

EXTERIOR ENVELOPE INSTALLATION
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 Exterior Envelope Installation (Level 3)**.

What's in this Guide?

This guide breaks down the structure of the New Zealand Micro-credential in Exterior Envelope Installation (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
- Cladding and weatherproofing knowledge
- Adhesives and sealants
- Work at height
- Install weatherproofing and cladding
- Exterior joinery installation knowledge
- Install exterior joinery

Qualification and Skill Sets

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

- Demonstrate knowledge of working safely in construction - Ref. 12997
- Demonstrate knowledge of exterior cladding and weather proofing buildings - Ref. 32452
- Use adhesives and sealants for construction work under supervision - Ref. 32478
- Work at height in the construction industry under supervision - Ref. 32503
- Install weather-proofing and exterior cladding under supervision - Ref. 32499
- Demonstrate knowledge of installing exterior joinery - Ref. 12997
- Install exterior joinery under supervision - Ref. 32500

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

Exterior Envelope Installation		
<i>Reference</i>	<i>Short title</i>	<i>Credits</i>
12997	Working safely in construction	3
32452	Cladding and weatherproofing knowledge	6
32478	Adhesives and sealants	2
32503	Work at height	6
32499	Install weatherproofing and cladding	13
32492	Exterior joinery installation knowledge	2
32500	Install exterior joinery	3

Understanding skill sets

The skill sets included in the qualification specifications reflect the family of standards linked to the **New Zealand Micro-credential in Exterior Envelope Installation (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 Exterior Envelope Installation 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.

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

i **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 safety 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.

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.

Exterior envelope installation

- Working safely in construction
- Cladding and weatherproofing knowledge
- Adhesives and sealants
- Work at height
- Install weatherproofing and cladding
- Exterior joinery installation knowledge
- Install exterior joinery

What the trainee needs to know:

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

What the trainee needs to know:

- The effect of water penetration on buildings
 - Describe design elements used to prevent water penetration
 - Describe water penetration protection systems used in buildings
 - Describe exterior cladding
 - Describe how to install exterior cladding
 - Demonstrate knowledge of health and safety for exterior cladding and weather proofing buildings.
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 Supplementary evidence guide

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

- The scope of work
 - The section of the drawing or specification specifically linked to the work being completed
 - Photographs of the work you have completed
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 Conversation starters

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

- Tell me how water can enter and damage buildings. (Describe capillary action, gravity, wind pressure and airflows.)
 - Describe how water penetration causes mould.
 - Explain how buildings develop high moisture content and how to measure this moisture content.
 - Explain how water penetration and dampness can cause ill health.
 - Describe how buildings and materials are damaged by water penetration.
 - Describe how to prevent water from entering a building.
 - Describe design features that prevent water penetration.
 - Describe the process of sealing joinery to be weather and watertight.
 - Identify the weaknesses of water penetration protection systems.
 - Explain how to prepare and set out cladding.
 - Identify lineal board materials tell me about their features and installation.
 - Explain how to calculate the quantity of underlay and wall cladding needed for a job
 - Describe the process of installing cladding materials around windows, doors, and other penetrations
 - Describe the process of cutting, fitting, and fixing joints.
 - Explain health and safety procedures for exterior cladding and weather proofing buildings.
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What the trainee needs to do:

- Use adhesives and sealants for construction work
 - Clean and store tools, plant and equipment used to apply sealants and adhesives
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 Supplementary evidence guide

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

- Tool inventory
 - Manufacturer's instructions
 - Photographs of the work you have completed
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 Conversation starters

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

- Demonstrate how to use different types of adhesives, information should include the surface preparation and any other relevant conditions.
- Tell me about how you have protected yourself against hazards created by adhesives.
- Show me how you would apply adhesives during a job.
- Tell me how to use sealants, information should include the type of sealant, surface preparation and any other relevant conditions.
- Tell me about how you have protected yourself against hazards created by sealants.
- Show me how you would apply sealants during a job.
- Show me how to clean tools and store tools, plant, and equipment after use.
- Show me how to clean and store tools, plant, and equipment so they are ready for use.

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
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 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 safety 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.

What the trainee needs to do:

- Inspect wall framing.
 - Cut, fit, joint, and fix exterior wall claddings
 - Clean and store tools, plant, and equipment used to cut, fit, joint, and fix exterior cladding
 - Install weathertightness systems.
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 Supplementary evidence guide

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

- The scope of work
 - The section of the drawing or specification for the work being completed
 - Photographs of the work you have completed
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 Conversation starters

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

- Tell me how to check the placement and fixing of wall framing member and that the members meet cladding specifications.
- Tell me how to check wall framing tolerances are within the alignment allowed
- Tell me the process you would follow when installing building wrap.
- Tell me how to install the penetration flashing and cavity systems.
- Tell me how to install flashing systems to window and doors include tape, head, side, and sill.
- Show me how you check the materials needed for a job from specifications and site documents
- Tell me how to check the quality and quantity of the materials delivered match the materials order, describe what you would do if there is a mistake.
- Tell me about the process of cutting, fitting, and fixing exterior cladding and describe how you overcome any problems that you may have had.
- Describe how to cut, fit, and fix exterior cladding trim to provide a weathertight finish.
- Explain how to store tools, plant, and equipment after cleaning and ready for use on the next job.

What the trainee needs to know:

- Demonstrate knowledge of installing exterior joinery
 - Demonstrate knowledge of health and safety for installing exterior joinery
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 Supplementary evidence guide

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

- Safety plans
 - Scaffolding safety checks
 - Manufacturers guidelines and information
 - Site plans/specifications and schemes of work
 - Photographs of the work you have completed
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 Conversation starters

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

- Name and describe joinery components and their purposes.
- Describe materials used in the fabrication of joinery.
- Describe water entry paths and explain how leaks can appear at the head and jamb junctions.
- Describe drainage paths and their purpose.
- Describe head flashings that you have installed.
- Describe joinery sizes, tolerances, and air seals in aluminium joinery.
- Describe the process of fitting window head details in relation to E2/AS1.
- Tell me how underlays are installed and sealed around openings.
- Describe the process for protecting newly installed joinery and explain why sill protectors would be used.
- Describe health and safety requirements when installing exterior joinery.

What the trainee needs to do:

- Install exterior joinery
 - Clean and store tools, plant, and equipment used to install joinery.
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Supplementary evidence guide

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

- Safety plans
 - Measurements and plans used to plan installation
 - Photographs of the work you have completed
 - Manufacturer's instructions
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Conversation starters

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

- Tell me how to check the size of frame openings against the unit size and fix faults and how you would create openings to suit different joinery needs.
- Show me how to check windows and doors you have installed are plumb and adjust if necessary.
- Install joinery units.
- Install flashings.
- Install exterior finishing trim.
- Seal around joinery for weathertightness.
- Use the correct PPE when installing exterior joinery.
- Show me how to clean and store the workplace and tools used to install exterior joinery.

