTIS guidelines.

Changes to units of competency

All existing units have been revised and over 20 new technical units have been developed to meet the skill needs identified in Phase 1.

- Existing units of competency have been updated with respect to:
- size, coverage and currency
- clarity and completeness of Elements and Performance Criteria
- underpinning knowledge, Range Statements and Evidence Guides
- language, numeracy and access and equity issues
- duplication (both within PMB01 and with units from other Training Packages
- prerequisites
- replacement of Key Competencies with Employability Skills
- compliance with the current DEST/NTIS template.

New units have been developed, or units have been imported from other Training Packages, to address gaps identified in areas such as:

- adhesives and bonding technology
- organic chemistry
- fabrication and development of moulds and patterns for fabricators
- advanced composites
- belt splicing
- sterility and HACCP requirements
- robotics (pick and place, intelligent, etc)
- environmental and sustainability
- engineering drawing and CAD
- CNC machine operation and Computer Aided Manufacturing (CAM)
- Occupational Health and Safety.

Where existing units have been substantially changed, this has been based on advice from industry and RTOs.

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The new Qualifications Framework is designed to maximise recognition, flexibility and portability for people employed in all sectors of the polymer industries.

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To minimise duplication of similar production support qualifications in PMA, PMC and PMB, three common process manufacturing certificates have been developed. These certificates have been endorsed as part of the generic Manufacturing Training Package (MSA07) and have replaced the PMB specific production support certificates. All the relevant MSA units have been imported to PMB07.

In keeping with the high market penetration of the Process Manufacturing Certificates in PMB01, the 'Process Manufacturing' title has been maintained.

Transition arrangements

People with an existing qualification from PMB01 will still have that qualification recognised.

People who are currently enrolled in training based on PMB01 will be able to complete those certificates. However, anyone who has achieved recognition of some units towards a qualification in PMB01 (while not having a full qualification) may have the equivalent unit(s) granted then be assessed for the relevant qualification against the packaging rules for PMB07. The name of the qualification will change to accord with the titles of the qualifications available under PMB07.

The transition from PMB01 to PMB07 is not expected too disadvantage anyone.

Introduction to the Industry

PMB07 industry coverage

The polymer processing industry

The polymer processing industry is a downstream industry to the chemical and petrochemical industry, sourcing both the polymer raw materials (polymer manufacture) and many of the additives from the chemical and petrochemical sectors. Other additives, typically fillers, may be sourced from the ground minerals sector of the manufactured mineral products industry. Its products are used directly in virtually all industries and as components in many consumer products (both durables and consumables).

As a whole, the industry employs around 50,000 people, with a turnover of approximately $9,000 million, and adds value to approximately $3,500 million.

Previous versions of this Training Package have split the polymer processing industry into three main sectors of plastics, rubber and cablemaking. However, these three rather disparate sectors don't reflect current industry perspective. Typically, the industry players would see the industry grouped as follows:

a) Product type, such as:

- tyres – manufacture or retreading
- conveyor belts – manufacture or repair
- cable – electrical power or data cables.

b) Material type, such as:

- composites

- general rubber
- specialist polymers.

c) Process type, such as:

- injection moulding or retreading
- rotational moulding
- extrusion.

It should be noted that while these processes are used as sub-sector names (typically for thermoplastic processes) the various processes themselves are used generally across all sub-sectors.

Qualifications Framework

The Australian Qualifications Framework

What is the Australian Qualifications Framework?

A brief overview of the Australian Qualifications Framework (AQF) follows. For a full explanation of the AQF, see the AQF Implementation Handbook. http://www.aqf.edu.au/Portals/0/Documents/Handbook/AQF_Handbook_07.pdf The AQF provides a comprehensive, nationally consistent framework for all qualifications in

post-compulsory education and training in Australia. In the vocational education and training (VET) sector it assists national consistency for all trainees, learners, employers and providers by enabling national recognition of qualifications and Statements of Attainment.

Training Package qualifications in the VET sector must comply with the titles and guidelines of the AQF. Endorsed Training Packages provide a unique title for each AQF qualification which must always be reproduced accurately.

Qualifications

Training Packages can incorporate the following eight AQF qualifications.

- Certificate I in ...
- Certificate II in ...
- Certificate III in ...
- Certificate IV in ...
- Diploma of ...
- Advanced Diploma of ...
- Vocational Graduate Certificate of ...
- Vocational Graduate Diploma of ...

Graduate Certificates and Graduate Diplomas can also be awarded in the vocational education and training sector under certain conditions see the *AQF Implementation Handbook* for details.

On completion of the requirements defined in the Training Package, a Registered Training Organisation (RTO) may issue a nationally recognised AQF qualification. Issuance of AQF qualifications must comply with the advice provided in the *AQF Implementation Handbook* and the AQTF 2010 *Essential Standards for Initial and Continuing Registration.* .

Statement of Attainment

A Statement of Attainment is issued by a Registered Training Organisation when an individual has completed one or more units of competency from nationally recognised qualification(s)/courses(s). Issuance of Statements of Attainment must comply with the advice provided in the current *AQF Implementation Handbook* and the AQTF 2010 *Essential Standards for Initial and Continuing Registration.*.

Under the AQTF 2010, RTOs must recognise the achievement of competencies as recorded on a qualification testamur or Statement of Attainment issued by other RTOs. Given this, recognised competencies can progressively build towards a full AQF qualification.

AQF Guidelines and Learning Outcomes

The *AQF Implementation Handbook* provides a comprehensive guideline for each AQF qualification. A summary of the learning outcome characteristics and their distinguishing features for each VET related AQF qualification is provided below.

Certificate I

Characteristics of Learning Outcomes

Breadth, depth and complexity of knowledge and skills would prepare a person to perform a defined range of activities most of which may be routine and predictable.

Applications may include a variety of employment related skills including preparatory access and participation skills, broad-based induction skills and/or specific workplace skills. They may also include participation in a team or work group.

Distinguishing Features of Learning Outcomes

Do the competencies enable an individual with this qualification to:

- demonstrate knowledge by recall in a narrow range of areas;
- demonstrate basic practical skills, such as the use of relevant tools;
- perform a sequence of routine tasks given clear direction
- receive and pass on messages/information.

Certificate II

Characteristics of Learning Outcomes

Breadth, depth and complexity of knowledge and skills would prepare a person to perform in a range of varied activities or knowledge application where there is a clearly defined range of contexts in which the choice of actions required is usually clear and there is limited complexity in the range of operations to be applied.

Performance of a prescribed range of functions involving known routines and procedures and some accountability for the quality of outcomes.

Applications may include some complex or non-routine activities involving individual responsibility or autonomy and/or collaboration with others as part of a group or team.

Distinguishing Features of Learning Outcomes

Do the competencies enable an individual with this qualification to:

- demonstrate basic operational knowledge in a moderate range of areas;
- apply a defined range of skills;
- apply known solutions to a limited range of predictable problems;
- perform a range of tasks where choice between a limited range of options is required;
- assess and record information from varied sources;
- take limited responsibility for own outputs in work and learning.

Certificate III

Characteristics of Learning Outcomes

Breadth, depth and complexity of knowledge and competencies would cover selecting, adapting and transferring skills and knowledge to new environments and providing technical advice and some leadership in resolution of specified problems. This would be applied across a range of roles in a variety of contexts with some complexity in the extent and choice of options available.

Performance of a defined range of skilled operations, usually within a range of broader related activities involving known routines, methods and procedures, where some discretion and judgement is required in the section of equipment, services or contingency measures and within known time constraints.

Applications may involve some responsibility for others. Participation in teams including group or team co-ordination may be involved.

Distinguishing Features of Learning Outcomes

Do the competencies enable an individual with this qualification to:

- demonstrate some relevant theoretical knowledge
- apply a range of well-developed skills
- apply known solutions to a variety of predictable problems
- perform processes that require a range of well-developed skills where some discretion and judgement is required
- interpret available information, using discretion and judgement
- take responsibility for own outputs in work and learning
- take limited responsibility for the output of others.

Certificate IV

Characteristics of Learning Outcomes

Breadth, depth and complexity of knowledge and competencies would cover a broad range of varied activities or application in a wider variety of contexts most of which are complex and non-routine. Leadership and guidance are involved when organising activities of self and others as well as contributing to technical solutions of a non-routine or contingency nature.

Performance of a broad range of skilled applications including the requirement to evaluate and analyse current practices, develop new criteria and procedures for performing current practices and provision of some leadership and guidance to others in the application and planning of the skills. Applications involve responsibility for, and limited organisation of, others.

Distinguishing Features of Learning Outcomes

Do the competencies enable an individual with this qualification to:

- demonstrate understanding of a broad knowledge base incorporating some theoretical concepts
- apply solutions to a defined range of unpredictable problems
- identify and apply skill and knowledge areas to a wide variety of contexts, with depth in some areas
- identify, analyse and evaluate information from a variety of sources
- take responsibility for own outputs in relation to specified quality standards
- take limited responsibility for the quantity and quality of the output of others.

Diploma

Characteristics of Learning Outcomes

Breadth, depth and complexity covering planning and initiation of alternative approaches to skills or knowledge applications across a broad range of technical and/or management requirements, evaluation and co-ordination.

The self directed application of knowledge and skills, with substantial depth in some areas where judgment is required in planning and selecting appropriate equipment, services and techniques for self and others.

Applications involve participation in development of strategic initiatives as well as personal responsibility and autonomy in performing complex technical operations or organising others. It may include participation in teams including teams concerned with planning and evaluation functions. Group or team co-ordination may be involved.

The degree of emphasis on breadth as against depth of knowledge and skills may vary between qualifications granted at this level.

Distinguishing Features of Learning Outcomes

Do the competencies or learning outcomes enable an individual with this qualification to:

- demonstrate understanding of a broad knowledge base incorporating theoretical concepts, with substantial depth in some areas
- analyse and plan approaches to technical problems or management requirements
- transfer and apply theoretical concepts and/or technical or creative skills to a range of situations
- evaluate information, using it to forecast for planning or research purposes
- take responsibility for own outputs in relation to broad quantity and quality parameters
- take some responsibility for the achievement of group outcomes.

Advanced Diploma

Characteristics of Learning Outcomes

Breadth, depth and complexity involving analysis, design, planning, execution and evaluation across a range of technical and/or management functions including development of new criteria or applications or knowledge or procedures.

The application of a significant range of fundamental principles and complex techniques across a wide and often unpredictable variety of contexts in relation to either varied or highly specific functions. Contribution to the development of a broad plan, budget or strategy is involved and accountability and responsibility for self and others in achieving the outcomes is involved.

Applications involve significant judgement in planning, design, technical or leadership/guidance functions related to products, services, operations or procedures.

The degree of emphasis on breadth as against depth of knowledge and skills may vary between qualifications granted at this level.

Distinguishing Features of Learning Outcomes

Do the competencies or learning outcomes enable an individual with this qualification to:

- demonstrate understanding of specialised knowledge with depth in some areas
- analyse, diagnose, design and execute judgements across a broad range of technical or management functions
- generate ideas through the analysis of information and concepts at an abstract level
- demonstrate a command of wide-ranging, highly specialised technical, creative or conceptual skills
- demonstrate accountability for personal outputs within broad parameters
- demonstrate accountability for personal and group outcomes within broad parameters.

Vocational Graduate Certificate

Characteristics of competencies or learning outcomes

- The self-directed development and achievement of broad and specialised areas of knowledge and skills, building on prior knowledge and skills.
- Substantial breadth and complexity involving the initiation, analysis, design, planning, execution and evaluation of technical and management functions in highly varied and highly specialised contexts.
- Applications involve making significant, high-level, independent judgements in major broad or planning, design, operational, technical and management functions in highly varied and specialised contexts. They may include responsibility and broad-ranging accountability for the structure, management and output of the work or functions of others.
- The degree of emphasis on breadth, as opposed to depth, of knowledge and skills may vary between qualifications granted at this level.

Distinguishing features of learning outcomes

- Demonstrate the self-directed development and achievement of broad and specialised areas of knowledge and skills, building on prior knowledge and skills.
- Initiate, analyse, design, plan, execute and evaluate major broad or technical and management functions in highly varied and highly specialised contexts.
- Generate and evaluate ideas through the analysis of information and concepts at an abstract level.
- Demonstrate a command of wide-ranging, highly specialised technical, creative or conceptual skills in complex contexts.
- Demonstrate responsibility and broad-ranging accountability for the structure, management and output of the work or functions of others.

Vocational Graduate Diploma

Characteristics of competencies or learning outcomes

- The self-directed development and achievement of broad and specialised areas of knowledge and skills, building on prior knowledge and skills.
- Substantial breadth, depth and complexity involving the initiation, analysis, design, planning, execution and evaluation of major functions, both broad and highly specialised, in highly varied and highly specialised contexts.
- Further specialisation within a systematic and coherent body of knowledge.
- Applications involve making high-level, fully independent, complex judgements in broad planning, design, operational, technical and management functions in highly varied and highly specialised contexts. They may include full responsibility and accountability for all aspects of work and functions of others, including planning, budgeting and strategy development.
- The degree of emphasis on breadth, as opposed to depth, of knowledge and skills may vary between qualifications granted at this level.

Distinguishing features of learning outcomes

- Demonstrate the self-directed development and achievement of broad and highly specialised areas of knowledge and skills, building on prior knowledge and skills.
- Initiate, analyse, design, plan, execute and evaluate major functions, both broad and within highly varied and highly specialised contexts.
- Generate and evaluate complex ideas through the analysis of information and concepts at an abstract level.
- Demonstrate an expert command of wide-ranging, highly specialised, technical, creative or conceptual skills in complex and highly specialised or varied contexts.
- Demonstrate full responsibility and accountability for personal outputs.
- Demonstrate full responsibility and accountability for all aspects of the work or functions of others, including planning, budgeting and strategy.
-

Qualification Pathways

Qualification Pathways

Summary of PMB07 qualifications and pathways

Mapping of qualifications in PMB07 to PMB01

PMB07	PMB01	Comment
Technical certificates		
PMB20107 Certificate II in Polymer Processing	PMB20101 Certificate II in Plastics PMB20201 Certificate II in Rubber PMB20301 Certificate II in Cablemaking	Equivalent
PMB30107 Certificate III in Polymer Processing	PMB30101 Certificate III in Plastics PMB30201 Certificate III in Rubber PMB30201 Certificate III in Cablemaking	Equivalent
PMB40107 Certificate IV in Polymer Technology	PMB40101 Certificate IV in Polymer Technology	Equivalent
PMB50107 Diploma of Polymer Technology	PMB50101 Diploma of Polymer Technology	Equivalent
PMB60107 Advanced Diploma of Polymer Technology	PMB60101 Advanced Diploma of Polymer Technology	Equivalent
Production support certificates available in the Manufacturing Training Package (MSA07)		
MSA10207 Certificate I in Process Manufacturing	PMB10101 Certificate I in Plastics, Rubber and Cablemaking	Equivalent
MSA20107 Certificate II in Process Manufacturing	PMB20401 Certificate II in Process Manufacturing	Equivalent
MSA30107 Certificate III in Process Manufacturing	PMB30101 Certificate III in Process Manufacturing	Equivalent

Technical qualifications

The five technical qualifications in PMB07 are intended for people who are actively involved in producing products. Additional information is provided with the individual packaging rules.

The PMB10101 Certificate I in Plastics, Rubber & Cablemaking has not been carried forward. However, in recognition that in some sectors of this industry there are job outcomes at this level, a common Certificate I in Process Manufacturing has been developed for use across all of process manufacturing.

Production support certificates

Production support certificates that cater for people working in the industry and filling vital production support roles, but who may not have the opportunity to develop competence in sufficient technical units of competency related directly to producing products, are endorsed in the Manufacturing Training Package (MSA07). They have been redeveloped as common certificates for use across all of process manufacturing. All relevant MSA units have also been imported as electives in PMB07.

Packaging for industry specialisations (streams) in PMB07

All certificates in endorsed Training Packages can be customised to suit industry needs. RTOs delivering PMB07 qualifications are encouraged to develop and use industry specialisations (often called ‘streams’) relevant to their market and customers. These must be consistent with the packaging rules of PMB07. Advice on appropriate clusters of competencies which might lead to an industry specialisation is provided below.

Because of the generic nature of other qualifications, industry specialisations are mainly relevant for Certificates II and III although may be applied to other qualifications.

Suggested specialisations

The following list is a suggestion of possible specialisations which may be appropriate to the polymer industries. RTOs have the authority to develop and use additional specialisations which comply with the packaging rules.

Possible specialisations may include, but are not limited to:

Belting

- Manufacture
- Repair

- Splicing

Composites

- Aerospace
- Decorative
- General
- Marine
- Structural

Plastics

- Blow Moulding
- Blown Film
- Extrusion
- Fabrication
- Injection Moulding
- Polystyrene Expanded Foam
- Polyurethane
- Rotational Moulding
- Thermoforming

Rubber

- Extrusion
- Fabrication
- General Manufacture
- Injection Moulding
- Rubber Lining
- Tyre Manufacture
- Tyre Retreading
- Surface Coating

These suggested industry specialisation titles have been grouped for ease of use, however, it is not necessary to have a two level industry specialisation title as shown. The second level only may be sufficient, although some organisations may wish to identify the sector as well.

Developing an industry specialisation

An RTO may develop an industry specialisation which is relevant to their market and clientele. An RTO should consult with its industry partners to determine which units of competency are relevant to include within the industry specialisation.

The industry specialisation requirements must be consistent with the packaging rules for PMB07. An industry specialisation should include a range of units (typically production or other units relevant to the specialisation) that focus more on the industry speciality than a generic qualification.

An industry specialisation may import units from another endorsed Training Package, provided the importation is within the rules of importation of PMB07. For example a 'Marine Composites' industry specialisation may import the maximum allowable number of MEM50.## units from MEM05.

It should be noted that a qualification with an industry specialisation does not change the title of the qualification, although RTOs may choose to record the specialisation. The AQTF requirements must be complied with and the qualification or Statement of Attainment should clearly specify the units of competency achieved and where appropriate, the specialisation.

As an example, an RTO may choose to promote, deliver and award the:

Certificate ### in Polymer Processing

OR they may choose to promote, deliver and award a:

Certificate ### in Polymer Processing

(Rotational Moulding)

Both will be consistent with the packaging rules and an RTO may choose to offer either or both according to market need.

Note that the title of a qualification must not be changed. The specialisation is recorded on a separate line.

Some possible examples

The number of possible industry specialisations is quite large. Some examples are provided here as an indication of how to package for a specialisation. This in no way should be interpreted as limiting the specialisations to the examples given.

Example 1: Certificate II in Polymer Processing (Rotational Moulding)

This industry specialisation must choose:

MSAPMOHS200A	Work safely
MSAPMSUP200A	Achieve work outcomes

MSAPMSUP210A	Process and record information

and would then choose:

PMBPROD221B	Operate rotational moulding equipment
PMBPROD235C	Use materials and process knowledge to complete work operations
PMBPROD236C	Operate hand held air/power equipment for production processes
PMBPROD287B	Weld plastics materials

The RTO may then offer a free choice from the support units, or may again preselect them.

For example:

MSAPMSUP291A	Participate in continuous improvement
MSAPMSUP280A	Manage conflict at work
MSAPMSUP240A	Undertake minor maintenance
MSAPMSUP210A	Process and record information
MSAPMOPS212A	Use enterprise computers or data systems
MSAENV272A	Participate in environmentally sustainable work practices
PMBFIN202C	Fit attachments to products

Example 2: Certificate III in Polymer Processing (Boat making and repair)

This industry specialisation must choose:

MSAPMOHS200A	Work safely
MSAPMSUP200A	Achieve work outcomes
MSAPMSUP210A	Process and record information
MCMT251A	Apply quality standards

The RTO may then offer:

PMBPROD246C	Hand mix materials
PMBPROD247C	Hand lay up composites
PMBPROD347B	Produce composites using hand lamination
PMBPROD251B	Apply gel coat or other polymer surface finish
PMBPROD355B	Make pattern/plug for composites moulds
PMBPROD356C	Construct moulds for composite products
PMBPROD357C	Construct jigs and fixtures
PMBPROD380B	Produce composites using chopper gun/depositor

and

MEM50.1B	Classify recreational boating technologies and features
MEM50.3B	Follow work procedures to maintain the marine environment
MEM50.4B	Maintain quality of environment by following marina codes
MEM50.6B	Check operational capability of marine craft
MEM50.9B	Safely operate a powered recreational boat
MEM50.10B	Respond to boating emergencies and incidents

and

PMBTECH301B	Use material and process knowledge to solve problems
MSAPMPER200A	Work in accordance with an issued permit
MSAPMPER205A	Enter confined space
MSAPMSUP390A	Use structured problem solving tools

Example 3: Certificate III in Process Manufacturing (Plastics Testing)

This industry specialisation must choose:

MSAPMOHS200A	Work safely
MSAPMSUP200A	Achieve work outcomes
MSAPMSUP210A	Process and record information
MCMT251A	Apply quality standards

The RTO may then offer:

MEM12.23A	Perform engineering measurement
MEM15.1B	Perform basic statistical quality control
MSAPMSUP292A	Sample and test materials and product
PMLMAIN300B	Maintain the laboratory fit for purpose
PMLTEST300B	Perform basic tests
PMLTEST411A	Perform mechanical tests

and:

MCMT240A	Apply 5S procedures in a manufacturing environment
MCMT250A	Monitor process capability
MCMT280A	Undertake root cause analysis
MSAPMOPS101A	Make measurements
MSAPMOPS212A	Use enterprise computers or data systems
MSAPMSUP280A	Manage conflict at work
MSAPMSUP291A	Participate in continuous improvement
MSAPMSUP309A	Maintain and organise workplace records
MSAPMSUP390A	Use structured problem solving tools
MSAENV272A	Participate in environmentally sustainable work practice
PMBHAN103C	Shift materials safely by hand

Example 4: Certificate III in Polymer Processing (Plastics Fabrication)

This industry specialisation must choose:

MSAPMOHS200A	Work safely
MSAPMSUP200A	Achieve work outcomes
MSAPMSUP210A	Process and record information
MCMT251A	Apply quality standards

and would then choose the following:

MEM9.2B	Interpret technical drawing
MSAPMSUP382A	Provide coaching/mentoring in the workplace
PMBPROD287B	Weld plastics materials
PMBPROD328C	Produce sheet feed vacuum forming products
PMBPROD330A	Make moulds for formed products
PMBPROD358C	Develop patterns
PMBPROD357C	Construct jigs and fixtures

The RTO may then offer a free choice from the support units, or may again pre-select the 10 remaining units required. For example:

MCMOPS212A	Use enterprise computers or data systems
MEM9.3B	Prepare basic engineering drawing
MSAPMOPS101A	Make measurements
PMBPROD235C	Use materials and process knowledge to complete work operations
PMBPROD236C	Operate hand held air/power equipment for production processes
PMBPROD240C	Cut materials
PMBPROD242A	Bond polymers to surface
PMBPROD245C	Fabricate materials
PMBPROD384A	Operate multi-axis router

PMBTECH301B	Use materials & process knowledge to solve problems.

Example 5: Certificate III in Polymer Processing (Injection Moulding)

This industry specialisation must choose:

MSAPMOHS200A	Work safely
MSAPMSUP200A	Achieve work outcomes
MSAPMSUP210A	Process and record information
MCMT251A	Apply quality standards

and would then choose the following units for the Injection Moulding specialisation:

MEM9.2B	Interpret technical drawing
PMBPROD210B	Operate injection moulding equipment
PMBPREP304C	Set a die
PMBPROD306B	Prepare and start equipment for production
PMBPROD310B	Produce injection moulded products

The RTO may then offer a free choice from the support units, or may again pre-select the eleven units required. For example:

MSAPMOPS101A	Make measurements
PMBPROD235C	Use materials and process knowledge to complete work operations
MSAPMSUP382A	Provide coaching/mentoring in the workplace
PMBTECH301B	Use materials anad process knowledge to solve problems.
MSAPMSUP303A	Identify equipment faults
PMBFIN201C	Finish products and components
PMBPREP205C	Assemble materials and equipment for production
PMBPREP206C	Prepare materials to formulae
MSAPMSUP291A	Participate in continuous improvement

MSAPMSUP292A	Sample and test materials and product
MSAPMSUP240A	Undertake minor maintenance
MSAPMSUP106A	Work in a team

Example 6: Certificate III in Polymer Processing (Fibre-Composites)

This industry specialisation must choose:

MSAPMOHS200A	Work safely
MSAPMSUP200A	Achieve work outcomes
MSAPMSUP210A	Process and record information
MCMT251A	Apply quality standards

and would then choose the following units for the Composites specialisation:

MEM9.2B	Interpret technical drawing
MSAPMSUP382A	Provide coaching/mentoring in the workplace
PMBPREP201B	Prepare moulds for composites production
PMBPROD247C	Hand lay up composites
PMBPROD355B	Make pattern/plug for composites moulds
PMBPROD356C	Construct composites moulds
PMBPROD380B	Produce composites using a chopper gun/depositor

The RTO may then offer a free choice from the support units, or may again pre-select the ten units required. For example:

MSAPMOPS101A	Make measurements
MSAPMSUP106A	Work in a team
PMBFIN203C	Repair product imperfections
PMBPROD236C	Operate hand held air/power equipment for production processes
PMBPROD251B	Apply gel coat or other polymer surface finish

PMBPROD280B	Operate resin-glass depositor equipment
PMBPROD281B	Finish composite products
PMBPROD393B	Produce composites using vacuum bagging
PMBTECH404B	Mould chemical resistant and/or fire retardant fibre-composites
PMBTECH405B	Repair damaged fibre-composites structures

Example 7: Certificate III in Polymer Processing ((Extrusion Processes)

This industry specialisation must choose:

MSAPMOHS200A	Work safely
MSAPMSUP200A	Achieve work outcomes
MSAPMSUP210A	Process and record information
MCMT251A	Apply quality standards

and could then choose the following units for the Extrusion specialisation:

MEM9.2B	Interpret technical drawing
PMBPROD213B	Operate extruders
PMBPROD206B	Operate ancillary equipment
PMBPREP305B	Change extrusion die and set-up
PMBPROD306B	Prepare and start equipment for production
PMBPROD313C	Produce extruded products

The RTO may then offer a free choice from the support units, or may again pre-select the eleven units required. For example:

MSAPMOPS101A	Make measurements
MSAPMSUP382A	Provide coaching/mentoring in the workplace
PMBTECH301B	Use materials and process knowledge to solve problems
PMBPROD235C	Use materials and process knowledge to complete work operations

PMBPREP205C	Assemble materials and equipment for production
PMBPREP206C	Prepare materials to formulae
PMBPROD255C	Operate mixing equipment
MSAPMSUP291A	Participate in continuous improvement
PMBPROD343C	Shut down plant area
MSAPMSUP240A	Undertake minor maintenance
MSAPMSUP106A	Work in a team

Example 8: Certificate III in Polymer Processing ((Blown Film)

This industry specialisation must choose:

MSAPMOHS200A	Work safely
MSAPMSUP200A	Achieve work outcomes
MSAPMSUP210A	Process and record information
MCMT251A	Apply quality standards

and could then choose the following units for the Extrusion specialisation:

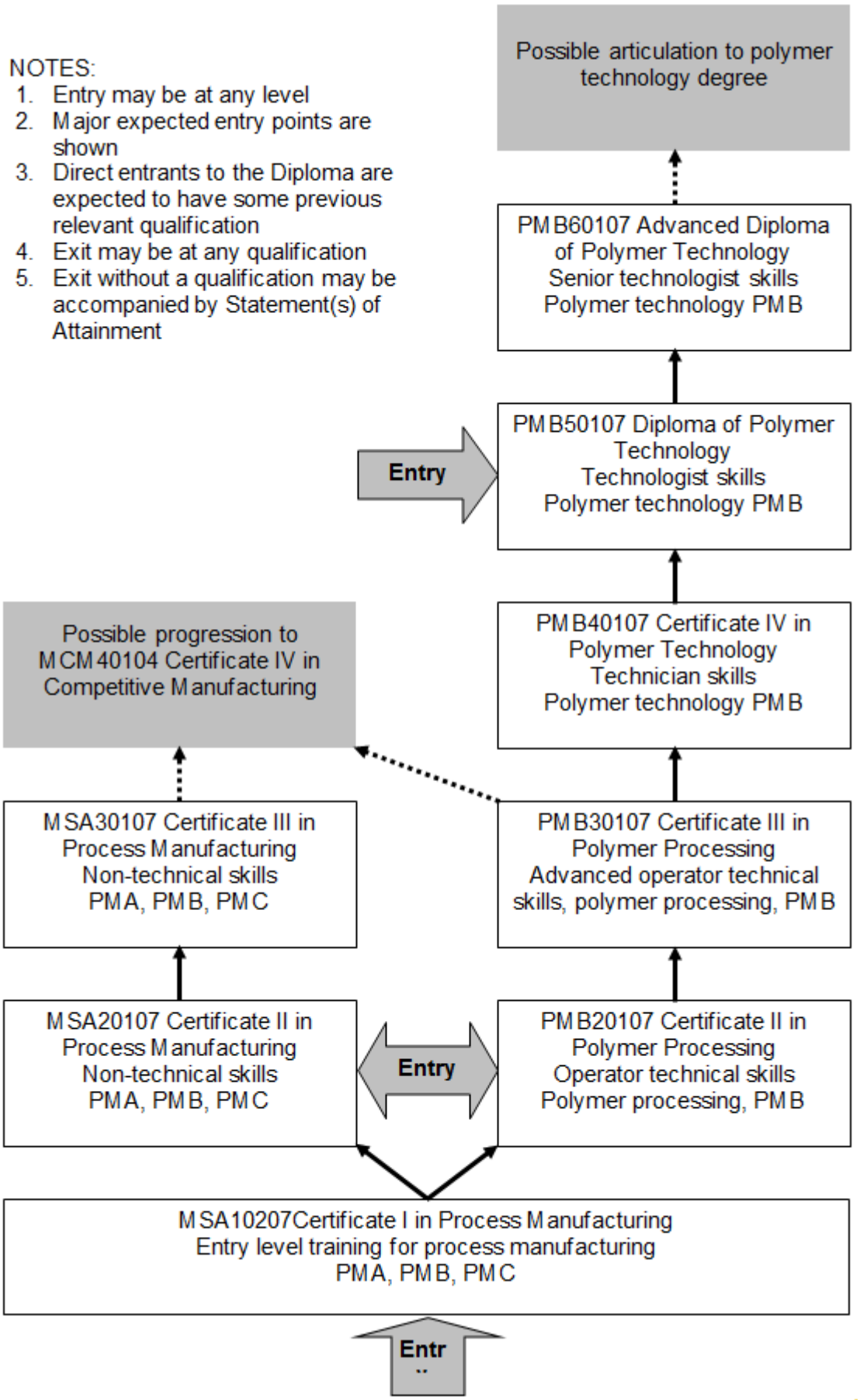
PMBPROD216B	Operate blown film equipment
PMBPROD206B	Operate ancillary equipment
PMBPREP305B	Change extrusion die and set-up
PMBPROD303C	Set up equipment for continuous operation
PMBPROD316C	Produce blown film

The RTO may then offer a free choice from the support units, or may again pre-select the twelve units required. For example:

MSAPMOPS101A	Make measurements
MSAPMSUP382A	Provide coaching/mentoring in the workplace
PMBTECH301B	Use materials and process knowledge to solve problems

PMBPROD235C	Use materials and process knowledge to complete work operations
MSAPMSUP291A	Participate in continuous improvement
PMBPROD236C	Operate hand held air/power equipment for production processes
PMBPROD308B PMBPROD343C	Take a machine out of production Shut down plant area
MSAPMSUP106A	Work in a team
MSAPMSUP292A	Sample and test materials and product
MSAPMSUP240A	Undertake minor maintenance
MSAPMSUP303A	Identify equipment faults

Pathways chart



Skill Sets in this Training Package

Skill Sets

Definition

Skill sets are defined as single units of competency, or combinations of units of competency from an endorsed Training Package, which link to a licence or regulatory requirement, or defined industry need.

Wording on Statements of Attainment

Skill sets are a way of publicly identifying logical groupings of units of competency which meet an identified need or industry outcome. Skill sets are not qualifications.

Where skill sets are identified in a Training Package, the Statement of Attainment can set out the competencies a person has achieved in a way that is consistent and clear for employers and others. This is done by including the wording "these competencies meet [insert skill set title or identified industry area] need" on the Statement of Attainment. This wording applies only to skill sets that are formally identified as such in the endorsed Training Package. See the 2010 edition of the AQF Implementation Handbook for advice on wording on Statements of Attainment.
http://www.aqf.edu.au/Portals/0/Documents/Handbook/AQF_Handbook_07.pdf

Skill Sets in this Training Package

No Skill Sets have been developed for PMB07.

Employability Skills

Employability Skills replacing Key Competency information from 2006

In May 2005, the approach to incorporate Employability Skills within Training Package qualifications and units of competency was endorsed. As a result, from 2006 Employability Skills will progressively replace Key Competency information in Training Packages.

Background to Employability Skills

Employability Skills are also sometimes referred to as generic skills, capabilities or Key Competencies. The Employability Skills discussed here build on the Mayer Committee's Key Competencies, which were developed in 1992 and attempted to describe generic competencies for effective participation in work.

The Business Council of Australia (BCA) and the Australian Chamber of Commerce and Industry (ACCI), produced the Employability Skills for the Future report in 2002 in consultation with other peak employer bodies and with funding provided by the Department of Education, Science and Training (DEST) and the Australian National Training Authority (ANTA). Officially released by Dr Nelson (Minister for Education, Science and Training) on 23 May 2002, copies of the report are available from the DEST website at: http://www.dest.gov.au/archive/ty/publications/employability_skills/index.htm.

The report indicated that business and industry now require a broader range of skills than the Mayer Key Competencies Framework and featured an Employability Skills Framework identifying eight Employability Skills*:

- communication
- teamwork
- problem solving
- initiative and enterprise
- planning and organising
- self-management
- learning
- technology.

The report demonstrated how Employability Skills can be further described for particular occupational and industry contexts by sets of facets. The facets listed in the report are the aspects of the Employability Skills that the sample of employers surveyed identified as being important work skills. These facets were seen by employers as being dependent both in their nature and priority on an enterprise's business activity.

*Personal attributes that contribute to employability were also identified in the report but are not part of the Employability Skills Framework.

Employability Skills Framework

The following table contains the Employability Skills facets identified in the report

Employability Skills for the Future.

Skill	**Facets** Aspects of the skill that employers identify as important. The nature and application of these facets will vary depending on industry and job type.
Communication that contributes to productive	• listening and understanding • speaking clearly and directly
and harmonious relations across employees and customers	• writing to the needs of the audience • negotiating responsively • reading independently • empathising • using numeracy effectively • understanding the needs of internal and external customers • persuading effectively • establishing and using networks • being assertive • sharing information

	• speaking and writing in languages other than English
Teamwork that contributes to productive working relationships and outcomes	• working across different ages irrespective of gender, race, religion or political persuasion • working as an individual and as a member of a team • knowing how to define a role as part of the team • applying teamwork to a range of situations e.g. futures planning and crisis problem solving • identifying the strengths of team members • coaching and mentoring skills, including giving feedback
Problem solving that contributes to productive outcomes	• developing creative, innovative and practical solutions • showing independence and initiative in identifying and solving problems • solving problems in teams • applying a range of strategies to problem solving • using mathematics, including budgeting and financial management to solve problems • applying problem-solving strategies across a range of areas • testing assumptions, taking into account the context of data and circumstances • resolving customer concerns in relation to complex project issues
Initiative and enterprise that contribute to innovative outcomes	• adapting to new situations • developing a strategic, creative and long-term vision • being creative • identifying opportunities not obvious to others • translating ideas into action • generating a range of options • initiating innovative solutions

Planning and organising that contribute to long and short-term strategic planning	• managing time and priorities - setting time lines, coordinating tasks for self and with others • being resourceful • taking initiative and making decisions • adapting resource allocations to cope with contingencies • establishing clear project goals and deliverables • allocating people and other resources to tasks • planning the use of resources, including time management • participating in continuous improvement and planning processes • developing a vision and a proactive plan to accompany it
	• predicting - weighing up risk, evaluating alternatives and applying evaluation criteria • collecting, analysing and organising information • understanding basic business systems and their relationships
Self-management that contributes to employee satisfaction and growth	• having a personal vision and goals • evaluating and monitoring own performance • having knowledge and confidence in own ideas and visions • articulating own ideas and visions • taking responsibility
Learning that contributes to ongoing improvement and expansion in employee and company operations and outcomes	• managing own learning • contributing to the learning community at the workplace • using a range of mediums to learn - mentoring, peer support and networking, IT and courses • applying learning to technical issues (e.g. learning about products) and people issues (e.g. interpersonal and cultural aspects of work) • having enthusiasm for ongoing learning

	• being willing to learn in any setting - on and off the job • being open to new ideas and techniques • being prepared to invest time and effort in learning new skills • acknowledging the need to learn in order to accommodate change
Technology that contributes to the effective carrying out of tasks	• having a range of basic IT skills • applying IT as a management tool • using IT to organise data • being willing to learn new IT skills • having the OHS knowledge to apply technology • having the appropriate physical capacity

Employability Skills Summary

An Employability Skills Summary exists for each qualification. Summaries provide a lens through which to view Employability Skills at the qualification level and capture the key aspects or facets of the Employability Skills that are important to the job roles covered by the qualification. Summaries are designed to assist trainers and assessors to identify and include important industry application of Employability Skills in learning and assessment strategies.

The following is important information for trainers and assessors about Employability Skills Summaries.

- Employability Skills Summaries provide examples of how each skill is applicable to the job roles covered by the qualification.
- Employability Skills Summaries contain general information about industry context which is further explained as measurable outcomes of performance in the units of competency in each qualification.
- The detail in each Employability Skills Summary will vary depending on the range of job roles covered by the qualification in question.
- Employability Skills Summaries are not exhaustive lists of qualification requirements or checklists of performance (which are separate assessment tools that should be designed by trainers and assessors after analysis at the unit level).
- Employability Skills Summaries contain information that may also assist in building learners' understanding of industry and workplace expectations.

Assessment Guidelines

Introduction

These Assessment Guidelines provide the endorsed framework for assessment of units of competency in this Training Package. They are designed to ensure that assessment is consistent with the *Australian Quality Training Framework (AQTF) Essential Standards for Initial and Continuing Registration*. Assessments against the units of competency in this Training Package must be carried out in accordance with these Assessment Guidelines.

Assessment System Overview

This section provides an overview of the requirements for assessment when using this Training Package, including a summary of the AQTF requirements; licensing/registration requirements; and assessment pathways.

Quality assessment underpins the credibility of the vocational education and training sector. The Assessment Guidelines of a Training Package are an important tool in supporting quality assessment.

Assessment within the National Skills Framework is the process of collecting evidence and making judgements about whether competency has been achieved to confirm whether an individual can perform to the standards expected in the workplace, as expressed in the relevant endorsed unit of competency.

Assessment must be carried out in accordance with the:

- benchmarks for assessment
- specific industry requirements
- principles of assessment
- rules of evidence
- assessment requirements set out in the AQTF

Benchmarks for Assessment

The endorsed units of competency in this Training Package are the benchmarks for assessment. As such, they provide the basis for nationally recognised Australian Qualifications Framework (AQF) qualifications and Statements of Attainment issued by Registered Training Organisations (RTOs).

Principles of Assessment

All assessments carried out by RTOs are required to demonstrate compliance with the principles of assessment:

validity reliability flexibility fairness sufficiency

These principles must be addressed in the:

design, establishment and management of the assessment system for this Training

Package development of assessment tools, and the conduct of assessment.

Validity

Assessment is valid when the process is sound and assesses what it claims to assess. Validity requires that:

(a)	assessment against the units of competency must cover the broad range of skills and knowledge that are essential to competent performance
(b)	assessment of knowledge and skills must be integrated with their practical application

(c)	judgement of competence must be based on sufficient evidence (that is, evidence gathered on a number of occasions and in a range of contexts using different assessment methods). The specific evidence requirements of each unit of competency provide advice on sufficiency

Reliability

Reliability refers to the degree to which evidence presented for assessment is consistently interpreted and results in consistent assessment outcomes. Reliability requires the assessor to have the required competencies in assessment and relevant vocational competencies (or to assess in conjunction with someone who has the vocational competencies). It can only be achieved when assessors share a common interpretation of the assessment requirements of the unit(s) being assessed.

Flexibility

To be flexible, assessment should reflect the candidate"s needs; provide for recognition of competencies no matter how, where or when they have been acquired; draw on a range of methods appropriate to the context, competency and the candidate; and support continuous competency development.

Fairness

Fairness in assessment requires consideration of the individual candidate"s needs and characteristics, and any reasonable adjustments that need to be applied to take account of them. It requires clear communication between the assessor and the candidate to ensure that the candidate is fully informed about, understands and is able to participate in, the assessment process, and agrees that the process is appropriate. It also includes an opportunity for the person being assessed to challenge the result of the assessment and to be reassessed if necessary.

Sufficiency

Sufficiency relates to the quality and quantity of evidence assessed. It requires collection of enough appropriate evidence to ensure that all aspects of competency have been satisfied and that competency can be demonstrated repeatedly. Supplementary sources of evidence may be necessary. The specific evidence requirements of each unit of competency provide advice on sufficiency. Sufficiency is also one of the rules of evidence.

Rules of Evidence

The rules of evidence guide the collection of evidence that address the principles of validity and reliability, guiding the collection of evidence to ensure that it is valid, sufficient, current and authentic.

Valid

Valid evidence must relate directly to the requirements of the unit of competency. In ensuring evidence is valid, assessors must ensure that the evidence collected supports demonstration of the outcomes and performance requirements of the unit of competency together with the knowledge and skills necessary for competent performance. Valid evidence must encapsulate the breadth and depth of the unit of competency, which will necessitate using a number of different assessment methods.

Sufficient

Sufficiency relates to the quality and quantity of evidence assessed. It requires collection of enough appropriate evidence to ensure that all aspects of competency have been satisfied and that competency can be demonstrated repeatedly. Supplementary sources of evidence may be necessary. The specific evidence requirements of each unit of competency provide advice on sufficiency.

Current

In assessment, currency relates to the age of the evidence presented by a candidate to demonstrate that they are still competent. Competency requires demonstration of current performance, so the evidence collected must be from either the present or the very recent past.

Authentic

To accept evidence as authentic, an assessor must be assured that the evidence presented for assessment is the candidate"s own work.

Assessment Requirements of the Australian Quality Training Framework

Assessment leading to nationally recognised AQF qualifications and Statements of Attainment in the vocational education and training sector must meet the requirements of the AQTF as expressed in the AQTF 2010 *Essential Standards for Registration.*

The AQTF 2010 *Essential Standards for Initial and Continuing Registration* can be downloaded from < www.training.com.au>.

The following points summarise the assessment requirements.

Registration of Training Organisations

Assessment must be conducted by, or on behalf of, an RTO formally registered by a State or Territory Registering Body in accordance with the AQTF The RTO must have the specific units of competency and/or AQF qualifications on its scope of registration.

Quality Training and Assessment

Each RTO must provide quality training and assessment across all its operations. See the AQTF 2010 *Essential Standards for Initial and Continuing Registration*, Standard 1.

Assessor Competency Requirements

Each person involved in training, assessment or client service must be competent for the functions they perform. AQTF 2010 *Essential Standards for Initial and Continuing Registration*, Standard 1 for assessor (and trainer) competency requirements. See also the AQTF 2010 *Users" Guide to the Essential Standards for Registration* Appendix 2.

Assessment Requirements

The RTOs assessments, including RPL, must meet the requirements of the relevant endorsed Training Package. See the AQTF 2010 *Essential Standards for Initial and Continuing Registration*.

Assessment Strategies

Each RTO must have strategies for training and assessment that meet the requirements of the relevant Training Package or accredited course and are developed in consultation with industry stakeholders. See the AQTF 2010 Essential Standards for Initial and Continuing Registration.

National Recognition

Each RTO must recognise the AQF qualifications and Statements of Attainment issued by any other RTO. See the AQTF 2010 Essential Standards for Initial and Continuing Registration.

Access and Equity and Client Outcomes

Each RTO must adhere to the principles of access and equity and maximise outcomes for its clients. See the AQTF 2010 Essential Standards for Initial and Continuing Registration.

Monitoring Assessments

Training and/or assessment provided on behalf of the RTO must be monitored to ensure that it is in accordance with all aspects of the AQTF 2010 Essential Standards for Initial and Continuing Registration.

Recording Assessment Outcomes

Each RTO must manage records to ensure their accuracy and integrity. See the AQTF 2010 Essential Standards for Initial and Continuing Registration.

Issuing AQF Qualifications and Statements of Attainment

Each RTO must issue AQF qualifications and Statements of Attainment that meet the requirements of the current AQF Implementation Handbook and the endorsed Training Packages within the scope of its registration. An AQF qualification is issued once the full requirements for a qualification, as specified in the nationally endorsed Training Package are met. A Statement of Attainment is issued when an individual has completed one or more units of competency from nationally recognised qualification(s)/courses(s). See the AQTF and the edition of the AQF Implementation Handbook-available on the AQF Council website < www.aqf.edu.au>.

Awards, Licensing and other Regulatory Issues

Various awards and agreements apply within the manufacturing industry. This Training Package was designed to allow for these different arrangements. It is appropriate to use this Training Package as part of an award/agreement, but it has not been designed to fit any particular award or agreement.

There are no general licensing issues, however specific licenses may be required in some jobs. The local regulations should be checked for details. The industry is generally subject to a range of regulatory control. These vary with the nature of the facility and to some extent on its location as most regulations are State based and many are enforced by local government.

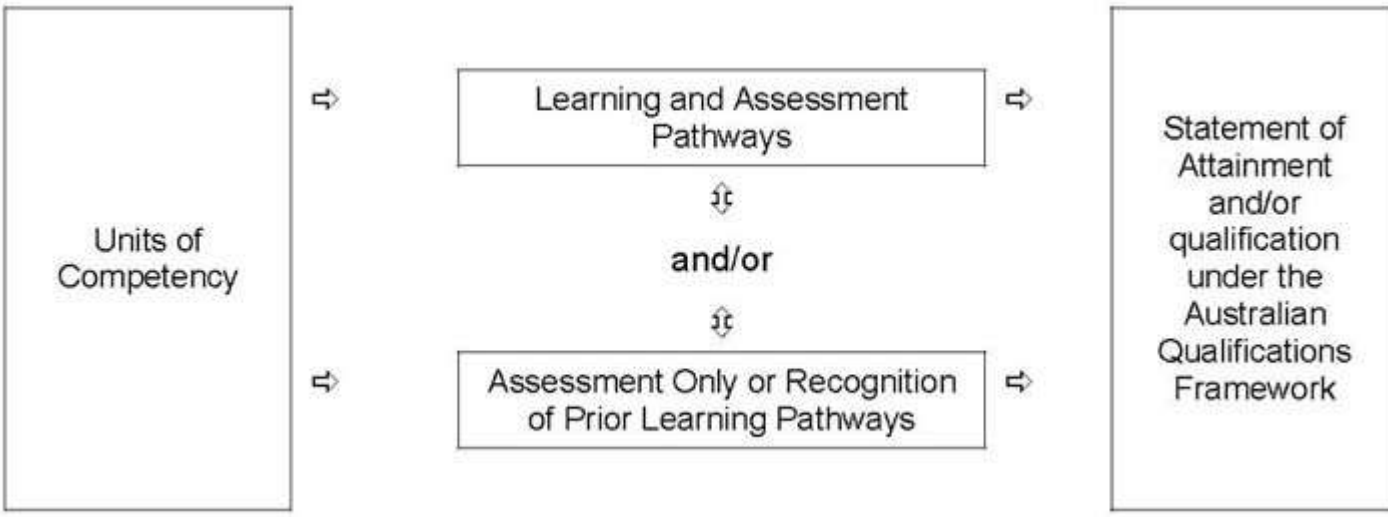
This Training Package allows for these differences without mandating them to specific units of competency which would not be appropriate.

Pathways

The competencies in this Training Package may be attained in a number of ways including through:

- formal or informal education and training
- experiences in the workplace
- general life experience, and/or
- any combination of the above.

Assessment under this Training Package leading to an AQF qualification or Statement of Attainment may follow a learning and assessment pathway, an assessment-only or recognition pathway, or a combination of the two as illustrated in the following diagram.



Each of these assessment pathways leads to full recognition of competencies held - the critical issue is that the candidate is competent, not how the competency was acquired.

Assessment, by any pathway, must comply with the assessment requirements set out in the Assessment Guidelines of the Training Package, and the AQTF, 2 where relevant, the Australian Qualifications Framework.

Learning and Assessment Pathways

Usually, learning and assessment are integrated, with assessment evidence being collected and feedback provided to the candidate at anytime throughout the learning and assessment process.

Learning and assessment pathways may include structured programs in a variety of contexts using a range of strategies to meet different learner needs. Structured learning and assessment programs could be: group-based, work-based, project-based, self-paced, action learning-based; conducted by distance or e-learning; and/or involve practice and experience in the workplace.

Learning and assessment pathways to suit Australian Apprenticeships have a mix of formal structured training and structured workplace experience with formative assessment activities through which candidates can acquire and demonstrate skills and knowledge from the relevant units of competency.

Credit Pathways

Credit is the value assigned for the recognition of equivalence in content between different types of learning and/or qualifications which reduces the volume of learning required to achieve a qualification.

Credit arrangements must be offered by all RTOs that offer Training Package qualifications. Each RTO must have a systematic institutional approach with clear, accessible and transparent policies and procedures.

Competencies already held by individuals can be formally assessed against the units of competency in this Training Package, and should be recognised regardless of how, when or where they were acquired, provided that the learning is relevant to the unit of competency outcomes.

Recognition of Prior Learning

Recognition of Prior Learning (RPL) is an assessment process which determines the credit outcomes of an individual application for credit.

The availability of Recognition of Prior Learning (RPL) provides all potential learners with access to credit opportunities.

The recognition of prior learning pathway is appropriate for candidates who have previously attained skills and knowledge and who, when enrolling in qualifications, seek to shorten the duration of their training and either continue or commence working. This may include the following groups of people:

existing workers; individuals with overseas qualifications; recent migrants with established work histories; people returning to the workplace; and people with disabilities or injuries requiring a change in career.

As with all assessment, RPL assessment should be undertaken by academic or teaching staff with expertise in the subject, content of skills area, as well as knowledge of and expertise in RPL assessment policies and procedures.

Assessment methods used for RPL should provide a range of ways for individuals to demonstrate that they have met the required outcomes and can be granted credit. These might include:

questioning (oral or written) consideration of a portfolio and review of contents consideration of third party reports and/or other documentation such as documentation such as articles, reports, project material, papers, testimonials or other products prepared by the RPL applicant that relate to the learning outcomes of the relevant qualification component mapping of learning outcomes from prior formal or non-formal learning to the relevant qualification components

observation of performance, and participation in structured assessment activities the individual would normally be required to undertake if they were enrolled in the qualification component/s.

In a Recognition of Prior Learning (RPL) pathway, the candidate provides current, quality evidence of their competency against the relevant unit of competency. This process may be directed by the candidate and verified by the assessor. Where the outcomes of this process indicate that the candidate is competent, structured training is not required. The RPL requirements of the AQTF must be met.

As with all assessment, the assessor must be confident that the evidence indicates that the candidate is currently competent against the endorsed unit of competency. This evidence may take a variety of forms and might include certification, references from past employers, testimonials from clients, work samples and/or observation of the candidate. The onus is on candidates to provide sufficient evidence to satisfy assessors that they currently hold the relevant competencies. In judging evidence, the assessor must ensure that the evidence of prior learning is:

authentic (the candidate"s own work); valid (directly related to the current version of the relevant endorsed unit of competency); reliable (shows that the candidate consistently meets the endorsed unit of competency); current (reflects the candidate"s current capacity to perform the aspect of the work covered

by the endorsed unit of competency); and

s• ufficient (covers the full range of elements in the relevant unit of competency and addresses the four dimensions of competency, namely task skills, task management skills, contingency management skills, and job/role environment skills).

Credit Transfer

Credit transfer is a process which provides learners with agreed and consistent credit outcomes based on equivalences in content between matched qualifications.

This process involves education institutions:

m• apping, comparing and evaluating the extent to which the defined learning outcomes and

assessment requirements of the individual components of one qualification are equivalent to the learning outcomes and assessment requirements of the individual components of another qualification

m• aking an educational judgment of the credit outcomes to be assigned between the matched components of the two qualifications
s• etting out the agreed credit outcomes in a documented arrangement or agreement, and p• ublicising the arrangement/agreement and credit available.

Combination of Pathways

Credit may be awarded on the basis of a combination of credit transfer plus an individual RPL assessment for additional learning. Once credit has been awarded on the basis of RPL, subsequent credit transfer based on these learning outcomes should not include revisiting the RPL assessment but should be based on credit transfer or articulation or other arrangements between providers.

Where candidates for assessment have gained competencies through work and life experience and gaps in their competence are identified, or where they require training in new areas, a combination of pathways may be appropriate.

In such situations, the candidate may undertake an initial assessment to determine their current competency. Once current competency is identified, a structured learning and assessment program ensures that the candidate acquires the required additional competencies identified as gaps.

Assessor Requirements

This section identifies the specific requirements on the vocational competence and experience for assessors, to ensure that they meet the needs of industry and their obligations under AQTF, and clarifies how others may contribute to the assessment process where one person alone does not hold all the required competencies.

Assessor Competencies

The AQTF specifies mandatory competency requirements for assessors. For information, Element 1.4 from the AQTF 2007 Essential Standards for Registration follows:

1.4		Training and assessment is delivered by trainers and assessors who:
	a)	have the necessary training and assessment competencies as determined by the National Quality Council or its successors, and
	b)	have the relevant vocational competencies at least to the level being delivered or assessed, and
	c)	can demonstrate current industry skills directly relevant to the training/assessment being undertaken, and

	d)	continue developing their Vocational Education and Training (VET) knowledge and skills as well as their industry currency and trainer/assessor competence. * See AQTF 2010 Users Guide to the Essential Standards for Registration " Appendix 2 Essential Standards for Registration " Appendix 2

Designing Assessment Tools

This section provides an overview on the use and development of assessment tools.

Use of Assessment Tools

Assessment tools provide a means of collecting the evidence that assessors use in making judgments about whether candidates have achieved competency.

There is no set format or process for the design, production or development of assessment tools. Assessors may use prepared assessment tools, such as those specifically developed to support this Training Package, or they may develop their own.

Using Prepared Assessment Tools

If using prepared assessment tools, assessors should ensure these relate to the current version of the relevant unit of competency. The current unit of competency can be checked on the National Register < www.ntis.gov.au>.

Developing Assessment Tools

When developing assessment tools, assessors must ensure that they:

- are benchmarked against the relevant unit or units of competency
- are reviewed as part of the continuous improvement of assessment strategies as required under Standard 1 of the AQTF 2007
- meet the assessment requirements expressed in Standard 1 of the AQTF 2010

Essential Standards for Initial and Continuing Registration.

A key reference for assessors developing assessment tools is TAE10 Training and Education Training Package.

Language, Literacy and Numeracy

The design of assessment tools must reflect the language, literacy and numeracy competencies required for the performance of a task in the workplace and not exceed these expectations.

Conducting Assessment

This section details the mandatory assessment requirements and provides information on equity in assessment including reasonable adjustment.

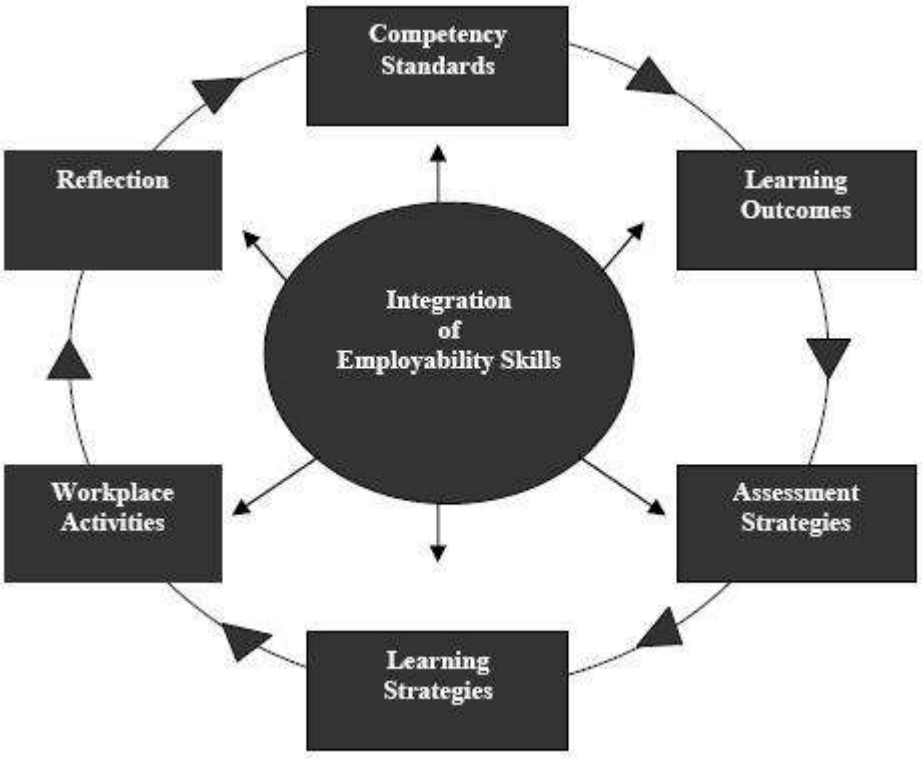
Mandatory Assessment Requirements

Assessments must meet the criteria set out in the 2010 *Essential Standards for Initial and Continuing Registration*. For information, the mandatory assessment requirements from Standard 1 from the AQTF 2010 *Essential Standards for Initial and Continuing Registration* are as follows:

1.5		Assessment, including Recognition of Prior Learning:	
	a)	meets the requirements of the relevant Training Package or accredited course,	
	b)	is conducted in accordance with the principles of assessment and the rules of evidence, and	
	c)	meets workplace and, where relevant, regulatory requirements.	
	d)	is systematically validated.	

Assessment of Employability Skills

Employability Skills are integral to workplace competency. As such they must be considered in the design, customisation, delivery and assessment of vocational education and training programs in an integrated and holistic way, as represented diagrammatically below.



Employability Skills are embedded and explicit within each unit of competency, and an Employability Skills Summary is available for each qualification. Training providers must use Employability Skills information in order to design valid and reliable training and assessment strategies. This analysis could include:

- reviewing units of competency to locate relevant Employability Skills and determine how they are applied within the unit
- analysing the Employability Skills Summary for the qualification in which the unit or units are packaged to help clarify relevant industry and workplace contexts and the application of Employability Skills at that qualification outcome
- designing training and assessment to address Employability Skills requirements.

The National Quality Council has endorsed a model for assessing and reporting Employability Skills, which contains further suggestions about good practice strategies in teaching, assessing, learning and reporting Employability Skills. The model is available from <

http://www.training.com.au/>.

The endorsed approach includes learners downloading qualification specific Employability Skills Summaries for Training Package qualifications from an online repository at < http://employabilityskills.training.com.au>

For more information on Employability Skills in Manufacturing Industry Skills Council Training

Packages go to the Manufacturing Industry Skills Council website at http://www.mskills.com.au.

Employability Skills are reported on each qualification using the following statement on the qualification testamur: "A summary of the Employability Skills developed through this qualification can be downloaded from http://employabilityskills.training.com.au "

Access and Equity

An individual"s access to the assessment process should not be adversely affected by restrictions placed on the location or context of assessment beyond the requirements specified in this Training Package: training and assessment must be bias-free.

Under the rules for their development, Training Packages must reflect and cater for the increasing diversity of Australia"s VET clients and Australia"s current and future workforce. The flexibilities offered by Training Packages should enhance opportunities and potential outcomes for all people so that we can all benefit from a wider national skills base and a shared contribution to Australia"s economic development and social and cultural life.

Reasonable adjustments

It is important that education providers take meaningful, transparent and reasonable steps to consult, consider and implement reasonable adjustments for students with disability.

Under the Disability Standards for Education 2005, education providers must make reasonable adjustments for people with disability to the maximum extent that those adjustments do not cause that provider unjustifiable hardship. While "reasonable adjustment" and "unjustifiable hardship" are different concepts and involve different considerations, they both seek to strike a balance between the interests of education providers and the interests of students with and without disability.

An adjustment is any measure or action that a student requires because of their disability, and which has the effect of assisting the student to access and participate in education and

training on the same basis as students without a disability. An adjustment is reasonable if it achieves this purpose while taking into account factors such as the nature of the student"s disability, the views of the student, the potential effect of the adjustment on the student and others who might be affected, and the costs and benefits of making the adjustment.

An education provider is also entitled to maintain the academic integrity of a course or program and to consider the requirements or components that are inherent or essential to its nature when assessing whether an adjustment is reasonable. There may be more than one adjustment that is reasonable in a given set of circumstances; education providers are required to make adjustments that are reasonable and that do not cause them unjustifiable hardship.

The Training Package Guidelines provides more information on reasonable adjustment, including examples of adjustments. Go to http://www.deewr.gov.au/tpdh/Pages/home.aspx.

Further Sources of Information

The section provides a listing of useful contacts and resources to assist assessors in planning, designing, conducting and reviewing of assessments against this Training Package.

Contacts

Technical and Vocational Education and Training (TVET) Australia Limited

Level 21, 390 St Kilda Road, Melbourne VIC 3150

PO Box 12211, A"Beckett Street Post Office

Melbourne Victoria 8006

Ph: +61 3 9832 8100

Fax: +61 3 9832 8198

Email: sales@tvetaustralia.com.au

Web: www.tvetaustralia.com.au

For information on the TAE10 Training and Education Training Package contact: Innovation & Business Skills Australia

Telephone: (03) 9815 7000

Facsimile: (03) 9815 7001

Email: virtual@ibsa.org.au

Web: www.ibsa.org.au

General Resources

AQF Implementation Handbook, Fourth Edition 2007. Australian Qualifications Framework Advisory Board, 2002 < www.aqf.edu.au>

Australian Quality Training Framework (AQTF) and AQTF 2010 Users" Guide to the Essential Standards for Registration
http://www.training.com.au/pages/menuitem5cbe14d51b49dd34b225261017a62dbc.aspx

For general information and resources go to http://www.training.com.au/

The National Register is an electronic database providing comprehensive information about RTOs, Training Packages and accredited courses - < www.ntis.gov.au>

The Training Package Development Handbook site provides National Quality Council policy for the development of Training Packages. The site also provides guidance material for the application of that policy, and other useful information and links.
http://www.deewr.gov.au/Skills/Overview/Policy/TPDH/Pages/main.aspx

Assessment Resources

Registered training organisations (RTOs) are at the forefront of vocational education and training (VET) in Australia. They translate the needs of industry into relevant, quality, client-focussed training and assessment.

RTOs should strive for innovation in VET teaching and learning practices and develop highly flexible approaches to assessment which take cognisance of specific needs of learners, in order to improve delivery and outcomes of training.

Resources can be purchased or accessed from: TVET Australia provides an integrated service to enable users of the national training

system to identify and acquire training materials, identify copyright requirements and enter licenses for use of that material consistent with the scope and direction of the NQC.
http://www.productservices.tvetaustralia.com.au/

Competency Standards - Industry Contextualisation

Competency Standards - Industry Contextualisation

Appendices

Appendices

Appendices

Appendix 1:
Participants and contributors to development of PMB07

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Garry Clancey	Huhtamaki	Plastics	NSW
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Geoff Cody	Ashley Institute	RTO	VIC
James Turner	Ashley Institute	RTO	VIC
Rita Nasr	Bostik Findley	Plastics	VIC

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Mike Dundon	Chisholm Institute of TAFE	RTO	VIC
Don Elliott	Chisholm TAFE	RTO	VIC
Cheryl Richards	Cryovac	Thermoform	VIC
Graham McDonagh	Drawline Publishing	Plastics	VIC
Graeme Dedman	Fallshaw	Plastics	VIC
Walter Scarrott	Foster Plastics	Plastics	VIC
Georges Wilmann	Goodyear Belting Pty Limited	Belt manufacture	VIC
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Trevor Stewart	Integrated Group	RTO	VIC
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Juan Carrasset	Kangan Batman TAFE	RTO	VIC
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Kerin Unkles	Linpac Rotational Mouldings	Rotational moulding	VIC

Noel Hawley	Mackay Rubber	Rubber	VIC
Karen Stacey	Mannatech	RTO	VIC
John Molenaar	Manufacturing and Engineering Skills	State ITAB	VIC
Peter Myring	Mind Atlas	RTO	VIC
Tim Andrews	Motorway Tyres - Stawell	Retread	VIC
LouiseGraves	New Futures	RTO	VIC
Peter Wakefield	Newskills Limited	RTO	VIC
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Rodney Souza	South Pacific Tyres	Retread	VIC

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John Murray	Viscount Plastics	Plastics	WA
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Appendix 2:
Glossary of terms in PMB07 units of competency

In this Training Package the following terms are used with the meanings given below. These meanings may be slightly more restrictive than common industry usage but have been adopted to allow greater clarity in definition within this Training Package.

Advanced die

A two or three plate die with one or more product-forming components which move in a direction other than the mould open axis, and which are driven by the mould rather than external actuation. Excludes moulds which retain molten material within the mould between cycles. Typical features may include sliding blocks or cores actuated by skew pins or cams; baffled, spiral, tube, and heat pipe cooling systems; rising cores; and internally actuated unscrewing systems.

As required

When a unit of competency requires performance ‘as required’ assessment of the Performance Criteria must be consistent with the workplace procedures and/or requirements.

Calibration

Instruments and other measuring equipment are calibrated to make sure the readings they yield are correct.

To calibrate an instrument/item of equipment is a high level unit of competency.

To check the calibration of an instrument/item of equipment is a routine part of using it and may be as simple as checking the date the calibration certificate expires.

Complex die

Dies which use at least one external power and control source to actuate product forming components, which move in a direction other than the mould open axis, and require sequencing with the mould operation. Includes moulds which retain molten material within the mould between cycles. Typical features may include: hot runners; insulated runners;

externally actuated sliding blocks, cores, and unscrewing systems; safety interlocks.

Composites

Products consisting of a polymer matrix and a continuous layered reinforcing media. The reinforcing media include fibre, filament and cloth. The product is generally hand or machine fabricated.

Confined space

The meaning imposed on it by the Australian standard for confined space entry is used, ie: an enclosed or partially enclosed space which:

a. is at atmospheric pressure during occupancy

b. is not intended or designed primarily as a place of work

c. may have restricted means for entry and exit, and

d. may

have an atmosphere which contains potentially harmful levels of contaminant

not have a safe oxygen level

cause engulfment.

Any other 'tight spot' has been referred to as a 'restricted space

Customer

Any person who is the recipient of the product or service which flows from the unit of competency. They may be internal or external to the organisation.

Dangerous goods

A dangerous good is one defined as such by the ‘Dangerous Goods’ Act and regulations. Other materials may also be hazardous.

Die

A former used to give the required shape to the product and which is used under pressure. Dies are typically used in the extrusion, injection, blow moulding and general rubber sectors. Dies used which are not subject to pressure are referred to as 'moulds' in this Training Package.

Engineering controls

A subset of the hierarchy of control.

Hierarchy of control

The preferred order of risk control measures from most to least preferred, that is:

- elimination
- substitution
- isolation
- engineering controls
- administrative controls
- personal protective equipment.

HSE

Health, safety and environment.

Instrumental tests/procedures

Instrumental tests are those using normal analytical instrumentation such as:

spectrometric, eg ultraviolet/visible, fluorimetric, infrared, flame atomic absorption spectrometry

chromatographic, eg column and thin layer analytical and preparative chromatography paper, gas, liquid chromatography and HPLC gel filtration chromatography (purification of proteins), affinity chromatography (purification of immunoglobulins)

electrochemical, eg pH, ion selective electrodes and polarography

electrophoretic, eg DNA patterns and determination of protein purity.

Integral

Equipment which forms part of the operation of a main item of equipment is regarded as 'integral' to that main item. Examples include feed hoppers (and blending feed hoppers) and heating and cooling devices.

Typically equipment will be regarded as being 'integral' to the main item if:

it is close/attached to the main item

it has simultaneous operation with the main item

it does not require significant additional knowledge or skills.

Equipment is not integral if it has independent operation of its own.

Mould

A former used to give the required shape to the product and which is not subject to pressure

during use. Moulds are typically used in the composites and rotational moulding industry. Moulds used for injection moulding, blow moulding, etc, are referred to as 'dies' in this Training Package

MSDS

Material safety data sheets – all manufacturers and suppliers of chemicals are obliged to produce MSDS for each chemical. MSDS contain statements about potential hazards and the correct methods of handling to minimise the hazard. MSDSs are published by and available from the material supplier.

Nesting/nested

Qualifications where the lower level qualification is wholly or partly included in a higher level qualification.

Non-instrumental tests/procedures

Non-instrumental tests include those using physical testing equipment and routine laboratory equipment, other than normal analytical instrumentation (instrumental tests)

OHS

Occupational Health and Safety.

OHSW

Occupational Health, Safety and Welfare.

Operate

Operate is the word used in this Training Package to denote the work of an employee in using equipment and processes where they are expected to:

- demonstrate basic operational knowledge in a moderate range of areas
- apply known solutions to a limited range of predictable problems
- take limited responsibility for own outputs in work and learning.

Packaged plant

The term ‘packaged’ plant means an item of plant which may or may not be skid mounted and is brought in ready to operate. This is how the industry typically uses this term.

It is also used in this Training Package to include all items of plant which are operated with minimal need to understand the operation of the unit, regardless of the size and complexity of the item itself.

It also covers plant where the operation is basically restricted to turning it on and off with minimal monitoring, control and understanding of its operation by the user. Typical packaged plant may include compressors (large and small), boilers, cooling towers (where the servicing and control is outsourced), air conditioning units, etc.

Place of work

Defined under the Occupational Health and Safety Regulations 2001, it is 'premises where persons work'.

PPE

Personal Protective Equipment – the last line of defence against workplace hazards – includes things like safety boots, gloves, goggles, ear muffs.

Premises

Defined under the Occupational Health and Safety Regulations 2001, it includes 'any place', and in particular includes:

(a) any land, building or part of any building

(b) any vehicle, vessel or aircraft

(c) any installation on land, on the bed of any waters or floating on any waters

(d) any tent or movable structure.

Prerequisites

A prerequisite unit of competency has knowledge/skills which are required in order to achieve a subsequent competency. In a structured training program, units with prerequisites would normally be taught after the prerequisite unit. In an assessment situation, they would often be assessed concurrently.

Procedures

Includes all work instructions, standard operating procedures, formulas/recipes, batch sheets, temporary instructions and similar instructions provided for the smooth running of the plant. They may be written, verbal, computer based or in some other form.

For the purposes of this Training Package, 'procedures' also includes good operating practice as may be defined by industry codes of practice and government regulations.

When a unit of competency requires performance 'in accordance with workplace procedures/SOP' assessment of the performance criteria must be consistent with these procedures.

Produce

Produce is the word used in this Training Package to denote the work of an employee, at broadly trade equivalent level, where they are expected to:

- demonstrate some relevant theoretical knowledge
- apply known solutions to a variety of predictable problems
- take responsibility for own outputs in work and learning.

Quality standards

Include all those procedures which are directed at producing product to the required quality. They may be formal standards in accordance with an external standard (eg ISO9000) or they may be informal, verbal instructions or anything in between.

Reinforcement

Any discontinuous reinforcing components distributed randomly in three dimensions through the polymer. Includes short fibres and particles of any shape. The product is generally moulded.

Reports

Includes the filling out of forms, completing logs/log sheets, entering data into a computer based record system, noting required items on a whiteboard or communicating verbally.

Risk

A ‘risk’ can be defined as the likelihood that harm will occur and the severity of the consequences of that harm. The more significant the risk, the more complex the risk assessment process may need to be.

Risk assessment

There are two types of risk assessments:

1. an assessment done in an office by looking at potential hazards and problems as a ‘one off’ for a new/modified design or a periodic review of an existing plant, eg using a formal process

2. possibly known as ‘routine hazard identification and risk assessment’ – it is live, in real time and ongoing in a facility, and is conducted on a daily/hourly basis for situations that would/could have previously been identified in a ‘one off’ assessment. Examples of assessment tools include ‘STOP’, ‘Take 5’, Step back 5x5’ etc.

Routine problems

To 'rectify routine problems' means 'apply known solutions to a limited range of predictable

problems'

Simple die

A two plate die including any ejection system operating in the mould open axis, but excluding moulds with molten material retained within the mould between cycles. Products are simple, straight drawn items.

Typical features may include: force, cavity, back plates, support plates, cold runner, sprue, nozzle seat, locating ring-tab, sub, fan, diaphragm and direct gating, ejector pins and sleeves, ejector plate and stripper plate, simple drilling for mould cooling.

SOP

Standard Operating Procedure – see ‘procedures’.

Workplace

See 'place of work'.