PMB07 Plastics, Rubber and Cablemaking Training Package

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# 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 |

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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

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| 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 production | | None |
| 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 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 |
| 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 casting | PMBPROD296B |
| 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 practices | MSACMT230A | Apply cost factors to work practices | New unit - Equivalent |
| 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 MSAPMPER300C |
| 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 | MSAPMOPS601A | 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 capability improvements | MSACMT450A | Undertake process capability improvements | Equivalent |
| 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 practices | MSACMT671A | Develop and manage sustainable energy practices | Equivalent |
| 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 physical tests | MSL974005A | Perform physical tests | Equivalent |
| 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 | PMB20107 | Certificate II in Polymer Processing | New certificate is generic and applicable across all sectors - equivalent outcomes. |
| PMB20201 | Certificate II in Rubber |
| 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 |
|  |  | 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 capability | New to PMB |
|  |  | 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 |
|  |  | 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 |
|  |  | 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 |
|  |  | 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 |
|  |  | 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 |
|  |  | 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 |
| 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 |
| 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 an issued permit | MSAPMPER200A | Work in accordance with an issued permit | Equivalent |
| 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. |
| 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 |
| 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 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 (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 |
| PMBPROD221A | Operate rotational moulding equipment | PMBPROD221B | Operate rotational moulding equipment | Equivalent |
| 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 for coating | PMBPROD248C | Prepare surfaces for coating | Equivalent |
| 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 equipment | PMBPROD265C | Operate portable vulcanising equipment | Equivalent |
| 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 equipment | PMBPROD291B | Operate resin infusion moulding equipment | Equivalent |
| 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 |
| 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 rigid products | PMBPROD317C | Print and decorate rigid products | Equivalent |
| 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 |
| PMBPROD333A | Convert plastic film | PMBPROD333B | Convert plastic film | Equivalent |
| 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 |
| 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 |
| PMBPROD375A | Vulcanise products using an autoclave | PMBPROD375B | Vulcanise products using an autoclave | Equivalent |
| 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 |
| 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 |
| 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 retrials | PMBTECH502B | Review and analyse production trials and specify retrials | Equivalent |
| 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 |
| 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 |
| 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 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. |
|  |  | 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 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 sustained | PMBWKOPS402B | Apply workplace procedures to improve workplace performance | Not equivalent. MCMS401 is of 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 |
| 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 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 |
| 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 |
| 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 |
| 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 |
| 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 system |  |  | New unit |
| 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 |
| 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 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 |
| MSAPMSUP230A | Monitor process operations | PMBPROD230B | Monitor process operations | Equivalent |
| 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 production schedule |  |  | New unit |
| 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 |
| 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 film equipment | PMBPROD216A | Operate blown film equipment | Equivalent |
| 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 |
| 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 |
| 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 equipment | PMBPROD284A | Operate open flame moulding equipment | Equivalent |
| 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 |
| 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 |
| 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 vacuum forming products | PMBPROD328B | Produce sheet feed vacuum forming products | Equivalent |
| 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 |
| 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 products | PMBPROD370A | Produce injection blow moulded products | Equivalent |
| 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 resin infusion | PMBPROD391A | Produce composites using resin infusion | Equivalent |
| 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 compounds |  |  | New unit |
| 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 output of plastics materials from processing equipment | PMBTECH503A | Determine rheology and output of plastics materials from processing equipment | Equivalent |
| 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 components | PMBTECH603A | Design structural/mechanical polymer components | Equivalent |
| 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 |
| 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 |
| 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 |  |  |
| 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 |  |  |
| 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 |  |  |
| 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 display 3D models | MEM16008A  MEM30001A | Interact with computing 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 |
| 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 |  |  |
| 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 |  |  |
| 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 |  |  |
| 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 |  |  |
| 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 |  |  |
| 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 |  |  |
| 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 |  |  |
| 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 |
| 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. |
| 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 |
| 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 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  OR  PMBPROD380A | Produce composites using hand lamination  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 |
| 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  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 |  |  |
| 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

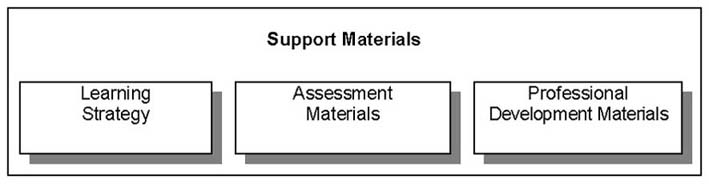
Each Training Package provides details of those units of competency that must be achieved

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 |

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| 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.

#### 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.

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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.

* 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.

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.

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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 |

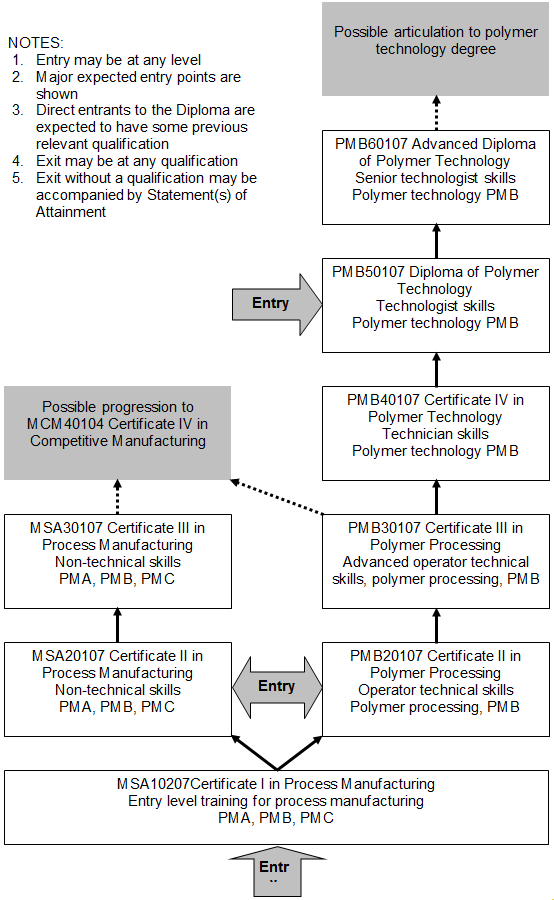
and could then choose the following units for the Extrusion specialisation:

|  |  |
| --- | --- |
| 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 | Take a machine out of production |
| PMBPROD343C | 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:

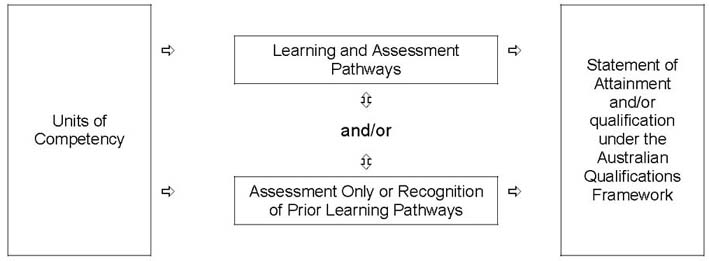
• formal or informal education and training

• 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.

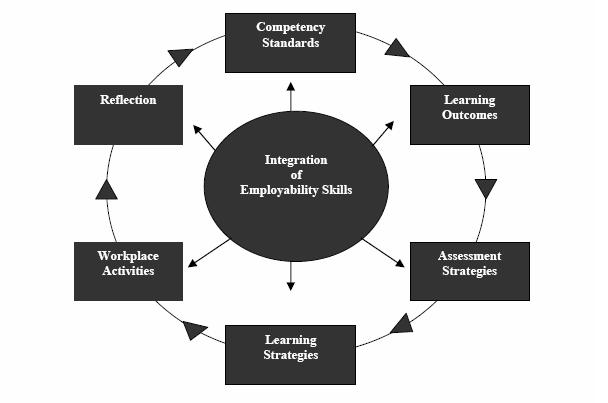
Mandatory Assessment Requirements

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 |
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Appendices

## Appendices

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| Appendices |
| Appendix 1: Participants and contributors to development of PMB07  |  |  |  |  | | --- | --- | --- | --- | | Name | Organisation | Representing | State | | John Quick | AiGroup | Ind Assoc | NSW | | Carlo Lauricella | Applied Training Solutions | RTO | NSW | | Stephen Manning | Craft Fibreglass Composites | Composites | NSW | | Garry Clancey | Huhtamaki | Plastics | NSW | | Grant Errington | Job Futures (Inner West Skills Centre) | RTO/NAC | NSW | | David Neyle | Lightship People Systems | Consultant | NSW | | Celeste Howden | Manufacturing Learning Australia | State ITAB | NSW | | Stephen Holland | PACIA | Ind Assoc | NSW | | Keith Monaghan | PIMA | Ind Assoc | NSW | | Pat Primer | PIMA | Ind Assoc | NSW | | Dimi Pesudovs | Plastics Industry Pipe Assoc of Aust Ltd | Ind Assoc | NSW | | Mark Heathcote | Plastics Industry Pipe Assoc of Aust Ltd | Ind Assoc | NSW | | Barry Ingram | Precision Valve Australia P/L | Plastics | NSW | | Liz Stephens | Reliable Conveyor Belt | Belting | NSW | | Lothar Zilian | Rotadyne | Rotational moulding | NSW | | Fuji D'Souza | TAFE MECAT | RTO | NSW | | Cliff Trood | TAFE NSW | RTO | NSW | | Kim Peterson | TAFE NSW | RTO | NSW | | Leslie Faulstone | TAFE NSW | RTO | NSW | | Marilyn Webster | TAFE NSW | RTO | NSW | | Mike Gibson | TAFE NSW | RTO | NSW | | Peter Harper | TAFE NSW | RTO | NSW | | Peter Smith | TAFE NSW | RTO (Welding) | NSW | | Stephen Dawkins | TAFE NSW | RTO | NSW | | Thor Morris | Wetherill Park TAFE | RTO | NSW | | Anna Commons | NT Acrylic & Plastic | Plastics | NT | | Barry Cramond | TEATAC | State ITAB | NT | | Carolyn Paul |  | Consultant | QLD | | Elliott McIntyre | Apex Fenner | Belt repairs | QLD | | Leisa Donlan | ARMA | Ind Assoc | QLD | | Gilbert Garvars | Belt Maintenance Service | Belt repairs | QLD | | Norm Watt | Buchanan Advanced Composites | Composites | QLD | | Barry de Sylva | Consultant | Fabrication | QLD | | Greg Case | CQ Ports Authority |  | QLD | | Greg Seeds | CQIT | RTO | QLD | | Stephanie Fry | CQIT | RTO | QLD | | Katie Fairbanks | Deception Bay SHS | VET in School | QLD | | BobLamb | DET | Government | QLD | | Kevin Hunt | DET | Government | QLD | | Simon | Goode Sandvik | Belting | QLD | | Dave Grenfell | John Holland Group | Plastics | QLD | | James Duguid | John Holland Group | Plastics | QLD | | Michael Stump | John Paul College | VET in School | QLD | | Peter Caughey | NRG | RTO | QLD | | John Ruggles | PARTEC | RTO | QLD | | KevinWolff | PARTEC | Consultant | QLD | | Roger Cater | PARTEC | RTO | QLD | | TerrySturman | PARTEC | RTO | QLD | | Geoff Napthall | Reliable Conveyors | Belt repairs | QLD | | Dean Malone |  | Consultant | SA | | Frank Samson |  | Plastics | SA | | Gary Rayner |  | Consultant | SA | | Eddie Howlett | Bridgestone Tyres | Tyres | SA | | Jill Young | DEEFST | Government | SA | | Sherelee Rose | Dept of Further Education Employment Science and Technology | Government | SA | | Norm Clements | Innovation Training and Skill Centre | RTO | SA | | Jeff Hickin | Polymer Plus Training Solutions Pty Ltd | RTO Welding | SA | | Glen Nobbs | Regency Training and Consultancy Services | RTO | SA | | Jim Sinclair | Safe Work SA | Government | SA | | Graham Macgowan | TAFE SA | RTO | SA | | Jeanine Carruthers | Training Prospects, SYC Ltd | RTO | SA | | LouSapio | Training Prospects, SYC Ltd | RTO | SA | | Daniel Body | Global Poly Water Tanks | Plastics | TAS | | John Glisson | Northern Group Training | RTO | TAS | | Deb Doherty | Office of Post Compulsory E & T | Government | TAS | | John Vanderwoode | Penguin Fibreglass | Composites | TAS | | Barry Curtain | Pinecrest Plastics | Plastics | TAS | | Carol Donaghy | Plastic Fabrications | Fabrication | TAS | | Cory Williams | Plastic Fabrications | Fabrication | TAS | | Sean Kube | Taslon Fibreglass | Composites | TAS | | David Payne | Tassie Pools and Spas P/L | Composites | TAS | | Bill Ling | The Polythene Co P/L | Plastics | TAS | | Ewan Goddard |  | Consultant | VIC | | Jill Willoughby |  | Consultant | VIC | | Robert Murphy |  | Consultant | VIC | | Steven Lopes |  |  | VIC | | Pam Murphy | AFCO | Injection Moulding | VIC | | Peter Canavan | AiGroup | Ind Assoc | VIC | | John Petschel | APS group | Plastics | VIC | | Lourdes Lopez-Portillo | Armstrong World Industries (Aust) Pty Ltd | Plastics | VIC | | Bernie Cloney | Ashley Institute | RTO | VIC | | Geoff Cody | Ashley Institute | RTO | VIC | | James Turner | Ashley Institute | RTO | VIC | | Rita Nasr | Bostik Findley | Plastics | VIC | | Greg Allwright | Bridgestone Australia | Tyres | VIC | | Margaret Ruff | Brite Industries | Plastics | VIC | | Krys Graves | Cherrton Marketing | RTO | VIC | | 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 | | Ray Carson | Huhtamaki Van Leer | Plastics | VIC | | Mary Vanderfeen | Hydra Consulting | Consultant | VIC | | Phil Turpin | Hydra Consulting | Assessor | VIC | | Ian Spink | Ian Spink & Associates | Trainer | VIC | | Rowan Malcolm | Integrated Group | RTO | VIC | | Trevor Stewart | Integrated Group | RTO | VIC | | Gerard Noone | Integrated Training Services | RTO | VIC | | Ian Albon | Integrated Training Services | RTO | VIC | | Mike Valentine | Jobs Plus | RTO/NAC | VIC | | Joe Dougherty | Kangan Batman TAFE | RTO | VIC | | Joseph Patuto | Kangan Batman TAFE | RTO | VIC | | Juan Carrasset | Kangan Batman TAFE | RTO | VIC | | Phil Bovis | Kangan Batman TAFE | RTO | VIC | | 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 | | Stephen de Rozario | Newskills Limited | RTO | VIC | | Tim Byrne | Northern Group Training (NGT) | RTO | VIC | | Doug Stevens | NUW | Union | VIC | | JulieWarren | NUW | Union | VIC | | Tina Berghella | Oggi Consulting Pty Ltd | Consultant | VIC | | Eileen Cunningham | Olex Cables | Cablemaking | VIC | | John Scott | OTTE | Government | VIC | | Liz Stafford | OTTE | Government | VIC | | Michael Catchpole | PACIA | Ind Assoc | VIC | | David Graham | PACIA representative (Huntsman Chemicals) | Ind Assoc | VIC | | Graeme Churchward | PICO Consulting | RTO | VIC | | David | Pinnock Composite Materials Engineering | Composites | VIC | | Alan Mikkelsen | Prac'l Tech Trg Austr. | RTO | VIC | | Ken Girdlestone | Premier Plastics | Plastics | VIC | | Ray Gaunt | Sneddon & Kingston | Plastics | VIC | | Rodney Souza | South Pacific Tyres | Retread | VIC | | Rene Melis | South West Institute of TAFE | RTO | VIC | | Bill Rees | TAFE VIC | RTO | VIC | | Joe Patuto | TAFE VIC | RTO | VIC | | Kevin van Leeuwen | TAFE VIC | RTO | VIC | | Kevin Wyatt | TAFE VIC | RTO | VIC | | Pat Boland | TAFE VIC | RTO | VIC | | Pat Jones | TAFE VIC | RTO | VIC | | Peter Harrison | TAFE VIC | RTO | VIC | | Robin Quick | TAFE VIC | RTO | VIC | | Steve Damm | TAFE VIC | RTO | VIC | | Trevor Lange | TAFE VIC | RTO | VIC | | Ken Freeman | Thermal Bay Composities | Composites | VIC | | Mark Freeman | Thermal Bay Composities | Composites | VIC | | Deborah Mullan | Training that Works | RTO | VIC | | Ian Schenk | University of Ballarat | RTO | VIC | | Malcolm Vallance | University of Ballarat | RTO | VIC | | Ray Schenk | University of Ballarat | RTO | VIC | | Jeff Taylor | Vinidex | Plastics | VIC | | Wil Morgan | Wil Morgan Inst of Plastics and Metals Training | RTO | VIC | | Peter Hancock | Workplace Learning Initiatives | RTO | VIC | | Greg Harris | Ace Plastics | Plastics | WA | | Nada Soltysiak | ACI/OI Plastics | Plastics | WA | | Kevin Williams | BWP Plastics | Plastics | WA | | Darryn McKenzie | G & F Beltline Murchison Pty Ltd | Belting | WA | | John Dec | John Dec Engineering Plastics | Plastics | WA | | Simon Dec | John Dec Engineering Plastics | Plastics | WA | | Sean Wray | Marplex Australia Pty Ltd | Plastics | WA | | Graeme Kibell | Metso Minerals (rubber) | Rubber | WA | | John Roberts | NCI Packaging | Plastics | WA | | Angela Summers | PACIA representative (OHS Adviser,CCIWA) | Ind Assoc | WA | | David Wilkie | Polyline Industries | Plastics | WA | | Bill Carpenter | Polymer Fusion Technology | RTO | WA | | John Goodall | Sandvik Materials Handling Pty Ltd | Plastics | WA | | Bill Roberts | TAFE WA | RTO | WA | | Bruce Willson | TAFE WA | RTO | WA | | Dorothy Sinclair | TAFE WA | RTO | WA | | Nathan McMurdo | TAFE WA | RTO | WA | | Peter Ebell | TAFE WA | RTO | WA | | Nasser Safi | TAFE WA Central | RTO | WA | | Ron Baker | TCC Group (rubber) | RTO | WA | | Ian Davis | Training Prospects, SYC Ltd | RTO | WA | | Alistair Martin | Vinidex | Extrusion | WA | | Carl Boggis | Viscount Plastics | Plastics | WA | | Ian Kidd | Viscount Plastics | Plastics | WA | | John Barnes | Viscount Plastics | Plastics | WA | | John Murray | Viscount Plastics | Plastics | WA | | John Aubert | Visy Pak | Blow Moulding | WA | | Jim Maguire | WA PMITC | State ITAB | WA | | Roger Walton | Walton Plastics Engineering | Plastics | WA | | Denise Hoschke | Workplace Services | Consultant | WA | | Jeff Williams | Workplace Services | Consultant | WA | | Jeff Vance | XLT Industrial Training Pty Ltd | RTO | WA | |
| 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'. |