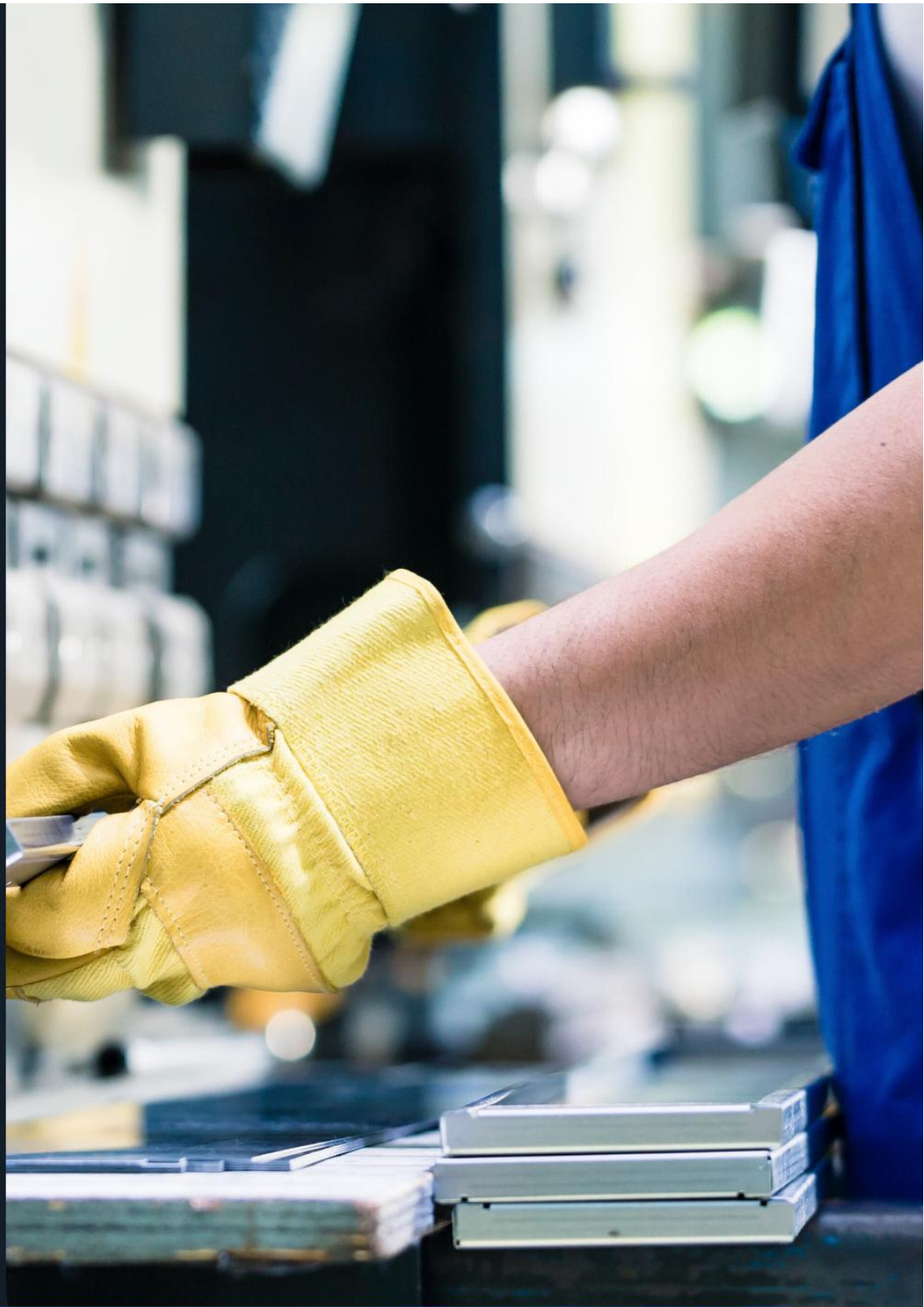




**Manufacturing
Industry Skills
Alliance**



Companion Volume Implementation Guide

Release 9.0

MSM Manufacturing Training Package

2025

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Overview

About this guide

The MSM Manufacturing Companion Volume Implementation Guide (CVIG), Release 9.0, is designed to assist State Training Authorities, regulators, assessors, trainers, Registered Training Organisations (RTOs) and enterprises in delivering training based on the units and qualifications in the MSM Manufacturing Training Package. It has been developed to assist RTOs in meeting the requirements of the 2025 Standards for Registered Training Organisations (RTOs).

This CVIG provides specific information and advice about the structure of the qualifications and their key features, implementation advice and information about licensing and regulatory requirements.

The appendices section contains:

- units of competency, including prerequisites
- imported units
- mapping information for qualifications and units
- qualification and certificate level descriptions
- careers pathways
- ACSF core skills numerical indicator
- employability skills summaries
- industry taxonomy.

Modification history and version control

The following table shows the history of releases of the MSM Manufacturing Training Package since its development, and the notes following the table explain the key modifications made in recent releases.

TP release	Status	Release date	Approval process
9.0	Current	03 December 2025	Endorsement
8.0	Replaced	03 February 2023	Endorsement
7.2	Replaced	19 April 2022	Minor Release
7.1	Replaced	29 March 2022	Minor Release
7.0	Replaced	1 October 2021	Endorsement
6.1	Replaced	5 May 2021	Minor Release
6.0	Replaced	4 September 2020	Endorsement
5.0	Replaced	24 June 2019	Endorsement
4.0	Replaced	5 December 2018	Endorsement
3.0	Replaced	22 October 2018	Endorsement

TP release	Status	Release date	Approval process
2.1	Replaced	12 January 2017	IRC upgrade
2.0	Replaced	2 June 2016	Endorsement
1.0	Replaced	15 December 2015	Endorsement

Release 9.0

Release 9.0 of the MSM Manufacturing Training Package includes:

- one revised qualification:
 - MSM30325 Certificate III in Manufactured Mineral Products
- five new units of competency:
 - MSMPMC333 Meet compliance and quality requirements in precast concrete manufacture
 - MSMPMC334 Assemble, use and maintain moulds in precast concrete manufacture
 - MSMPMC335 Fabricate, assemble and place reinforcement in precast concrete products
 - MSMPMC336 Cast, finish and cure precast concrete products
 - MSMPMC337 Prestress concrete in precast elements
- one new skill set:
 - MSMS00022 Precast concrete manufacture.

Release 8.0

Release 8.0 of the MSM Manufacturing Training Package includes:

- four revised qualifications:
 - MSM21122 Certificate II in Recreational Vehicle Trade Pathways
 - MSM31122 Certificate III in Recreational Vehicle Manufacturing
 - MSM31022 Certificate III in Recreational Vehicle Service and Repair
 - MSM41122 Certificate IV in Recreational Vehicles
- one deleted qualification
- 23 revised units of competency
- six new units of competency.

Release 7.2

Release 7.2 of the MSM Manufacturing Training Package updated metadata errors on training.gov.au.

Release 7.1

Release 7.1 of the MSM Manufacturing Training Package updated the imported unit HLTAID003 to HLTAID011 as directed by the Australian Industry and Skills Committee (meeting 1 December 2021).

Release 7.0

Release 7.0 of the MSM Manufacturing Training Package included the following components:

- four revised units of competency
- one new unit of competency
- four revised skill sets
- one new skill set.

Changes to units of competency included:

- one new unit (MSMWJ307 Operate a hydro excavation system)
- four revised units:
- changes to the elements and performance criteria, including alignment across similar units
- changes to the application and licensing statement
- removal of the range of conditions – relevant information has been included in other unit fields
- performance evidence amended to ensure consistent interpretation
- knowledge evidence updated to provide the depth of understanding required
- a significant volume of guidance/superfluous information in the assessment conditions reduced and content amended to focus on the conditions that must be in place for assessment.

Refer to Appendix 5 for mapping.

Changes to skill sets included:

- one new skill set (MSMSS00021 Operate a hydro excavation system)
- MEM09002B Interpret technical drawing unit of competency removed from MSMSS00018 Operate a high pressure water jetting system and MSMSS00019 Operate a drain cleaning system.

Refer to Appendix 6 for mapping.

Previous releases of the MSM Manufacturing Training Package have not totally replaced or superseded MSA07. Four Manufacturing Technology qualifications and 35 MSATC units of competency are to be progressively reviewed for inclusion in MEM Manufacturing and Engineering Training Package.

AQF qualifications, skill sets and units of competency

Release 9.0 of the MSM Manufacturing Training Package contains:

- 14 qualifications
- 152 MSM-coded units of competency
- 18 skill sets
- 306 imported units of competency.

Qualifications

Code	Title	Comment
MSM10116	Certificate I in Process Manufacturing	No change
MSM10216	Certificate I in Manufacturing (Pathways)	No change
MSM20116	Certificate II in Process Manufacturing	No change
MSM20216	Certificate II in Manufacturing Technology	No change
MSM21122	Certificate II in Recreational Vehicle Trade Pathways	No change
MSM30116	Certificate III in Process Manufacturing	No change
MSM30216	Certificate III in Surface Preparation and Coating Application	No change
MSM30325	Certificate III in Manufactured Mineral Products	Revised to incorporate precast concrete manufacturing outcomes
MSM30418	Certificate III in Fenestration	No change
MSM31022	Certificate III in Recreational Vehicle Service and Repair	No change
MSM31122	Certificate III in Recreational Vehicle Manufacturing	No change
MSM40116	Certificate IV in Process Manufacturing	No change
MSM41122	Certificate IV in Recreational Vehicles	No change
MSM50316	Diploma of Production Management	No change

MSM-coded units of competency

A complete list of MSM-coded units of competency and their prerequisites is in [Appendix 1](#).

Imported units of competency

A complete list of imported units of competency and their prerequisites is in [Appendix 2](#).

Skill sets

Code	Title	Comment
MSMSS00001	Licence to operate a standard boiler	No change
MSMSS00002	Licence to operate an advanced boiler	No change

Code	Title	Comment
MSMSS00007	Trade Measurement Inspection	No change
MSMSS00008	Trade Measurement Verification (Complex Measuring Instrument)	No change
MSMSS00009	Trade Measurement Verification (Limited Weighing Instrument)	No change
MSMSS00010	Trade Measurement Verification (Liquid Measuring Instrument Using Volume Measures)	No change
MSMSS00011	Trade Measurement Verification (Simple Measuring Instrument)	No change
MSMSS00012	Trade Measurement Verification (Simple Measure)	No change
MSMSS00013	Leading Hand/Supervisor	No change
MSMSS00014	Confined Space Work Team	No change
MSMSS00015	Bioprocessing using fermentation	No change
MSMSS00016	Bioprocessing using pyrolysis	No change
MSMSS00017	Use high pressure water jetting equipment	No change
MSMSS00018	Operate a high-pressure water jetting system	No change
MSMSS00019	Operate a drain cleaning system	No change
MSMSS00020	Operate a vacuum loading system	No change
MSMSS00021	Operate a hydro excavation system	No change
MSMSS00022	Precast concrete manufacture	Newly created

Qualification and unit mapping

Detailed mapping and equivalence tables are in the appendices:

- [Appendix 3: MSM qualifications mapping](#)
- [Appendix 4: MSM skill sets mapping](#)
- [Appendix 5: MSM units of competency mapping.](#)

Key work and training requirements in the industry

Manufacturing – VET in Schools

MSM10216 Certificate I in Manufacturing (Pathways)

The Certificate I in Manufacturing (Pathways) provides a generic, cross manufacturing Certificate I designed for delivery in schools to:

- develop both employability and technical skills
- allow for selection of competency standards from a range of manufacturing training packages
- encourage collaborative delivery and assessment approaches
- map to existing qualifications
- include opportunities for recognition against existing qualifications
- provide a clear pathway into other training package qualifications and/or employment.

The Certificate I in Manufacturing (Pathways) also responds to the need to:

- provide pathways for individuals who have had limited access to formal vocational education and training
- ensure consistency with existing Certificate I qualifications
- ensure that employment related solutions are encouraged throughout the structure of the qualifications and that guideline materials provided are in alignment with licensing boundaries
- make employability and generic skills 'front and centre' in the development of qualifications
- provide opportunities for new pedagogical approaches and for local input.

MSM21122 Certificate II in Recreational Vehicle Trade Pathways

The MSM21122 Certificate II in Recreational Vehicle Trade Pathways is appropriate for use as a VET in Schools program. It aims to give school-leavers a career path in the industry by providing a broad introduction to the sector then enabling them to specialise at higher levels.

MSM20216 Certificate II in Manufacturing Technology

The MSM20216 Certificate II in Manufacturing Technology has been developed specifically for use as a VET in Schools program. It provides students with a set of competencies that collectively open up pathways into employment and/or further study.

Process manufacturing

These 4 qualifications cover generic process manufacturing:

- MSM10116 Certificate I in Process Manufacturing
- MSM20116 Certificate II in Process Manufacturing
- MSM30116 Certificate III in Process Manufacturing
- MSM40116 Certificate IV in Process Manufacturing

Process manufacturing is the production of goods that are typically produced in bulk quantities, as opposed to discrete and countable units.

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The generic process manufacturing qualifications provide the competencies required by workers in manufacturing filling vital production support roles but who may not have the opportunity to develop competency in sufficient technical units related directly to producing products. They also apply to employees who operate across more than one category within process manufacturing or 'specialised processes' and elsewhere when required.

Surface preparation and coating

MSM30216 Certificate III in Surface Preparation and Coating Application

This qualification provides the trade-level competencies required to perform the wide range of surface preparation and protective coating application operations which occur across a range of typically heavy industry, ships and infrastructure.

The CSIRO estimates the cost of corrosion in Australia to be around \$13 billion per year. The major role for this sector is the control of corrosion and reduction of this significant cost. Protective coatings need to be applied to much of public infrastructure (e.g. bridges, pipelines), some modes of transport (e.g. ships, submarines), and many large public and private structures (e.g. hydrocarbon, chemical plants, off shore oil/gas platforms). All these items need to have their surfaces prepared correctly before beginning to apply the appropriate coating. Time between preparation and application is often critical to the overall success of the final product.

The increasingly technical nature of the protective coating and the need to undertake both adequate preparation and surface preparation safely and in an environmentally friendly manner has increased the need for this particular qualification. These technological advances have increased the life of the item, and the period between maintenance and the overall life. However, as surface preparation and coating becomes more technical, the ability to perform both correctly becomes more critical if the intended protection is to be achieved.

As much of this work is done 'on site' with routine only supervision, it is essential that the qualification equips the operator for this level of independent operation.

Manufactured mineral products

MSM30325 Certificate III in Manufactured Mineral Products

This qualification provides the competencies for operators working in manufactured mineral products industries who perform a range of operations to directly produce manufactured mineral products for industries, including cement, pre-cast concrete, pre-mixed concrete, quarry and asphalt.

This diverse industry typically interfaces with the extractive industries (e.g. mining, quarrying, blasting etc.) upstream, although some companies are specifically involved in the extractive industries. The industry primarily produces a range of products which are commonly used by other industries rather than directly consumed by the public. Downstream industries include building and construction (cement, concrete products, cement products), civil construction (cement, concrete products, asphalt), and landscaping industry (concrete blocks and pavers).

The MSM30325 Certificate III in Manufactured Mineral Products provides skills development for the following occupations:

- precast concrete technicians
- cement specialists (production and operations)

- plant operators
- plant technicians.

Fenestration

MSM30418 Certificate III in Fenestration

This qualification provides the competencies required for window and door fabrication workers who are required to manufacture, assemble, quality check, test and finalise the fabrication of fenestration products and hardware. It covers the fabrication and assembly of timber, aluminium or uPVC windows and doors to Australian standards. Workers use a range of equipment and provide support functions directly related to producing products, anticipating problems and solving a range of foreseen and unforeseen problems.

MSM30418 Certificate III in Fenestration provides skills development for the following occupations:

- window and/or door fabricator
- fenestration technician.

Production management

MSM50316 Diploma of Production Management

This qualification provides the competencies required to plan, direct and coordinate production activities in a manufacturing environment. It applies to roles relating to improving production, such as production or operations managers.

This qualification provides skills that can be applied to the design and control of production systems within an organisation, including:

- planning and scheduling
- tracking and analysing and
- directing and operating.

Trade measurement

The 14 trade measurement units of competency (listed below) reflect current National Measurement Institute policies, regulations, procedures and work practices governing the activities of Trade Measurement Inspectors and Verifiers. They are available for use in specialist Trade Measurement Skill Sets below and are delivered by the National Measurement Institute.

- MSMSS00007 Trade Measurement Inspection
- MSMSS00008 Trade Measurement Verification (Complex Measuring Instrument)
- MSMSS00009 Trade Measurement Verification (Limited Weighing Instrument)
- MSMSS00010 Trade Measurement Verification (Liquid Measuring Instrument Using Volume Measures)
- MSMSS00011 Trade Measurement Verification (Simple Measuring Instrument)
- MSMSS00012 Trade Measurement Verification (Simple Measure).

Trade measurement refers to all transactions in which the price of the commodities or goods is based on measurement of quantity or quality. The primary purpose of a trade measurement system in Australia is to ensure that the pricing of traded goods is based on accurate measurement. Trade measurement covers both business-to-business

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transactions and business-to-consumer transactions. The units of competency listed below support the National Measurement Institute policies, regulations, procedures and work practices governing the activities of Trade Measurement Inspectors and Verifiers.

- MSMTMINS301 Inspect a range of simple measures
- MSMTMINS302 Inspect a range of simple measuring instruments
- MSMTMINS401 Inspect a range of weighing instruments
- MSMTMINS402 Inspect liquid measuring instruments using volume measures
- MSMTMINS403 Inspect a range of trading practices
- MSMTMINS404 Inspect a range of pre-packaged products
- MSMTMINS501 Inspect a range of complex measuring instruments
- MSMTMREF301 Use and maintain reference standards
- MSMTMVER301 Verify simple measures
- MSMTMVER302 Verify simple measuring instruments
- MSMTMVER401 Verify weighing instruments
- MSMTMVER402 Verify liquid measuring instruments using volume measures
- MSMTMVER403 Verify inspector's class reference standards
- MSMTMVER501 Verify complex measuring instruments.

Recreational vehicles

These 4 qualifications cover the qualifications required by the recreational vehicle manufacture, sales and service industry:

- MSM21122 Certificate II in Recreational Vehicle Trade Pathways
- MSM31022 Certificate III in Recreational Vehicle Service and Repair
- MSM31122 Certificate III in Recreational Vehicle Manufacturing
- MSM41122 Certificate IV in Recreational Vehicles.

The recreational vehicle industry manufactures, repairs, services and retails recreational vehicles, including their accessories. Recreational vehicles include:

- **motorhomes:** large, self-propelled vehicles equipped with living quarters
- **campervans:** smaller, self-propelled vehicles commonly known as vans (such as the Toyota Hiace, Mitsubishi Express, Ford Transit, VW Transporter or Crafter, Fiat Ducato, Renault Master and the Mercedes Sprinter)
- **caravans:** vehicles towed by other vehicles (also known as travel trailers or camper trailers)
- **fifth-wheelers:** a form of caravan that attach to a towing vehicle by a circular coupling plate mounted aboard the towing vehicle
- **slide-on campers:** campers that slides onto the back of pickup/utility vehicles that have a flat tray or platform on which it can be mounted.

The manufacture of a recreational vehicle typically comprises among other things:

- building chassis: fabricating chassis and assembling and installing suspension and braking systems
- fabricating and installing frames and furniture
- installing walls, roofs, floors, floor coverings, windows, doors and internal and external items

- roughing in and fitting off water and electrical systems.

The MSMRV units address these competencies, although the units for manufacturing do not address building chassis for vehicles other than caravans. The inclusion of electives from the Manufacturing Training Package, Automotive Manufacturing Training Package and Automotive Retail, Service and Repair Training Package enables a qualification to include a wide of variety competencies suitable for these work functions.

The service and repair of a recreational vehicle includes:

- a routine service, commonly based on checklists for the particular type of recreational vehicles and covering the state of the exterior and interior and the operation of internal and external items (but not the servicing of the propulsion, suspension, steering and braking systems of the motorhome)
- repairs to frames, furniture, walls, roofs, floors, floor coverings, windows, doors, internal and external items and water, gas and electrical systems.

'Repair' includes:

- making good in situ or removing one or more items that are damaged or no longer function according to specifications and arranging for their repair or replacement
- removing and replacing existing items with modernised or upgraded items for better appearance, convenience or performance and installing new items for the same reasons, including the specification of complex installations
- removing and reinstalling items for service and maintenance if required
- resealing penetrations and installing new moulding as required
- inspecting damaged items and identifying any additional work required beyond the scope of a job instruction.

High-risk work boiler operations

Operating a boiler is high-risk work which requires a licence. This requires one of the following recognised skills sets:

- MSMSS00001 Licence to operate a standard boiler
- MSMSS00002 Licence to operate an advanced boiler.

The following high-risk licensing units have been developed for use in Skill Sets and importation to relevant qualifications to meet the needs of boiler operators.

- MSMBLIC001 Licence to operate a standard boiler
- MSMBLIC002 Licence to operate an advanced boiler.

High-pressure water jetting

Although not a traditional manufacturing sector, high pressure water jetting provides a valuable industrial service to the process manufacturing sector and is bound by many of the same requirements. Training in the operation of potentially dangerous equipment in the hands of untrained personnel is essential as operators frequently encounter hazard and deal with safety risks, including the following:

- hazards from high/extreme pressure and velocity
- electricity, static electricity, gas, and gases and liquids under pressure
- flammable and/or explosive environments
- hazardous products and materials (including carbonaceous particulates)

- working where there is a reasonable risk of a fall, in restricted or confined spaces, or in environments subjected to heat, noise, dusts, vapours, smoke, or other atmospheric hazards
- potential for serious injury to people or damage to property.

Personal protective equipment (PPE) required for undertaking the work includes one or more of the following:

- PPE as specified in:
- Section 4 of AS 4233.1 High pressure water jetting systems – Part 1: Safe operation and maintenance
- Section 5 of Safe Work Australia Guide for Managing Risks from High Pressure Water Jetting or its authorised replacement
- medical alert card as specified in Section 9.5 of AS 4233.1 High pressure water jetting systems – Part 1: Safe operation and maintenance or its authorised replacement
- other equipment as required.

The following MSMWJ units of competency have been developed to meet the requirements for operators of high pressure water jetting equipment.

- MSMWJ202 Use high pressure water jetting equipment
- MSMWJ304 Operate a high pressure water jetting system
- MSMWJ305 Operate a drain cleaning system
- MSMWJ306 Operate a vacuum loading system
- MSMWJ307 Operate a hydro excavation system.

Five Skill Sets are also available:

- MSMSS00017 Use high pressure water jetting equipment
- MSMSS00018 Operate a high pressure water jetting system
- MSMSS00019 Operate a drain cleaning system
- MSMSS00020 Operate a vacuum loading system
- MSMSS00021 Operate a hydro excavation system.

Terminology

Reference to a 'toolbox meeting or similar' will commonly appear in the performance criteria of the units of competency. This is referring to a safety type meeting that is conducted prior to commencing a job. It is acknowledged that this meeting is not always referred to as a 'toolbox' meeting and will be dependent on local contexts, other examples may include a pre-start meeting, safety briefing or hazard identification meeting. The intent of the meeting is to cover topics on safety aspects related to the specific job. Meetings are normally short in duration and cover topics such as workplace hazards and safe work practices (which may include PPE, fire evacuation procedures, new tools or equipment), reporting procedures, changes to job procedures, and provide an opportunity to exchange information and/or cover last-minute checks.

MSMWJ305 Operate a drain cleaning system

This unit describes the skills and knowledge required to operate a high pressure water jetting system for cleaning, unblocking or removing debris from wastewater or drainage infrastructure. It covers stormwater, wastewater and trade/industrial waste. Although not explicitly identified in the unit of competency, industry have advised that a 'gun' may form

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part of the drain cleaning equipment. Gun operations, although not specifically used only to clean drains, may relate to some tasks outlined in the performance criteria. For example:

Performance Criteria	Task
5.3 Operate equipment to meet job requirements	Gun operation may be used to remove asset cover
6.5 Clean job site and equipment and ensure appropriate disposal of all waste	Gun operation may be used to clean asset

All work undertaken as described in this unit uses equipment that meets the requirements of a Class B system as defined by *AS 4233.1 High pressure water jetting systems – Part 1: Safe operation and maintenance* and in compliance with *Safe Work Australia Guide for Managing Risks from High Pressure Water Jetting*, its state/territory equivalent (where one exists) or the authorised replacement.

Key items for consideration that relate to gun operation in the AS 4233.1 include:

- system start-up and pressurising
- system shut-down and depressurising
- hose restraints and protective shrouds
- gun barrel length
- PPE selection.

It is noted that gun operation is not mandatory and may not be relevant to every application.

MSMWJ304 Operate a high-pressure water jetting system, MSMSS00018 Operate a high-pressure water jetting system

High pressure water jetting systems can have the following characteristics:

- Motive power of up to 1100kW (1475 HP)
- Maximum pressure of 3000bar (43,500PSI)
- Maximum flow of 550lpm (121 Imp/GPM).

High-pressure water jetting pumps can have:

- a low flow rate with extremely high pressures and can have an output capability up to 159,000 bar litres per minute.
- a high flow rate with high pressures and can have an output capacity in excess of 338,600 bar litres per minute.

High pressure water jetting systems have complex systems and many and varied accessories that are manual and automated. The use of these higher motive power units has applications across several industries including mining, aluminium, steel, oil and gas, petrochemicals and government utilities.

Use of these high pressure pumps involves significant risk and associated hazards. Common hazards and risks for operators include:

- water jet injection injuries where high pressure water can pierce the skin
- being hit by flying debris

- release of hazardous materials into the atmosphere from dislodged deposits
- respiratory hazards due to the high water vapour content in the air in confined space
- electrostatic charging of nozzles and lances.

Safe Work Australia recognises the considerable risk and hazards. To assist in managing health and safety risks associated with high pressure water jetting operations, they have developed a 'Guide for managing risks from high pressure water jetting'.

Statistics indicate that the majority of injuries that have occurred using high pressure water jetting handguns have been while the operator was using Class B high pressure water jetting systems. Water emitting from an ultra-high-pressure water jetting gun can have a velocity in excess of 750 metres per second. High pressure water jetting systems in the hands of an incompetent person can be very dangerous. Fatalities and serious long-term injuries have occurred.

It is reported that a high pressure water jetting injury is very similar to a gunshot wound as the internal damage caused cannot be easily determined by the extent of the external wound. All high pressure water jet injuries should receive immediate medical treatment and be reported. The urgency of patient transfer is of the same degree as would be required for an amputation injury. Specialist pressure rated body armour worn by the operator significantly reduces the chance of major injuries.

Largely due to these significant safety concerns, industry have determined the need for 120 hours of practical experience to develop the skills and knowledge required to safely operate these ultra-high- pressure Class B high pressure water jetting systems.

The requirement for practical experience is already largely accepted by industry. In 2012, Australasian High-Pressure Water Jetting Association members, which incorporates the Australasian Drain Cleaning and Vacuum Association, mandated 120 hours as the minimum amount of experience a candidate should have prior to being eligible to complete *MSMWJ304 Operate a high pressure water jetting system* unit of competency or *MSMSS00018 Operate a high pressure water jetting system* skill set. It was agreed that in most instances the 120 hours was an achievable and realistic timeframe to deliver the skills and knowledge and safety outcomes that are required when operating autonomously across the gamut of high pressure water jetting systems and applications.

An hours-based evidence requirement has only been specified in *MSMWJ304 Operate a high pressure water jetting system* as applications of high pressure Class B systems (as represented in this unit) require a wider range of knowledge and practical experience, in excess of those required for drain cleaning (as represented in *MSMWJ305 Operate a drain cleaning system*) or hydro excavation (as represented in *MSMWJ307 Operate a hydro excavation system*) applications. The drain cleaning and hydro excavation units provide flexible options for those using high pressure water jetting equipment in more specific and limited contexts. In addition, *MSMWJ202 Use high pressure water jetting equipment* is available for those working under supervision.

The requirement to undertake hours is just one of the pieces of performance evidence required for *MSMWJ304 Operate a high pressure water jetting system*. It is common to use another party for evidence-gathering in cases where workplace evidence is required, this evidence could include reports from supervisors, colleagues and/or clients, testimonials from employers, work diaries, evidence of training. ASQA have [Tips on compliant practice—Effective assessment](#), some which relate to work placements and workplace assessment as well as using third-party report.

Where appropriate, Recognition of Prior Learning (RPL) may contribute to the evidence gather process. RPL uses evidence from formal, non-formal and informal learning rather than from specific assessment activities directed by the RTO. This evidence is often combined with assessment activities sometimes known as 'challenge testing' (<https://www.asqa.gov.au/standards/training-assessment/clauses-1.8-to-1.12>). All nationally accredited training organisations are required to offer RPL when a student is accepted (the process and cost vary between training providers). RPL may be effective where a learner is working in industry, has completed *MSMWJ202 Use high pressure water jetting equipment*, and been accepted to undertake *MSMWJ304 Operate a high pressure water jetting system*. In this instance if a person is able to show valid evidence they have been working in industry and operated a high pressure water jetting system under supervision, for example 80 hours, the person may potentially need an additional 40 hours under supervision to meet the requirements of the unit. It must also be noted that the person has not 'reduced' the number of hours completed for the unit, they have still completed 120 hours and have valid evidence across this period.

It should be noted that effective assessment must align to the Standards for RTOs, which incorporate the Principles of Assessment and the Rules of Evidence.

Bioprocessing

With the rise in global energy demand, the importance of biofuels and bioenergy as alternative energy sources has grown significantly. In Australia, various methods of producing biofuel and other bioproducts using new and existing technologies and processes are being employed.

One bioprocessing method is fermentation which uses microorganisms to prepare biological material for the downstream processes to produce a range of bioproducts, including ethanol.

Pyrolysis process is another method. It uses elevated temperature to breakdown biological material and also produces a range of bioproducts, including bio-oil.

Skill sets and units have been developed to support this growing sector. These components cover the skills and knowledge required for operators who are responsible for monitoring bioprocessing equipment and processes to produce a range of products and bi-products, such as biochar, bio-oil, ethanol, livestock feed and fertiliser.

Four units of competency are available:

- MSMBIO301 Process biomass using pyrolyser
- MSMBIO302 Ferment biomaterial to produce bioproducts
- MSMBIO303 Distil bioproducts
- MSMBIO304 Separate and recover bioproducts.

Two Skill Sets are also available:

- MSMSS00015 Bioprocessing using fermentation
- MSMSS00016 Bioprocessing using pyrolysis.

Regulation and licensing implications

At the time of writing, there are no licensing or other regulatory requirements applicable to the MSM Manufacturing Training Package qualifications as a whole. Where regulatory requirements may apply to individual units, this information is provided in the unit.

However, these requirements differ between jurisdictions and are frequently updated. RTOs should always confirm licensing requirements with the regulator.

Local requirements should be checked, for example Safe Work Australia has a Guide for managing risks from *high pressure water jetting*
<https://www.safeworkaustralia.gov.au/doc/guide-managing-risks-high-pressure-water-jetting>.

The National Measurement Institute is the regulator of the National Measurement Act and is the only RTO with scope to deliver the MSMTM units of competency.

The MSM Manufacturing Training Package also includes specialist high-risk licensing units for boiler operations.

Businesses in the manufacturing industries must also comply with:

- federal, state and local government environmental standards
- product safety standards
- occupational health and safety regulations.

Overview of training package components

To achieve a MSM Manufacturing Training Package qualification, competence must be achieved in all core units, a minimum number of operational or technical units of appropriate complexity, and electives that are selected according to the packaging rules of the qualification.

Application

Units of competency have specific scope and limitation as well as purpose and operating conditions in different contexts and workplaces.

The Application section is designed to give clear and enforceable direction to users of the training package about how the unit is to be applied. This is to ensure that duplication is minimised, skills pathways are not compromised, and that unit selection is appropriate from an industrial outcome perspective.

For example, MSMWJ304 Operate a high pressure water jetting system contains directives in relation to the hours:

This unit applies to operators who have undertaken at least 120 hours of industry experience using equipment that meets the requirements of a Class B system as defined by AS 4233.1 High pressure water jetting systems – Part 1: Safe operation and maintenance, and in compliance with Safe Work Australia Guide for Managing Risks from High Pressure Water Jetting, its state/territory equivalent (where one exists) or the authorised replacement.

This statement supports the requirement in the performance evidence of this unit.

Units of competency

Core units

Competence must be achieved in the core units. Core units have been selected because they are necessary competencies for any operations person in the industry and they have an emphasis on safety and quality, both of which are key issues for this industry.

Elective units

The training package qualifications use groups of electives to make the packaging rules clear and to ensure that the combination of electives results in a qualification that meets the AQF qualification type requirements.

The elective units of competency listed within recreational vehicle qualifications provide for skill development in all the industry sectors identified by industry representatives during consultations. All qualifications can be customised since particular combinations of elective units can be selected to suit individual student needs and the industry sector.

The manufacturing technology units coded MSMPCH were specifically developed for the Certificate II in Manufacturing Technology. They are designed for use only in a Pathways qualification or Skill Set. They should not be used in other qualifications as replacements for units that have direct job outcomes.

Importing elective units

Units of competency may be imported from another endorsed training package to customise a qualification. These imported units may be used to replace the maximum number of imported units that are identified in the packaging rules. The use of imported units of competency is allowed if:

- they are from an endorsed training package or other accredited course and are packaged at the same AQF certificate level (the original unit title and code number must be retained)
- they are appropriate to the needs of the organisation
- any prerequisites specified in the original unit and any specific assessment requirements in the host training package are also observed.

Exporting units to other training packages

The Manufacturing Industry Skills Alliance encourages other industries to access the units of competency in this training package that might be appropriate to their needs. These competencies may be used provided:

- the original unit code and title are retained
- they are only contextualised to the extent permitted below
- any specified prerequisites and any specific assessment requirements in the host training package are observed.

Prerequisite units

The MSM-coded units are built on a structure of accumulated skills and knowledge. This means that there are hierarchies of skills and knowledge that are built up from a range of competencies. This may have an impact on training and assessment delivery strategies. Any units that underpin others are listed as prerequisites; however, these have been kept to a minimum.

Unit code	Unit title	Prerequisites
MSMPER205	Enter confined space	MSMPER200
MSMPER300	Issue work permits	MSMWHS201
MSMPER400	Coordinate permit process	MSMPER300
MSMPMC402	Process raw meal into product	MSMPMC307

MSMWHS300	Facilitate the implementation of WHS for a work group	MSMWHS200
MSMWJ304	Operate a high pressure water jetting system	MSMWJ202

Competency fields

Competency fields are used to categorise a set or group of units in relation to a type or area of work. They are convenient groupings of units to assist with the organisation of the competency standards and to help users in the selection of relevant competency standards. The fields do not set up barriers to accessing any competency units in a field, or between fields. They also do not limit the applicability of the unit; rather, they should be regarded as an indicator of potential applicability. Contextualisation beyond the areas the competency field indicates is acceptable.

The competency fields used in the MSM Manufacturing Training Package are:

- Bioprocessing
- Boiler Operation (licensed)
- Health, Safety and Environment (HSE)
- Operations
- Manufacturing pathways
- Support
- Trade measurement
- Work control systems
- Work health and safety (WHS).

Contextualising units of competency

Units may, and in some cases should, be contextualised to the subsector and type of work environment involved. However, contextualisation must only be applied in a manner that maintains the rigour and level of the unit; contextualisation that changes the elements or performance criteria is not permitted.

Contextualisation is acceptable where it:

- replaces general directions with organisationally specific needs
- replaces generic equipment or process names with organisationally specific names
- replaces general processes or specifications with organisationally specific needs.

As a minimum, the contextualised unit should:

- maintain the level and rigour of the original unit
- be of a similar breadth, complexity and size to the original unit
- be relevant to the industry sector and the organisation
- not reduce the health, safety or environmental requirements of the original unit
- retain the original unit code and title.

Implementation information

This section will assist training package users to develop their training and assessment

strategies, customise the program to meet industry sector and student needs, identify the most suitable qualification for each student, and apply the volume of learning and amount of training required to comply with the AQF.

Key Features

RTOs will need to implement a comprehensive training and assessment strategy for each qualification that they deliver.

This implementation information is provided to assist RTOs to develop their learning and assessment strategies to meet industry and student needs. It includes information on:

- choosing the appropriate qualification, skill set or unit
- choosing electives as required
- supporting students
- delivering the training
- assessing students.

Industry sectors and occupational outcomes of qualifications

All MSM Manufacturing Training Package qualifications are designed to provide an industry-recognised skills profile related to work performed in or related to the manufacturing industries:

- Manufacturing (2 qualifications designed for delivery in schools)
- Process manufacturing (4 qualifications)
- Surface preparation and coating (1 qualification)
- Manufactured mineral products (1 qualification)
- Fenestration (1 qualification)
- Precast concrete (5 units of competency)
- Production management (1 qualification)
- Trade measurement (14 units of competency)
- Recreational vehicles (4 qualifications)
- High risk work boiler operations (2 units)
- High pressure water jetting (5 units)
- Bioprocessing (4 units).

Qualifications in the training package support occupational outcomes ranging from workers below trade level through to trade and technician levels. These align with Certificate II through to Diploma in the AQF.

The statements in the qualifications contain critical information about the intended purpose of the qualification and are necessary to ensure that the occupational outcome associated with the qualifications is clear, and that the qualifications are used for their intended purpose.

RTOs must meet the requirements of the AQF and ensure that individual students are enrolled in appropriate qualifications. Appendix 6 provides the AQF qualification descriptor and the MSM Manufacturing Training Package qualification description. This will assist RTOs in determining the most suitable qualification level for each student.

Mandatory entry requirements for qualifications

There are no mandatory entry requirements for any of the MSM Manufacturing Training Package qualifications.

Pathways through the training package

The training package qualifications have been developed to support career pathways for operations personnel with articulation through AQF levels.

There are pathways between qualifications that enable career progression from below trade-level through to trade-equivalent and technician levels. Depending on the choice of elective units, qualifications provide some articulation with a higher-level qualification.

All qualifications allow for credit transfer, again depending on the electives that have been achieved.

The table below provides information about career pathways into and out of each qualification. There are no entry requirements for any of the MSM qualifications.

Qualification	Pathway in	Pathway out
Pathways and VET Delivered to Secondary Students (VETDSS)		
MSM10216 Certificate I in Manufacturing (Pathways)	NA	MSM20116 Certificate II in Process Manufacturing
MSM20216 Certificate II in Manufacturing Technology	NA	MSA30208 Certificate III in Manufacturing Technology *
Process Manufacturing		
MSM10116 Certificate I in Process Manufacturing	NA	MSM20116 Certificate II in Process Manufacturing
MSM20116 Certificate II in Process Manufacturing	MSM10216 Certificate I in Manufacturing (Pathways)	MSM30116 Certificate III in Process Manufacturing
MSM30116 Certificate III in Process Manufacturing	MSM20116 Certificate II in Process Manufacturing	MSM40116 Certificate IV in Process Manufacturing
MSM40116 Certificate IV in Process Manufacturing	MSM30116 Certificate III in Process Manufacturing	MSM50316 Diploma of Production Management or MSS50312 Diploma of Competitive Systems and Practices
Surface Coating and Preparation		
MSM30216 Certificate III in Surface Preparation and Coating Application	NA	NA
Manufactured Mineral Products		

Qualification	Pathway in	Pathway out
MSM30325 Certificate III in Manufactured Mineral Products	NA	MSM40116 Certificate IV in Process Manufacturing MSS40316 Certificate IV in Competitive Systems and Practices or BSB42015 Certificate IV in Leadership and Management
Fenestration		
MSM30418 Certificate III in Fenestration	NA	MSM40116 Certificate IV in Process Manufacturing MSS40316 Certificate IV in Competitive Systems and Practices or BSB42015 Certificate IV in Leadership and Management
Production management		
MSM50316 Diploma of Production Management	MSM40116 Certificate IV in Process Manufacturing	A degree program
Recreational vehicles		
MSM21122 Certificate II in Recreational Vehicle Trade Pathways	NA	MSM31022 Certificate III in Recreational Vehicle Service and Repair or MSM31122 Certificate III in Recreational Vehicle Manufacturing
MSM31022 Certificate III in Recreational Vehicle Service and Repair	MSM21122 Certificate II in Recreational Vehicle Trade Pathways	MSM41122 Certificate IV in Recreational Vehicles
MSM31122 Certificate III in Recreational Vehicle Manufacturing	MSM21122 Certificate II in Recreational Vehicle Trade Pathways	MSM41122 Certificate IV in Recreational Vehicles

Skill sets and relationship to qualifications

In the development of Release 9.0, industry identified the opportunity to develop a new skill set which focusses on key operational skills in precast concrete manufacturing.

Skill set	Skill set title	Relationship to qualification
MSMSS00001	Licence to operate a standard boiler	This Skill set can be a stand-alone licensing outcome or the unit it comprises credited in any qualification where it is included as core or an elective option.
MSMSS00002	Licence to operate an advanced boiler	This Skill set can be a stand-alone licensing outcome or the unit it comprises credited in any

Skill set	Skill set title	Relationship to qualification
		qualification where it is included as core or an elective option.
MSMSS00007	Trade Measurement Inspection	These units from the MSM Manufacturing Training Package provide an introduction to the work of a trade measurement inspector and are likely to be undertaken during the early phase of inspector training, prior to commencing the statutory qualification PSP40516 Certificate IV in Trade Measurement.
MSMSS00008	Trade Measurement Verification (Complex Measuring Instrument)	These units can provide credit towards qualifications within the Manufacturing Training Package. If verifiers seek employment as trade measurement inspectors, these competencies may provide recognition towards the new Diploma of Trade Measurement.
MSMSS00009	Trade Measurement Verification (Limited Weighing Instrument)	These units can provide credit towards qualifications within the Manufacturing Training Package. If verifiers seek employment as trade measurement inspectors, these competencies may provide recognition towards the relevant Certificates IV in the PSP Public Service Training Package
MSMSS00010	Trade Measurement Verification (Liquid Measuring Instrument Using Volume Measures)	These units can provide credit towards qualifications within the Manufacturing Training Package. If verifiers seek employment as trade measurement inspectors, these competencies may provide recognition towards the relevant Certificates IV in the PSP Public Service Training Package.
MSMSS00011	Trade Measurement Verification (Simple Measuring Instrument)	These units can provide credit towards qualifications within the Manufacturing Training Package. If verifiers seek employment as trade measurement inspectors, these competencies may provide recognition towards the relevant Certificates IV in the PSP Public Service Training Package.
MSMSS00012	Trade Measurement Verification (Simple Measure)	These units can provide credit towards qualifications within the Manufacturing Training Package. If verifiers seek employment as trade

Skill set	Skill set title	Relationship to qualification
		measurement inspectors, these competencies may provide recognition towards the relevant Certificates IV in the PSP Public Service Training Package.
MSMSS00013	Leading Hand/Supervisor	These competencies can provide credit towards relevant qualifications in all process manufacturing training packages.
MSMSS00014	Confined Space Work Team	These units of competency can provide credit towards Certificates II and III in PMA Chemical, Hydrocarbons and Refining Training Package.
MSMSS00015	Bioprocessing using fermentation	These units provide credit towards the Certificate III in Laboratory Skills and Certificate III in Process Manufacturing.
MSMSS00016	Bioprocessing using pyrolysis	These units provide credit towards the Certificate III in Process Manufacturing.
MSMSS00017	Use high pressure water jetting equipment	These units provide credit towards relevant qualifications in the MSM Manufacturing Training Package.
MSMSS00018	Operate a high-pressure water jetting system	These units provide credit towards relevant qualifications in the MSM Manufacturing Training Package.
MSMSS00019	Operate a drain cleaning system	These units provide credit towards relevant qualifications in the MSM Manufacturing Training Package.
MSMSS00020	Operate a vacuum loading system	These units provide credit towards relevant qualifications in the MSM Manufacturing Training Package.
MSMSS00021	Operate a hydro excavation system	These units provide credit towards relevant qualifications in the MSM Manufacturing Training Package.
MSMSS00022	Precast concrete manufacture	This skill set provides credit towards MSM30325 Certificate III in Manufactured Mineral Products

Assessment guidelines

The training package unit of competency assessment requirements summarise essential evidence for an assessment but do not replace the requirements set out in the elements and performance criteria in the unit.

Assessment methods must be relevant to and comply with all of the requirements of the

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unit and associated assessment requirements.

The performance and knowledge evidence requirements should be analysed to identify logical/practical groupings that will help in designing assessment methods and assessment tools.

Evidence of knowledge may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept in each case).

Workplace assessment

Where assessment occurs in the workplace:

- take into account that the person being assessed may have had little experience of structured training and assessment. Carefully explain the process of making judgements against the standards and make the candidate feel as relaxed as possible, consistent with the needs of the unit
- consult on the assessment process with the parties involved
- the assessment should take place over a reasonable length of time so that the candidate has the opportunity to demonstrate work responsibility and contingency management
- third-party reports of workplace performance, if available, may be useful; however, the third party must have relevant experience on which to base their report
- consider the other staff in the workplace likely to be affected by the process. All staff directly or indirectly involved in the process should be briefed on the factors that will impact on them, such as duration or changes in work routine
- ensure that assessment is as compatible as possible with the normal pattern of work and causes minimal disruption. If the process involves candidates being away from their work area for a period of time, then arrangements should be made with their immediate supervisor to cover their duties for that period of time.

Simulation

Simulation may be appropriate where safety/environmental risk, production processes and/or cost factors prevent workplace evidence being generated. This might be the case, for example, where WHS competencies must be achieved prior to performing the work or where operational activities are not performed regularly (for example, process shutdown).

Where off-the-job assessment is used the RTO must design realistic workplace simulations that cover the range of conditions, challenges and contingencies found in an operational workplace as relevant to the unit being assessed.

Where assessment is occurring out of the workplace, it is important to ensure that:

- the assessment takes place in a situation as close as possible to workplace reality
- all aspects of competency are assessed
- the assessment takes place over a reasonable length of time so that the candidate has the opportunity to demonstrate work responsibility and contingency management
- third-party reports of workplace performance, if available, may be useful; however the third party must have relevant experience on which to base their report
- documents used in assessment closely reflect workplace reality.

Evidence guidelines

Judgement of competence

Judgement of competence must be based on holistic review of all of the evidence against the unit of competency and assessment requirements. Assessment must meet the Principles of Assessment and the Rules of Evidence.

The design of assessment needs to ensure that the following dimensions of competency are covered:

- task skills (performance of individual tasks)
- task management skills (managing a number of different tasks within the job)
- contingency management skills (responding to problems, breakdowns and changes in routine)
- job/role environment skills (dealing with the responsibilities and expectations of the workplace).

Evidence-gathering methods must be gender and culturally inclusive and take into account the language, literacy and numeracy skills of the candidate and requirements of the unit and the workplace.

Assessment design should also consider:

- incorporating a range of assessment techniques
- integrating the assessment of units related to the performance of 'whole of work' tasks, roles or functions
- using a holistic approach that combines knowledge, understanding, problem-solving, technical skills and applications to new situations into the assessment process
- assessing in the workplace (wherever possible), using familiar skills and materials
- ensuring that the amount and level of reading and writing is commensurate with what is required to do the job competently
- using the language and terms of the job and the workplace
- encouraging the candidate to ask questions to clarify instructions
- providing clarification of purpose and process of assessment
- identifying and addressing any cultural and gender issues that may arise.

The following resources provide advice on designing assessment tools:

- *Guide to developing assessment tools* (ASQA, 2015; <https://www.asqa.gov.au/resources/guides/guide-developing-assessment-tools>)
- A guide to developing training package assessment materials [kit] (ANTA, 2001: <https://trove.nla.gov.au/work/16529162?selectedversion=NBD24099286f>)
- ASQA forms: <https://www.asqa.gov.au/forms.html>
- *Disability Standards for Education 2005* (Australian Government, <https://www.comlaw.gov.au/Details/F2005L00767>)

Access and equity

A learner's access to the training and 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 Disability Standards for Education 2005, RTOs 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. The Disability Standards and guidelines for their implementation can be downloaded at <http://www.comlaw.gov.au/Details/F2005L00767>.

An adjustment is any measure or action that a student requires because of their disability, and which has the effect of assisting them to access and participate in education and training on the same basis as those 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, their views, the potential effect of the adjustment on the student and others who might be affected, and the costs and benefits of making the adjustment.

When assessing whether an adjustment is reasonable, a training provider is required to maintain the academic requirements of a unit of competency that are inherent or essential to its outcome. 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.

Adjustments must not diminish the rigour of the unit of competency being assessed.

Reasonable adjustments

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 candidates with and without disability. The Disability Standards and guidelines for their implementation can be downloaded at <http://www.comlaw.gov.au/Details/F2005L00767>.

An adjustment is any measure or action that a candidate requires because of their disability, and which has the effect of assisting them to access and participate in education and training on the same basis as those without a disability. An adjustment is reasonable if it achieves this purpose while taking into account factors such as the nature of the candidate's disability, their views, the potential effect of the adjustment on the candidate and others who might be affected, and the costs and benefits of making the adjustment.

A training provider is also entitled to maintain the academic requirements 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.

Adjustments must not diminish the rigour of the unit being assessed.

Foundation skills

What are foundation skills?

Foundation skills are the core or essential skills needed to engage successfully in work and life. The term 'foundation skills' is currently used to include the five core skills defined in the Australian Core Skills Framework (ACSF) as well as the eight employability skills that are required for effective performance in the workplace.

Information about the foundation skills has been identified for the MSM-coded units and qualifications and is provided below in Appendix 7.

How are they relevant?

Training providers should use the foundation skills information in the training package qualifications to assist with designing valid and reliable training and assessment strategies and practices. This analysis could include:

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

Foundation skills are deemed essential to successful learning and continuing employment. Foundation skills are integral to competent performance of each unit and should not be assessed separately.

ACSF core skills

There are five core skills in the ACSF:

- reading
- writing
- oral communication
- numeracy
- learning.

The core skills are embedded in the performance criteria in the units in the MSM Manufacturing Training Package. Where the skills are not explicit in the performance criteria, they have been highlighted in the foundation skills field of the units. This is to ensure they are addressed as part of the training program.

Appendix 7 includes the ACSF levels for units of competency. The levels indicate what is required by competent learners at the end of a training program. The levels are not entry levels. They are noted in this guide to assist trainers to determine the level of skill that should be addressed in training and assessment. They should also be taken into account when designing training and assessment materials. For example, a unit of competency with a level 2 reading skills must not use an assessment activity based on reading complex technical reports or utilise complex language in assessment tasks.

Employability skills

Employability skills are deemed to be essential for effective performance in the workplace. They apply holistically at the qualification level.

There are eight employability skills:

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

Employability skills summaries have been developed for the MSM Manufacturing Training Package qualifications. The summaries are designed to assist trainers and assessors to identify and include important industry application of employability skills in training and assessment strategies.

Employability skills summaries provide examples of how each skill is applicable to the occupational outcomes covered by the qualification. They contain general information about industry context and are a broad summary of the measurable outcomes of performance in the units in each qualification.

Employability skills summaries are not exhaustive lists of qualification requirements nor checklists of performance.

Foundation skills are integral to competent performance of the unit and should not be assessed separately. In other words, if an assessment covers all aspects of the unit and assessment requirements the foundation skills will also have been assessed.

Health and safety implications

All operations must comply with WHS and environmental management requirements, which may be imposed through state/territory or federal legislation. These requirements must not be compromised at any time.

All operations must recognise the potentially hazardous nature of the materials, equipment and processes used in the [industry title] industries.

The MSM coded units include adherence to the current 'regulatory framework' as an essential operating condition. The regulatory framework includes any or all legislation, regulations, standards, codes of practice and licensing requirements that apply to the workplace and the products, materials and processes being used.

The wording of the regulatory framework statement is common to many units and does not list the specific regulations to follow. This is because regulations often vary between jurisdictions and are frequently updated. In addition, some units can be applied to different contexts that might be subject to different requirements.

It is critical, however, that RTOs ensure that all training, assessment and related workplace activities are conducted within the requirements of the regulatory framework.

In most cases the regulatory framework will define requirements for WHS, environmental protection, testing and quality (often related to safety and environment). It may also relate to areas such as discrimination, privacy, and consumer protection.

The regulatory framework will typically include several of the following:

- WHS legislation, codes of practice and guidance material
- major hazard facility (MHF) codes and regulations
- environmental regulations and guidelines
- other relevant government legislation, regulations and codes
- Australian, ISO and other standards
- other relevant codes and standards
- licence and certification requirements.

Individual units may also outline specific WHS activities or responsibilities. But if there appears to be any conflict between performance criteria and explicit regulatory requirements the legislative requirements take precedence.

The regulatory framework should be reflected in workplace policies and procedures and is not required to be independently assessed. Where workplace policies and procedures do not reflect regulatory requirements, the RTO must still ensure that the learner adheres to and is competent in the regulatory requirements.

Risk management and industry requirements for refresher training and/or reassessment

Certain units of competency in this training package are associated with elevated levels of risk, which is either inherent in the performance of the competency, or the competency is critical in managing the risk of an activity. Further to this, some of these units are not routinely practiced and so, to maintain competency regular retraining is required, followed by reassessment as evidence that competency has been achieved/retained.

The units below either require reassessment to comply with the relevant Australian Standard, or reassessment is required by industry. The retraining/reassessment period specified below conforms with that required by the noted Standard, or meets industry specified good practice requirements.

- MSMPER205 Enter confined space
- AS2865-2009 Confined spaces requires 'persons ... be reassessed at appropriate intervals'.
- Industry regards reassessment on a two year cycle as good practice.
- MSMWHS210 Undertake first response to non-fire incidents
- Industry regards retraining and reassessment on a two year cycle as good practice.
- MSMWHS212 Undertake first response to fire incidents
- Industry regards retraining and reassessment on a two year cycle as good practice.
- MSMWHS216 Operate breathing apparatus
- AS/NZS 1715:2009 Selection, use and maintenance of respiratory protective equipment stipulates the frequency of retraining and reassessment 'as a minimum shall be considered at least annually'
- MSMWHS217 Gas test atmospheres

- Industry regards reassessment on a two to three year cycle as good practice.
- MSMWJ202 Use high pressure water jetting equipment; MSMWJ304 Operate a high pressure water jetting system; MSMWJ305 Operate a drain cleaning system
- Industry regards retraining and reassessment on a two year cycle as good practice.

Resources and equipment

The resource and equipment requirements for assessing a unit are typically included in each MSM- coded unit. Where specific equipment is not listed in the unit, the plant and/or equipment must be determined from the content of the unit and the context of delivery and made available for the assessment.

The RTO must also determine all tools, documents, computers, communications equipment and other items that would normally be used in the performance of the competency in the workplace and make them available for the assessment.

Technical units generally require access to operational, industrial type plant and equipment. This creates a bias towards using workplace evidence and, where appropriate, simulation. See the Simulation section.

Legal considerations for learners

Apprenticeship and traineeship legal requirements are determined by the appropriate state or territory authority or commission and may also be specified in industrial instruments such as Awards and enterprise agreements. This includes the registration of the Training Contract and Training Plan, as well as the form and registration of indenture where applicable. Arrangements may also be determined by agreement at a national level by the relevant industry training advisory body, or between industrial parties by establishing a committee at a state level in conjunction with the appropriate state or territory authority or commission.

Current legislation and successor legislation is defined in:

- Australian Capital Territory: Training and Tertiary Education Act 2003
- New South Wales: Apprenticeship and Traineeship Act 2001
- Northern Territory: Northern Territory Employment and Training Act 1991
- Queensland: Vocational Education, Training and Employment Act 2000
- South Australia: Training and Skills Development Act 2008
- Tasmania: Vocational Education and Training Act 1994
- Victoria: Education and Training Reform Act 2006
- Western Australia: Vocational Education and Training Act 1996

Under Awards, relevant state or territory legislation, and the Training Contract obligations that apply to apprenticeships and traineeships, employers must ensure that each apprentice or trainee has appropriate arrangements made at an enterprise level to meet their training requirements. This includes registration of the Training Contract and Training Plan.

The term of an apprenticeship or traineeship is determined by the rate at which the apprentice or trainee gains the required competence and their starting level of competence. For the trades and occupations covered by the MSM Manufacturing Training Package, three to four years is a general guide.

Appendices

Appendix 1: MSM Release 9.0 units of competency and prerequisites

Unit code	Unit title	Prerequisite units
MSMBIO301	Process biomass using pyrolyser	None
MSMBIO302	Ferment biomaterial to produce bioproducts	None
MSMBIO303	Distil bioproducts	None
MSMBIO304	Separate and recover bioproducts	None
MSMBLIC001	Licence to operate a standard boiler	None
MSMBLIC002	Licence to operate an advanced boiler	None
MSMENV172	Identify and minimise environmental hazards	None
MSMENV272	Participate in environmentally sustainable work practices	None
MSMENV472	Implement and monitor environmentally sustainable work practices	None
MSMENV672	Develop workplace policy and procedures for environmental sustainability	None
MSMOPS100	Use equipment	None
MSMOPS101	Make measurements	None
MSMOPS102	Perform tasks to support production	None
MSMOPS200	Operate equipment	None
MSMOPS212	Use organisation computers or data systems	None
MSMOPS244	Lay out and cut materials	None
MSMOPS301	Treat corrosion	None
MSMOPS363	Organise on-site work	None
MSMOPS400	Optimise process/plant area	None
MSMOPS401	Trial new process or product	None
MSMPCI101	Adapt to work in industry	None
MSMPCI102	Apply effective work practices	None
MSMPCI103	Demonstrate care and apply safe practices at work	None
MSMPCII295	Operate manufacturing equipment	none
MSMPCII296	Make a small furniture item from timber	None
MSMPCII297	Make an object from cloth using an existing pattern	None
MSMPCII298	Make an object from metal	None
MSMPCII299	Make an object from plastic	None
MSMPER200	Work in accordance with an issued permit	None
MSMPER201	Monitor and control work permits	None

Unit code	Unit title	Prerequisite units
MSMPER202	Observe permit work	None
MSMPER205	Enter confined space	MSMPER200
MSMPER300	Issue work permits	MSMWHS201
MSMPER400	Coordinate permit process	MSMPER300
MSMPMC200	Organise self	None
MSMPMC301	Store materials for production	None
MSMPMC302	Operate equipment to blend/mix materials	None
MSMPMC303	Operate grinding equipment	None
MSMPMC304	Prepare for production	None
MSMPMC307	Operate a calcining kiln	None
MSMPMC308	Operate slip casting equipment	None
MSMPMC309	Finish products after firing	None
MSMPMC310	Hand mould products	None
MSMPMC311	Operate a firing kiln	None
MSMPMC312	Operate glass finishing equipment	None
MSMPMC321	Batch mix concrete	None
MSMPMC322	Deliver concrete to site	None
MSMPMC323	Prepare asphalt	None
MSMPMC324	Move materials	None
MSMPMC325	Operate bulk materials handling equipment	None
MSMPMC326	Deliver customer service	None
MSMPMC329	Prepare moulds and dies	None
MSMPMC333	Meet compliance and quality requirements in precast concrete manufacture	None
MSMPMC334	Assemble, use and maintain moulds in precast concrete manufacture	None
MSMPMC335	Fabricate, assembly and place reinforcement in precast concrete products	None
MSMPMC336	Cast finish and cure precast concrete products	None
MSMPMC337	Prestress concrete in precast elements	None
MSMPMC400	Carry out stock control	None
MSMPMC401	Set up and tune a process	None
MSMPMC402	Process raw meal into product	MSMPMC307
MSMPMC403	Set up and optimise glass forming process	None
MSMRV200	Complete basic recreational vehicle manual assembly tasks	None
MSMRV201	Source and use recreational vehicle industry information	None
MSMRV367	Fabricate frame structures	None

Unit code	Unit title	Prerequisite units
MSMRV368	Install frame structures	None
MSMRV369	Install recreational vehicle floors and floor coverings	None
MSMRV370	Build recreational vehicle furniture	None
MSMRV371	Install recreational vehicle furniture	None
MSMRV372	Rough-in and fit-off recreational vehicle water systems	None
MSMRV373	Rough-in and fit-off recreational vehicle extra-low-voltage electrical systems	None
MSMRV374	Assemble and install recreational vehicle slide-outs	None
MSMRV375	Complete installing recreational vehicle walls and roofs	None
MSMRV376	Install recreational vehicle windows and doors	None
MSMRV377	Install recreational vehicle external items	None
MSMRV378	Complete recreational vehicle internal fit-outs	None
MSMRV379	Conduct recreational vehicle quality inspections	None
MSMRV380	Build towable recreational vehicle chassis	None
MSMRV381	Repair recreational vehicle walls and roofs	None
MSMRV382	Repair recreational vehicle roof-lifting equipment	None
MSMRV383	Repair recreational vehicle windows, doors and external items	None
MSMRV384	Repair recreational vehicle internal items	None
MSMRV385	Conduct routine, non-mechanical services of recreational vehicles	None
MSMRV386	Repair recreational vehicle extra-low-voltage electrical systems	None
MSMRV387	Conduct recreational vehicle pre-delivery checks	None
MSMRV388	Apply recreational vehicle transfers and decals	None
MSMRV389	Service and repair caravan and campervan chassis, suspensions and braking systems	None
MSMRV390	Service and repair recreational vehicle LPG systems	None
MSMRV391	Diagnose recreational vehicle electrical faults	None
MSMRV392	Tow recreational vehicles	None
MSMRV400	Hand over recreational vehicles to customers	None
MSMRV401	Specify complex installations in recreational vehicles	None
MSMRV402	Assess, quote and organise recreational vehicle repairs and services	None
MSMSUP100	Apply workplace context to own job	None
MSMSUP101	Clean workplace or equipment	None
MSMSUP102	Communicate in the workplace	None
MSMSUP106	Work in a team	None
MSMSUP200	Achieve work outcomes	None
MSMSUP204	Pack products or materials	None

Unit code	Unit title	Prerequisite units
MSMSUP205	Transfer loads	None
MSMSUP210	Process and record information	None
MSMSUP230	Monitor process operations	None
MSMSUP240	Undertake minor maintenance	None
MSMSUP273	Handle goods	None
MSMSUP280	Manage conflict at work	None
MSMSUP291	Participate in continuous improvement	None
MSMSUP292	Sample and test materials and product	None
MSMSUP300	Identify and apply process improvements	None
MSMSUP301	Apply HACCP to the workplace	None
MSMSUP303	Identify equipment faults	None
MSMSUP309	Maintain and organise workplace records	None
MSMSUP310	Contribute to the development of workplace documentation	None
MSMSUP330	Develop and adjust a production schedule	None
MSMSUP382	Provide coaching/mentoring in the workplace	None
MSMSUP383	Facilitate a team	None
MSMSUP390	Use structured problem solving tools	None
MSMSUP400	Develop and monitor quality systems	None
MSMSUP404	Coordinate maintenance	None
MSMSUP405	Identify problems in fluid power system	None
MSMSUP406	Identify faults in electronic control	None
MSMTMINS301	Inspect a range of simple measures	None
MSMTMINS302	Inspect a range of simple measuring instruments	None
MSMTMINS401	Inspect a range of weighing instruments	None
MSMTMINS402	Inspect liquid measuring instruments using volume measures	None
MSMTMINS403	Inspect a range of trading practices	None
MSMTMINS404	Inspect a range of pre-packaged products	None
MSMTMREF301	Use and maintain reference standards	None
MSMTMVER301	Verify simple measures	None
MSMTMVER302	Verify simple measuring instruments	None
MSMTMVER401	Verify weighing instruments	None
MSMTMVER402	Verify liquid measuring instruments using volume measures	None
MSMTMVER403	Verify inspector's class reference standards	None
MSMTMVER501	Verify complex measuring instruments	None
MSMWHS100	Follow WHS procedures	None
MSMWHS110	Follow emergency response procedures	None

Unit code	Unit title	Prerequisite units
MSMWHS200	Work safely	None
MSMWHS201	Conduct hazard analysis	None
MSMWHS205	Control minor incidents	None
MSMWHS210	Undertake first response to non-fire incidents	None
MSMWHS212	Undertake first response to fire incidents	None
MSMWHS216	Operate breathing apparatus	None
MSMWHS217	Gas test atmospheres	None
MSMWHS218	Control the risks of falls	None
MSMWHS300	Facilitate the implementation of WHS for a work group	MSMWHS200
MSMWHS400	Contribute to WHS management system	None
MSMWHS401	Assess risk	None
MSMWHS503	Maintain WHS management system	None
MSMWHS510	Manage risk	None
MSMWJ202	Use high pressure water jetting equipment	None
MSMWJ304	Operate a high pressure water jetting system	MSMWJ202
MSMWJ305	Operate a drain cleaning system	None
MSMWJ306	Operate a vacuum loading system	None
MSMWJ307	Operate a hydro excavation system	None

Appendix 2: MSM Release 9.0 imported units of competency and prerequisites

Unit code	Unit title	Prerequisites	Prerequisite chains
AUMANA001	Prepare and document quotations	None	
AUMATK002	Prepare and operate tools, equipment and machinery	None	
AUMATK013	Monitor and maintain automotive equipment	None	
AUMABA012	Operate load shifting equipment	None	
AUMGTA011	Read and interpret work orders and working drawings	None	
AUMGTM001	Assemble vehicle components	None	
AUMGTM008	Bond and repair fibreglass components	None	
AUMGTM013	Install or replace mechanical units and assemblies	None	
AUMGTS002	Prepare materials for fabrication using manual processes	None	
AUMGTS003	Fabricate plugs	None	

Unit code	Unit title	Prerequisites	Prerequisite chains	
AUMGTS004	Fabricate parts for vehicle sub-assemblies	None		
AUMGTW002	Perform mechanical cutting	None		
AUMGTW003	Perform manual metal arc welding	None		
AUMGTW005	Perform gas metal arc welding	None		
AURAAA002	Determine retail rates for automotive products and services	None		
AURACA102	Manage complex customer requirements in an automotive workplace	None		
AURAKA002	Adapt work processes to new technologies in an automotive workplace	None		
AURAMA005	Manage complex customer issues in an automotive workplace	None		
AURAMA006	Contribute to planning and implementing business improvement in an automotive workplace	None		
AURANN011	Estimate and quote automotive body repairs	None		
AURATA005	Estimate and quote automotive mechanical and electrical repairs	None		
AURETB101	Diagnose and repair electric braking systems	None		
AURETR112	Test and repair basic electrical circuits	None		
AURTTA017	Carry out vehicle safety inspections	None		
AURTTB101	Inspect and service braking systems	None		
AURTTD004	Inspect and service suspension systems	None		
AURTTJ012	Remove, inspect and refit wheel hubs and associated brake components	None		
AURTTY001	Repair vehicle chassis, frame and associated components	None		
AURVTN132	Inspect vehicle damage and determine repair procedures	None		
AURVTS104	Repair vehicle composite material components	None		
AURVTT015	Fabricate and install canvas products for automotive and marine components	None		
BSBADM502	Manage meetings	None		
BSBFIM501	Manage budgets and financial plans	None		
BSBINM501	Manage an information or knowledge management system	None		
BSBLDR402	Lead effective workplace relationships	None		

Unit code	Unit title	Prerequisites	Prerequisite chains	
BSBLDR411	Demonstrate leadership in the workplace	None		
BSBLDR414	Lead team effectiveness	None		
BSBLED401	Develop teams and individuals	None		
BSBMGT401	Show leadership in the workplace	None		
BSBMGT403	Implement continuous improvement	None		
BSBMGT502	Manage people performance	None		
BSBMGT605	Provide leadership across the organisation	None		
BSBMKG434	Promote products and services	None		
BSBOPS404	Implement customer service strategies	None		
BSBOPS505	Manage organisational customer service	None		
BSBPMG420	Apply project scope management techniques	None		
BSBWHS401	Implement and monitor WHS policies, procedures and programs to meet legislative requirements	None		
BSBWHS411	Implement and monitor WHS policies, procedures and programs	None		
BSBWRK520	Manage employee relations	None		
BSBWRT401	Write complex documents	None		
BSBXCM401	Apply communication strategies in the workplace	None		
CPCCBC4005	Produce labour and material schedules for ordering	None		
CPCCBC4012	Read and interpret plans and specifications	None		
CPCCCM2007	Use explosive power tools	CPCCWHS2001		
CPCCCM2012	Work safely at heights	CPCCWHS2001		
CPCCLDG3001	Licence to perform dogging			
CPCCOM1016	Identify requirements for safe precast and tilt-up work	None		
CPCCON2021	Handle concreting materials and components	CPCCWHS2001		
CPCCSF2003	Cut and bend materials using oxy-LPG equipment	CPCCWHS2001		
CPCCSF2004	Place and fix reinforcement materials	CPCCWHS2001		
CPCCSF2006	Machine-cut reinforcement materials	CPCCWHS2001		
CPCCLRG3001	Licence to perform rigging basic level	CPCCLDG3001		

Unit code	Unit title	Prerequisites	Prerequisite chains	
CPCCLRG3002	Licence to perform rigging intermediate level	CPCCLRG3001	CPCCLDG3001	
CPCCWHS2001	Apply WHS requirements, policies and procedures in the construction industry	None		
CPCPRE3000	Lift and place prefabricated concrete elements	CPCCLRG3002	CPCCLRG3001	CPCCLDG3001
		CPCCCM2012	CPCCWHS2001	
CPCPRE3001	Patch prefabricated components of concrete elements	CPCCWHS2001		
		CPCCCM2012		
CPCSIL3001	Work with products and materials containing crystalline silica	CPCCWHS2001		
CPCPCM2043	Carry out WHS requirements	None		
CPCPGS3046	Install LPG systems in caravans, mobile homes and mobile workplaces	CPCPCM2043		
FNSORG501	Develop and manage a budget	None		
FWPCOT2238	Cut materials with a hand-held chainsaw	None		
HLTAID011	Provide first aid	None		
MEM03001B	Perform manual production assembly	None		
MEM03006B	Set assembly stations	MEM03001B		
		MEM18001C		
		MEM03003B	MEM18001C	
			MEM18002B	
		MEM18002B		
		MEM03004B		
		MEM18001C		
MEM05007C	Perform manual heating and thermal cutting	None		
MEM05012C	Perform routine manual metal arc welding	None		
MEM05013C	Perform manual production welding	None		
MEM07001B	Perform operational maintenance of machines/equipment	MEM18001C		
MEM08002C	Pre-treat work for subsequent surface coating	MEM13003B		

Unit code	Unit title	Prerequisites	Prerequisite chains	
MEM08007B	Control surface finish production and finished product quality	None		
MEM08011B	Prepare surfaces using solvents and/or mechanical means	MEM13003B		
		MEM18001C		
		MEM18002B		
MEM08012B	Prepare surfaces by abrasive blasting (basic)	MEM08016B	MEM13003B	
		MEM13003B		
MEM08013B	Prepare surfaces by abrasive blasting (advanced)	MEM08012B	MEM08016B	MEM13003B
			MEM13003B	
		MEM08016B	MEM13003B	
		MEM13003B		
MEM08014B	Apply protective coatings (basic)	MEM13003B		
MEM08015B	Apply protective coatings (advanced)	MEM08014B	MEM13003B	
		MEM13003B		
MEM08016B	Control blast coating by-products, materials and emissions	MEM13003B		
MEM09002	Interpret technical drawing	MEM12023	MEM13015	
			MEM16006	MEM13015
		MEM12024	MEM13015	
			MEM16006	MEM13015
		MEM13015		
		MEM16006	MEM13015	
MEM09002B	Interpret technical drawing	None		
MEM09204A	Produce basic engineering detail drawings	MEM09002B		
MEM11001C	Erect/dismantle scaffolding and equipment	MEM18001C		
MEM11002C	Erect/dismantle complex scaffolding and equipment	MEM11001C	MEM18001C	
		MEM18001C		

Unit code	Unit title	Prerequisites	Prerequisite chains	
MEM11003B	Coordinate erection/dismantling of complex scaffolding/equipment	MEM11001C	MEM18001C	
		MEM11002C	MEM11001C	MEM18001C
			MEM18001C	
		MEM18001C		
MEM11004B	Undertake dogging	MEM18001C		
MEM11005B	Pick and process order	None		
MEM11006B	Perform production packaging	None		
MEM11007B	Administer inventory procedures	None		
MEM11010B	Operate mobile load shifting equipment	None		
MEM11011	Undertake manual handling	MEM13015		
		MEM16006	MEM13015	
MEM11011B	Undertake manual handling	None		
MEM11012B	Purchase materials	None		
MEM11015B	Manage warehouse inventory system	MEM11007B		
		MEM15002A		
MEM11016B	Order materials	None		
MEM11021B	Perform advanced operation of load shifting equipment	MEM11010B		
MEM11022B	Operate fixed/moveable load shifting equipment	None		
MEM12001B	Use comparison and basic measuring devices	None		
MEM12023	Perform engineering measurements	MEM13015		
		MEM16006	MEM13015	
MEM12023A	Perform engineering measurements	None		
MEM12024	Perform computations	MEM13015		
		MEM16006	MEM13015	
MEM12024A	Perform computations	None		
MEM13001B	Perform emergency first aid	None		
MEM13003B	Work safely with industrial chemicals and materials	None		
MEM13015	Work safely and effectively in manufacturing and engineering	None		

Unit code	Unit title	Prerequisites	Prerequisite chains	
MEM13019	Undertake work health and safety activities in the workplace	None		
MEM13020	Supervise work health and safety in an industrial work environment	MEM13019		
MEM14001	Schedule material deliveries	MEM13015		
		MEM16006	MEM13015	
MEM14001B	Schedule material deliveries	None		
MEM14002	Undertake basic process planning	MEM13015		
		MEM16006	MEM13015	
MEM14003	Undertake production scheduling	MEM13015		
		MEM16006	MEM13015	
MEM14004A	Plan to undertake a routine task	None		
MEM14005A	Plan a complete activity	None		
MEM15001B	Perform basic statistical quality control	None		
MEM15002A	Apply quality systems	None		
MEM15003B	Use improvement processes in team activities	MEM16007A		
MEM15004	Perform inspection	MEM11011	MEM13015	
			MEM16006	MEM13015
		MEM13015		
		MEM16006	MEM13015	
MEM15004B	Perform inspection	None		
MEM15005B	Select and control inspection processes and procedures	MEM15004B		
MEM15024A	Apply quality procedures	None		
MEM16002C	Conduct formal interviews and negotiations	None		
MEM16003	Provide advanced customer service	MEM13015		
		MEM16006	MEM13015	

Unit code	Unit title	Prerequisites	Prerequisite chains	
MEM16005A	Operate as a team member to conduct manufacturing, engineering or related activities	None		
MEM16006	Organise and communicate information	MEM13015		
MEM16006A	Organise and communicate information	None		
MEM16007A	Work with others in a manufacturing, engineering or related environment	None		
MEM16008A	Interact with computing technology	None		
MEM16011A	Communicate with individuals and small groups	MEM16006A		
MEM16013A	Operate in a self-directed team	MEM16007A		
MEM17001B	Assist in development and deliver training in the workplace	None		
MEM17003A	Assist in the provision of on the job training	None		
MEM18001C	Use hand tools	None		
MEM18002B	Use power tools/hand held operations	None		
MSAPMSUP201A	Receive or despatch goods	None		
MSFFDM4007	Identify and calculate production costs	None		
MSFFDM4011	Prepare tender submissions	None		
MSFFDM4017	Purchase materials and consumables	None		
MSFFDM4018	Research and organise product inspection and testing	None		
MSFFM1002	Operate basic woodworking machines	None		
MSFFM2001	Use furniture making sector hand and power tools	None		
MSFFM2002	Assemble furnishing components	None		
MSFFM2003	Select and apply hardware	None		
MSFFM2005	Join solid timber	None		
MSFFM3021	Set up, operate and maintain computer numerically controlled (CNC) sizing machines	None		
MSFFM3022	Set up, operate and maintain computer numerically controlled (CNC) machining and processing centres	None		
MSFGG2013	Move single glass sheets by mechanical means	None		
MSFGG2016	Assemble glazing products	None		
MSFGG3028	Select, cut and process materials for glazing products	None		
MSFGG3029	Assess glass and glazing requirements	None		

Unit code	Unit title	Prerequisites	Prerequisite chains	
MSFGG3039	Manually move glass	None		
MSFSF1001	Produce basic soft furnishing accessories	None		
MSFSF2015	Cut single layer fabrics	None		
MSL915003	Provide information to customers	None		
MSL936003	Maintain quality system and continuous improvement processes within work or functional area	None		
MSL954004	Obtain representative samples in accordance with sampling plan	None		
MSL973013	Perform basic tests	None		
MSL974019	Perform chemical tests and procedures	None		
MSS014009	Evaluate sustainability impact of a work or process area	None		
MSS015022	Develop strategies for more sustainable use of resources	None		
MSS402001	Apply competitive systems and practices	None		
MSS402002	Sustain process improvements	None		
MSS402010	Manage the impact of change on own work	None		
MSS402020	Apply quick changeover procedures	None		
MSS402021	Apply Just in Time procedures	None		
MSS402031	Interpret product costs in terms of customer requirements	None		
MSS402040	Apply 5S procedures	None		
MSS402050	Monitor process capability	None		
MSS402051	Apply quality standards	None		
MSS402080	Undertake root cause analysis	None		
MSS402082	Apply cost factors to work practices	None		
MSS402083	Use planning software systems in operations	None		
MSS403010	Facilitate change in an organisation implementing competitive systems and practices	None		
MSS403011	Facilitate implementation of competitive systems and practices	None		
MSS403014	Facilitate team engagement with competitive systems and practices	None		
MSS403021	Facilitate a Just in Time system	None		
MSS403022	Facilitate a Just in Time system	None		
MSS403040	Facilitate and improve implementation of 5S	None		

Unit code	Unit title	Prerequisites	Prerequisite chains	
MSS403054	Facilitate breakthrough improvements	None		
MSS403085	Ensure process improvements are sustained	None		
MSS403086	Improve cost factors in work practices	None		
MSS403087	Mistake proof an operational process	None		
MSS404051	Mistake proof a process	None		
MSS404054	Apply statistics to operational processes	None		
MSS404060	Facilitate the use of planning software systems in a work area or team	None		
MSS404080	Undertake process capability improvements	None		
MSS404084	Undertake process capability improvements	None		
MSS404085	Undertake proactive maintenance analyses	None		
MSS404086	Assist in implementing a proactive maintenance strategy	None		
MSS404089	Assist in implementing a proactive maintenance strategy	None		
MSS405009	Manage a value stream	None		
MSS405013	Facilitate holistic culture improvement in an organisation	None		
MSS405016	Manage workplace learning	None		
MSS405022	Design a process layout	None		
MSS405030	Optimise cost of a product or service	None		
MSS405031	Undertake value analysis of product or process costs in terms of customer requirements	None		
MSS405032	Analyse cost implications of maintenance strategy	None		
MSS405041	Implement improvement systems in an organisation	None		
MSS405053	Manage application of six sigma for process control and improvement	MSS404054		
MSS405054	Determine and improve process capability	MSS404054		
MSS405063	Develop the application of enterprise control systems in an organisation	None		
MSS405064	Determine and establish information collection requirements and processes	None		
MSS405075	Facilitate the development of a new product	MSS404054		

Unit code	Unit title	Prerequisites	Prerequisite chains	
MSS405081	Develop a proactive maintenance strategy	None		
MSS405082	Adapt a proactive maintenance strategy to the process operations sector	None		
MSS405084	Manage people relationships	None		
MSS405088	Plan, implement and monitor energy management	None		
MSTCL2007	Lay up, mark and cut uncomplicated fabrics and lays	None		
MSTCL2008	Finish garment production	MSTGN2013		
MSTCL2021	Use a sewing machine	None		
MSTCL2024	Press work	None		
MSTGN2013	Identify fibres, fabrics and textiles used in the TCF industry	None		
MSTGN3009	Coordinate work of team or section	None		
PMAOMIR407	Audit incident preparedness and established response systems	None		
PMAOMIR418	Coordinate incident response	None		
PMAOMIR424	Develop and maintain community relationships	None		
PMAOMIR430	Conduct and assess incident exercises	None		
PMAOMIR444	Develop incident containment tactics	None		
PMAOMIR449	Monitor legal compliance obligations during incidents	None		
PMAOPS101	Read dials and indicators	None		
PMAOPS105	Select and prepare materials	None		
PMAOPS280	Interpret process plant schematics	None		
PMAOPS301	Operate a distillation unit	None		
PMAOPS302	Operate reactors and reaction equipment	None		
PMAOPS402	Respond to abnormal process situations	MSMSUP390		
PMAOPS405	Operate complex control systems	None		
PMAOPS410	Operate remote production facilities	None		
PMAOPS411	Manage plant shutdown and restart	None		
PMAOPS433	Manage wells and gathering systems	None		
PMAOPS434	Commission wells and gathering systems	None		
PMAOPS450	Solve colour problems	None		
PMAOPS460	Monitor and operate tailings management facilities	None		
PMAOPS500	Optimise production systems	None		

Unit code	Unit title	Prerequisites	Prerequisite chains	
PMASUP410	Develop plant documentation	None		
PMASUP420	Minimise environmental impact of process	None		
PMASUP432	Coordinate pipeline projects	MSMPER300	MSMW HS201	
PMASUP440	Commission/recommission plant	None		
PMASUP441	Decommission plant	None		
PMASUP444	Plan plant preparation and isolation	None		
PMASUP445	Participate in HAZOP studies	PMAOPS280		
PMASUP520	Review procedures to minimise environmental impact of process	None		
PMASUP620	Manage environmental management system	None		
PMAWHS420	Develop first aid procedures and manage resources	None		
PMBFIN201	Finish products and components	None		
PMBFIN205	Hand decorate products	None		
PMBHAN103	Shift materials safely by hand	None		
PMBHAN103E	Shift materials safely by hand	None		
PMBPREP205	Assemble materials and equipment for production	None		
PMBPREP206	Prepare materials to formulae	None		
PMBPREP304	Set a die	None		
PMBPROD236	Operate hand held air/power equipment for production processes	None		
PMBPROD240	Cut materials	None		
PMBPROD241	Lay up rubber lining or lag pulleys	None		
PMBPROD242	Bond polymers to surfaces	None		
PMBPROD247	Hand lay up composites	None		
PMBPROD248	Prepare surfaces for coating	None		
PMBPROD265	Operate portable vulcanising equipment	None		
PMBPROD280	Operate resin-glass depositor equipment	None		
PMBPROD323	Produce powder coated products	None		
PMBPROD347	Produce composites using hand lamination	PMBPROD247		
PMBPROD375	Vulcanise products using an autoclave	None		
PMBPROD380	Produce composites using chopper gun/depositor	PMBPROD280		
PMBPROD430	Trial a new die/tool	None		
PMBPROD431	Trial a new, advanced or complex mould	None		

Unit code	Unit title	Prerequisites	Prerequisite chains	
PMBTECH301	Use material and process knowledge to solve problems	None		
PMBTECH401	Predict polymer properties and characteristics	PMBTECH301		
PMBTECH402	Set advanced or complex dies	PMBPREP304		
PMBTECH403	Test fibre-composites materials and laminates	None		
PMBTECH404	Mould chemical resistant and/or fire retardant fibre-composites	None		
PMBTECH405	Repair damaged fibre-composites structures	PMBPROD247		
PMBTECH406	Diagnose production equipment problems	None		
PSPGEN115	Uphold and support inclusive workplace practices	None		
PSPHRM004	Implement workforce planning and succession strategies	None		
RIIMPO304E	Conduct wheel loader operations	None		
SIRRMER003	Coordinate visual merchandising activities	None		
SIRXCEG004	Create a customer-centric culture	None		
SITXMGT002	Establish and conduct business relationships	None		
SITXMPR001	Coordinate production of brochures and marketing materials	None		
SITXMPR002	Create a promotional display or stand	None		
SITXMPR004	Coordinate marketing activities	None		
TAEDEL301	Provide work skill instruction	None		
TAEDEL412	Facilitate workplace-based learning	None		
TAEDEL414	Mentor in the workplace	None		
TLIA0025	Assess and monitor optimum stock levels	None		
TLIA0031	Organise transport of freight or goods	None		
TLIA5058	Manage facility and inventory requirements	None		
TLID0016	Operate a forklift	None		
TLID2010	Operate a forklift	None		
TLILIC0023	Licence to operate a slewing mobile crane (up to 60 tonnes)	None		
TLILIC0040	Licence to operate a non-slewing mobile crane (greater than 3 tonnes capacity)	None		
TLIL4059	Implement asset management systems	None		

Unit code	Unit title	Prerequisites	Prerequisite chains	
TLIL5055	Manage a supply chain	None		
TLIP4013	Implement and monitor logistics planning and processes	None		
TLIR4003	Negotiate a contract	None		
TLIR4008	Implement and supervise stocktaking procedures	None		
TLIR4009	Implement purchasing systems	None		
TLIR4010	Plan purchasing	None		
TLIR5005	Manage a contract	None		
TLIR5006	Develop, implement and review purchasing strategies	None		
TLIX5015	Establish supply chains	None		

Appendix 3: MSM qualifications mapping

Key: E = Equivalent, N = Non-equivalent, D = deleted, NC = Newly created

MSM Release 8.0 to Release 9.0 Qualification Mapping

MSM Manufacturing Training Package Release 8.0		MSM Manufacturing Training Package Release 9.0		Equiv. Status	
Qual Code	Qual Title	Qual Code	Qual Title	E/N	Comments
MSM30318	Certificate III in Manufactured Mineral Products	MSM30325	Certificate III in Manufactured Mineral Products	E	Release 1. Revisions: - addition of a specialisation in precast concrete - addition of five new elective units of competency in Group B: - MSMPMC333 - MSMPMC334 - MSMPMC335 - MSMPMC336 - MSMPMC337 - removal of two imported elective units of competency: - CPCCCM1016 - MEM09002B - addition of 23 imported elective units (inclusive of prerequisite units) relevant for precast concrete outcomes:

					○ AUMABA012 ○ CPCCCM2007 ○ CPCCCM2012 ○ CPCCLDG3001 ○ CPCCOM1016 ○ CPCCON2021 ○ CPCCSF2003 ○ CPCCSF2004 ○ CPCCSF2006 ○ CPCCLRG3001 ○ CPCCLRG3002 ○ CPCPRE3000 ○ CPCPRE3001 ○ CPCSIL3001 ○ CPCCWHS2001 ○ MEM09002 ○ MEM12023 ○ MEM12024 ○ MEM13015 ○ MEM16006 ○ TLID0016 ○ TLILIC0023 ○ TLILIC0040 • minor coding updates to imported elective units to reflect the following current versions: ○ MSS402042 ○ MSS402055.
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No other qualification changes were made between Release 8.0 and Release 9.0

MSM Release 7.2 to Release 8.0 Qualification Mapping

MSM Manufacturing Training Package Release 7.2		MSM Manufacturing Training Package Release 8.0		Equiv. Status	
Qual Code	Qual Title	Qual Code	Qual Title	E/N	Comments
MSM21015	Certificate II in Recreational Vehicle Service and Repair	MSM21122	Certificate II in Recreational Vehicle Trade Pathways	N	Combines MSM21015 Certificate II in Recreational Vehicle Service and Repair and MSM21115 Certificate II in Recreational Vehicle Manufacturing into a single qualification.
MSM21115	Certificate II in Recreational Vehicle Manufacturing	MSM21122	Certificate II in Recreational Vehicle Trade Pathways	N	Combines MSM21015 Certificate II in Recreational Vehicle Service and Repair and MSM21115 Certificate II in

MSM Manufacturing Training Package Release 7.2		MSM Manufacturing Training Package Release 8.0		Equiv. Status	
Qual Code	Qual Title	Qual Code	Qual Title	E/N	Comments
					Recreational Vehicle Manufacturing into a single qualification.
MSM31015	Certificate III in Recreational Vehicle Service and Repair	MSM31022	Certificate III in Recreational Vehicle Service and Repair	E	Revisions: •Total number of units increased to 25 •Core units increased to 5 to better support job role •Packaging rules amended to require more units to be selected from listed electives which have been more tightly focused on the job role.
MSM31115	Certificate III in Recreational Vehicle Manufacturing	MSM31122	Certificate III in Recreational Vehicle Manufacturing	E	Revisions: •Total number of units increased to 25 •Core units increased to 5 to better support job role •Packaging rules amended to require more units to be selected from listed electives which have been more tightly focused on the job role.
MSM31215	Certificate III in Recreational Vehicle and Accessories Retailing			D	Deleted
MSM41115	Certificate IV in Recreational Vehicle and Accessories Retailing	MSM41122	Certificate IV in Recreational Vehicles	N	Combines MSM41015 Certificate IV in Recreational Vehicles and MSM41115 Certificate IV in Recreational Vehicle and Accessories

MSM Manufacturing Training Package Release 7.2		MSM Manufacturing Training Package Release 8.0		Equiv. Status	
Qual Code	Qual Title	Qual Code	Qual Title	E/N	Comments
					Retailing into a single qualification.
MSM41015	Certificate IV in Recreational Vehicles	MSM41122	Certificate IV in Recreational Vehicles	N	Combines MSM41015 Certificate IV in Recreational Vehicles and MSM41115 Certificate IV in Recreational Vehicle and Accessories Retailing into a single qualification

No other qualifications changes were made between Release 7.2 and Release 8.0

MSM Release 6.1 to Release 7.0 Qualification Mapping

No qualifications were reviewed as part of MSM Release 7.0

MSM Release 5.0 to Release 6.0 Qualification Mapping

MSM Manufacturing Training Package Release 5.0		MSM Manufacturing Training Package Release 6.0		Equiv. Status	
Qual Code	Qual Title	Qual Code	Qual Title	E/N	Comments
MSM30116	Certificate III in Process Manufacturing	MSM30116	Certificate III in Process Manufacturing	E	Units added to electives
MSM31015	Certificate III in Recreational Vehicle Service and Repair	MSM31015	Certificate III in Recreational Vehicle Service and Repair	E	Updated. New units added to electives. Codes and titles of imported units updated.
MSM31115	Certificate III in Recreational Vehicle Manufacturing	MSM31115	Certificate III in Recreational Vehicle Manufacturing	E	Updated. New units added to electives. Codes and titles of imported units updated.

MSM Release 4.0 to Release 5.0 Qualification Mapping

MSM Manufacturing Training Package Release 4.0		MSM Manufacturing Training Package Release 5.0		Equiv. Status	
Qual Code	Qual Title	Qual Code	Qual Title	E/N	Comments
MSM30116	Certificate III in Process Manufacturing	MSM30116	Certificate III in Process Manufacturing	E	MSMBIO coded units added to electives

MSM Release 3.0 to Release 4.0 Qualification Mapping

MSM Manufacturing Training Package Release 3.0		MSM Manufacturing Training Package Release 4.0		Equiv. Status	
Qual Code	Qual Title	Qual Code	Qual Title	E/N	Comments
		MSM30418	Certificate III in Fenestration		New Qualification

MSM Release 2.0 to Release 3.0 Qualification Mapping

MSM Manufacturing Training Package Release 2.0		MSM Manufacturing Training Package Release 3.0		Equiv. Status	
Qual Code	Qual Title	Qual Code	Qual Title	E/N	Comments
MSM30116	Certificate III in Process Manufacturing	MSM30116	Certificate III in Process Manufacturing	E	Additional electives
MSM30216	Certificate III in Surface Preparation and Coating Application	MSM30216	Certificate III in Surface Preparation and Coating Application	E	no changes
		MSM30318	Certificate III in Manufactured Mineral Products	E	New qualification. Supersedes and is equivalent to PMC30116 Certificate III in Manufactured Mineral Products

MSA07 Release 8.4 to Release 2.0 Qualification Mapping

MSA07 Manufacturing Training Package Release 8.4		MSM Manufacturing Training Package Release 2.0		Equiv. Status	
Qual Code	Qual Title	Qual Code	Qual Title	E/N	Comments
MSA10207	Certificate I in Process Manufacturing	MSM10116	Certificate I in Process Manufacturing	E	Units updated. Supersedes and is equivalent to MSA10207 Certificate I in Process Manufacturing.
MSA10107	Certificate I in Manufacturing (Pathways)	MSM10216	Certificate I in Manufacturing (Pathways)	E	Units updated. Supersedes and is equivalent to MSA10107 Certificate I in Manufacturing (Pathways).

MSA07 Manufacturing Training Package Release 8.4		MSM Manufacturing Training Package Release 2.0		Equiv. Status	
MSA20107	Certificate III in Process Manufacturing	MSM20116	Certificate III in Process Manufacturing	E	Units updated. Supersedes and is equivalent to Supersedes MSA20107 Certificate II in Process Manufacturing.
MSA20208	Certificate II in Manufacturing Technology	MSM20216	Certificate II in Manufacturing Technology	E	Units updated. Supersedes and is equivalent to MSA20208 Certificate II in Manufacturing Technology.
MSA30107	Certificate III in Process Manufacturing	MSM30116	Certificate III in Process Manufacturing	E	Units updated. Supersedes and is equivalent to MSA30107 Certificate III in Process Manufacturing.
MSA30309	Certificate III in Surface Preparation and Coating Application	MSM30216	Certificate III in Surface Preparation and Coating Application	E	Units updated. Supersedes and is equivalent to MSA30309 Certificate III in Surface Preparation and Coating Application.
MSA40311	Certificate IV in Process Manufacturing	MSM40116	Certificate IV in Process Manufacturing	E	Units updated. Supersedes and is equivalent to MSA40311 Certificate IV in Process Manufacturing.
MSA50311	Diploma of Production Management	MSM50316	Diploma of Production Management	E	Units updated. Supersedes and is equivalent to MSA50311 Diploma of Production Management.

Appendix 4: MSM skill sets mapping

Key: E = Equivalent, N = Non-equivalent, D = deleted, NC = Newly created

Skill sets that are not mentioned in any table were not changed in the release being mapped.

MSM Release 8.0 to Release 9.0 Skill Sets mapping information

MSM Manufacturing Training Package Release 8.0		MSM Manufacturing Training Package Release 9.0		Equiv. Status	
Skill Set Code	Skill Set Title	Skill Set Code	Skill Set Title	E/N	Comments

		MSMSS00022	Precast concrete manufacture	NC	Release 1. New created
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MSM Release 7.2 to Release 8.0 Skill Sets mapping information

No Skill sets were reviewed as part of MSM Release 8.0

MSM Release 7.1 to Release 7.2 Skill Sets mapping information

No Skill sets were reviewed as part of MSM Release 7.1

MSM Release 6.1 to Release 7.0 Skill Sets mapping information

MSM Manufacturing Training Package Release 6.0		MSM Manufacturing Training Package Release 7.0		Equiv. Status	
Skill Set Code	Skill Set Title	Skill Set Code	Skill Set Title	E/N	Comments
MSMSS0003	Use high pressure water jetting equipment	MSMSS00017	Use high pressure water jetting equipment	E	Minor editorial changes to meet training package standards
MSMSS0004	Operate a high pressure water jetting system	MSMSS00018	Operate a high pressure water jetting system	E	MEM09002B Interpret technical drawing removed. Minor editorial changes to meet training package standards
MSMSS0005	Operate a drain cleaning system	MSMSS00019	Operate a drain cleaning system	E	MEM09002B Interpret technical drawing removed. Minor editorial changes to meet training package standards
MSMSS0006	Operate a vacuum loading system	MSMSS00020	Operate a vacuum loading system	E	Minor editorial changes to meet training package standards
		MSMSS00021	Operate a hydro excavation system	NC	Newly created skill set to meet industry need

MSM Release 4.0 to Release 5.0 Skill Sets mapping information

MSM Manufacturing Training Package Release 4.0		MSM Manufacturing Training Package Release 5.0		Equiv. Status	
Skill Set Code	Skill Set Title	Skill Set Code	Skill Set Title	E/N	Comments
		MSMSS00015	Bioprocessing using fermentation	NC	Newly created skill set to meet industry need

MSM Manufacturing Training Package Release 4.0		MSM Manufacturing Training Package Release 5.0		Equiv. Status	
		MSMSS00016	Bioprocessing using pyrolysis	NC	Newly created skill set to meet industry need

PSP12 Release 1.0 to Release 2.0 Skill Sets mapping information

PSP12 Public Sector Training Package Release 1.0		MSM Manufacturing Training Package Release 2.0		Equiv. Status	
Skill Set Code	Skill Set Title	Skill Set Code	Skill Set Title	E/N	Comments
PSPSS00032	Trade Measurement Inspection Skill Set	MSMSS00007	Trade Measurement Inspection	N	Replaces PSPSS00032 Trade Measurement Inspection Skill

MSA07 Release 8.4 to Release 2.0 Skill Sets mapping information

MSA07 Manufacturing Training Package Release 8.4		MSM Manufacturing Training Package Release 2.0		Equiv. Status	
Skill Set Code	Skill Set Title	Skill Set Code	Skill Set Title	E/N	Comments
MSASS00007	Trade Measurement Verification (Complex Measuring Instrument)	MSMSS00008	Trade Measurement Verification (Complex Measuring Instrument)	E	Supersedes and is equivalent to MSASS00007 Trade Measurement Verification (Complex Measuring Instrument)
MSASS00008	Trade Measurement Verification (Limited Weighing Instrument)	MSMSS00009	Trade Measurement Verification (Limited Weighing Instrument)	E	Supersedes and is equivalent to MSASS00008 Trade Measurement Verification (Limited Weighing Instrument)
MSASS00009	Trade Measurement Verification (Liquid Measuring Instrument Using Volume Measures)	MSMSS00010	Trade Measurement Verification (Liquid Measuring Instrument Using Volume Measures)	E	Supersedes and is equivalent to MSASS00009 Trade Measurement Verification (Liquid Measuring Instrument Using Volume Measures)
MSASS00010	Trade Measurement Verification	MSMSS00011	Trade Measurement Verification	E	Supersedes and is equivalent to MSASS00010

MSA07 Manufacturing Training Package Release 8.4		MSM Manufacturing Training Package Release 2.0		Equiv. Status	
	(Simple Measuring Instrument)		(Simple Measuring Instrument)		Trade Measurement Verification (Simple Measuring Instrument)
MSASS00011	Trade Measurement Verification (Simple Measure)	MSMSS00012	Trade Measurement Verification (Simple Measure)	E	Supersedes and is equivalent to MSASS00011 Trade Measurement Verification (Simple Measure)
MSASS00004	Leading Hand/Supervisor	MSMSS00013	Leading Hand/Supervisor	E	Supersedes and is equivalent to MSASS00004 Leading Hand/Supervisor
MSASS00001	Confined space work team	MSMSS00014	Confined space work team	E	Supersedes and is equivalent to MSASS00001 Confined space work team

MSA07 Release 8.4 to Release 1.0 Skill Sets mapping information

MSA07 Manufacturing Training Package Release 8.4		MSM Manufacturing Training Package Release 1.0		Equiv. Status	
Skill Set Code	Skill Set Title	Skill Set Code	Skill Set Title	E/N	Comments
MSASS00005	License to operate a standard boiler	MSMSS00001	Licence to operate a standard boiler	E	Supersedes and is equivalent to MSASS00005 Licence to operate a standard boiler
MSASS00006	License to operate an advanced boiler	MSMSS00002	Licence to operate an advanced boiler	E	Supersedes and is equivalent to MSASS00006 Licence to operate an advanced boiler

Appendix 5: MSM unit of competency mapping

Key: E = Equivalent, N = Non-equivalent, D = Deleted, NC = Newly created

Units that are not mentioned in any table were not changed in the release being mapped.

MSM Release 8.0 to Release 9.0 unit of competency mapping information

MSM Manufacturing Training Package Release 8.0		MSM Manufacturing Training Package Release 9.0		Equiv. status	
Unit Code	Unit Title	Unit Code	Unit Title	E/N	Comments
		MSMPMC333	Meet compliance and quality requirements in precast concrete manufacture	NC	Release 1. Newly created to meet needs of precast concrete manufacturing sector
		MSMPMC334	Assemble, use and maintain moulds in precast concrete manufacture	NC	Release 1. Newly created to meet needs of precast concrete manufacturing sector
		MSMPMC335	Fabricate, assemble and place reinforcement in precast concrete products	NC	Release 1. Newly created to meet needs of precast concrete manufacturing sector
		MSMPMC336	Cast, finish and cure precast concrete products	NC	Release 1. Newly created to meet needs of precast concrete manufacturing sector
		MSMPMC337	Prestress concrete in precast elements	NC	Release 1. Newly created to meet needs of precast concrete manufacturing sector

MSM Release 7.2 to Release 8.0 unit of competency mapping information

MSM Manufacturing Training Package Release 7.1		MSM Manufacturing Training Package Release 8.0		Equiv. status	
Unit Code	Unit Title	Unit Code	Unit Title	E/N	Comments
		MSMRV200	Complete basic recreational vehicle manual assembly tasks	NC	Newly created unit.
MSMRVT201	Apply technical knowledge of recreational vehicle manufacturing to work activities	MSMRV201	Source and use recreational vehicle industry information	N	Changes to application, elements, performance criteria and assessment requirements. Range of conditions removed.
MSMRV310	Fit recreational vehicle floor	MSMRV369	Install recreational vehicle floors and floor coverings	E	Changes to application, elements, performance criteria and assessment requirements. Range of conditions removed.
		MSMRV370	Build recreational vehicle furniture	NC	Newly created unit.
MSMRV311	Fit furniture in a recreational vehicle	MSMRV371	Install recreational vehicle furniture	E	Changes to application, elements, performance criteria and assessment requirements. Range of conditions removed.
MSMRV312	Fit water systems in a recreational vehicle	MSMRV372	Rough-in and fit-off recreational vehicle water systems	E	Changes to application, elements, performance criteria and assessment requirements. Range of conditions removed.
MSMRV313	Fit 12 V cable systems in a recreational vehicle	MSMRV373	Rough-in and fit-off recreational vehicle extra-low-voltage electrical systems	N	Contents included from MSMRV322 Fit required external electrical components to a recreational vehicle. Workplace outcome broadened. Changes to application, elements, performance criteria and assessment

MSM Manufacturing Training Package Release 7.1		MSM Manufacturing Training Package Release 8.0		Equiv. status	
Unit Code	Unit Title	Unit Code	Unit Title	E/N	Comments
					requirements. Range of conditions removed
MSMRV315	Construct and fit slide out in a recreational vehicle	MSMRV374	Assemble and install recreational vehicle slide-outs	E	Changes to application, elements, performance criteria and assessment requirements. Range of conditions removed.
MSMRV314	Construct and fit roof to a recreational vehicle	MSMRV375	Complete installing recreational vehicle walls and roofs	N	Contents included in MSMRV375 Complete installing recreational vehicle walls and roofs.
MSMRV318	Fit cladding to a recreational vehicle	MSMRV375	Complete installing recreational vehicle walls and roofs	E	Contents included from MSMRV314 Construct and fit roof to a recreational vehicle and MSMRV319 Fit front and rear moulds to a recreational vehicle. Changes to application, elements, performance criteria and assessment requirements. Range of conditions removed.
MSMRV319	Fit front and rear moulds to a recreational vehicle	MSMRV375	Complete installing recreational vehicle walls and roofs	N	Contents included in MSMRV375 Complete installing recreational vehicle walls and roofs.
MSMRV320	Fit windows and doors to a recreational vehicle	MSMRV376	Install recreational vehicle windows and doors	E	Changes to application, elements, performance criteria and assessment requirements. Range of conditions removed.
MSMRV321	Fit required external items to a recreational vehicle	MSMRV377	Install recreational vehicle external items	E	Changes to application, elements, performance criteria and assessment requirements. Range of conditions removed.
MSMRV322	Fit required external electrical components to a recreational vehicle	MSMRV373	Rough-in and fit-off recreational vehicle extra-low-voltage electrical systems	N	Contents included in MSMRV373 Rough-in and fit-off recreational vehicle extra-low-voltage electrical systems.
MSMRV323	Fit required internal items	MSMRV378	Complete recreational	E	Changes to application, elements, performance

MSM Manufacturing Training Package Release 7.1		MSM Manufacturing Training Package Release 8.0		Equiv. status	
Unit Code	Unit Title	Unit Code	Unit Title	E/N	Comments
	to a recreational vehicle		vehicle internal fit-outs		criteria and assessment requirements. Range of conditions removed.
MSMRV324	Conduct final quality inspection for a recreational vehicle	MSMRV379	Conduct recreational vehicle quality inspections	E	Changes to application, elements, performance criteria and assessment requirements. Range of conditions removed.
MSMRV325	Fabricate a chassis and suspension for a recreational vehicle	MSMRV380	Build towable recreational vehicle chassis	N	Workplace outcome broadened. Changes to application, elements, performance criteria and assessment requirements. Range of conditions removed.
MSMRV350	Remove and replace a recreational vehicle roof	MSMRV383	Repair recreational vehicle windows, doors and external items	N	Contents included in MSMRV383 Repair recreational vehicle windows, doors and external items.
MSMRV352	Remove and replace a recreational vehicle sidewall cladding	MSMRV381	Repair recreational vehicle walls and roofs	N	. Contents included from MSMRV358 Modify the body of a recreational vehicle and MSMRV361 Repair dry rot in a recreational vehicle. Workplace outcome broadened. Changes to application, elements, performance criteria and assessment requirements. Range of conditions removed.
MSMRV356	Remove and replace a gas struts and roof lifting equipment on a recreational vehicle	MSMRV382	Repair recreational vehicle roof-lifting equipment	E	Changes to application, elements, performance criteria and assessment requirements. Range of conditions removed.
MSMRV357	Remove and replace external components of a recreational vehicle	MSMRV383	Repair recreational vehicle windows, doors and external items	N	Contents included from MSMRV365 Remove and refit body moulding, MSMRV350 Remove and replace recreational vehicle roof and MSMRV357 Remove and replace external components of a recreational vehicle.

MSM Manufacturing Training Package Release 7.1		MSM Manufacturing Training Package Release 8.0		Equiv. status	
Unit Code	Unit Title	Unit Code	Unit Title	E/N	Comments
					Workplace outcome broadened. Changes to application, elements, performance criteria and assessment requirements. Range of conditions removed.
MSMRV358	Modify the body of a recreational vehicle	MSMRV381	Repair recreational vehicle walls and roofs	N	Contents included in MSMRV384 Repair recreational vehicle windows, doors and external items and MSMRV381 Repair recreational vehicle walls and roofs.
MSMRV359	Install additional appliances in a recreational vehicle	MSMRV384	Repair recreational vehicle internal items	N	Contents included from MSMRV358 Modify the body of a recreational vehicle. Workplace outcome broadened. Changes to application, elements, performance criteria and assessment requirements. Range of conditions removed.
MSMRV360	Service camper wind up systems	MSMRV385	Conduct routine, non-mechanical services of recreational vehicles	N	Provides skills and knowledge to conduct a routine service of a recreational vehicle including identifying any additional repair needs.
MSMRV362	Install and repair battery systems in a recreational vehicle	MSMRV386	Repair recreational vehicle extra-low-voltage electrical systems	N	Changes to application, elements, performance criteria and assessment requirements. Range of conditions removed.
MSMRV361	Repair dry rot in a recreational vehicle	MSMRV381	Repair recreational vehicle walls and roofs	N	Contents included in MSMRV381 Repair recreational vehicle walls and roofs.
MSMRV363	Complete pre-delivery check of a recreational vehicle	MSMRV387	Conduct recreational vehicle pre-delivery checks	E	Changes to application, elements, performance criteria and assessment requirements. Range of conditions removed.
MSMRV365	Remove and refit body moulding	MSMRV383	Repair recreational vehicle windows,	N	Contents included in MSMRV383 Repair recreational vehicle

MSM Manufacturing Training Package Release 7.1		MSM Manufacturing Training Package Release 8.0		Equiv. status	
Unit Code	Unit Title	Unit Code	Unit Title	E/N	Comments
			doors and external items		windows, doors and external items.
MSMRV366	Fit transfers and decals to a recreational vehicle	MSMRV388	Apply recreational vehicle transfers and decals	E	Changes to application, elements, performance criteria and assessment requirements. Range of conditions removed.
		MSMRV389	Service and repair caravan and campervan chassis, suspensions and braking systems	NC	Newly created unit.
MSMRVS202	Repair/service LPG systems in a recreational vehicle	MSMRV390	Service and repair recreational vehicle LPG systems	E	Changes to application, elements, performance criteria and assessment requirements. Range of conditions removed.
		MSMRV391	Diagnose recreational vehicle electrical faults	NC	Newly created unit. Provides skills and knowledge required to diagnose electrical faults in recreational vehicles and report the outcomes to the customer and/or supervisor with recommendations about the next steps
MSMRVG201	Tow a recreational vehicle safely	MSMRV392	Tow recreational vehicles	E	Changes to application, elements, performance criteria and assessment requirements. Range of conditions removed.
MSMRV364	Hand over a recreational vehicle to a customer	MSMRV400	Hand over recreational vehicles to customers	E	Changes to application, elements, performance criteria and assessment requirements. Range of conditions removed.
		MSMRV401	Specify complex installations in recreational vehicles	NC	Newly created unit.
		MSMRV402	Assess, quote and organise recreational vehicle repairs and services	NC	Newly created unit.

MSM Release 6.1 to Release 7.0 unit of competency mapping information

MSM Manufacturing Training Package Release 6.1		MSM Manufacturing Training Package Release 7.0		Equiv. status	
Unit Code	Unit Title	Unit Code	Unit Title	E/N	Comments
MSMWJ201	Use high pressure water jetting equipment	MSMWJ202	Use high pressure water jetting equipment	E	Updates to unit and assessment requirements to clarify intent, ensure consistent interpretation and align to industry requirements. Range of conditions information relating to equipment relocated to strengthen knowledge evidence. Range of conditions information not relating to required evidence relocated to MSM Manufacturing Companion Volume. Improved alignment to training package standards.
MSMWJ301	Operate a high pressure water jetting system	MSMWJ304	Operate a high pressure water jetting system	N	Updates to unit and assessment requirements to clarify intent, ensure consistent interpretation and align to industry requirements. MSMWJ202 added as a pre-requisite. New content on use of drawings added. 120 hours added to performance evidence. Range of conditions information relating to equipment and equipment variables relocated to strengthen knowledge evidence. Range of conditions information not relating to required evidence relocated to MSM Manufacturing Companion Volume. Improved alignment to training package standards.
MSMWJ302	Operate a drain	MSMWJ305	Operate a drain	N	Updates to unit and assessment requirements to clarify intent, ensure consistent interpretation

MSM Manufacturing Training Package Release 6.1		MSM Manufacturing Training Package Release 7.0		Equiv. status	
Unit Code	Unit Title	Unit Code	Unit Title	E/N	Comments
	cleaning system		cleaning system		and align to industry requirements. New content on use of drawings added. Range of conditions information relating to equipment and equipment variables relocated to strengthen knowledge evidence. Range of conditions information not relating to required evidence relocated to MSM Manufacturing Companion Volume. Improved alignment to training package standards.
MSMWJ303	Operate a vacuum loading system	MSMWJ306	Operate a vacuum loading system	E	Updates to unit and assessment requirements to clarify intent, ensure consistent interpretation and align to industry requirements. Range of conditions information relating to equipment and equipment variables relocated to strengthen knowledge evidence. Range of conditions information not relating to required evidence relocated to MSM Manufacturing Companion Volume. Improved alignment to training package standards.
		MSMWJ307	Operate a hydro excavation system		Newly created unit to meet industry needs.

MSM Release 5.0 to Release 6.0 unit of competency mapping information

MSM Manufacturing Training Package Release 5.0		MSM Manufacturing Training Package Release 6.0		Equiv. status	
Unit Code	Unit Title	Unit Code	Unit Title	E/N	Comments
		MSMRV367	Fabricate frame structures		New unit

		MSMRV368	Install frame structures		New unit
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MSM Release 4.0 to Release 5.0 unit of competency mapping information

MSM Manufacturing Training Package Release 4.0		MSM Manufacturing Training Package Release 5.0		Equiv. status	
Unit Code	Unit Title	Unit Code	Unit Title	E/N	Comments
		MSMBIO301	Process biomass using pyrolyser		New unit
		MSMBIO302	Ferment biomaterial to produce bioproducts		New unit
		MSMBIO303	Distil bioproducts		New unit
		MSMBIO304	Separate and recover bioproducts		New unit

MSM Release 3.0 to Release 4.0 unit of competency mapping information

MSM Manufacturing Training Package Release 3.0		MSM Manufacturing Training Package Release 4.0		Equiv. status	
Unit Code	Unit Title	Unit Code	Unit Title	E/N	Comments
MSMSUP210	Process and record information	MSMSUP210	Process and record information	E	Release 2. Foundation skills added. Range of conditions removed. Duplication between Performance Evidence and Performance Criteria removed. Assessment conditions updated.
MSMOPS200	Operate equipment	MSMOPS200	Operate equipment	E	Release 2. Range of conditions removed.

MSM Manufacturing Training Package Release 3.0		MSM Manufacturing Training Package Release 4.0		Equivalences	
Unit Code	Unit Title	Unit Code	Unit Title	E/N	Comments
					Duplication between Performance Evidence and Performance Criteria removed. Assessment conditions updated.
MSMSUP101	Clean workplace or equipment	MSMSUP101	Clean workplace or equipment	E	Release 2. Range of conditions removed. Duplication between Performance Evidence and Performance Criteria removed. Assessment conditions updated.
MSMSUP240	Undertake minor maintenance	MSMSUP240	Undertake minor maintenance	E	Release 2. Range of conditions removed. Duplication between Performance Evidence and Performance Criteria removed. Assessment conditions updated.
MSMSUP300	Identify and apply process improvements	MSMSUP300	Identify and apply process improvements	E	Release 2. Range of conditions removed. Duplication between Performance Evidence and Performance Criteria removed.

MSM Manufacturing Training Package Release 3.0		MSM Manufacturing Training Package Release 4.0		Equiv status	
Unit Code	Unit Title	Unit Code	Unit Title	E/N	Comments
					Assessment conditions updated.
MSMENV272	Participate in environmentally sustainable work practices	MSMENV272	Participate in environmentally sustainable work practices	E	Release 2. Range of conditions removed. Duplication between Performance Evidence and Performance Criteria removed. Minor edits to Knowledge Evidence for clarity. Assessment conditions updated.
MSMOPS101	Make measurements	MSMOPS101	Make measurements	E	Release 2. Range of conditions removed. Duplication between Performance Evidence and Performance Criteria removed. Minor edits to Knowledge Evidence for clarity. Assessment conditions updated.
MSMSUP106	Work in a team	MSMSUP106	Work in a team	E	Release 2. Range of conditions removed. Duplication between Performance Evidence and Performance Criteria removed. Minor edits to

MSM Manufacturing Training Package Release 3.0		MSM Manufacturing Training Package Release 4.0		Equivalences	
Unit Code	Unit Title	Unit Code	Unit Title	E/N	Comments
					Knowledge Evidence for clarity. Assessment conditions updated.
MSMWHS200	Work safely	MSMWHS200	Work safely	E	Release 2. Range of conditions removed. Duplication between Performance Evidence and Performance Criteria removed. Minor edits to Knowledge Evidence for clarity. Assessment conditions updated.
MSMSUP102	Communicate in the workplace	MSMSUP102	Communicate in the workplace	E	Release 2. Range of conditions removed. Minor edits to Knowledge Evidence for clarity. Assessment conditions updated. Performance Evidence and Assessment conditions updated for clarity.
MSMSUP382	Provide coaching/mentoring in the workplace	MSMSUP382	Provide coaching/mentoring in the workplace	E	Release 2. Range of conditions removed. Performance Evidence and Assessment conditions updated for clarity.

MSM Manufacturing Training Package Release 3.0		MSM Manufacturing Training Package Release 4.0		Equiv. status	
Unit Code	Unit Title	Unit Code	Unit Title	E/N	Comments
MSMSUP390	Use structured problem-solving tools	MSMSUP390	Use structured problem-solving tools	E	Release 2. Range of conditions removed. Performance Evidence and Assessment conditions updated.

PMC Release 1.0 to Release 3.0 unit of competency mapping information

PMC Manufactured Mineral Products Training Package Release 1.0		MSM Manufacturing Training Package Release 3.0		Equiv. status	
Unit Code	Unit Title	Unit Code	Unit Title	E/N	Comments
PMC561080B	Organise self	MSMPMC200	Organise self	E	New Unit. Supersedes and is equivalent to PMC561080B Organise self
PMC553051	Produce structural precast concrete	MSMPMC300	Produce structural precast concrete	E	New unit. Supersedes and is equivalent to PMC553051 Produce structural precast concrete
PMC561072	Store materials for production	MSMPMC301	Store materials for production	E	New unit. Supersedes and is equivalent to PMC561072 Store materials for production
PMC552002	Operate equipment to	MSMPMC302	Operate equipment	E	New Unit. Supersedes and is equivalent to

PMC Manufactured Mineral Products Training Package Release 1.0					
MSM Manufacturing Training Package Release 3.0		Equiv. status			
Unit Code	Unit Title	Unit Code	Unit Title	E/N	Comments
	blend/mix materials		to blend/mix materials		PMC552002 Operate equipment to blend/mix materials.
PMC552003	Operate grinding equipment	MSMPMC303	Operate grinding equipment	E	New unit. Supersedes and is equivalent to PMC552003 Operate grinding equipment.
PMC552004	Prepare for production	MSMPMC304	Prepare for production	E	New unit. Supersedes and is equivalent to PMC552004 Prepare for production.
PMC552007	Heat accelerate the curing of precast concrete	MSMPMC305	Heat accelerate the curing of precast concrete	E	New unit. Supersedes and is equivalent to PMC552007 Heat accelerate the curing of precast concrete.
PMC552008	Operate crushing equipment	MSMPMC306	Operate crushing equipment	E	New unit. Supersedes and is equivalent to PMC552008 Operate crushing equipment.
PMC552010	Operate a calcining kiln	MSMPMC307	Operate a calcining kiln	E	New unit. Supersedes and is equivalent to PMC552010 Operate a calcining kiln.

PMC Manufactured Mineral Products Training Package Release 1.0					
MSM Manufacturing Training Package Release 3.0		Equiv. status			
Unit Code	Unit Title	Unit Code	Unit Title	E/N	Comments
PMC552020	Operate slip casting equipment	MSMPMC308	Operate slip casting equipment	E	New unit. Supersedes and is equivalent to PMC552020 Operate slip casting equipment.
PMC552023	Finish products after firing	MSMPMC309	Finish products after firing	E	New unit. Supersedes and is equivalent to PMC552023 Finish products after firing.
PMC552024	Hand mould products	MSMPMC310	Hand mould products	E	New unit. Supersedes and is equivalent to PMC552024 Hand mould products.
PMC552030	Operate a firing kiln	MSMPMC311	Operate a firing kiln	E	New unit. Supersedes and is equivalent to PMC552030 Operate a firing kiln.
PMC552048	Operate glass finishing equipment	MSMPMC312	Operate glass finishing equipment	E	New unit. Supersedes and is equivalent to PMC552048 Operate glass finishing equipment.
PMC552050	Schedule, cut and bend reinforcement	MSMPMC313	Schedule, cut and bend reinforcement	E	New unit. Supersedes and is equivalent to PMC552050 Schedule, cut and bend reinforcement

PMC Manufactured Mineral Products Training Package Release 1.0					
MSM Manufacturing Training Package Release 3.0					
Equiv. status					
Unit Code	Unit Title	Unit Code	Unit Title	E/N	Comments
PMC552051	Finish green concrete products	MSMPMC314	Finish green concrete products	E	New unit. Supersedes and is equivalent to PMC552051 Finish green concrete products
PMC552052	Cast moulded concrete products	MSMPMC315	Cast moulded concrete products	E	New unit. Supersedes and is equivalent to PMC552052 Cast moulded concrete products
PMC552053	Finish cured concrete products	MSMPMC316	Finish cured concrete products	E	New unit. Supersedes and is equivalent to PMC552053 Finish cured concrete products
PMC552055	Conduct benching operations	MSMPMC317	Conduct benching operations	E	New unit. Supersedes and is equivalent to PMC552055 Conduct benching operations
PMC552056	Assemble, fabricate and place reinforcement	MSMPMC318	Assemble, fabricate and place reinforcement	E	New unit. Supersedes and is equivalent to PMC552056 Assemble, fabricate and place reinforcement
PMC552057	Finish casting operation	MSMPMC319	Finish casting operation	E	New unit. Supersedes and is equivalent to PMC552057 Finish casting operation

PMC Manufactured Mineral Products Training Package Release 1.0 MSM Manufacturing Training Package Release 3.0 Equiv. status					
Unit Code	Unit Title	Unit Code	Unit Title	E/N	Comments
PMC552058	Demould concrete products	MSMPMC320	Demould concrete products	E	New unit. Supersedes and is equivalent to PMC552058 Demould concrete products
PMC552060	Batch mix concrete	MSMPMC321	Batch mix concrete	E	New unit. Supersedes and is equivalent to PMC552060 Batch mix concrete
PMC552061	Deliver concrete to site	MSMPMC322	Deliver concrete to site	E	New unit. Supersedes and is equivalent to PMC552061 Deliver concrete to site
PMC552065	Prepare asphalt	MSMPMC323	Prepare asphalt	E	New unit. Supersedes and is equivalent to PMC552065 Prepare asphalt
PMC562070	Move materials	MSMPMC324	Move materials	E	New unit. Supersedes and is equivalent to PMC562070 Move materials
PMC562071	Operate bulk materials handling equipment	MSMPMC325	Operate bulk materials handling equipment	E	New unit. Supersedes and is equivalent to PMC562071 Operate bulk materials handling equipment

PMC Manufactured Mineral Products Training Package Release 1.0					
MSM Manufacturing Training Package Release 3.0					
Equiv. status					
Unit Code	Unit Title	Unit Code	Unit Title	E/N	Comments
PMC562081	Deliver customer service	MSMPMC326	Deliver customer service	E	New unit. Supersedes and is equivalent to PMC562081 Deliver customer service
PMC562083	Allocate and complete team tasks	MSMPMC327	Allocate and complete team tasks	E	New unit. Supersedes and is equivalent to PMC562083 Allocate and complete team tasks
PMC552094	Prepare for and apply shotcrete for installation	MSMPMC328	Prepare for and apply shotcrete for installation	E	New unit. Supersedes and is equivalent to PMC552094 Prepare for and apply shotcrete for installation
PMC553020	Prepare moulds and dies	MSMPMC329	Prepare moulds and dies	E	New unit. Supersedes and is equivalent to PMC553020 Prepare moulds and dies
PMC553050	Produce architectural precast concrete	MSMPMC330	Produce architectural precast concrete	E	New unit. Supersedes and is equivalent to PMC553050 Produce architectural precast concrete
PMC563081	Carry out stock control	MSMPMC400	Carry out stock control	E	New unit. Supersedes and is equivalent to PMC563081

PMC Manufactured Mineral Products Training Package Release 1.0		MSM Manufacturing Training Package Release 3.0		Equiv. status	
Unit Code	Unit Title	Unit Code	Unit Title	E/N	Comments
					Carry out stock control
PMC553000	Set up and tune a process	MSMPMC401	Set up and tune a process	E	New unit. Supersedes and is equivalent to PMC553000 Set up and tune a process
PMC553010	Process raw meal into product	MSMPMC402	Process raw meal into product	E	New unit. Supersedes and is equivalent to PMC553010 Process raw meal into product
PMC553040	Set up and optimise glass forming process	MSMPMC403	Set up and optimise glass forming process	E	New unit. Supersedes and is equivalent to PMC553040 Set up and optimise glass forming process

MSA07 Release 8.4 to Release 2.0 unit of competency mapping information

MSA07 Manufacturing Training Package Release 8.4		MSM Manufacturing Training Package Release 2.0		Equiv. status	
Unit Code	Unit Title	Unit Code	Unit Title	E/N	Comments
MSAPMSUP17 2A	Identify and minimise environmental hazards	MSMENV172	Identify and minimise environmental hazards	E	Supersedes and is equivalent to MSAPMSUP172 A Identify and minimise environmental hazards

MSA07 Manufacturing Training Package Release 8.4	MSM Manufacturing Training Package Release 2.0	Equiv. status			
Unit Code	Unit Title	Unit Code	Unit Title	E/ N	Comments
MSAENV672B	Develop workplace policy and procedures for environmental sustainability	MSMENV672	Develop workplace policy and procedures for environmental sustainability	E	Supersedes and is equivalent to MSAENV672B Develop workplace policy and procedures for environmental sustainability
MSAPMOPS100A	Use equipment	MSMOPS100	Use equipment	E	Supersedes and is equivalent to MSAPMOPS100 A Use equipment
MSAPMOPS244A	Layout and cut materials	MSMOPS244	Lay out and cut materials	E	Supersedes and is equivalent to MSAPMOPS244 A Layout and cut materials
MSAPMOPS301A	Treat corrosion	MSMOPS301	Treat corrosion	E	Supersedes and is equivalent to MSAPMOPS301 A Treat corrosion
MSAPMOPS363A	Organise on site work	MSMOPS363	Organise on-site work	E	Supersedes and is equivalent to MSAPMOPS363 A Organise on site work
MSAPMOPS400A	Optimise process/plant area	MSMOPS400	Optimise process/plant area	E	Supersedes and is equivalent to MSAPMOPS400 A Optimise process/plant area
MSAPMOPS401A	Trial new process or product	MSMOPS401	Trial new process or product	E	Supersedes and is equivalent to MSAPMOPS401 A Trial new process or product
MSAPCI101A	Adapt to work in industry	MSMPCI101	Adapt to work in industry	E	Supersedes and is equivalent to MSAPCI101A Adapt to work in industry
MSAPCI102A	Apply effective work practices	MSMPCI102	Apply effective work practices	E	Supersedes and is equivalent to MSAPCI102A

MSA07 Manufacturing Training Package Release 8.4	MSM Manufacturing Training Package Release 2.0	Equiv. status			
Unit Code	Unit Title	Unit Code	Unit Title	E/ N	Comments
					Apply effective work practices
MSAPCI103A	Demonstrate care and apply safe practices at work	MSMPCI103	Demonstrate care and apply safe practices at work	E	Supersedes and is equivalent to MSAPCI103A Demonstrate care and apply safe practices at work
MSAPCII295A	Operate manufacturing equipment	MSMPCII295	Operate manufacturing equipment	E	Supersedes and is equivalent to MSAPCII295A Operate manufacturing equipment
MSAPCII296A	Make a small furniture item from timber	MSMPCII296	Make a small furniture item from timber	E	Supersedes and is equivalent to MSAPCII296A Make a small furniture item from timber
MSAPCII297A	Make an object from cloth using an existing pattern	MSMPCII297	Make an object from cloth using an existing pattern	E	Supersedes and is equivalent to MSAPCII297A Make an object from cloth using an existing pattern
MSAPCII298A	Make an object from metal	MSMPCII298	Make an object from metal	E	Supersedes and is equivalent to MSAPCII298A Make an object from metal
MSAPCII299A	Make an object from plastic	MSMPCII299	Make an object from plastic	E	Supersedes and is equivalent to MSAPCII299A Make an object from plastic
MSAPMPER201A	Monitor and control work permits	MSMPER201	Monitor and control work permits	E	Supersedes and is equivalent to MSAPMPER201 A Monitor and control work permits
MSAPMPER202A	Observe permit work	MSMPER202	Observe permit work	E	Supersedes and is equivalent to MSAPMPER202

MSA07 Manufacturing Training Package Release 8.4	MSM Manufacturing Training Package Release 2.0	Equiv. status			
Unit Code	Unit Title	Unit Code	Unit Title	E/ N	Comments
					A Observe permit work
MSAPMPER205C	Enter confined space	MSMPER205	Enter confined space	E	Supersedes and is equivalent to MSAPMPER205 C Enter confined space
MSAPMPER300C	Issue work permits	MSMPER300	Issue work permits	E	Supersedes and is equivalent to MSAPMPER300 C Issue work permits
MSAPMPER400A	Coordinate permit process	MSMPER400	Coordinate permit process	E	Supersedes and is equivalent to MSAPMPER400 A Coordinate permit process
MSAPMSUP204A	Pack products or materials	MSMSUP204	Pack products or materials	E	Supersedes and is equivalent to MSAPMSUP204 A Pack products or materials
MSAPMSUP205A	Transfer loads	MSMSUP205	Transfer loads	E	Supersedes and is equivalent to MSAPMSUP205 A Transfer loads
MSAPMSUP230A	Monitor process operations	MSMSUP230	Monitor process operations	E	Supersedes and is equivalent to MSAPMSUP230 A Monitor process operations
MSAPMSUP292A	Sample and test materials and product	MSMSUP292	Sample and test materials and product	E	Supersedes and is equivalent to MSAPMSUP292 A Sample and test materials and product
MSAPMSUP300A	Identify and implement opportunities to maximise production efficiencies	MSMSUP300	Identify and apply process improvements	E	Supersedes and is equivalent to MSAPMSUP300 A Identify and implement opportunities to maximise production efficiencies

MSA07 Manufacturing Training Package Release 8.4	MSM Manufacturing Training Package Release 2.0	Equiv. status			
Unit Code	Unit Title	Unit Code	Unit Title	E/ N	Comments
MSAPMSUP30 1A	Apply HACCP to the workplace	MSMSUP301	Apply HACCP to the workplace	E	Supersedes and is equivalent to MSAPMSUP301 A Apply HACCP to the workplace
MSAPMSUP30 3A	Identify equipment faults	MSMSUP303	Identify equipment faults	E	Supersedes and is equivalent to MSAPMSUP303 A Identify equipment faults
MSAPMSUP30 9A	Maintain and organise workplace records	MSMSUP309	Maintain and organise workplace records	E	Supersedes and is equivalent to MSAPMSUP309 A Maintain and organise workplace records
MSAPMSUP31 0A	Contribute to the development of plant documentation	MSMSUP310	Contribute to the development of workplace documentation	E	Supersedes and is equivalent to MSAPMSUP310 A Contribute to the development of plant documentation
MSAPMSUP33 0A	Develop and adjust a production schedule	MSMSUP330	Develop and adjust a production schedule	E	Supersedes and is equivalent to MSAPMSUP330 A Develop and adjust a production schedule
MSAPMSUP38 2A	Provide coaching/mentori ng in the workplace	MSMSUP382	Provide coaching/mentori ng in the workplace	E	Supersedes and is equivalent to MSAPMSUP382 A Provide coaching/mentori ng in the workplace
MSAPMOPS40 4A	Co-ordinate maintenance	MSMSUP404	Coordinate maintenance	E	Supersedes and is equivalent to MSAPMOPS404 A Co-ordinate maintenance
MSAPMOPS40 5A	Identify problems in fluid power system	MSMSUP405	Identify problems in fluid power system	E	Supersedes and is equivalent to MSAPMOPS405 A Identify

MSA07 Manufacturing Training Package Release 8.4	MSM Manufacturing Training Package Release 2.0	Equiv. status			
Unit Code	Unit Title	Unit Code	Unit Title	E/ N	Comments
					problems in fluid power system
MSAPMOPS406A	Identify problems in electronic control systems	MSMSUP406	Identify faults in electronic control	E	Supersedes and is equivalent to MSAPMOPS406A Identify problems in electronic control
MSATMINS301A	Inspect a range of simple measures	MSMTMINS301	Inspect a range of simple measures	E	Supersedes and is equivalent to MSATMINS301A Inspect a range of simple measures
MSATMINS302A	Inspect a range of simple measuring instruments	MSMTMINS302	Inspect a range of simple measuring instruments	E	Supersedes and is equivalent to MSATMINS302A Inspect a range of simple measuring instruments
MSATMINS401A	Inspect a range of weighing instruments	MSMTMINS401	Inspect a range of weighing instruments	E	Supersedes and is equivalent to MSATMINS401A Inspect a range of weighing instruments
MSATMINS402A	Inspect a range of liquid measuring instruments using volume measures	MSMTMINS402	Inspect liquid measuring instruments using volume measures	E	Supersedes and is equivalent to MSATMINS402A Inspect liquid measuring instruments using volume measures
MSATMINS403A	Inspect a range of trading practices	MSMTMINS403	Inspect a range of trading practices	E	Supersedes and is equivalent to MSATMINS403A Inspect a range of trading practices
MSATMINS404A	Inspect a range of pre-packaged products	MSMTMINS404	Inspect a range of pre-packaged products	E	Supersedes and is equivalent to MSATMINS404A Inspect a range of pre-packaged products

MSA07 Manufacturing Training Package Release 8.4	MSM Manufacturing Training Package Release 2.0	Equiv. status			
Unit Code	Unit Title	Unit Code	Unit Title	E/ N	Comments
MSATMREF301 A	Use and maintain reference standards	MSMTMREF3 01	Use and maintain reference standards	E	Supersedes and is equivalent to MSATMREF301 A Use and maintain reference standards
MSATMVER30 1A	Verify simple measures	MSMTMVER3 01	Verify simple measures	E	Supersedes and is equivalent to MSATMVER301 A Verify simple measures
MSATMVER30 2A	Verify a simple measuring instrument	MSMTMVER3 02	Verify simple measuring instruments	E	Supersedes and is equivalent to MSATMVER302 A Verify a simple measuring instrument
MSATMVER40 1A	Verify a limited weighing instrument	MSMTMVER4 01	Verify weighing instruments	E	Supersedes and is equivalent to MSATMVER401 A Verify a limited weighing instrument
MSATMVER40 2A	Verify a liquid measuring instrument using volume measures	MSMTMVER4 02	Verify liquid measuring instruments using volume measures	E	Supersedes and is equivalent to MSATMVER402 A Verify liquid measuring instruments using volume measures
MSATMVER40 3A	Verify inspector's class reference standards	MSMTMVER4 03	Verify Inspectors' Class reference standards	E	Supersedes and is equivalent to MSATMVER403 A Verify inspector's class reference standards
MSATMVER50 1A	Verify a complex measuring instrument	MSMTMVER5 01	Verify complex measuring instruments	E	Supersedes and is equivalent to MSATMVER501 A Verify a complex measuring instrument
MSAPMOHS10 0A	Follow OHS procedures	MSMWHS100	Follow WHS procedures	E	Supersedes and is equivalent to

MSA07 Manufacturing Training Package Release 8.4	MSM Manufacturing Training Package Release 2.0	Equiv. status			
Unit Code	Unit Title	Unit Code	Unit Title	E/ N	Comments
					MSAPMOHS100 A Follow OHS procedures
		MSMWHS201	Conduct hazard analysis	NC	Newly created unit.
MSAPMOHS21 0B	Undertake first response to non- fire incidents	MSMWHS210	Undertake first response to non- fire incidents	E	Supersedes and is equivalent to MSAPMOHS210 B Undertake first response to non- fire incidents
MSAPMOHS21 2A	Undertake first response to fire incidents	MSMWHS212	Undertake first response to fire incidents	E	Supersedes and is equivalent to MSAPMOHS212 A Undertake first response to fire incidents
MSAPMOHS21 6A	Operate breathing apparatus	MSMWHS216	Operate breathing apparatus	E	Supersedes and is equivalent to MSAPMOHS216 A Operate breathing apparatus
MSAPMOHS21 7A	Gas test atmospheres	MSMWHS217	Gas test atmospheres	E	Supersedes and is equivalent to MSAPMOHS217 A Gas test atmospheres
		MSMWHS218	Control the risks of falls	NC	Newly created unit.
MSAPMOHS30 0A	Facilitate the implementation of OHS for a work group	MSMWHS300	Facilitate the implementation of WHS for a work group	E	Supersedes and is equivalent to MSAPMOHS300 A Facilitate the implementation of OHS for a work group
MSAPMOHS40 0A	Contribute to OHS management system	MSMWHS400	Contribute to WHS management system	E	Supersedes and is equivalent to MSAPMOHS400 A Contribute to OHS management system
MSAPMOHS40 1A	Assess risk	MSMWHS401	Assess risk	E	Supersedes and is equivalent to

MSA07 Manufacturing Training Package Release 8.4		MSM Manufacturing Training Package Release 2.0		Equiv. status	
Unit Code	Unit Title	Unit Code	Unit Title	E/ N	Comments
					MSAPMOHS401 A Assess risk
MSAPMOHS503A	Maintain the workplace OHS management system	MSMWHS503	Maintain WHS management system	E	Supersedes and is equivalent to MSAPMOHS503 A Maintain the workplace OHS management system
MSAPMOHS510A	Manage risk	MSMWHS510	Manage risk	E	Supersedes and is equivalent to MSAPMOHS510 A Manage risk

MSA07 Release 8.4 to Release 1.0 unit of competency mapping information

MSA07 Manufacturing Training Package Release 8.4		MSM Manufacturing Training Package Release 1.0		Equiv. status	
Unit Code	Unit Title	Unit Code	Unit Title	E/N	Comments
MSABLIC001	License to operate a standard boiler	MSMBLIC001	Licence to operate a standard boiler	E	Supersedes and is equivalent to MSABLIC001 Licence to operate a standard boiler.
MSABLIC002	License to operate an advanced boiler	MSMBLIC002	Licence to operate an advanced boiler	E	Supersedes and is equivalent to MSABLIC002 Licence to operate an advanced boiler
MSAENV272B	Participate in environmentally sustainable work practices	MSMENV272	Participate in environmentally sustainable work practices	E	Supersedes and is equivalent to MSAENV272B Participate in environmentally sustainable work practices
MSAENV472B	Implement and monitor environmentally	MSMENV472	Implement and monitor environmentally	E	Supersedes and is equivalent to MSAENV472B Implement and

MSA07 Manufacturing Training Package Release 8.4		MSM Manufacturing Training Package Release 1.0		Equiv. status	
Unit Code	Unit Title	Unit Code	Unit Title	E/N	Comments
	sustainable work practices		sustainable work practices		monitor environmentally sustainable work practices
MSAPMOPS101A	Make measurements	MSMOPS101	Make measurements	E	Supersedes and is equivalent to MSAPMOPS101A Make measurements
MSAPMOPS102A	Perform tasks to support production	MSMOPS102	Perform tasks to support production	E	Supersedes and is equivalent to MSAPMOPS102A Perform tasks to support production
MSAPMOPS200A	Operate equipment	MSMOPS200	Operate equipment	E	Supersedes and is equivalent to MSAPMOPS200A Operate equipment
MSAPMOPS212A	Use organisation computers or data systems	MSMOPS212	Use organisation computers or data systems	E	Supersedes and is equivalent to MSAPMOPS212A Use organisation computers or data systems
MSAPMPER200C	Work in accordance with an issued permit	MSMPER200	Work in accordance with an issued permit	E	Supersedes and is equivalent to MSAPMPER200C Work in accordance with an issued permit
MSAPMSUP100A	Apply workplace procedures	MSMSUP100	Apply workplace context to own job	E	Supersedes and is equivalent to MSAPMSUP100A Apply workplace procedures
MSAPMSUP200A	Achieve work outcomes	MSMSUP200	Achieve work outcomes	E	Supersedes and is equivalent to MSAPMSUP200A Achieve work outcomes
MSAPMSUP101A	Clean workplace or equipment	MSMSUP101	Clean workplace or equipment	E	Supersedes and is equivalent to MSAPMSUP101A Clean workplace or equipment

MSA07 Manufacturing Training Package Release 8.4		MSM Manufacturing Training Package Release 1.0		Equiv. status	
Unit Code	Unit Title	Unit Code	Unit Title	E/N	Comments
MSAPMSUP102A	Communicate in the workplace	MSMSUP102	Communicate in the workplace	E	Supersedes and is equivalent to MSAPMSUP102A Communicate in the workplace
MSAPMSUP106A	Work in a team	MSMSUP106	Work in a team	E	Supersedes and is equivalent to MSAPMSUP106A Work in a team
MSAPMSUP210A	Process and record information	MSMSUP210	Process and record information	E	Supersedes and is equivalent to MSAPMSUP210A Process and record information
MSAPMSUP240A	Undertake minor maintenance	MSMSUP240	Undertake minor maintenance	E	Supersedes and is equivalent to MSAPMSUP240A Undertake minor maintenance
MSAPMSUP273A	Handle goods	MSMSUP273	Handle goods	E	Supersedes and is equivalent to MSAPMSUP273A Handle goods
MSAPMSUP280A	Manage conflict at work	MSMSUP280	Manage conflict at work	E	Supersedes and is equivalent to MSAPMSUP280A Manage conflict at work
MSAPMSUP291A	Participate in continuous improvement	MSMSUP291	Participate in continuous improvement	E	Supersedes and is equivalent to MSAPMSUP291A Participate in continuous improvement
MSAPMSUP383A	Facilitate a team	MSMSUP383	Facilitate a team	E	Supersedes and is equivalent to MSAPMSUP383A Facilitate a team
MSAPMSUP390A	Use structured problem solving tools	MSMSUP390	Use structured problem-solving tools	E	Supersedes and is equivalent to MSAPMSUP390A Use structured problem solving tools
MSAPMSUP400A	Develop and monitor quality systems	MSMSUP400	Develop and monitor quality systems	E	Supersedes and is equivalent to MSAPMSUP400A Develop and

MSA07 Manufacturing Training Package Release 8.4		MSM Manufacturing Training Package Release 1.0		Equiv. status	
Unit Code	Unit Title	Unit Code	Unit Title	E/N	Comments
					monitor quality systems
MSAPMOHS110A	Follow emergency response procedures	MSMWHS110	Follow emergency response procedures	E	Supersedes and is equivalent to MSAPMOHS110A Follow emergency response procedures
MSAPMOHS200A	Work safely	MSMWHS200	Work safely	E	Supersedes and is equivalent to MSAPMOHS200A Work safely
MSAPMOHS205A	Control minor incidents	MSMWHS205	Control minor incidents	E	Supersedes and is equivalent to MSAPMOHS205A Control minor incidents

Appendix 6: AQF certificate level descriptors and qualification descriptors

The following information highlights the relationship between the AQF descriptors and the qualifications in this training package. It provides the AQF qualification type descriptor for each level followed by the description of outcomes of each [TP Code] qualification.

Certificate I AQF qualification type descriptor

Purpose

The Certificate I qualifies individuals with basic functional knowledge and skills to undertake work, further learning and community involvement.

Knowledge

Graduates of a Certificate I will have basic, fundamental knowledge and understanding in a narrow area of work and learning.

Skills

Graduates of a Certificate I will have:

- basic skills to participate in everyday life and further learning
- cognitive and communication skills to receive, pass on and recall information in a narrow range of areas
- technical skills involving the use of tools appropriate to the activity and use of basic communication technologies

Application of skills and knowledge

Graduates of a Certificate I will demonstrate the application of knowledge and skills:

- with some autonomy in defined contexts and within established parameters
- in contexts that may include preparation for further learning, life activities and/or a variety of initial routine and predictable work-related activities including participation in a team or work group.

Volume of learning

The volume of learning Certificate II is typically 0.5–1 year. This equates to 600–1200 hours.

Outcomes of MSM10116 Certificate I in Process Manufacturing

The MSM10116 Certificate I in Process Manufacturing provides the competencies required for entry to the industry and addresses job outcomes at this level. It has been developed as a common certificate for use across the three process manufacturing sectors:

- chemical, hydrocarbons and refining
- plastics, rubber and cabling
- manufactured mineral products.

Outcomes of MSM10216 Certificate I in Manufacturing (Pathways)

The MSM10216 Certificate I in Manufacturing (Pathways) is designed to develop skills that are essential for employment and skills that relate directly to a work activity as specified in

a selected industry/technical unit.

The units selected must provide practical skills that are relevant and useful to the area in which the person hopes to gain employment or is currently working. The group of units should be chosen to support the project and should incorporate both the technical and employability skills needed for work.

Achievement of the MSM10216 Certificate I in Manufacturing (Pathways) will provide the student with a set of competencies that collectively open up pathways into employment and/or further study in the manufacturing industry.

Certificate II AQF qualification type descriptor

Purpose

The Certificate II qualifies individuals to undertake mainly routine work and as a pathway to further learning.

Knowledge

Graduates of a Certificate II will have basic factual, technical and procedural knowledge in a defined area of work and learning.

Skills

Graduates of a Certificate II will have:

- cognitive skills to access, record and act on a defined range of information from a range of sources
- cognitive and communication skills to apply and communicate known solutions to a limited range of predictable problems
- technical skills to use a limited range of equipment to complete tasks involving known routines and procedures with a limited range of options.

Application of skills and knowledge

Graduates of a Certificate II will demonstrate the application of knowledge and skills with some accountability for the quality of own outcomes and some responsibility for own outputs in work and learning. Work involves limited autonomy and judgement in the completion of own defined and routine tasks in known and stable contexts and in collaboration with others in a team environment.

Volume of learning

The volume of learning of a Certificate II is typically 0.5–1 year, which equates to 600–1200 hours.

Outcomes of MSM20116 Certificate II in Process Manufacturing

The MSM20116 Certificate II in Process Manufacturing provides the competencies required by competent production workers who undertake vital production support roles directly related to producing products.

Production workers apply a breadth and depth of knowledge to a defined range of situations and would be expected to apply this knowledge to solve a defined range of problems by applying known solutions to a limited range of predictable problems.

This qualification has been developed for use across the three process manufacturing sectors:

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- chemical, hydrocarbons and refining
- plastics, rubber and cabling
- manufactured mineral products.

Outcomes of MSM20216 Certificate II in Manufacturing Technology

The Certificate II in Manufacturing Technology applies to a learning and assessment environment where access to normal production operations is not available. A typical environment will be for application in a VET in Schools delivery environment or other simulated or trial manufacturing environment where a high degree of supervision exists. The units are suitable for delivery in a school environment and for schools to contextualise the units to local manufacturing industry activities.

Outcomes of MSM21122 Certificate II in Recreational Vehicle Trade Pathways

The MSM21115 Certificate II in Recreational Vehicle Trade Pathways has been developed as an entry-level qualification. It aims to give school-leavers a career path in the industry by providing a broad introduction to the sector then enabling them to specialise at higher levels. A single Certificate II enables people to get a taste of both manufacturing and service and repair.

At this level, the person completes routine tasks assigned to them under close supervision and guidance. They report routine and non-routine problems to their supervisor and are responsible for the quality of their output.

The assessment conditions require the person to demonstrate competence in the workplace or a simulated environment that reflects workplace conditions and contingencies.

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

Certificate III AQF qualification type descriptor

Purpose

The Certificate III qualifies individuals who apply a broad range of knowledge and skills in varied contexts to undertake skilled work and as a pathway for further learning.

Knowledge

Graduates of a Certificate III will have factual, technical, procedural and theoretical knowledge in an area of work and learning.

Skills

Graduates of a Certificate III will have:

- cognitive, technical and communication skills to interpret and act on available information
- cognitive and communication skills to apply and communicate known solutions to a variety of predictable problems and to deal with unforeseen contingencies using known solutions
- technical and communication skills to provide technical information to a variety of specialist and non-specialist audiences

- technical skills to undertake routine and some non-routine tasks in a range of skilled operations.

Application of skills and knowledge

Graduates of a Certificate III will demonstrate the application of knowledge and skills with discretion and judgement in the selection of equipment, services or contingency measures, and skills to adapt and transfer skills and knowledge within known routines, methods, procedures and time constraints.

Work is in the context of taking responsibility for own outputs in work and learning, including participation in teams and taking limited responsibility for the output of others within established parameters.

Volume of learning

The volume of learning of a Certificate III is typically 1–2 years, which equates to 1200–2400 hours.

Outcomes of MSM30116 Certificate III in Process Manufacturing

The MSM30116 Certificate III in Process Manufacturing provides the competencies required by advanced production workers who use a range of equipment and provide support functions directly related to producing products. They would undertake more advanced roles than workers with a Certificate II, working in accordance with the operating procedures and applying knowledge to anticipate problems and solve a range of foreseen and unforeseen problems.

This qualification is designed for use across the three process manufacturing sectors:

- chemical, hydrocarbons and oil refining
- plastics, rubber and cabling
- manufactured mineral products.

It includes the same range of electives, but with different packaging rules to provide a qualification for workers unable to meet the technical requirements of PMA, PMB or PMC. This qualification covers:

- production support workers - people working in manufacturing and filling the vital production support roles but who may not have the opportunity to develop competency in sufficient technical units related directly to producing products
- employees who operate across more than one category within process manufacturing or 'specialised processes' and elsewhere when required.

Outcomes of MSM30216 Certificate III in Surface Preparation and Coating Application

The MSM30216 Certificate III in Surface Preparation and Coating Application provides the trade-level competencies required to perform the wide range of surface preparation and protective coating application operations that occur across a range of heavy industry, ships and infrastructure.

The surfaces being prepared are typically metal (usually ferrous) and may be structural or have other mechanical requirements. The protective coatings may be liquid or solid. The applied coating may or may not be the final coat and its purpose is protective, not decorative.

People with this qualification would be expected to work under routine supervision only,

preparing surfaces and/or applying protective coatings in accordance with a provided technical specification. They would be expected to recognise situations where the intended approach was not appropriate/not working and take appropriate action to ensure the final result is satisfactory.

People with this qualification may be expected to undertake some combination of:

- abrasively blast clean surfaces to Australian Standard requirements and in accordance with the specification
- prepare surfaces for coating as required by the specification
- apply liquid protective surface coatings
- apply solid polymer surface coatings (this is usually a specialised area).

They may work in a manufacturer's factory or they may work as contractors on the site of the plant/ship/infrastructure.

This work may be undertaken:

- in a factory environment
- in an onsite, outdoors environment
- inside a vessel or other confined space
- outside a vessel or structure
- at heights
- some combination of these.

Outcomes of MSM30325 Certificate III in Manufactured Mineral Products

MSM30325 Certificate III in Manufactured Mineral Products reflects the role of workers who perform a range of operations to directly produce manufactured mineral products for industry, including cement, precast concrete, pre-mixed concrete, quarry and asphalt.

The worker will be able to work independently and to apply theoretical and technical knowledge and well-developed skills to undertake operations and exercise judgement in areas such as start-up and shutdown procedures and quality assurance.

The worker will be able to apply product and process knowledge to anticipate and solve a range of routine and non-routine problems. This includes developing solutions to problems which do not have a known solution or do not have a solution recorded in the procedures.

Outcomes of MSM30418 Certificate III in Fenestration

This qualification prepares graduates to produce, assemble and check fenestration products to Australian Standards. Graduates of this qualification use broad product, process and technical knowledge to produce fenestration products, where they anticipate and solve routine and non-routine problems where the solutions are not always known.

This includes knowledge of:

- regulatory, procedural and quality standard requirements for work
- safety and emergency procedures
- mathematical procedures for calculation of weights and measurements
- glass manual handling techniques
- technical drawing features, standards and instructions
- process improvement

- processing and recording information
- glass and glazing requirements
- computer numerically controlled (CNC) sizing machines
- manual production welding
- maintenance procedures.

Workers use technical and communication skills to interpret information, confirm material requirements, calculate and measure, assemble and check materials, control and/or report hazards, perform equipment checks and rectify problems. They also utilise communication skills to transmit technical advice and solutions; report outcomes and safety concerns and to work effectively within a team.

People with this qualification are expected to use technical skills to undertake routine tasks and skilled operations including:

- identifying work requirements and components
- selecting and using correct tools and equipment
- checking measurements
- interpreting technical drawings
- fabricating and assembling components
- cutting
- tooling
- routing
- milling
- drilling
- crimping
- checking quality.

Workers apply a wide range of technical skills and product/process knowledge to self-manage within a team and ensure that production requirements and quality standards are achieved.

They are responsible for their own outputs, according to established procedures. They are required to organise own activities within a team to determine and meet production requirements and schedules.

They also identify problems that might interfere with quality and solve technical or production problems and adjust production where required.

People with this qualification are expected to exercise judgement and take responsibility in areas such as:

- interpreting drawings
- determining production requirements
- selecting tools and equipment
- selecting components and materials
- setting and testing of equipment settings and safety controls
- monitoring and adjusting outputs
- checking and improving quality

- controlling hazards.

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

Outcomes of MSM31122 Certificate III in Recreational Vehicle Manufacturing

The MSM31122 Certificate III in Recreational Vehicle Manufacturing is a trade-level qualification with a focus on the job role of manufacturing a recreational vehicle.

A person with this qualification would usually work in a workshop, factory or large manufacturing organisation. They undertake routine tasks according to job instructions, plans/specifications and procedures and with discretion and judgement in selecting equipment, services and contingency measures. They work with a high degree of self-direction and limited supervision. They apply known solutions to routine problems and report non-routine problems according to procedures. They are responsible for their output and have limited responsibility for the output of others.

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

During development of the qualification, the importance was noted of assessment of the learner being done using equipment/products specific to the recreational vehicle industry.

Outcomes of MSM31022 Certificate III in Recreational Vehicle Service and Repair

The MSM31022 Certificate III in Recreational Vehicle Service and Repair is a trade-level qualification with a focus on the job role of servicing and repairing a recreational vehicle.

'Repairing' includes making good in situ or removing an item that is damaged or no longer functions according to specifications and arranging for its repair or replacement; removing and replacing an item with a modernised or upgraded item for better appearance, convenience or performance and installing new items for the same reasons (such as with a body modification); and identifying any other out-of-scope work required.

A person with this qualification would usually work in a service and repair facility or a manufacturer's factory undertaking warranty work. This may include:

- carrying out insurance repairs
- carrying out other repairs
- carrying out work under warranty
- undertaking modifications/refits to the recreational vehicle
- undertaking routine servicing
- preparing a recreational vehicle for sale/resale.

The person undertakes routine tasks according to job instructions, plans/specifications and procedures and with discretion and judgement in selecting equipment, services and contingency measures. They work with a high degree of self-direction and limited supervision. They apply known solutions to routine problems and report non-routine problems according to procedures. They are responsible for their output and have limited responsibility for the output of others.

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

Certificate IV AQF qualification type descriptor

Purpose

The Certificate IV qualifies individuals who apply a broad range of specialised knowledge and skills in varied contexts to undertake skilled work and as a pathway for further learning.

Knowledge

Graduates of a Certificate IV will have broad factual, technical and theoretical knowledge in a specialised field of work and learning.

Skills

Graduates of a Certificate IV will have:

- cognitive skills to identify, analyse, compare and act on information from a range of sources
- cognitive, technical and communication skills to apply and communicate technical solutions of a non-routine or contingency nature to a defined range of predictable and unpredictable problems
- specialist technical skills to complete routine and non-routine tasks and functions
- communication skills to guide activities and provide technical advice in the area of work and learning.

Application of skills and knowledge

Graduates of a Certificate IV will demonstrate the application of knowledge and skills to specialised tasks or functions in known or changing contexts with responsibility for own functions and outputs, and may have limited responsibility for organisation and quantity and quality of the output of others within limited parameters.

Volume of learning

The volume of learning of a Certificate IV is typically 0.5–2 years, which equates to 600–2400 hours

Outcomes of MSM40116 Certificate IV in Process Manufacturing

The MSM40116 Certificate IV in Process Manufacturing provides the competencies required by advanced production workers who use a range of equipment and are involved in solving complex problems that require theoretical knowledge, combined with an understanding of operating procedures directly related to producing products.

This qualification is typically used to develop employees performing a technical role that includes the ability to work independently and conduct technical problem solving according to the needs of the work required to produce products.

This qualification is designed to develop employees who operate across more than one category within process manufacturing or other product conversion processes in manufacturing. Typical applications would be in chemical, hydrocarbons, refining, minerals processing, plastics, rubber, cabling, manufactured mineral products, and other areas as appropriate.

Non-technical team leaders, coordinators and supervisors may be better served by a qualification in competitive manufacturing. Qualification pathways from this qualification include MSM50316 Diploma of Production Management and MSS50312 Diploma of

Competitive Systems and Practices.

Outcomes of MSM41122 Certificate IV in Recreational Vehicles

The MSM41122 Certificate IV in Recreational Vehicles is a post-trade-level qualification. It reflects the role of a person working at the post-trade level in a recreational vehicle manufacturing or service and repair facility who has a specialist and/or leadership role, including roles in sales supervision, estimating, production planning and production supervision.

The worker would commonly lead a work team and supervise people, provide technical leadership and undertake some tasks themselves, for which they would have a trade qualification and preferably either MSM31122 Certificate III in Recreational Vehicle Manufacturing or MSM31022 Certificate III in Recreational Vehicle Service and Repair. The facility in which they work may range from a large manufacturing organisation to a small workshop.

Their role may include evaluating and analysing current practices, developing new criteria and procedures for current practices and providing leadership and guidance to others in applying recreational vehicle manufacturing, servicing and repairing competencies.

The certificate has a core of general supervisory/leadership units, a group of industry specific electives and another group of electives — Group B Elective units (job-role-specific and other) — that are either specific to the job roles of production supervision, production planning and sales supervising and estimating or applicable to more than one role. These job-role-specific and other subgroups are not referred to in the packaging rules or specialisations, but should guide the choice of units for specific learners.

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

The certificates that this certificate supersedes (MSM41015 Certificate IV in Recreational Vehicles and MSM41115 Certificate IV in Recreational Vehicle and Accessory Retailing) included many MSMRV units and other units suitable for a trade-level worker. These types of units have not been included in the revised qualification, it being focused on the post-trade level. However, to suit particular circumstances, the packaging rules to allow for the importing of up to three units from any endorsed Training Package or accredited course, if they are relevant to the work outcome.

Diploma AQF qualification type descriptor

Purpose

The Diploma qualifies individuals who apply integrated technical and theoretical concepts in a broad range of contexts to undertake advanced skilled or paraprofessional work and as a pathway for further learning.

Knowledge

Graduates of a Diploma will have technical and theoretical knowledge and concepts, with depth in some areas within a field of work and learning.

Skills

Graduates of a Diploma will have:

- cognitive and communication skills to identify, analyse, synthesise and act on information from a range of sources

- cognitive, technical and communication skills to analyse, plan, design and evaluate approaches to unpredictable problems and/or management requirements
- specialist technical and creative skills to express ideas and perspectives
- communication skills to transfer knowledge and specialised skills to others and demonstrate understanding of knowledge.

Application of skills and knowledge

Graduates of a Diploma will demonstrate the application of knowledge with depth in some areas of specialisation, in known or changing contexts, and skills to transfer and apply theoretical concepts and/or technical and/or creative skills in a range of situations with personal responsibility and autonomy in performing complex technical operations and for quantity and quality. Work involves initiative and judgement to organise their own work and the work of others and plan, coordinate and evaluate the work of teams within broad but generally well-defined parameters.

Volume of learning

The volume of learning for a Diploma is typically 1–2 years, which equates to 1200–2400 hours.

Outcomes of MSM50316 Diploma of Production Management

The MSM50316 Diploma of Production Management provides the skills and knowledge required to plan, direct and coordinate production activities in a manufacturing environment. The qualification has been developed with the process manufacturing sector as a focus. It may also be applied in other organisations in the value chain.

The qualification has been developed on an assumption that competency will be developed through a combination of on and off-the-job learning strategies.

The MSM50315 Diploma of Production Management specifies the competencies required for employment in job roles related to assisting organisations to improve production. Employment outcomes related to this qualification may include roles such as a production or operations manager.

This qualification provides skills that can be applied to the design and control of production systems within an organisation, including:

- planning and scheduling
- tracking and analysing
- directing and operating.

This qualification provides the skills needed to assist organisations to improve production where competitive systems and practices (lean) processes are not fully employed. It therefore complements but does not duplicate qualifications supplying skills related to competitive systems and practices.

Where these skills are required the MSS50312 Diploma of Competitive Systems and Practices should be considered.

This qualification can be accessed by direct entry. However, entrants for the qualification should already possess operational or technical skills related to the organisation seeking production improvements, either through prior relevant experience or qualifications. For this reason, the qualification is not suitable as an entry-level qualification for school leavers.

Appendix 7: ACSF Core skills levels

The core skills of the ACSF are:

- learning (L)
- reading (R)
- writing (W)
- oral communication (OC)
- numeracy (N).

The following table includes the ACSF levels that learners would be expected to perform at the end of a training program for the unit identified. The levels are not entry levels. They are noted here to assist trainers to determine the level of skill that should be addressed in training.

Unit code	Unit title	L	R	W	OC	N
MSMBIO301	Process biomass using pyrolyser	3	3	3	2	2
MSMBIO302	Ferment biomaterial to produce bioproducts	3	3	3	2	2
MSMBIO303	Distil bioproducts	3	3	3	2	2
MSMBIO304	Separate and recover bioproducts	3	3	3	2	2
MSMENV172	Identify and minimise environmental hazards	-	1	1	1	1
MSMENV272	Participate in environmentally sustainable work practices	2	2	2	2	2
MSMENV472	Implement and monitor environmentally sustainable work practices	4	4	3	3	3
MSMENV672	Develop workplace policy and procedures for environmental sustainability	5	5	5	5	4
MSMOPS100	Use equipment	1	1	-	1	-
MSMOPS101	Make measurements	1	1	1	2	2
MSMOPS102	Perform tasks to support production	1	1	1	2	2
MSMOPS200	Operate equipment	2	1	2	2	2
MSMOPS200	Operate equipment	2	2	2	2	3
MSMOPS212	Use organisation computers or data systems	2	2	2	2	2
MSMOPS244	Layout and cut materials	1	3	2	2	2
MSMOPS301	Treat corrosion	3	3	3	3	3
MSMOPS363	Organise on site work	3	3	3	3	2
MSMOPS400	Optimise process/plant area	3	3	3	4	3
MSMOPS401	Trial new process or product	3	4	4	4	3
MSMPER200	Work in accordance with an issued permit	3	2	2	2	2
MSMPER201	Monitor and control work permits	2	2	2	2	2
MSMPER202	Observe permit work	2	2	2	2	2
MSMPER205	Enter confined space	2	3	2	3	2
MSMPER300	Issue work permits	3	3	3	3	3

Unit code	Unit title	L	R	W	OC	N
MSMPER400	Coordinate permit process	4	4	3	4	3
MSMPMC200	Organise self	2	2	2	2	2
MSMPMC301	Store materials for production	3	2	2	2	2
MSMPMC302	Operate equipment to blend/mix materials	3	2	2	2	2
MSMPMC303	Operate grinding equipment	3	2	2	2	2
MSMPMC304	Prepare for production	3	2	2	2	2
MSMPMC307	Operate a calcining kiln	3	2	2	2	2
MSMPMC308	Operate slip casting equipment	3	2	2	2	2
MSMPMC309	Finish products after firing	3	2	2	2	2
MSMPMC310	Hand mould products	3	2	2	2	2
MSMPMC311	Operate a firing kiln	3	2	2	2	2
MSMPMC312	Operate glass finishing equipment	3	2	2	2	2
MSMPMC321	Batch mix concrete	3	2	2	2	2
MSMPMC322	Deliver concrete to site	3	2	2	2	2
MSMPMC323	Prepare asphalt	3	2	2	2	2
MSMPMC324	Move materials	3	2	2	2	2
MSMPMC325	Operate bulk materials handling equipment	3	2	2	2	2
MSMPMC326	Deliver customer service	3	2	2	3	2
MSMPMC329	Prepare moulds and dies	3	2	2	2	2
MSMPMC333	Meet compliance and quality requirements in precast concrete manufacture	3	3	2	-	3
MSMPMC334	Assemble, use and maintain moulds in precast concrete manufacture	3	3	2	3	3
MSMPMC335	Fabricate, assemble and place reinforcement in precast concrete products	3	3	2	3	3
MSMPMC336	Cast, finish and cure precast concrete products	3	3	2	3	3
MSMPMC337	Prestress concrete in precast elements	3	3	2	3	3
MSMPMC400	Carry out stock control	4	2	2	2	2
MSMPMC401	Set up and tune a process	4	3	2	2	3
MSMPMC402	Process raw meal into product	4	3	2	2	3
MSMPMC403	Set up and optimise glass forming process	4	3	2	2	3
MSMRV200	Complete basic recreational vehicle manual assembly tasks	2	2	2	2	2
MSMRV201	Source and use recreational vehicle industry information	2	2	2	2	1
MSMRV367	Fabricate frame structures	2	2	2	2	3
MSMRV368	Install frame structures	2	2	2	2	3
MSMRV369	Install recreational vehicle floors and floor coverings	2	2	2	2	3
MSMRV370	Build recreational vehicle furniture	2	2	2	2	3

Unit code	Unit title	L	R	W	OC	N
MSMRV371	Install recreational vehicle furniture	2	2	2	2	3
MSMRV372	Rough-in and fit-off recreational vehicle water systems	2	2	2	2	3
MSMRV373	Rough-in and fit-off recreational vehicle extra-low-voltage electrical systems	2	2	2	2	3
MSMRV374	Assemble and install recreational vehicle slide-outs	2	2	2	2	3
MSMRV375	Complete installing recreational vehicle walls and roofs	2	2	2	2	3
MSMRV376	Install recreational vehicle windows and doors	2	2	2	2	3
MSMRV377	Install recreational vehicle external items	2	2	2	2	3
MSMRV378	Complete recreational vehicle internal fit-outs	2	2	2	2	3
MSMRV379	Conduct recreational vehicle quality inspections	2	2	2	2	3
MSMRV380	Build towable recreational vehicle chassis	2	2	2	2	3
MSMRV381	Repair recreational vehicle walls and roofs	2	2	2	2	3
MSMRV382	Repair recreational vehicle roof-lifting equipment	2	2	2	2	3
MSMRV383	Repair recreational vehicle windows, doors and external items	2	2	2	2	3
MSMRV384	Repair recreational vehicle internal items	2	2	2	2	3
MSMRV385	Conduct routine, non-mechanical services of recreational vehicles	2	2	2	2	3
MSMRV386	Repair recreational vehicle extra-low-voltage electrical systems	2	2	2	2	3
MSMRV387	Conduct recreational vehicle pre-delivery checks	2	2	2	2	2
MSMRV388	Apply recreational vehicle transfers and decals	2	2	2	2	2
MSMRV389	Service and repair caravan and campervan chassis, suspensions and braking systems	2	2	2	2	3
MSMRV390	Service and repair recreational vehicle LPG systems	2	2	2	2	3
MSMRV391	Diagnose recreational vehicle electrical faults	2	2	2	2	3
MSMRV392	Tow recreational vehicles	2	2	2	2	2
MSMRV400	Hand over recreational vehicles to customers	2	2	2	3	2
MSMRV401	Specify complex installations in recreational vehicles	4	2	2	3	4
MSMRV402	Assess, quote and organise recreational vehicle repairs and services	3	3	3	4	3
MSMSUP100	Apply workplace context to own job	1	2	2	2	1
MSMSUP101	Clean workplace or equipment	1	1	1	1	1
MSMSUP102	Communicate in the workplace	1	2	2	2	1
MSMSUP106	Work in a team	1	1	2	2	1
MSMSUP200	Achieve work outcomes	2	2	2	2	1
MSMSUP204	Pack products or materials	?	2	1-2	-	1
MSMSUP205	Transfer loads	2	1	2	2	2
MSMSUP210	Process and record information	2	2	2	2	1

Unit code	Unit title	L	R	W	OC	N
MSMSUP230	Monitor process operations	2	2	2	2	1
MSMSUP240	Undertake minor maintenance	2	2	2	2	1
MSMSUP273	Handle goods	2	2	1	1	1
MSMSUP280	Manage conflict at work	2	2	2	2	1
MSMSUP291	Participate in continuous improvement	2	2	2	2	1
MSMSUP292	Sample and test materials and product	-	2	2	-	3
MSMSUP300	Identify and apply process improvements	3	3	3	3	3
MSMSUP301	Apply HACCP to the workplace	2	3	3	3	3
MSMSUP303	Identify equipment faults	2	3	3	3	3
MSMSUP309	Maintain and organise workplace records	2	3	2	2	2
MSMSUP310	Contribute to the development of workplace documentation	3	3	4	3	3
MSMSUP330	Develop and adjust a production schedule	3	2-3	2	2-3	3
MSMSUP382	Provide coaching/mentoring in the workplace	3	2	2	4	2
MSMSUP383	Facilitate a team	3	3	3	3	2
MSMSUP390	Use structured problem- solving tools	2	2	2	2	2
MSMSUP400	Develop and monitor quality systems	3	4	4	4	4
MSMSUP404	Co-ordinate maintenance	3-4	3	3	2	3-4
MSMSUP405	Identify problems in fluid power system	3	3	3	3	3
MSMSUP406	Identify faults in electronic control	3-4	3	3-4	3	3-4
MSMWHS100	Follow WHS procedures	1	1	-	1	-
MSMWHS110	Follow emergency response procedures	2	2	2	2	1
MSMWHS200	Work safely	2	2	2	2	1
MSMWHS201	Conduct hazard analysis	2	2	2	1	1
MSMWHS205	Control minor incidents	2	2	2	2	1
MSMWHS210	Undertake first response to non-fire incidents	1	1	-	2	-
MSMWHS216	Operate breathing apparatus	1	1	1	2	1
MSMWHS217	Gas test atmospheres	-	2	2	2	3
MSMWHS218	Control the risks of falls	2	2	2	1	1
MSMWHS300	Facilitate the implementation of WHS for a work group	2	3	2	4	2
MSMWHS400	Contribute to WHS management system	4	4	4	4	3
MSMWHS401	Assess risk	4	4	4	4-5	4
MSMWHS503	Maintain WHS management system	4	5	4	4	4
MSMWHS510	Manage risk	4	4	4	4	4
MSMWJ202	Use high pressure water jetting equipment	1	2	1	2	1

Unit code	Unit title	L	R	W	OC	N
MSMWJ304	Operate a high pressure water jetting system	2	3	2	3	2
MSMWJ305	Operate a drain cleaning system	2	3	2	3	2
MSMWJ306	Operate a vacuum loading system	2	3	2	3	2
MSMWJ307	Operate a hydro excavation system	2	3	2	3	2

Appendix 8: Employability skills summaries

An employability skills summary for each qualification is provided below. Summaries are designed to assist trainers and assessors to identify and include important industry application of employability skills in training and assessment strategies.

Employability skills summaries provide examples of how each skill is applicable to the occupational outcomes 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 in each qualification.

The detail in each employability skills summary will vary depending on the range of occupational outcomes 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 candidates' understanding of industry and workplace expectations.

MSM10116 Certificate I in Process Manufacturing

Employability skill	Industry/enterprise requirements for this qualification include:
Communication	- Complete all reporting as required - Report anything unusual - Receive and relay oral and written messages - Interpret oral or written messages - Respond to information
Teamwork	- Work as part of a work team - Understanding the role of individual in organisational structure
	- Understanding individual role in achieving section/team, plant and company objectives - Identify individual tasks that are part of the team requirement
Problem solving	- Recognise common problems - Identify problems and take required action

Employability skill	Industry/enterprise requirements for this qualification include:
	Respond to routine problems
Initiative and enterprise	- Take appropriate corrective action - Select appropriate equipment - Identify units to be used - Distinguish between urgent and non-urgent tasks
Planning and organising	- Organise relevant equipment and tools - Organise requests and tasks - Plan own work - Plan and organise activities - Organise daily work plan
Self-management	- Find out what is required for the job - Recognise a situation requiring action - Complete own work activities - Identify task requirements and work role - Plan own work - Meet time lines - Seek assistance from other team members where appropriate
Learning	- Recognise anything unusual - Self-check numerical information - Clarify cleaning duties - Ask questions of appropriate person - Seek advice from relevant personnel
Technology	- Use equipment - Turn equipment on and off as required by procedures - Monitor equipment - Use computer system

MSM10216 Certificate I in Manufacturing (Pathways)

Employability skill	Industry/enterprise requirements for this qualification include:
Communication	- Complete all reporting as required - Report anything unusual - Alert the appropriate individuals - Record results - Complete logs and reports
	Record the result

Employability skill	Industry/enterprise requirements for this qualification include:
	• Receive and relay oral and written messages • Interpret oral or written messages • Respond to information • Complete workplace forms
Teamwork	• Working as part of a work team • Role of individual in organisational structure • Individual role in achieving section/team, plant and company objectives • Work in a team • Identify individual tasks that are part of the team requirement
Problem solving	• Recognise common problems • Identify problems and take required action • Respond to routine problems
Initiative and enterprise	• Take appropriate corrective action • Select appropriate equipment • Identify units to be used • Distinguish between urgent and non-urgent tasks
Planning and organising	• Organise relevant equipment and tools • Organise requests and tasks • Planning workplace procedures, scheduling and performance • Plan own work • Plan and organise activities • Organise daily work plan
Self-management	• Find out what is required for the job • Recognise a situation requiring action • Implement within appropriate time constraints • Complete own work activities • Identify task requirements and work role • Plan own work • Meet time lines • Seek assistance from other team members where appropriate
Learning	• Recognise anything unusual • Self-check numerical information • Clarify cleaning duties • Ask questions of appropriate person

Employability skill	Industry/enterprise requirements for this qualification include:
	Seek advice from relevant personnel
Technology	Use equipment Turn equipment on and off as required by procedures Monitor equipment
	Make measurements Use computer system Use measuring devices

MSM20116 Certificate II in Process Manufacturing

Employability skill	Industry/enterprise requirements for this qualification include:
Communication	- Complete logs, reports and plant documentation - Access and interpret production plans and information - Provide appropriate workplace information - Give and follow routine instructions - Provide written and oral reports
Teamwork	- Work as part of a team - Identify and describe own role and role of others - Identify own role and responsibility within a team
Problem solving	- Recognise known faults that occur during the operation - Identify and take action on causes of routine faults - Identify non-routine process and quality problems and take appropriate action - Respond to routine problems
Initiative and enterprise	- Suggest improvements - Make adjustments to improve equipment performance - Determine problems needing action - Report problems outside area of responsibility - Raise questions regarding requirements and expectations - Distinguish between causes of faults - Identify product out of specification - Safely shutdown equipment in abnormal circumstances
Planning and organising	- Plan own work - Achieve production targets - Identify production targets - Recognise hazards and follow appropriate hazard control methods

Self-management	• Identify work requirements • Plan own work requirements from production requests • Operate within appropriate time constraints and work standards • Select and use appropriate equipment, materials, processes and procedures • Identify task outcomes and work role
Learning	• Ask questions to gain information • Seek clarification
	• Participate in improvement procedures
Technology	• Check process is operating within required limits • Monitor equipment operation • Use appropriate instruments • Monitor and adjust machine functions • Use forklift controls, instruments and indicators • Carry out pre-operational checks on equipment

MSM20216 Certificate II in Manufacturing Technology

Employability skill	Industry/enterprise requirements for this qualification include:
Communication	• Access and interpret standardised documentation • Complete all reporting as required • Ask questions to increase understanding about workplace procedures • Read and interpret instructions • Respond to information • Access and use communication tools and equipment • Apply numeracy skills to work procedures
Teamwork	• Work effectively with others • Share information with peers • Understand role of individual within team process • Seek assistance with work operations as required
Problem-solving	• Recognise common problems and report inconsistencies • Monitor the job and make improvements • Respond to routine problems • Recommend improvements
Initiative and enterprise	• Take correct action and follow procedures • Recommend changes and improvements • Take action to make improvements

	• Adopt changes in accordance with procedures
Planning and organising	• Plan own work • Organise processes, tools and materials • Monitor own work outcomes • Organise and plan activities • Collect and organise information for work activity
Self-management	• Conduct all activities according to safety standards • Maintain housekeeping standards • Achieve planned outcomes within time constraints • Monitor own work performance
	• Assess own work • Seek assistance where appropriate
Learning	• Ask questions to aid learning • Identify own skill requirements • Ask questions to ensure understanding of own work requirements
Technology	• Use equipment and/or or information technology • Identify equipment appropriate for job • Use simple measuring devices • Collect and apply data and information from technology

MSM21122 Certificate II in Recreational Vehicle Trade Pathways

Employability skill	Industry/enterprise requirements for this qualification include:
Communication	• Accessing and interpreting standardised documentation • Completing all reporting as required • Asking questions to increase understanding about workplace procedures • Reading and interpreting instructions • Responding to information • Accessing and using communication tools and equipment • Applying numeracy skills to work procedures
Teamwork	• Working effectively with others • Sharing information with peers • Understanding role of individual within team process • Seeking assistance with work operations as required
Problem solving	• Recognising common problems and reporting inconsistencies • Monitoring the job and making improvements

	• Responding to routine problems • Recommending improvements
Initiative and enterprise	• Taking correct action and following procedures • Recommending changes and improvements • Taking action to make improvements • Adopting changes in accordance with procedures
Planning and organising	• Planning own work • Organising processes, tools and materials • Monitoring own work outcomes • Organising and planning activities • Collecting and organising information for work activity
Self-management	• Conducting all activities according to safety standards • Maintaining housekeeping standards
	• Achieving planned outcomes within time constraints • Monitoring own work performance • Assessing own work • Seeking assistance where appropriate
Learning	• Asking questions to aid learning • Identifying own skill requirements • Asking questions to ensure understanding of own work requirements
Technology	• Using equipment and/or information technology • Identifying equipment appropriate for job • Using simple measuring devices • Collecting and applying data and information from technology

MSM30116 Certificate III in Process Manufacturing

Employability skill	Industry/enterprise requirements for this qualification include:
Communication	• Complete logs and reports • Use technical information and manufacturer's information • Collect, analyse and organise information • Communicate ideas and information • Effective use of workplace documentation • Maintain workplace records
Teamwork	• Identify and describe own role and role of others • Work within a team

	• Resolve conflicts between team members • Use teamwork strategies
Problem solving	• Recognise a problem or a potential problem • Determine problems needing priority action • Refer problems outside area of responsibility to appropriate person, with possible causes • Seek information and assistance as required to solve problems • Solve problems within area of responsibility • Follow through items initiated until final resolution has occurred • Identify and isolate faults in equipment • Use a range of formal problem solving techniques
Initiative and enterprise	• Identify the most appropriate equipment • Make adjustments to improve equipment performance • Anticipate the impact of the process on the product
	• Determine problems needing action • Recommend required action • Report problems outside area of responsibility • Distinguish between causes of faults
Planning and organising	• Plan own work requirements • Plan scope of equipment checks • Plan and organise activities • Identify tasks to achieve team goals • Organise allocation of tasks • Monitor completion of allocated tasks • Develop and adjust a production schedule
Self-management	• Plan own work requirements from production requests • Operate within appropriate time constraints and work standards • Select and use appropriate equipment, materials, processes and procedures • Plan to ensure effective production • Apply workplace procedures • Identify resource requirements, document and monitor • Recognise limitations and seek timely advice
Learning	• Ask questions to gain information • Identify sources of information to expand knowledge and understanding • Participate in improvement procedures

	• Participate in development of continuous improvement strategies
Technology	• Operation and adjustment of processes • Start up and shut down equipment • Set up equipment • Monitor product/process quality • Function and operating principles of equipment, machine components • Maintain computer based workplace records

MSM30216 Certificate III in Surface Preparation and Coating Application

Employability skill	Industry/enterprise requirements for this qualification include:
Communication	• Maintain communication about multiple subjects and with multiple audiences • Complete incident and other reports • Use technical information and manufacturer information • Collect, analyse and organise information • Communicate ideas and information • Coach and mentor others • Use and contribute to workplace documentation
	• Maintain workplace records
Teamwork	• Identify and describe own role and role of others • Work within a team • Resolve conflicts between team members • Teamwork strategies
Problem solving	• Recognise a problem or a potential problem • Determine problems needing priority action • Refer problems outside area of responsibility to appropriate person • Identify appropriate theory base for problem • Seek information and assistance as required to solve problems • Solve problems within area of responsibility • Follow through items initiated until final resolution has occurred • Identify and isolate faults in equipment • Use a range of formal problem solving techniques
Initiative and enterprise	• Identify the most appropriate process conditions for equipment

	• Determine problems needing action • Recommend required action • Report problems outside area of responsibility • Distinguish between causes of faults
Planning and organising	• Prioritise actions to achieve required outcomes • Plan own work requirements and assist others to plan theirs • Plan and organise activities • Identify tasks to achieve team goals • Organise allocation of tasks • Monitor completion of allocated tasks • Develop and adjust a production schedule
Self-management	• Plan own work requirements from job requests • Operate within appropriate time constraints and work standards • Select and use appropriate equipment, materials, processes and procedures • Plan to ensure effective production • Apply standard procedures • Identify resource requirements • Recognise limitations and seek timely advice
Learning	• Ask questions to gain information • Identify sources of information to expand knowledge and understanding • Participate in improvement procedures • Participate in development of continuous improvement strategies • Assist others develop competency
Technology	• Operate and adjust equipment • Start up and shut down equipment • Set up equipment • Monitor quality • Function and operating principles of equipment • Maintain workplace records

MSM30325 Certificate III in Manufactured Mineral Products

Employability skill	Industry/enterprise requirements for this qualification include:
Communication	• Maintain communication about multiple subjects and with multiple audiences

	• Complete incident and other reports • Use technical information and manufacturer information • Collect, analyse and organise information • Communicate ideas and information • Use and contribute to workplace documentation • Maintain workplace records
Teamwork	• Identify and describe own role and role of others • Work within a team • Resolve conflicts between team members • Use teamwork strategies
Problem solving	• Recognise a problem or a potential problem • Determine problems needing priority action • Refer problems outside area of responsibility to appropriate person • Identify appropriate theory base for problem • Seek information and assistance as required to solve problems • Solve problems within area of responsibility • Follow through items initiated until final resolution has occurred • Identify and isolate faults in equipment • Use a range of formal problem solving techniques
Initiative and enterprise	• Identify the most appropriate process conditions for equipment • Determine problems needing action • Recommend required action • Report problems outside area of responsibility • Distinguish between causes of faults
Planning and organising	• Prioritise actions to achieve required outcomes • Plan own work requirements and assist others to plan theirs • Plan and organise activities • Identify tasks to achieve team goals • Organise allocation of tasks • Monitor completion of allocated tasks • Develop and adjust a production schedule
Self-management	• Plan own work requirements from job requests • Operate within appropriate time constraints and work standards

	• Select and use appropriate equipment, materials, processes and procedures • Plan to ensure effective production • Apply standard procedures • Identify resource requirements • Recognise limitations and seek timely advice
Learning	• Ask questions to gain information • Identify sources of information to expand knowledge and understanding • Participate in improvement procedures • Participate in development of continuous improvement strategies • Assist others develop competency
Technology	• Operate and adjust equipment • Start up and shut down equipment • Set up equipment • Monitor quality • Function and operating principles of equipment • Maintain workplace records

MSM30418 Certificate III in Fenestration

Employability skill	Industry/enterprise requirements for this qualification include:
Communication	• Maintain communication about multiple subjects and with multiple audiences • Complete incident and other reports • Use technical information and manufacturer information • Collect, analyse and organise information • Communicate ideas and information • Use and contribute to workplace documentation • Maintain workplace records
Teamwork	• Identify and describe own role and role of others • Work within a team • Resolve conflicts between team members • Use teamwork strategies
Problem solving	• Recognise a problem or a potential problem • Determine problems needing priority action • Refer problems outside area of responsibility to appropriate person
	• Identify appropriate theory base for problem

Employability skill	Industry/enterprise requirements for this qualification include:
	• Seek information and assistance as required to solve problems • Solve problems within area of responsibility • Follow through items initiated until final resolution has occurred • Identify and isolate faults in equipment • Use a range of formal problem solving techniques
Initiative and enterprise	• Identify the most appropriate process conditions for equipment • Determine problems needing action • Recommend required action • Report problems outside area of responsibility • Distinguish between causes of faults
Planning and organising	• Prioritise actions to achieve required outcomes • Plan own work requirements and assist others to plan theirs • Plan and organise activities • Identify tasks to achieve team goals • Organise allocation of tasks • Monitor completion of allocated tasks • Develop and adjust a production schedule
Self-management	• Plan own work requirements from job requests • Operate within appropriate time constraints and work standards • Select and use appropriate equipment, materials, processes and procedures • Plan to ensure effective production • Apply standard procedures • Identify resource requirements • Recognise limitations and seek timely advice
Learning	• Ask questions to gain information • Identify sources of information to expand knowledge and understanding • Identify and apply improvement procedures • Participate in development of continuous improvement strategies • Assist others develop competency
Technology	• Interpret technical drawings • Operate and adjust equipment • Start up and shut down equipment

Employability skill	Industry/enterprise requirements for this qualification include:
	• Set up equipment • Monitor quality • Function and operating principles of equipment • Maintain equipment • Maintain workplace records

MSM31122 Certificate III in Recreational Vehicle Manufacturing

Employability skill	Industry/enterprise requirements for this qualification include:
Communication	• Maintaining communication about multiple subjects and with multiple audiences • Completing incident and other reports • Using technical and manufacturer information • Collecting, analysing and organising information • Communicating ideas and information • Using and contributing to workplace documentation • Maintaining workplace records
Teamwork	• Identifying and describing own role and role of others • Working within a team • Resolving conflicts between team members • Using teamwork strategies
Problem solving	• Recognising problems or potential problems • Determining problems needing priority action • Referring problems outside area of responsibility to appropriate person, with possible causes • Identifying appropriate theory base for problem • Seeking information and assistance as required to solve problems • Solving problems within area of responsibility • Following through items initiated until final resolution has occurred • Identifying and isolating faults in equipment • Using a range of formal problem-solving techniques
Initiative and enterprise	• Identifying the most appropriate process conditions for equipment • Determining problems needing action • Recommending required action • Reporting problems outside area of responsibility • Distinguishing between causes of faults

Employability skill	Industry/enterprise requirements for this qualification include:
Planning and organising	• Prioritising actions to achieve required outcomes • Planning own work requirements and assisting others to plan theirs • Planning and organising activities • Identifying tasks to achieve team goals • Organising allocation of tasks • Monitoring completion of allocated tasks • Developing and adjusting a production schedule
Self-management	• Planning own work requirements from job requests • Operating within appropriate time constraints and work standards • Selecting and using appropriate equipment, materials, processes and procedures • Planning to ensure effective production • Applying standard procedures • Identifying documenting and monitoring resource requirements • Recognising limitations and seeking timely advice
Learning	• Asking questions to gain information • Identifying sources of information to expand knowledge and understanding • Participating in improvement procedures • Participating in development of continuous improvement strategies • Helping others develop competency
Technology	• Operating and adjusting equipment • Starting up and shutting down equipment • Setting up equipment • Monitoring quality • Understanding function and operating principles of equipment • Maintaining workplace records

MSM31022 Certificate III in Recreational Vehicle Service and Repair

Employability skill	Industry/enterprise requirements for this qualification include:
Communication	• Maintaining communication about multiple subjects and with multiple audiences • Completing incident and other reports

Employability skill	Industry/enterprise requirements for this qualification include:
	• Using technical information and manufacturer information • Collecting, analysing and organising information • Communicating ideas and information • Using and contributing to workplace documentation • Maintaining workplace records
Teamwork	• Identifying and describing own role and role of others • Working within a team • Resolving conflicts between team members • Using teamwork strategies
Problem solving	• Recognising problems or potential problems • Determining problems needing priority action • Referring problems outside area of responsibility to appropriate person with possible causes • Identifying appropriate theory base for problem • Seeking information and assistance as required to solve problems • Solving problems within area of responsibility • Following through items initiated until final resolution has occurred • Identifying and isolating faults in equipment • Using a range of formal problem-solving techniques
Initiative and enterprise	• Identifying the most appropriate process conditions for equipment • Determining problems needing action • Recommending required action • Reporting problems outside area of responsibility • Distinguishing between causes of faults
Planning and organising	• Prioritising actions to achieve required outcomes • Planning own work requirements and assisting others to plan theirs • Planning and organising activities • Identifying tasks to achieve team goals • Organising allocation of tasks • Monitoring completion of allocated tasks • Developing and adjusting a production schedule
Self-management	• Planning own work requirements from job requests • Operating within appropriate time constraints and work standards

Employability skill	Industry/enterprise requirements for this qualification include:
	• Selecting and using appropriate equipment, materials, processes and procedures • Planning to ensure effective production • Applying standard procedures • Identifying, documenting and monitoring resource requirements • Recognising limitations and seeking timely advice
Learning	• Asking questions to gain information • Identifying sources of information to expand knowledge and understanding • Participating in improvement procedures • Participating in development of continuous improvement strategies • Helping others develop competency
Technology	• Operating and adjusting equipment • Starting up and shutting down equipment • Setting up equipment • Monitoring quality • Understanding function and operating principles of equipment • Maintaining workplace records

MSM40116 Certificate IV in Process Manufacturing

Employability skill	Industry/enterprise requirements for this qualification include:
Communication	• Complete workplace documentation and records • Use communication technologies efficiently • Develop work instructions, specifications and procedures • Communicate with all team members • Demonstrate effective and appropriate communication and interpersonal skills when dealing with clients • Use most appropriate communication method given priority, cost and customer facilities • Access, interpret and apply technical information
Teamwork	• Work cooperatively with people of different ages, gender, race or religion • Liaise with, and provide support to, other team members • Work as part of a team

Employability skill	Industry/enterprise requirements for this qualification include:
	- Identify and manage performance required to meet internal and external customer needs in own work and team - Manage technical processes and provide problem solving support to others
Problem-solving	- Investigate problem causes - Identify, rectify or report potential difficulties associated with manufacture of products or provision of services - Identify environmental features, regulations, insurance requirements, legal requirements and other factors which may affect the product or service to be provided - Use material and process knowledge to solve problems - Identify hazards and suggest control measures - Determine production requirements - Conduct tests and analyse results to determine and assess production requirements
Initiative and enterprise	- Seek feedback on products, processes and procedures - Gather and analyse information and apply to work-related processes - Record information on the quality and other indicators of products
	- Support achievement of efficient production processes - Determine and act on situations requiring further information or problem solving
Planning and organising	- Identify hazards and implement appropriate hazard control measures - Demonstrate time management skills - Source and prepare materials and resources - Sequence work to maximise safety and productivity
Self-management	- Interpret and apply relevant Acts and regulations - Keep the work area clean and tidy at all times - Monitor own work and work of team and identify and act on any quality issues - Understand own work activities - Manage own time to meet deadlines - Implement workplace procedures and instructions
Learning	- Implement learning activities, as appropriate, to ensure achievement of specified production requirements - Assess competencies in meeting job requirements - Be supportive, assertive and use interpersonal skills

Employability skill	Industry/enterprise requirements for this qualification include:
	- Identify own training needs and seek skill development if required - Gather feedback on own work to assess effectiveness in meeting objectives and integrate information into own practice
Technology	- Use computer software applications effectively - Work with technology safely and according to workplace standards - Help others use technology efficiently and safely - Use testing technology

MSM41122 Certificate IV in Recreational Vehicles

Employability skill	Industry/enterprise requirements for this qualification include:
Communication	- Completing workplace documentation and records - Using communication technologies efficiently - Developing work instructions, specifications and procedures - Communicating with all team members - Demonstrating effective and appropriate communication and interpersonal skills when dealing with clients - Using most appropriate communication method given priority, cost and customer facilities - Accessing, interpreting and applying technical information
Teamwork	- Working cooperatively with people of different ages, gender, race or religion - Liaising with and providing support to other team members
	- Working as part of a team - Identifying and managing performance required to meet internal and external customer needs in own work and team - Managing technical processes and providing problem-solving support to others
Problem solving	- Investigating problem causes - Identifying, rectifying or reporting potential difficulties associated with manufacture of products or provision of services - Identifying environmental features, regulations, insurance requirements, legal requirements and other

Employability skill	Industry/enterprise requirements for this qualification include:
	factors which may affect the product or service to be provided • Using material and process knowledge to solve problems • Identifying hazards and suggesting control measures • Determining production requirements • Conducting tests and analysing results to determine and assess production requirements
Initiative and enterprise	• Seeking feedback on products, processes and procedures • Gathering and analysing information and applying to work-related processes • Recording information on the quality and other indicators of products • Supporting achievement of efficient production processes • Determining and acting on situations requiring further information or problem solving
Planning and organising	• Identifying hazards and implementing appropriate hazard control measures • Demonstrating time-management skills • Sourcing and preparing materials and resources • Sequencing work to maximise safety and productivity
Self-management	• Interpreting and applying relevant Acts and regulations • Keeping the work area clean and tidy at all times • Monitoring own work and work of team, and identifying and acting on any quality issues • Understanding own work activities • Managing own time to meet deadlines • Implementing workplace procedures and instructions
Learning	• Implementing learning activities as appropriate to ensure achievement of specified production requirements • Assessing competencies in meeting job requirements • Being supportive and assertive, and using interpersonal skills • Identifying own training needs and seeking skill development if required • Gathering feedback on own work to assess effectiveness in meeting objectives and integrating information into own practice

Employability skill	Industry/enterprise requirements for this qualification include:
Technology	• Using computer software applications effectively • Working with technology safely and according to workplace standards • Helping others use technology efficiently and safely • Using testing technology

MSM50316 Diploma of Production Management

Employability skill	Industry/enterprise requirements for this qualification include:
Communication	• Manage implementation of production improvement procedures and develop and distribute related information • Develop standardised documentation on behalf of an area or group of work teams • Share and discuss information with others about enterprise activities • Develop and communicate workplace procedures • Provide information and clarifications to team leaders and other employees on workplace procedures in relation to production • Provide and interpret instructions, specifications, standard operating procedures and other work-related documents • Provide assistance or information to relevant personnel • Debrief on workplace changes with relevant stakeholders • Record production, emissions and other work-related information • Access and use workplace communication tools and equipment • Apply numeracy skills to work procedures • Provide information about team activities to managers, supervisors and customers
Teamwork	• Identify roles of work teams where teamwork is used as the form of work organisation • Supervise and lead others in a production environment • Share work-related information with peers, including team members, supervisors and management
	• Identify hazards to employees and visitors • Identify the value chain and advise other employees as to how they can contribute to the final quality of the product

Employability skill	Industry/enterprise requirements for this qualification include:
	• Review changes to work practices and work relationships with team leaders and other employees • Provide assistance with planning work operations, as required • Seek assistance with work operations from specialists and other employees, as required • Participate in multidisciplinary teams, as required
Problem-solving	• Monitor production and maintenance activities • Analyse inconsistencies, non-compliances, faults or hazards • Identify factors within work area that are a constraint to work efficiency or reaching of production outcomes • Identify essential and non-essential practices • Implement methods of increasing features/benefits of products or processes • Monitor responsibilities of teams and make improvements to work organisation • Identify process steps which cause a problem and implement improvement processes • Monitor production performance and implement improvement processes • Compare shift or area required performance with actual performance • Identify situations where compliance to specifications or safety standards is unlikely • Identify, recommend and implement improvements • Identify causes of identified faults and take appropriate action • Investigate causes of deviations from targets and standards in relation to production • Undertake root cause analysis
Initiative and enterprise	• Manage procedures and systems for optimum outcomes • Analyse feedback on procedures and systems • Analyse problems, implications or suggestions for improvements • Adjust work activities according to changes in customer requirements • Identify methods of increasing contribution of work teams to production • Identify and implement changes and improvements • Monitor processes and equipment to ensure cost efficiency • Implement and monitor work practices to reduce waste

Employability skill	Industry/enterprise requirements for this qualification include:
	• Participate in multidisciplinary teams to develop new products or processes
Planning and organising	• Ensure work areas comply with sustainability obligations and requirements • Identify and manage processes, tools and materials • Implement improvements in accordance with procedures • Distinguish between essential and non-essential practices
	• Implement use of planning tools within work of teams • Determine and prioritise required actions • Collect, organise and analyse information from work activities • Monitor work activities according to safety and workplace standards • Set production targets and outcomes • Interpret data and information as required by own job • Ask questions to ensure there is understanding of work requirements in teams and among other employees
Self-management	• Recommend methods of increasing own contribution to the value chain • Adjust work processes according to procedures and customer requirements • Identify and manage impact of change in own work • Minimise waste in own work activity • Assess own work performance • Set personal objectives for work performance • Manage own time
Learning	• Identify skill requirements of self and team members • Arrange skill development training for self and others • Adapt to changing work requirements • Ask questions to aid learning of others • Identify personal skill gaps and additional skill needs • Ask questions to ensure understanding of own work requirements • Monitor own work and identify areas for improvement • Seek feedback on work performance • Provide feedback on work performance to team leaders and team members
Technology	• Monitor technology to ensure production according to legislative requirements and workplace standards

Employability skill	Industry/enterprise requirements for this qualification include:
	• Identify equipment and processes appropriate for jobs and skill levels of employees • Provide appropriate equipment to ensure safety and efficiency according to skill levels of employees • Assess operational efficiency of technology within own skill level and that of team members • Analyse data and other information from equipment reports • Conduct failure mode effects analyses • Use information technology appropriate for job • Manage maintenance procedures appropriate to job and processes according to skill levels of team members

Appendix 9: Useful links

General

<http://www.myskills.org.au/>

Australian Qualifications Framework: Second edition, January 2013:

<https://www.aqf.edu.au>

NCVER VET Information Portal, Training Authorities:

<https://www.vetinformatportal.edu.au/TrainingAuthorities>

National Register of VET (website for training packages, also known as TGA):

<https://training.gov.au/>

Department of Employment and Workplace Relationships: <https://www.dewr.gov.au/>

Australian Skills Quality Authority (ASQA): <https://www.asqa.gov.au>

Australian Apprenticeships: <https://www.australianapprenticeships.gov.au/>

This site offers information about traineeships and apprenticeships and includes links to state and territory authorities (STAs) that monitor provision.

The following resources provide advice about designing assessment tools:

- Guide – Developing assessment tools, ASQA, 2021:
- <https://www.asqa.gov.au/resources/guides/guide-developing-assessment-tools>
- Disability Standards for Education 2005:
<https://www.comlaw.gov.au/Details/F2005L00767>

State Training Authorities

Australian Capital Territory: <https://www.det.act.gov.au>

New South Wales: <https://education.nsw.gov.au/> Northern Territory:

<https://education.nt.gov.au/>

Queensland: <https://education.qld.gov.au>

South Australia: <https://innovationandskills.sa.gov.au/>

Tasmania: <https://www.education.tas.gov.au>

Victoria: <https://www.education.vic.gov.au/training/Pages/default.aspx>

Western Australia: <https://www.dtwd.wa.gov.au>