

- Unit standard 4442: increased emphasis on the use of coordinate measuring machines in geometrical tolerancing in recognition of growth in this technology.
- General amendments to titles, elements, performance criteria, and range statements to better convey the standard.
- Amended and updated special notes.

Unit standards categorised as category C or D expire at the end of December 2008.

Impact on existing provider accreditations

Current Accreditation for			Accreditation extended to		
Nature of accreditation	Classification or Id	Level	Nature of accreditation	Classification or Id	Level
Domain	Engineering Core Skills	2	Standard	2373, 2383	2
Domain	Engineering - Measurement	1	Standard	4432 4434	2 1

Impact on Accreditation and Moderation Action Plan (AMAP)

AMAP 0013 has been updated to reflect the changes made to the standards.

Impact on existing qualifications

Qualifications that contain the reviewed standards or classifications are tabled below.

Affected	The qualification lists a reviewed classification (domain or subfield) in an elective set The qualification lists a standard that has changes to level or credits The qualification lists a C or D category standard
Not materially affected	The qualification lists a standard that has a new title The qualification lists a standard that has a new classification

The following Competenz qualifications are not materially affected by the changes. They will be updated when they are next reviewed.

Qualification title	Standard in the qualification
National Certificate in Architectural Aluminium Joinery (Level 2) [Ref: 0765]	2824, 4432, 4433
National Certificate in Architectural Aluminium Joinery (Level 3) [Ref: 0766]	2824, 4432, 4433
National Certificate in Composites (Level 4) [Ref: 0121]	2824, 4432-4434
National Certificate in Engineering - Fabrication (Level 4) with strands in Heavy Fabrication, Light Fabrication, and Welding [Ref: 0122]	2824, 4432, 4433, 4436
National Certificate in Engineering (General Engineering - Mechanical) (Level 2) [Ref: 0903]	2824, 4432, 4433, 4435, 4436
National Certificate in Engineering Machining and Toolmaking (Level 4) [Ref: 0123]	2373, 2383, 2824, 4432, 4433, 4435-4441
National Certificate in Engineering Machining and Toolmaking (Level 5) [Ref: 0719]	2383, 4439, 4441-4443
National Certificate in Fire Detection and Alarm Systems (Testing) (Level 3) [Ref: 0862]	2824
National Certificate in Fire Detection and Alarm Systems (Level 4) [Ref: 0569]	2824, 4432, 4433

Qualification title	Standard in the qualification
National Certificate in Fire Protection Systems Technology (Inspection and Testing) (Level 4) [Ref: 0864]	2824, 4432, 4433
National Certificate in Fixed Fire Protection Systems (Level 3) with strands in Installation, and Testing [Ref: 0863]	2824, 4432, 4433
National Certificate in Fixed Fire Protection Systems (Level 4) [Ref: 0570]	2824, 4432, 4433
National Certificate in Gunsmithing (Master) (Level 5) [Ref: 0347]	4442
National Certificate in Gunsmithing (Level 4) [Ref: 0346]	2383, 2824, 4432, 4433, 4435-4439
National Certificate in Hand Operated Fire Fighting Equipment (Level 3) [Ref: 0568]	2824, 4432, 4433
National Certificate in Heating, Ventilating, and Air Conditioning (Mechanical Services) (Level 4) [Ref: 0124]	2824, 4432, 4433, 4436
National Certificate in Lifts and Escalators (Level 4) with strands in Installation, and Servicing [Ref: 0662]	2824, 4432, 4433, 4435
National Certificate in Locksmithing (Level 4) [Ref: 0452]	2824, 4433, 4435
National Certificate in Maintenance and Diagnostics in Mechanical Engineering (Level 5) [Ref: 0718]	4439, 4441, 4442
National Certificate in Manufacturing and Mechanical Engineering (Level 2) [Ref: 0127]	2824
National Certificate in Manufacturing and Mechanical Engineering (Level 3) [Ref: 0128]	2824
National Certificate in Manufacturing and Mechanical Engineering (Level 4) [Ref: 0750]	2824
National Certificate in Maritime (Merchant Navy Deck and Engine Room Watch Rating) [Ref: 0259]	2824
National Certificate in Maintenance and Diagnostics in Mechanical Engineering (Level 4) [Ref: 0125]	2824, 4432-4435
National Certificate in Metal Casting (Technology) (Level 4) [Ref: 0129]	2373, 2383, 2824, 4432-4434
National Certificate in Refrigeration and Air Conditioning (Level 4) [Ref: 0130]	2824, 4432, 4433, 4436
National Diploma in Engineering (Mechanical Engineering) (Level 6) [Ref: 0534]	2824

The following qualifications are materially affected by the outcome of this review. The standard setting bodies (SSBs) have been advised that they require revision. The unit standards that materially affect the qualification are shown in bold.

Qualification title	Standard in the qualification	SSB Name
National Certificate in Carpet Manufacture (Carpet Tufter Tuning) (Level 5) with an optional Strand in Tuning of Multi-Height and Enhanced Graphics Tufters [Ref: 0280]	2824, 6518	Apparel and Textile ITO
National Certificate in Carpet Manufacture (Woven Carpet Loom Tuning) (Level 4) [Ref: 0286]	2824, 6518	

The following qualifications are not materially affected by the changes. They will be updated when they are next reviewed.

Qualification title	Classification or Standard in the qualification	SSB Name
National Certificate in Aeronautical Engineering (Aircraft Manufacture) [Ref: 0742]	2824	Aviation, Tourism and Travel
National Certificate in Aeronautical Engineering (Related Technology) [Ref: 0381]	2824, 4432, 4433, 4435	Training Organisation
National Certificate in Aeronautical Engineering (Support) with strands in Aeronautical Composites Strand, Aeronautical Machining, Aeronautical Non Destructive Testing, Aircraft Furnishings and Equipment, Aircraft Mechanical, Aircraft Painting, Aircraft Powerplant, Aircraft Structures, Armament, Avionics, Metal Surface Finishing, and Rotorcraft [Ref: 0191]	2824	
National Certificate in Aeronautical Engineering with strands in Aeronautical Non Destructive Testing, Armament, Avionics, Aircraft Mechanical, Aircraft Powerplant, Aircraft Structures, and Rotorcraft [Ref: 0192]	2824	
National Certificate in Aeronautical Storekeeping [Ref: 0618]	2824	
National Certificate in Aircraft Servicing [Ref: 0171]	2824	
National Certificate in Electricity Supply (Electrical) (Level 3) with optional strands in Electrical Fitter, and Electrician [Ref: 0888]	2824, 4438	Electricity Supply ITO
National Certificate in Electricity Supply (Electrical) (Level 4) with optional strands in Electrical Fitter Networks, and Electrical Fitter Hydro [Ref: 0921]	4437, 4438	
National Certificate in Electricity Supply (Mechanical Fitter) (Level 4) with strands in Hydro, Networks, and Thermal and with an optional strand in Electrical Services [Ref: 0918]	4437, 4438	
National Certificate in Electricity Supply (Operator) (Level 3) with strands in Hydro Operations, and Networks Operations [Ref: 0889]	4432-4435	
National Certificate in Total Productive Manufacturing (Level 3) [Ref: 0943]	2824, 6518	Forest Industries Training and Education Council
National Certificate in Extractive Industries (Mineral Processing - Alluvial Gold) [Ref: 0641]	2824, 6518	NZ Extractive ITO
National Certificate in Motor Industry (Automotive Machining) [Ref: 0371]	4435, 4438	NZ Motor ITO
National Certificate in Motor Industry (Trailer Boat Systems Engineering) (Level 3) [Ref: 0698]	4432	

Qualification title	Classification or Standard in the qualification	SSB Name
National Certificate in Cablemaking (Level 2) with strands in Wiredrawing, Conductor Assembly, Extrusion, Cable Assembly, and Cable Testing [Ref: 0566]	2824, 4432, 4433, 4435	Plastics and Materials Processing ITO
National Certificate in Cablemaking (Level 3) with strands in Wiredrawing, Conductor Assembly, Extrusion, Cable Assembly, and Cable Testing [Ref: 0738]	4432, 4433, 4435, 4441	
National Certificate in Engineering and Technology (Glass Containers) (Level 3) [Ref: 0948]	4438	
National Certificate in Engineering and Technology (Glass Containers) (Level 2) [Ref: 0947]	2824, 4432-4435	
National Certificate in Engineering and Technology (Plastics Engineering) (Level 3) [Ref: 0477]	4438	
National Certificate in Materials Processing (Level 1) with strands in General, Plastics Injection Moulding, Plastics Extrusion, Plastics Blow Moulding, Plastics Thermoforming, Plastics Blown Film Extrusion, Plastics Film Conversion, Plastics Injection Stretch-Blow Moulding, Plastics Rotational Moulding, Plastics Film Slitting, Expanded Polystyrene Moulding, Glass Containers, and Paint Manufacturing [Ref: 1072]	Engineering Core Skills, Engineering - Measurement, 4432	
National Certificate in Materials Processing (Level 2) with strands in General, Plastics Injection Moulding, Plastics Extrusion, Plastics Blow Moulding, Plastics Pressure Thermoforming, Plastics Vacuum Thermoforming, Plastics Blown Film Extrusion, Plastics Film Conversion, Plastics Injection Stretch-Blow Moulding, Plastics Rotational Moulding, Expanded Polystyrene Moulding, Polystyrene Pre-Expansion, Glass Containers, and Paint Manufacturing [Ref: 1073]	Engineering Core Skills, Engineering - Measurement, 2824	
National Certificate in Plastics Processing Technology (Level 1) with strands in Injection Moulding, Extrusion, Blow Moulding, Thermoforming, Blown Film Extrusion, Film Conversion, Injection Stretch Blow Moulding, and Rotational Moulding [Ref: 0260]	Engineering Core Skills, Engineering - Measurement, 4432-4434	
National Certificate in Plastics Processing Technology (Level 2) with strands in Injection Moulding, Extrusion, Blow Moulding, Pressure Thermoforming, Vacuum Thermoforming, Blown Film Extrusion, Film Conversion, Injection Stretch Blow Moulding, and Rotational Moulding [Ref: 0394]	Engineering Core Skills, Engineering - Measurement, 2824, 4435	

Qualification title	Classification or Standard in the qualification	SSB Name
National Certificate in Plastics Processing Technology (Level 3) with strands in Injection Moulding, Extrusion, Blow Moulding, Pressure Thermoforming, Vacuum Thermoforming, Blown Film Extrusion, Film Conversion, Injection Stretch Blow Moulding, and Rotational Moulding [Ref: 0395]	Engineering Core Skills, Engineering - Measurement, 4438	
National Certificate in Snowsport (Level 2) with strands in Surface Lift Operation, Aerial Lift Operation, Road and Carpark Services, and Maintenance [Ref: 0439]	2824	Sport, Fitness and Recreation ITO

Summary of main changes to standards' Ids, classification, titles, levels, and credits

The following summary shows the changes made to the standards as a result of the review. All changes are in **bold**.

Key to review category	
A	Dates changed, but no other changes are made - the replacement standard carries the same Id and a new version number
B	Changes made, but the overall outcome remains the same - the replacement standard carries the same Id and a new version number
C	Major changes that necessitate the registration of a replacement standard with a new Id
D	Standard will expire and not be replaced. <i>Alternative standards are listed in italics.</i>

Subfield Mechanical Engineering

Id	Domain	Title	Level	Credit	Review Category
2373	Engineering Core Skills Metal Casting	Work safely with molten metals	2	3	B
2383	Engineering Core Skills Engineering - Materials	Carry out heat treatment of metal parts Carry out heat treatment of metal parts under supervision	2	5 2	B
2824	Engineering Core Skills	Follow safe working practices on an engineering worksite Demonstrate knowledge of, and apply, safe working practices on an engineering worksite	2	3	B
6518	Engineering Core Skills	Lubricate machines in industry	2	4	D
2397 and 2402	<i>Maintenance and Diagnostics in Mechanical Engineering</i>	<i>Service machines and equipment</i>	2	4	
		<i>Demonstrate knowledge of lubricants and lubrication systems, and inspect lubrication systems</i>	3	5	

Id	Domain	Title	Level	Credit	Review Category
4432	Engineering - Measurement	Identify and convert basic units of measure used in engineering Demonstrate knowledge of, and convert, units of measure used in engineering	1 2	1 2	B
4433	Engineering - Measurement	Measure with non-complex devices used in engineering Select, use, and care for simple measuring devices used in engineering	1	2	B
4434	Engineering - Measurement Engineering Drawing and Design	Recognise basic geometric form in engineering Demonstrate knowledge of basic geometric form in engineering	1	1	B
4435	Engineering - Measurement	Select, use and care for engineering dimensional measuring equipment Select, use, and care for engineering dimensional measuring equipment	2	3	B
4436	Engineering - Measurement	Select, use and care for engineering marking-out equipment Select, use, and care for engineering marking-out equipment	2	4	B
4437	Engineering - Measurement	Select, use and care for advanced engineering measuring equipment Select, use, and care for advanced engineering measuring equipment	3	3	B
4438	Engineering - Measurement	Identify and use dimensional tolerancing in engineering Demonstrate knowledge of fits, limits, and tolerances in engineering	3 2	2	B
4439	Engineering - Measurement	Select, use and care for complex engineering measuring equipment Select, use, and care for complex engineering measuring equipment for precision jobs	4	4	B

Id	Domain	Title	Level	Credit	Review Category
4440	Engineering - Measurement	Identify and use international tolerancing as applied in engineering Demonstrate and apply knowledge of international tolerancing in engineering	4	4	B
4441	Engineering - Measurement	Calibrate engineering measuring devices and equipment	4	4	B
4442	Engineering - Measurement	Select, use and care for engineering geometrical tolerancing measuring devices and equipment Demonstrate knowledge of, and use, coordinate measuring machine (CMM) technology	5	6	B
4443	Engineering - Measurement	Identify and apply international measurement uncertainty principles as used in engineering Demonstrate knowledge of, and apply, international measurement uncertainty principles in engineering	5	2	B