BASIC CONSTRUCTION SKILLS

Guide for the Assessment Team

Introduction

This booklet provides guidance about what is required for a trainee to achieve the **New Zealand Micro-credential in Basic Construction Skills (Level 3**).

What's in this Guide?

This guide breaks down the structure of the New Zealand Micro-credential in Basic Construction Skills (Level 3) and runs through each of the main areas of the qualification step by step. The knowledge and skills are described in skill set groups:

- Working safely in construction
- Working drawings and specifications
- Tools and equipment knowledge
- Use carpentry tools
- Timber knowledge
- Work at height
- Make calculations

Qualification and Skill Sets

The New Zealand Micro-credential in Basic Construction Skills in Foundation Construction (Level 3) contains seven skill sets. Their full titles are:

- Demonstrate knowlledgse of working safely in construction - Ref. 12997
- Demonstrate knowlledgse of documentation, working drawings and specifications for building work - Ref. 24362
- Demonstrate knowledge of tools and equipment used for carpentry - Ref. 32443
- Use carpentry tools under supervision - Ref. 32462
- Demonstrate knowlledgse of timber use in construction - Ref. 13002
- Work at height in the construction industry under supervision - Ref. 32503
- Make calculations for carpentry - Ref. 24378

Graduates of this micro-credential will be able to carry out basic construction under supervision. All the skill sets below need to be completed.

Each skill set has a title, credit value and level. All the skill sets listed below are at level 3.

Qualification overview

Basic construction skills		
Reference	*Short title*	*Credits*
12997	Working safely in construction	3
24362	Working drawings and specifications	3
32443	Tools and equipment knowledge	9
32462	Use carpentry tools	12
13002	Timber knowledge	2
32503	Work at height	6
24378	Make calculations	4

Understanding skill sets

The skill sets included in the qualification specifications reflect the family of standards linked to the **New Zealand Micro-credential in Basic Construction Skills (Level 3)**. These standards are recognised by, and registered with New Zealand Qualifications Authority (NZQA) and can be accessed on the NZQA website: www.nzqa.govt.nz.

There are a few things which are useful to know about standards so that everyone understands the requirements.

Content

Each skill set includes the key details about what a trainee must demonstrate to be deemed competent and can include the following:

- What the trainee needs to know – the knowledge that underpins the practical skills
- What the trainee needs to do – the practical skills required.

As well as the 'know' and 'do' sections, skill sets also contain helpful information explaining any specific requirements associated with particular items of knowledge or skill and anything else that may need to be explained further. These are sign-posted in the following pages.

Levels

Each skill set has a level. The level indicates the degree of complexity of each learning outcome. At Level 3, a trainee must be able to work with limited supervision and select and apply from a range of known solutions to familiar problems.

All skill sets included in the family associated with the New Zealand Micro-credential in Basic Construction Skills are at Level 3.

Credits

Each skill set is allocated several credits. The credit values of the individual skill sets make up the total number of credits in the qualification.

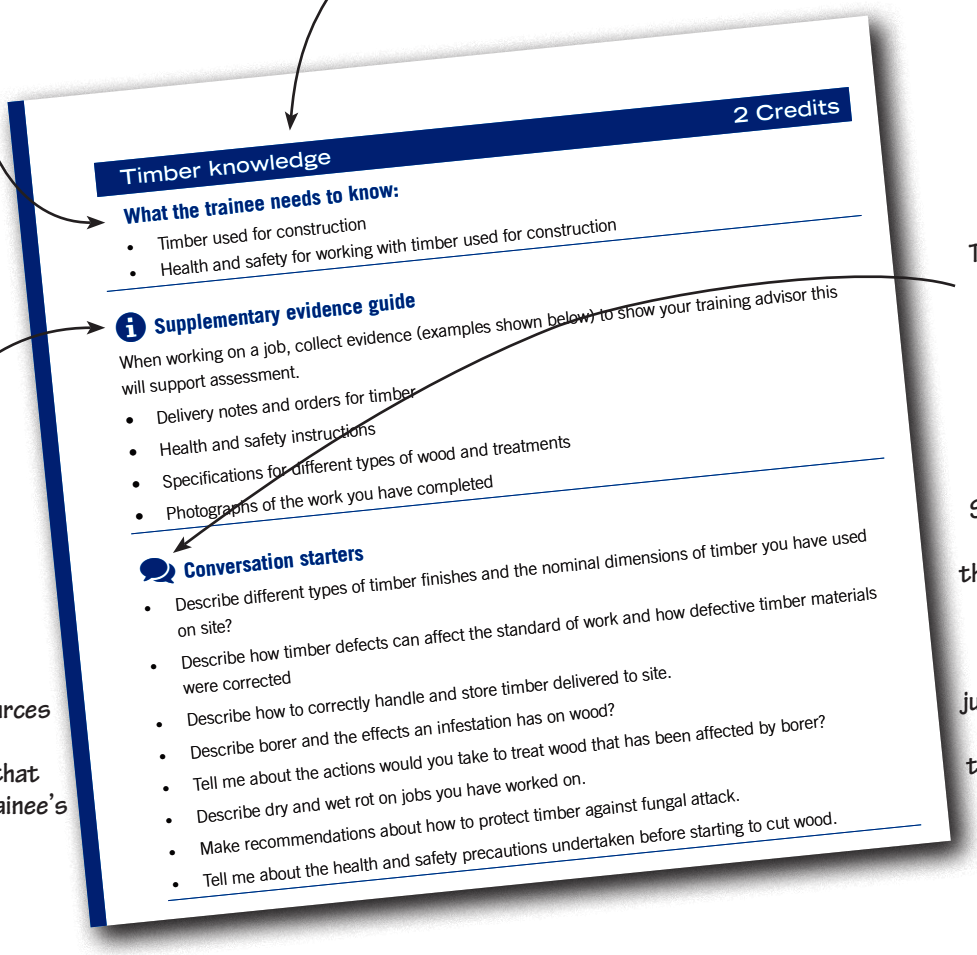
Credits provide a rough guide to the amount of time needed to master the knowledge and skills included in each skill set. Credits do not equate to hours of work and are granted only when a skill is achieved. A trainee can be making significant progress without necessarily accumulating credits. It is common for a trainee to gain most of their credits towards the end of their traineeship.

In this Guide

The following pages provide detailed information about what is required to achieve each skill set and tips about how to support learning and assessment. Each page's layout highlights the following key information.

Simple and clear statement(s) as to what the trainee needs to know and/or do to achieve the skill set.

The skill set title is a shortened version of the skills standard title. It is designed to capture the essence of the skills standard in a few snappy words.



This symbol indicates 'conversation starters' for all members of the Assessment Team. The trainee uses them to gauge their own understanding. Supervisors, trainers and mentors use them to help guide the trainee. Evaluators and assessors use them to make judgements about the trainee's progress towards achieving the standards.

This symbol indicates sources of additional information that support a trainee's learning.

Basic construction skills

- Working safely in construction
- Working drawings and specifications
- Tools and equipment knowledge
- Use carpentry tools
- Timber knowledge
- Work at height
- Make calculations

Working safely in construction — 3 Credits

What the trainee needs to know:

- Demonstrate knowledge of the construction industry compliance framework
- Describe safe working practices for construction

Supplementary evidence guide

When working on a job, collect evidence (examples shown below) to show your training advisor this will support assessment.

- Certificates of any training e.g. SiteSafe
- Image of health and safety board
- Certificate of competency e.g., use of power tools
- Codes of practice - standards that must be adhered to
- Best Practice Guidelines
- Site safety plan
- Tool Inventory
- Safety Data Sheets (SDS) and hazardous substances inventory
- Photographs of the work you have completed

Conversation starters

Practice answering some (or all) of these questions about jobs you have completed.

- Tell me how you protected the health and safety of yourself and others on site.
- Which industry standards did you follow on-site and how did you apply these to your work, e.g. The Building Regulations 1992, Health and Safety at Work Act 2015.
- Show me reports that you have completed when incidents or near misses happen on site.
- Describe notifiable or hazardous work completed on-site and how you protect yourself, others, and the environment from harm.
- Describe onsite emergencies and tell me how you would deal with them.
- Tell me about training you have completed (e.g SiteSafe) that allows you to work on site.
- Describe how you followed manufacturers specifications when using powder-actuated handheld fastening tools.
- Tell me about checks you have carried out when working at height on site.
- Explain how you followed best practice guidelines when completing demolition work.
- Describe the facilities that are required when working on site.
- Talk through how to identify and control hazards on site.
- Tell me about site safety plans for different sites you have worked on.
- Explain the reasons for the actions listed in the emergency plans.
- Describe site housekeeping including emptying the bins, recycling materials, storing hazardous materials and other site management.
- Tell me how to care for the hand and portable power tools used on site.

- Describe the process of checking scaffolding and ladders are safe on site.
- Describe the process of excavations safety checks.
- Tell me about the processes followed for safety checking chemicals on site and the reasons why these procedures are followed.
- Tell me about noise generated on site and how you would protect your hearing.
- Describe the safety procedures followed when using compressed air.
- Describe electrical, demolition and machinery hazards that you may have experienced on-site.
- Describe hazards linked to the use of powder actuated tools that you have experienced on site.
- Tell me about the PPE used on site and describe how each item protects the wearer.
- Protective helmets, footwear, clothing, hearing, eye and face protection, UV protection, dust masks, respirators, gloves, fall restraint and arrest equipment
- Tell me about different safety signs used on site and the information they offered.
- Describe how you prepared the information for and how you would write up a site safety board.
- Tell me about mechanical aids used to lift materials on site and how they protect health.
- Describe the work area layout. This includes the storage and delivery area.

Working drawings and specifications 3 Credits

What the trainee needs to know:

- Demonstrate knowledge of documentation used for construction
- Demonstrate knowledge of working drawings and specifications

Supplementary evidence guide

When working on a job, collect evidence (examples shown below) to show your training advisor this will support assessment.

- Drawings and specifications
- The scope of work
- Specifications
- The section of the drawing or specification specifically linked to the work being completed
- Photographs of the work you have completed
- PIM means Project Information Memorandum
- LIM means Land Information Memorandum
- COP means certificate of public use (Commercial properties only)

Conversation starters

Practice answering some (or all) of these questions about jobs you have completed.

- Tell me about drawings and specifications used on jobs you have worked on.
- Describe the information contained in a PIM, LIM, and a COP report.
- Describe the information such as symbols, size, scale, and position found in site, floor, elevation, and sectional plans for jobs you have worked on.
- Tell me about the information found in the site and floor plans, elevations, sectional elevations, and detail drawings, how those working on site might use this information?
- Describe the information in scopes of work for jobs you have worked on.
- Describe how you would follow a jobs preliminary and general work contract clauses.
- Describe how you would follow excavation work contract clauses found in a contract.
- Show me specifications for aluminium windows, linings and metal roofing and explain why it is important to follow this information on site.
- Tell me how you have identified materials from a working drawings or specifications.
- Tell me how you would check the size, scale, and position of building parts on working drawings. Can you assume the scale is correct.

Tools and equipment knowledge — 9 Credits

What the trainee needs to know:

- carpentry hand tools
- portable power tools and attachments
- mechanical and non-mechanical construction equipment used for carpentry.
- mitre saws

Supplementary evidence guide

When working on a job, collect evidence (examples shown below) to show your training advisor this will support assessment.

- Manufacturer's specifications
- Maintenance records
- Photographs of the work you have completed

Conversation starters

Practice answering some (or all) of these questions about jobs you have completed.

- Describe how to safely use the following carpentry hand tools:
  - apron, folding rule, measuring tape, carpenters' pencil, claw hammer, nail punch, combination square, chisels, planes, screwdrivers, spirit level, pinch bar, end cutting nippers, adjustable spanner, pliers, tin snips, hacksaw and blades, chalk line, string line, cutting knife, straight edge, cross-cut saw, drill bits.
- Explain how you keep tools clean and rust-free.
- Describe health and safety requirements when working with carpentry hand tools.
- Describe how to safely set up and use portable power tools e.g., grinders.
- Describe routine maintenance on portable power tools. This list can be used as a guide:
  - blades, knives, bits, cutting edges, adjustment, cleaning, power source and guards.
- Tell me about the health and safety requirements when using portable power tools.
- Describe safely setting up a mitre saw, and a sliding compound mitre saw using the following list:
  - set-up, guarding, cleanliness of machine and work area, identify and explain how to maintain and care for mitre saw, blades, cutting edges, adjustment, cleaning, power source and guarding. Guards, stops, support tables or rollers and power supply. Check maintenance requirements including blade sharpness, lubrication, clean, free of corrosion, power supply protected and free movement of safety guards.
- Describe how to safely use the different equipment used on site using this list:
  - mobile scaffolding, plaster board lifting equipment, wheelbarrows, shovels, compactors, concrete mixers, power trowels, concrete breakers, excavators, cranes. Include its intended purpose and manufactures instructions for use safely.

Use carpentry tools — 12 Credits

What the trainee needs to use:

- Carpentry hand tools
- Portable power tools and attachments
- Mitre saws

Supplementary evidence guide

When working on a job, collect evidence (examples shown below) to show your training advisor this will support assessment.

- Manufacturer's specifications
- Maintenance records
- Photographs of the work you have completed

Conversation starters

Practice answering some (or all) of these questions about jobs you have completed.

- Tell me how you would select and safely use hand tools on this list:
  - apron, folding rule, measuring tape, carpenters' pencil, claw hammer, nail punch, combination square, chisels, planes, screwdrivers, spirit level, pinch bar, end cutting nippers, adjustable spanner, pliers, tin snips, hacksaw and blades, chalk line, string line, cutting knife, straight edge, cross-cut saw, drill bits.
- Show me how you have used hand tools to complete a job safely and kept the materials and plant safe.
- Show me how to check that tools are clean and rust free and damaged tools are repaired or replaced in line with workplace policy.
- Explain how to select, set up and use portable power tools safely. Including guards, fences, adjustment, power source, electrical safeguards, and RPM of grinders without damaging materials or plant.
- Show me how to complete routine maintenance on portable power tools. Use this list:
  - blades, knives, bits, cutting edges, adjustment, cleaning, power source and guards.
- Show me the process of setting up a mitre saw, and a sliding compound mitre saw. Use this list:
  - guards, stops, support tables or rollers, power supply.
- Show me the process of using a mitre saw to cut timber to specified profiles without damaging materials, plant, or the safety or yourself or others.
- Show me the process for routine maintenance for mitre saws. This includes blade sharpness, lubrication, clean of corrosion, power supply protected, free movement of safety guards is confirmed.
- Show me how to select and change a mitre saw blade, select replacement blade, remove existing blade, match direction of teeth, fit replacement blade, dispose of replacement blade.

Timber knowledge — 2 Credits

What the trainee needs to know:

- Timber used for construction
- Health and safety for working with timber used for construction

Supplementary evidence guide

When working on a job, collect evidence (examples shown below) to show your training advisor this will support assessment.

- Delivery notes and orders for timber
- Health and safety instructions
- Specifications for different types of wood and treatments
- Photographs of the work you have completed

Conversation starters

Practice answering some (or all) of these questions about jobs you have completed.

- Describe different types of timber finishes and the nominal dimensions of timber you have used on site?
- Describe how timber defects can affect the standard of work and how defective timber materials were corrected
- Describe how to correctly handle and store timber delivered to site.
- Describe borer and the effects an infestation has on wood?
- Tell me about the actions would you take to treat wood that has been affected by borer?
- Describe dry and wet rot on jobs you have worked on.
- Make recommendations about how to protect timber against fungal attack.
- Tell me about the health and safety precautions undertaken before starting to cut wood.

Work at height — 6 Credits

What the trainee needs to do:

- Access a work site and set up a work area for working at height in construction under supervision
- Use fall protection equipment

Supplementary evidence guide

When working on a job, collect evidence (examples shown below) to show your training advisor this will support assessment.

- Site Safety plans
- Scaffolding safety checks
- Permits and notifications
- Best practice guidelines
- Certificates of competency
- Photographs of the work you have completed

Conversation starters

Practice answering some (or all) of these questions about jobs you have completed.

- Identify a work site and create access to a site using the site documents.
- Tell me how you safely erected and dismantled non-notifiable scaffolding.
- Tell me how to safely place scaffolding parts when dismantling scaffolding reducing the risk of injury to others.
- Describe the process of checking the site safely plan for the availability of fall protection equipment to find the equipment needed for a job.
- Show me how scaffolding non-compliance issues are solved on site.
- Demonstrate the process of fitting, adjusting, and anchoring fall protection equipment.
- Tell me about safely moving ladders and scaffolding equipment around the site.
- Describe regular checks carried out on scaffolding and how you monitored any problems with the scaffolding.
- Tell me how to make a note of non-compliance and the importance of recording issues found on site.
- Describe the entrance, exit and pathways through the worksite. Tell me how to deal with blocked access or materials causing a hazard on site.

Make calculations — 4 Credits

What the trainee needs to do:

- Make calculations for carpentry

Supplementary evidence guide

When working on a job, collect evidence (examples shown below) to show your training advisor this will support assessment.

- Copies of calculations and working out
- Plans from which calculations have been taken
- Photographs of the work you have completed

Conversation starters

Practice answering some (or all) of these questions about jobs you have completed.

- Tell me how to calculate the length of a building using overall measurements.
- Tell me how to calculate the length of a building using individual measurements.
- Show me how you would use working drawings to calculate overall and individual dimensions
- Show me how you would calculate the quantities of materials needed on site.
- Show me how to calculate lengths and angles using Pythagoras theorem.
- Show me how to calculate the area for circles.
- Show me how to calculate right-angled triangles.
- Show me how to calculate rectangles and squares.
- Show me how to calculate the volume of rectangular, circular, and triangular shapes.
- Show me how you use percentages as part of your work.