Manufacturing Learning Australia

PMC 99

Qualifications Framework

for the

manufactured mineral products industry, covering cement, ceramics, clay, concrete, glass and related products

July 1999

Contents

1   Introduction

What is the AQF?

The Australian Qualifications Framework (AQF) provides a national framework
for all education and training qualifications in Australia. There are twelve
qualifications in the AQF. Six of these are relevant to the vocational education
and training (VET) sector and four of them are relevant to this current training
package. The twelve qualifications are:

SCHOOLS SECTOR	VET SECTOR	HIGHER EDUCATION SECTOR
		Doctoral Degree Masters Degree Graduate Diploma Graduate Certificate Bachelor Degree Advanced Diploma Diploma
	Advanced Diploma Diploma Certificate IV Certificate III Certificate II Certificate I	
Senior Secondary Certificate of Education		

The use of the AQF for all vocational education and training ensures national
consistency for all trainees, students, employers and providers in the VET sector.
This consistency enables national recognition of competency based on endorsed
competency standards. Competency is assessed in accordance with the endorsed
assessment guidelines.

Statement of Attainment

Where competence has been achieved in accordance with the endorsed standards
but does not meet the requirements of a full qualification, a Statement of
Attainment can be issued for the competencies which have been successfully
achieved. Additional competencies may be achieved later which will build
towards the awarding of a qualification. Registered Training Organisations must
recognise competencies already achieved and recorded on a Statement of
Attainment issued by a Registered Training Organisation.

Qualifications for this Sector

In this Training Package, the following qualifications are available through the AQF:

Certificate I in Manufactured Mineral Products   PMC 1 01 99

Certificate II in Manufactured Mineral Products   PMC 2 01 99

Certificate III in Manufactured Mineral Products   PMC 3 01 99

Certificate IV in Manufactured Mineral Products   PMC 4 01 99

These qualifications may be obtained for a specific stream (see sections 5 and 6) or as a generalist qualification for the entire sector.

Differentiation of Certificates

Certificates 1, 2, 3 and 4 are differentiated according to the breadth and depth of knowledge and skills required and the complexity of the contexts in which the knowledge and skills are applied.

The *Australian Qualifications Framework - Implementation Handbook*[1] details the differentiation of all AQF levels.

It is important to note that the Certificate differentiation is based on the knowledge and skill which the person is expected to use in the competency. It is not necessarily related to the level of sophistication or size of the equipment/ process being operated. It should also be noted that the Certificate level is not the sole determinant of the value added by that person nor their remuneration.

In this Package, a primary differentiation between Certificate 2 and 3 is in the nature of problem solving. At Certificate 2, operators follow routine procedures and solve routine problems on equipment. At Certificate 3, experienced operators set up and tune systems and processes and solve non-routine problems on systems and processes. At Certificate 4, they optimise entire plants and production lines.

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1 Australian Qualifications Framework Advisory Board to MCEETYA, 1998, *Australian Qualifications Framework Implementation Handbook, second edition*

Endorsed Competency Standards and the AQF

Nationally endorsed competency standards define the knowledge and skills required in particular industries and occupations, and are the foundation of the process manufacturing Training Packages. The competencies are categorised into:

■ core

■ operations

■ support.

Core competencies are those which are essential to all sectors of the industry at that level.

Operations competencies are those which relate specifically to the equipment and processes employed by this industry to produce products. It is these competencies which contain the knowledge and skills required to operate the plant at the specified level.

Support competencies are those other competencies required by the industry in order to complete real jobs, but which are not specific to the equipment and processes of this industry and do not contain significant industry specific knowledge or skills.

The qualifications available through this Training Package are:

■ based on the endorsed competency standards for this industry sector, and

■ use a range of competencies from other endorsed competency standards.

Indicative competencies are listed from these other endorsed standards. Suitable, relevant endorsed competencies may be substituted for those indicated in section 4 *(Summary of packaging advice).* The qualification will still be awarded provided the guidelines given under *Packaging advice* (section 2) are met.

2   Packaging advice

Qualifications may be awarded by a Registered Training Organisation (RTO) when competencies which meet the specified packaging requirements have been achieved (see section 4 *Summary of packaging advice*, for details). Competencies achieved which do not combine to make a Certificate may be recognised by a Statement of Attainment issued by a RTO.

Competencies have been categorised into core, operations and support units. To be awarded a certificate, competence must be demonstrated in:

■ all core units for that certificate, plus

■ a minimum number of operations units, plus

■ other units chosen from the support units or additional operations units.

The rules aim to be as flexible as possible. While it is expected that most people at higher levels will be leading hands/supervisors/team leaders, these rules also allow for a technical expert to receive a Certificate III and IV by choosing further 'operations' units.

Entry to any qualification may be at any certificate, although it will generally occur at Certificate 1 or 2 for someone new to the industry. People entering at Certificate 3 or 4 need to observe the relevant prerequisites for the operations competencies.

Certificate I in Manufactured Mineral Products - PMC 1 01 99

The core competencies and at least one 'operations' competency plus suitable 'support' or further 'operations' competencies are required at Certificate 1. Note that 'PMC OPS 103 A - Operate equipment' applies to the operation of any item of equipment where the operator is not expected to understand the process or equipment but merely follow procedures. 'Series 100' operations competency units are based on this philosophy. Where understanding is required, Certificate II is more appropriate.

At this level the operator is typically new to the industry and/or is operating equipment at a very basic level and under close supervision. Their primary problem solving role is to recognise that there is one and to turn the machine off and/or report that there is a problem. They have little depth or breadth of process or equipment knowledge.

Certificate II in Manufactured Mineral Products - PMC 2 01 99

Any combination of 'operations' and 'support' may be chosen and qualify for a Certificate II provided competency is achieved in at least two 'operations' units (and of course the core units). An understanding of the basic process, within established procedures, is required by the operations competencies. 'Series 200' operations competency units include this philosophy. The certificate will be most useful when the competencies chosen are relevant to the workplace.

Most operators in the industry are at this level. They are required to be somewhat multiskilled and to have enough understanding of the process and the equipment they operate to not only recognise actual and potential problems but to also implement solutions to routine problems. They will work under routine only supervision and take significant responsibility for their own work, particularly in a team environment.

Certificate III in Manufactured Mineral Products - PMC 3 01 99

The key for this Certificate is to achieve competence in a series '300' operations competency which requires the integration of a range of knowledge and skills into the set up/tuning/operation of complex plant systems. While only one series '300' operations competency is required, competency must also be achieved in the specified prerequisite competencies.

Industry personnel at this level will typically be leading hands/team leaders. They will have advanced technical skills such as are required for the setting up and tuning of processes/equipment and also for the recognition and solving of non-routine problems (as well as routine problems). Because these advanced tuning and problem solving skills also include the basic operation skills, this industry reality dictates the need for competency prerequisites. The 'series 300' competency units reflect these advanced skills.

Personnel at this level may have significant responsibility for other team members in which case it would be appropriate for them to include a significant number of support competencies in any qualification. They may also be technical experts, with significant responsibility for the smooth running of the process, but little or no people management requirements. This latter group might be expected to include a higher proportion of operations competencies in their qualification.

Certificate IV in Manufactured Mineral Products - PMC 4 01 99

At Certificate 4, significant problem solving and basic process improvement skills should be applied. These are defined in the series 400 operations competency. However, this problem solving/process improvement needs to be applied and so requires a thorough technical knowledge, and so the Certificate 4 requires prerequisite competencies from Certificate 3.

Industry personnel at this level will typically be supervisors, managers or technicians. This qualification is for personnel requiring significant technical skills at this level. Personnel who are in a purely supervisory/management role without the requirements for higher level technical skills should be obtaining their qualification for outside of this Training Package.

The 'series 400' operations competency reflects the high level of technical knowledge and process understanding required. This competency requires a breadth and depth of knowledge and skill significantly greater than do the 'series 300' competencies.

Personnel at this level are technical experts, with some non-technical supporting competencies. It is appropriate that the qualification recognises their level of technical sophistication while acknowledging the fact that they may not require sophisticated non-technical competencies. This Training Package however does NOT limit the ability of an individual or organisation to import higher level support competencies to a qualification, provided the qualification still includes the core and 'technical' operations competencies.

New Apprenticeships

All qualifications within this Training Package are potential New Apprenticeships.

Qualification Pathways

It is assumed that most people new to the industry will enter at the Certificate 1 or Certificate 2 levels. Most people already in the industry should be already partly or wholly skilled at the Certificate 2 level and will presumably enter at their existing level and simply complete any outstanding competency requirements. For experienced workers in the industry, it would be appropriate for them to enter at the Certificate 3 (or even Certificate 4) level. Entry and exit at any point is possible.

3   Customising advice

Customising may be done by:

- **choosing** from the units provided in this Training Package to suit the particular situation (see section 4)

- **choosing** particular combinations of units provided in this Training Package to suit the combination of skills required in the work place

- **customising** the units provided in this Training Package according to the rules below to better suit a particular situation (see below)

- **importing** suitable units from another set of endorsed competency standards and replacing some of the 'support' units in this Training Package. This substitution is limited by the rules below.

Note that substitution of 'core' or 'operation' units is not permitted.

These units may also be exported to other Training Packages provided the rules below are observed.

Specifying combinations of units

Individual competency units in this Training Package will specify prerequisite and corequisite competencies which may be required. Individual enterprises may find it appropriate to specify additional prerequisites and/or corequisites competencies because of the requirements of their particular process. This is permitted, and will change the way in which the units are packaged for the qualification, but in no way increases the total number of units required for the awarding of a qualification and must still comply with the overall requirements of section 4.

As an example, a clay tile manufacturer may specify *Operate extrusion equipment* (PMC OPS 231 A) and *Operate pressing equipment* (PMC OPS 232 A) as corequisites, even though the Package does not. This is appropriate as their process requires concurrent competence in both competencies in order to fulfil the job role. However, the same operator working for the same company but making clay bricks, would only require *Operate extrusion equipment* (PMC OPS 231 A) as pressing is not part of the process.

Customising of competency units

Competency **units** may be customised. Customisation which:

■ replaces general directions with enterprise specific needs

■ replaces generic equipment/process names with enterprise specific needs

■ replaces general processes/specifications with enterprise specific needs

is allowed and encouraged, provided the customised unit is of similar level and rigour to the original competency unit.

Customisation may only be done if it does not significantly change the level and rigour or change the range of applicability of the unit. Customisation may be done within the Range of Variables and the Evidence Guide. As a minimum, the customised unit should:

■ be of similar level and rigour

■ be of a similar breadth, complexity and size

■ be relevant to the industry and the enterprise

■ not reduce the health, safety or environmental requirements

■ retain the original ANTA code number.

Note that customising cannot be used to generate an additional competency which is closely related to an existing competency. Such customisation can only generate an alternative competency for qualifications purposes. Note also that customisation of the elements or performance criteria is not permitted.

Importing competencies from other Training Packages

Competency units may be **imported** from another set of endorsed competency standards to customise a **qualification**. These imported units may be used to replace the maximum number of 'support' units only. The use of imported units is allowed if:

■ they are from a set of endorsed competency standards (the original ANTA code number must be retained)

■ they are appropriate to the needs of the enterprise

■ they are of an equivalent AQF level

- any prerequisites and corequisites specified in the original set of competency standards are also observed.

AND provided no more replacement units are used than the allowable number of support units (ie core and operations units may not be substituted).

The following are examples of acceptable and unacceptable substitutions.

- Kim wishes to incorporate the unit 'Operational maintenance of machines/equipment' (from the National Metal and Engineering standards) into Certificate II instead of one of the **support** units. This is an acceptable substitution. Note that this unit has a prerequisite of 'Use hand tools' which must also be met, and so this actually counts as a substitution of TWO units.

- Pat wishes to substitute the unit 'Participate in stocktakes' (from the Transport and Distribution standards) instead of one of the **operations** units. It is NOT acceptable to substitute **operations** units. However, if Pat were to substitute for a support unit, rather than an operations unit, it would be acceptable.

- Leslie wishes to substitute 'Operational maintenance of machines/equipment', 'Participate in stocktakes', 'Draw and interpret sketch' and 'Use hand tools' (both from National Metal and Engineering) and 'Replenish stock' (from Transport and Distribution) for five **support** units in the Certificate I. This is NOT acceptable as there are only four support units in Certificate I. It should also be noted that it is NOT appropriate to substitute units at AQF 2 into Certificate I. It would be acceptable for Certificate II (or III or IV).

Exporting competencies to other Training Packages

Manufacturing Learning Australia encourages other industries and ITABs to access the units of competency in this Training Package which might be appropriate to their needs. These competencies may be used provided:

- the original ANTA code number is retained

- they are only contextualised to the extent permitted above

- any specified prerequisites and corequisites are observed

- Manufacturing Learning Australia is advised of the specific competencies to be used to facilitate ongoing communication in the event of an update.

4   Summary of packaging advice

Certificate I in Manufactured Mineral Products		minimum 8 units	PMC 1 01 99
Core *Select all units*	**Operations** *Select at least one unit from*	**Support**	
PMC COR 101 A PMC COR 102 A PMA OH&S 100 A	PMC OPS 103 A PMA PROC 101 A	PMC SUP 170 A PMC SUP 171 A PMC SUP 172 A PMC SUP 180 A PMC SUP 181 A PMC SUP 190 A PMA ENV 100 A	

To be awarded a Certificate I, competency must be achieved in:

- all 3 core units AND
- at least 1 of the operations units AND
- 4 other units chosen from either the operations or support groups.

All core and operations units to be chosen from this table. Up to 4 support units may be imported from other Training Packages

Certificate II in Manufactured Mineral Products				minimum 15 units			PMC 2 01 99
Core *Select all units*	**Operations** *Select at least two units from*				**Support**		
PMC COR 101 A	PMC OPS 201 A	PMC OPS 220 A	PMC OPS 240 A	PMC OPS 250 A	PMC SUP 170 A	PMC SUP 270 A	BSZ 401/2/3 A
PMC COR 102 A	PMC OPS 202 A	PMC OPS 221 A	PMC OPS 241 A	PMC OPS 251 A	PMC SUP 171 A	PMC SUP 271 A	BSZ 404 A
PMA OH&S 100 A	PMC OPS 203 A	PMC OPS 222 A	PMC OPS 242 A	PMC OPS 252 A	PMC SUP 172 A	PMC SUP 272 A	
	PMC OPS 204 A	PMC OPS 223 A	PMC OPS 243 A	PMC OPS 253 A	PMC SUP 180 A	PMC SUP 273 A	
PMA PROC 101 A	PMC OPS 205 A	PMC OPS 224 A	PMC OPS 244 A	PMC OPS 254 A	PMC SUP 181 A	PMC SUP 274 A	
PMA ENV 100 A	PMC OPS 206 A	PMC OPS 230 A	PMC OPS 245 A	PMC OPS 255 A		PMC SUP 275 A	
PMC SUP 190 A	PMC OPS 210 A	PMC OPS 231 A	PMC OPS 246 A	PMC OPS 260 A		PMC SUP 280 A	
		PMC OPS 232 A	PMC OPS 247 A	PMC OPS 261 A		PMC SUP 281 A	
			PMC OPS 248 A			PMC SUP 282 A	
			PMC OPS 249 A			PMC SUP 283 A	
						PMC SUP 290 A	
						PMC SUP 291 A	
						PMC SUP 292 A	
						PMA OH&S 200 A	
						PMA ENV 200 A	
						TDT C4 97 A	

To be awarded a Certificate II, competency must be achieved in:
■ all 6 core units AND
■ at least 2 of the operations units AND
■ 7 other units chosen from either the operations or support groups.

All core and operations units to be chosen from this table. Up to 7 support units may be chosen from other Training Packages

Certificate III in Manufactured Mineral Products				minimum 20 units				PMC 3 01 99
Core	**Operations**				**Support**			
Select all units	*Select at least one units from*							
PMC COR 101 A	PMC OPS 300 A	PMC OPS 310 A	PMC OPS 340 A	PMC OPS 350 A	PMC SUP 170 A	PMC SUP 270 A	PMA COM 300 A	BSZ 401/2/3 A
PMC COR 102 A	PMC OPS 301 A	PMC OPS 320 A	PMC OPS 341 A		PMC SUP 171 A	PMC SUP 271 A	PMA PLAN 300 A	BSZ 404 A
PMA OH&S 100 A		PMC OPS 321 A	PMC OPS 342 A		PMC SUP 172 A	PMC SUP 272 A	PMC SUP 380 A	BSZ 405/6/7/8A
PMA PROC 101 A					PMC SUP 180 A	PMC SUP 273 A	PMC SUP 381 A	
PMA ENV 100 A					PMC SUP 181 A	PMC SUP 274 A	PMC SUP 390 A	
PMC SUP 190 A						PMC SUP 275 A	PMC SUP 391 A	
						PMC SUP 280 A	PMC SUP 392 A	
PMC SUP 290 A						PMC SUP 281 A	PMC SUP 393 A	
						PMC SUP 282 A	PMA ENV 300 A	
						PMC SUP 283 A		
						PMC SUP 291 A		
						PMC SUP 292 A		
						PMA OH&S 200 A		
						PMA ENV 200 A		
						TDT C4 97 A		

To be awarded a Certificate III, competency must be achieved in:

- all 7 core units AND
- at least 1 of the operations units AND
- 12 other units chosen from either the operations or support groups.

1. Additional series 200 operations units may be substituted for the support units as appropriate.
2. The series 300 operations units have prerequisite series 200 operations units which must also be met.
3. Up to 12 support units may be chosen from other Training Packages

Certificate IV in Manufactured Mineral Products		minimum 24 units			PMC 4 01 99
Core	**Operations**	**Support**			
Select all units	*Select this unit*				
PMC COR 101 A	PMC OPS 400 A	PMC SUP 170 A	PMC SUP 270 A	PMA COM 300 A	BSX FMI 401 A	BSZ 401/2/3 A
PMC COR 102 A		PMC SUP 171 A	PMC SUP 271 A	PMA PLAN 300 A	BSX FMI 402 A	BSZ 404 A
PMA OH&S 100 A		PMC SUP 172 A	PMC SUP 272 A	PMC SUP 380 A	BSX FMI 403 A	BSZ 405/6/7/8A
PMA PROC 101 A		PMC SUP 180 A	PMC SUP 273 A	PMC SUP 381 A	BSX FMI 404 A	
PMA ENV 100 A		PMC SUP 181 A	PMC SUP 274 A	PMC SUP 390 A	BSX FMI 405 A	PMA QUAL 400 A
PMC SUP 190 A			PMC SUP 275 A	PMC SUP 391 A	BSX FMI 406 A	PMA OH&S 400 A
PMC SUP 290 A			PMC SUP 280 A	PMC SUP 392 A	BSX FMI 407 A	
			PMC SUP 281 A	PMC SUP 393 A	BSX FMI 408 A	
PMA OH&S 200 A			PMC SUP 282 A	PMA ENV 300 A	BSX FMI 409 A	
			PMC SUP 283 A		BSX FMI 410 A	
			PMC SUP 291 A		BSX FMI 411 A	
			PMC SUP 292 A			
			PMA ENV 200 A			
			TDT C4 97 A			

To be awarded a Certificate IV, competency must be achieved in:

- all 8 core units AND
- the 1 operations unit AND
- 15 other units chosen from either the support group from this table or additional series 300 or series 200 operations units as appropriate.
1. The series 300 and series 400 operations units have prerequisites units which must also be met.
2. Up to 15 support units may be chosen from other Training Packages

5   Packaging for a streamed qualification

If the packaging advice of section 4 is followed, then the appropriate certificate will be awarded, ie:

Certificate I in Manufactured Mineral Products	PMC 1 01 99
Certificate II in Manufactured Mineral Products	PMC 2 01 99
Certificate III in manufactured Mineral Products	PMC 3 01 99
Certificate IV in Manufactured Mineral Products	PMC 4 01 99

This qualification structure applies across all streams. If however, a person wishes to specialise in one particular stream, then the following additional rules apply.

■ Certificate II (stream specific) - choose at least one operations unit from the relevant stream cluster in section 6

■ Certificate III (stream specific) - be competent in relevant series 200 operations competencies for that stream, and be competent in a relevant series 300 operations unit which has been assessed with reference to that stream.

■ Certificate IV (stream specific) - be competent in relevant series 200 operations competencies for that stream, and be competent in a relevant series 300 operations unit which has been assessed with reference to that stream, and be competent in the series 400 operations unit which has been assessed with reference to that stream.

Clusters of operations competencies which might lead to streamed awards are shown in section 6. These units have been selected as they contain that body of knowledge and skills which are special to that stream and discriminate between it and the other streams. Note that the core (which is common for all streams) and the support requirements must also be met.

The streams for which a streamed qualification are available are:

■ cement

■ ceramics

■ clay products

■ concrete products

■ glass

■ premixed concrete

To obtain a streamed qualification, operations units must be chosen as specified in section 6.

Operations units may alternatively be chosen more generally in line with section 4. These will also lead to the qualification, but it will not be specific to any stream. This will be an appropriate qualification for industry sectors not covered by the specific streams above and for people working in organisations which span more than one stream.

6 Competency units for a streamed qualification

This sector summarises the typical operations competencies which an operator will choose from to obtain a Certificate II in a range of sectors. This list should be taken as indicative only and NOT to preclude the use of any other relevant competency unit. While most jobs and plants fit neatly within a sector, some legitimately fall across a number of 'typical sectors' and nothing in this sector should limit the more general application of the packaging rules in sections 2 and 4 to those situations.

Note that at least two operations units must be chosen plus the core plus additional operations or support units to obtain a qualification.

Certificate II in Manufactured Mineral Products (Cement)

Choose this unit:

PMC OPS 210 A	Operate a calcining kiln

and then another unit from:

PMC OPS 201 A	Operate a unit of equipment
PMC OPS 202 A	Operate equipment to blend/mix materials
PMC OPS 203 A	Operate grinding equipment
PMC OPS 204 A	Prepare for production

Certificate II in Manufactured Mineral Products (Ceramics)

Choose at least one unit from:

PMC OPS 220 A	Operate slip casting equipment
PMC OPS 221 A	Operate manual glazing equipment
PMC OPS 222 A	Prepare raw materials for clay and ceramic production
PMC OPS 223 A	Finish products after firing
PMC OPS 224 A	Hand mould ceramics
PMC OPS 230 A	Operate a firing kiln
PMC OPS 231 A	Operate extrusion equipment
PMC OPS 232 A	Operate pressing equipment

and you may also choose from:

PMC OPS 201 A	Operate a unit of equipment
PMC OPS 202 A	Operate equipment to blend/mix materials
PMC OPS 203 A	Operate grinding equipment
PMC OPS 204 A	Prepare for production
PMC OPS 205 A	Process greenware/green products
PMC OPS 206 A	Operate an autoclave

Certificate II in Manufactured Mineral Products (Clay Products)

Choose at least one unit from:

PMC OPS 230 A	Operate a firing kiln
PMC OPS 231 A	Operate extrusion equipment
PMC OPS 232 A	Operate pressing equipment
PMC OPS 221 A	Operate manual glazing equipment
PMC OPS 222 A	Prepare raw materials for clay and ceramic production

and you may also choose from:

PMC OPS 201 A	Operate a unit of equipment
PMC OPS 202 A	Operate equipment to blend/mix materials
PMC OPS 203 A	Operate grinding equipment
PMC OPS 204 A	Prepare for production
PMC OPS 205 A	Process greenware/green products

Certificate II in Manufactured Mineral Products (Concrete Products)

Choose at least one unit from:

PMC OPS 250 A	Fabricate reinforcement
PMC OPS 251 A	Finish green concrete products
PMC OPS 252 A	Make moulded concrete products
PMC OPS 253 A	Finish cured concrete products
PMC OPS 254 A	Spin concrete pipes
PMC OPS 255 A	Conduct benching operations
PMC OPS 260 A	Batch mix concrete
PMC OPS 231 A	Operate extrusion equipment
PMC OPS 232 A	Operate pressing equipment
PMC OPS 221 A	Operate manual glazing equipment

and you may also choose from:

PMC OPS 201 A	Operate a unit of equipment
PMC OPS 204 A	Prepare for production
PMC OPS 205 A	Process greenware/green products

Certificate II in Manufactured Mineral Products (Glass)

Choose at least one unit from:

PMC OPS 240 A	Operate melting process
PMC OPS 241 A	Operate process ovens
PMC OPS 242 A	Operate blown insulation equipment
PMC OPS 243 A	Operate float forming equipment
PMC OPS 244 A	Operate fibre forming equipment
PMC OPS 245 A	Operate container forming equipment
PMC OPS 246 A	Operate printing and edgework equipment
PMC OPS 247 A	Operate primary annealing equipment
PMC OPS 248 A	Operate glass finishing equipment
PMC OPS 249 A	Operate flat glass processing equipment

and you may also choose from:

PMC OPS 201 A	Operate a unit of equipment
PMC OPS 202 A	Operate equipment to blend/mix materials
PMC OPS 203 A	Operate grinding equipment
PMC OPS 204 A	Prepare for production
PMC OPS 206 A	Operate an autoclave

Certificate II in Manufactured Mineral Products (Premixed Concrete)

Choose at least one unit from:

PMC OPS 260 A	Batch mix concrete
PMC OPS 261 A	Deliver concrete to site

and you may also choose from:

PMC OPS 201 A	Operate a unit of equipment
PMC OPS 204 A	Prepare for production

7   Competency summary

Core competencies

ANTA Code	Unit Title
PMC COR 101 A	Relay and respond to information
PMC COR 102 A	Clean plant and equipment
PMA OH&S 100 A	Follow OH&S policies and procedures
PMA PROC 101 A	Make measurements
PMA ENV 100 A	Identify and minimise environmental hazards
PMC SUP 190 A	Apply quality processes
PMC SUP 290 A	Monitor and maintain product quality
PMA OH&S 200 A	Implement and monitor OH&S policies and procedures

Operations competencies

ANTA Code	Unit Title
PMC OPS 103 A	Operate equipment
PMA PROC 101 A	Make measurements
PMC OPS 201 A	Operate a unit of equipment
PMC OPS 202 A	Operate equipment to blend/mix materials
PMC OPS 203 A	Operate grinding equipment
PMC OPS 204 A	Prepare for production
PMC OPS 205 A	Process greenware/green products
PMC OPS 206 A	Operate an autoclave
PMC OPS 210 A	Operate a calcining kiln
PMC OPS 220 A	Operate slip casting equipment
PMC OPS 221 A	Operate manual glazing equipment
PMC OPS 222 A	Prepare raw materials for clay and ceramic production
PMC OPS 223 A	Finish products after firing
PMC OPS 224 A	Hand mould ceramics
PMC OPS 230 A	Operate a firing kiln
PMC OPS 231 A	Operate extrusion equipment
PMC OPS 232 A	Operate pressing equipment

ANTA Code	Unit Title
PMC OPS 240 A	Operate melting process
PMC OPS 241 A	Operate process ovens
PMC OPS 242 A	Operate blown insulation equipment
PMC OPS 243 A	Operate float forming equipment
PMC OPS 244 A	Operate fibre forming equipment
PMC OPS 245 A	Operate container forming equipment
PMC OPS 246 A	Operate printing and edgework equipment
PMC OPS 247 A	Operate primary annealing equipment
PMC OPS 248 A	Operate glass finishing equipment
PMC OPS 249 A	Operate flat glass processing equipment
PMC OPS 250 A	Fabricate reinforcement
PMC OPS 251 A	Finish green concrete products
PMC OPS 252 A	Make moulded concrete products
PMC OPS 253 A	Finish cured concrete products
PMC OPS 254 A	Spin concrete pipes
PMC OPS 255 A	Conduct benching operations
PMC OPS 260 A	Batch mix concrete
PMC OPS 261 A	Deliver concrete to site
PMC OPS 300 A	Set up and tune a process
PMC OPS 301 A	Operate centralised process control systems
PMC OPS 310 A	Process raw meal into product
PMC OPS 320 A	Design and prepare models, moulds and dies
PMC OPS 321 A	Set up and tune glazing equipment
PMC OPS 340 A	Set up and optimise glass forming process
PMC OPS 341 A	Set up and optimise glass furnace processes
PMC OPS 342 A	Set up and optimise secondary process
PMC OPS 350 A	Produce architectural and structural precast concrete
PMC OPS 400 A	Optimise operating systems

Support competencies

ANTA Code	Unit Title
PMC SUP 170 A	Shift materials safely
PMC SUP 171 A	Pack finished products
PMC SUP 172 A	Store materials for production
PMC SUP 180 A	Organise self
PMC SUP 181 A	Work in a team
PMC SUP 190 A	Apply quality processes
PMC SUP 270 A	Move materials
PMC SUP 271 A	Operate bulk materials handling equipment
PMC SUP 272 A	Identify and act upon hazards in the workplace
PMC SUP 273 A	Receive and despatch materials
PMC SUP 274	Undertake minor maintenance
PMC SUP 275	Maintain kiln refractory
PMC SUP 280 A	Manage conflict at work
PMC SUP 281 A	Deliver customer service
PMC SUP 282 A	Use computers and related programs in the workplace
PMC SUP 283 A	Allocate and complete team tasks
PMC SUP 290 A	Monitor and maintain product quality
PMC SUP 291 A	Participate in continuous improvement
PMC SUP 292 A	Sample and test materials and product
PMA COM 300 A	Contribute to the development of plant documentation
PMA PLAN 300 A	Schedule production
PMC SUP 380 A	Oversee team performance
PMC SUP 381 A	Perform purchase control
PMC SUP 390 A	Solve problems using 'quality tools'
PMC SUP 391 A	Collect and prepare standard samples
PMC SUP 392 A	Perform basic laboratory tests
PMC SUP 393 A	Perform instrumental analysis
PMA QUAL 400 A	Develop and monitor quality systems

ANTA Code	Unit Title
PMA OH&S 100 A	Follow OH&S policies and procedures
PMA OH&S 200 A	Implement and monitor OH&S policies and procedures
PMA OH&S 400 A	Establish, maintain and evaluate an OH&S system
PMA ENV 100 A	Identify and minimise environmental hazards
PMA ENV 200 A	Monitor and control environmental hazards
PMA ENV 300 A	Minimise environmental impact of process
BSZ 401 A	Plan assessment (previously known as)
BSZ 402 A	Conduct assessment (Workplace Assessor)
BSZ 403 A	Review assessment
BSZ 404 A	Train small groups (previously known as) (Workplace Trainer 1)
BSZ 405 A	Plan and promote a training program
BSZ 406 A	Plan a series of training sessions (previously known as)
BSZ 407 A	Deliver training sessions (Workplace Trainer 2)
BSZ 408 A	Review training
BSX FMI 401 A	Manage personal work priorities and professional development
BSX FMI 402 A	Provide leadership in the workplace
BSX FMI 403 A	Establish and manage effective workplace relationships
BSX FMI 404 A	Participate in, lead and facilitate work teams
BSX FMI 405 A	Manage operations to achieve planned outcomes
BSX FMI 406 A	Manage workplace information
BSX FMI 407 A	Manage quality customer service
BSX FMI 408 A	Develop and maintain a safe workplace and environment
BSX FMI 409 A	Implement & monitor continuous improvement systems & processes
BSX FMI 410 A	Facilitate and capitalise on change and innovation
BSX FMI 411 A	Contribute to the development of a workplace learning environment
TDT C4 97 A	Driving heavy rigid vehicles