



New Zealand Certificate in
**Interior Proprietary
Systems Installation**



Specifications

December 2015

The Proprietary Systems Installation Specifications

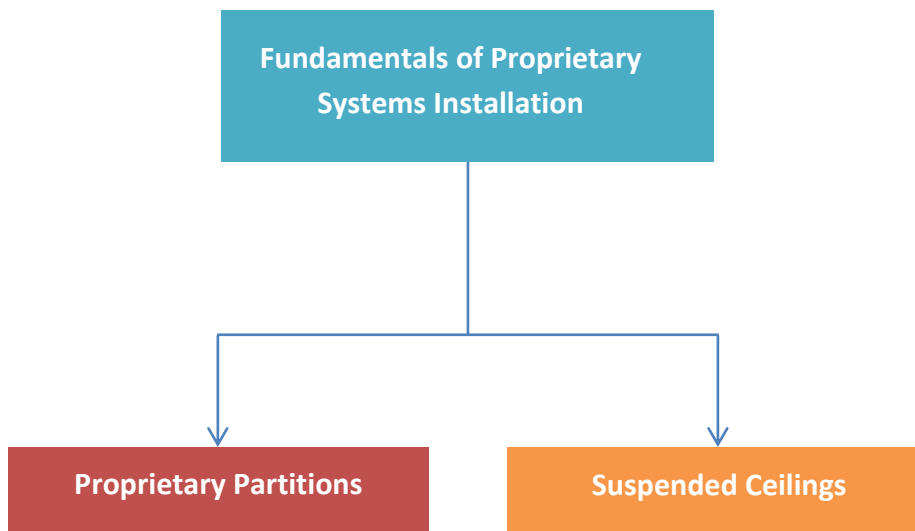
Welcome to the draft specifications that set out the content of the proposed New Zealand Certificate in Proprietary Systems Installation.

The following notes may assist you in reading and interpreting the specifications especially if you are familiar with qualifications composed of unit standards. These specifications may seem familiar to those who remember the old Trade Certificate and Advanced Trade Certificate structures.

1. The specifications constitute the **prescription** for a qualification. They describe what needs to be learned.
2. Specifications are grouped by topic which is generally determined by the key processes involved in the trade.
3. Specifications set out **capability requirements**. They represent what a person must be judged able to do.
4. Each specification set contains no provision for electives or options. To be considered as well rounded in your trade area you will need to be capable of all prescribed skills.
5. Specifications avoid duplication. As an example, all theory requirements related to calculations are contained in the “Building Mathematics” skill-set and not repeated in the skill-sets where they are applied in practice. Likewise “safe working practices” are mentioned only once and expected to be applied in all relevant situations.
6. Unlike unit standards, specifications are not precise descriptions of what or how to assess. The detail is contained within the programmes that BCITO and potential providers may develop in order to deliver the prescription to apprentices. Guidance documentation sits below these specifications to assist in programme development.

New Zealand Certificate in Interior Proprietary Systems Installation *with*

Strands in *Proprietary Partitions and
Suspended Ceilings*



Programmes leading to the award of the NZ Certificate in Proprietary Systems Installation must fully recognise all aspects of these Proprietary Systems specifications. Aspects include:

- Provision of opportunities for learners to demonstrate knowledge and skill to cover all skill sets within the specifications
- An appropriate balance of content to ensure that the scale and proportion of individual specifications and skill sets are met
- Ensuring that the level of complexity of knowledge and skill requirements are those of an industry practitioner demonstrating ability to meet NZQF descriptors

To achieve this fundamentals specification, you must understand the principles, and be able to apply them to all areas of interior proprietary systems installation.

This specification contains the following **5** skill sets:

- Tools and equipment
- Legislation
- Drawings and specifications
- Building mathematics
- Planning and communication

Each set comprises:

- **Know** – the theory that underpins the practical skills
- **Do** – the practical skills you need to have
- **Comments** – explanatory notes to clarify specific aspects of knowledge and skill

Skill Set 1: Tools and equipment

- Know:**
- The use and application of hand tools used for interior proprietary systems installation
 - The use and application of power tools used for interior proprietary systems installation
 - The use and application of different items of equipment used for interior proprietary systems installation
 - The use and application of access equipment used for interior proprietary systems installation
 - How to care for and maintain different tools and equipment used for interior proprietary systems installation

- Do:**
- Use a range of hand tools
 - Use a range of power tools
 - Use a range of equipment
 - Erect, alter, inspect and dismantle non-notifiable scaffolding
 - Maintain tools and equipment

- Comment:**
- The different types of tools and equipment varies depending on the type of proprietary system being installed and trade specialty (proprietary partitions or suspended ceilings)
 - The skill and knowledge associated with using a particular tool or piece of equipment could be applied to another less familiar tool or piece of equipment
 - Hand tools are those which are typically used by each trade specialty (proprietary partitions or suspended ceilings) on a daily basis
 - Power tools are those which are typically used by each trade specialty (proprietary partitions or suspended ceilings) on a daily basis
 - Access equipment includes ladders, all types of scaffolding and all types of elevating work platforms (EWPs)
 - Different items of equipment include all types of motorized or manually operated equipment associated with the installation of interior proprietary systems
 - Non-notifiable scaffolding is any scaffold where the height of the working platform is less than 5m
 - Maintenance requirements differ depending on the tool or piece of equipment concerned

Skill Set 2: Legislation

- Know:**
- The health and safety legislative framework as it applies to the construction industry
 - The environmental legislative framework as it applies to the construction industry
 - The building legislative framework as it applies to the construction industry
- Do:**
- Practically apply the health and safety legislative framework in everyday contexts within construction operations
 - Practically apply the environmental legislative framework in everyday contexts within construction operations
 - Practically apply the building legislative framework in everyday contexts within construction operations
- Comment:**
- The legislative framework refers to the hierarchy of Acts of parliament, Regulations, Rules, Codes, Standards, approved codes of practice and best/ good practice guidelines
 - The level of legislative knowledge required is that of an industry practitioner rather than that of an expert with specialist knowledge

Skill Set 3: Drawings and specifications

- Know:**
- The key components that make up a set of working drawings
 - How to read and interpret a set of working drawings to identify proprietary system requirements
 - The key components that make up a specification
 - How to read and interpret a specification identifying proprietary system requirements
 - How to identify positions of services as they are shown in the drawings and specifications
- Do:**
- Read, interpret and apply working drawings and specifications
 - Confirm that working drawings and specifications match actual site conditions
- Comment:**
- Interpreting a set of working drawings includes understanding drawing conventions including drawing types, scales, symbols, dimensions and abbreviations
 - Working drawings include floor plans, reflected ceiling plans, coordination drawings, elevations, cross sections and detail drawings
 - Specifications include the written documentation associated with a set of working drawings for a specific job and items of manufacturers' literature that outline the requirements for the use and application of their proprietary systems and products
 - Services include any electrical, plumbing, gas, telecommunications, heating, ventilation, fire protection systems and air conditioning
 - The minimum level to which a set of drawings and specifications needs to be understood and interpreted is to allow the proprietary systems trades to complete the required work

Skill Set 4: Building mathematics

- Know:**
- The different units of measurements and how they are used
 - Conventions associated with the use of centres and spacing
 - How to calculate area
 - Pythagoras' theorem and its practical application
 - How to use and apply percentages, fractions and ratios to building calculations

- Do:**
- Undertake measurements and calculations
 - Use the mathematical principles associated with right-angled triangles
 - Calculate physical quantities of materials
 - Prepare orders for materials based on calculated quantities

- Comment:**
- Units of measurement include length, weight, volume, time and temperature
 - Calculations for area include a variety of different shapes including rectangular, triangular and circular
 - Measurements are taken from working drawings and on site measures
 - Measurements and calculations include using accepted conventions and making applicable allowances

Skill Set 5: Planning and communication

- Know:**
- The roles and responsibilities of the parties to a construction process
 - How to plan and coordinate work to fit with the work programme and the work of other parties

- Do:**
- Work effectively with other parties to a construction process
 - Communicate effectively with own team and parties to a construction process

- Comment:**
- The parties to a construction process include the main contractor, other sub-contractors, clients, suppliers, manufacturers, designers and compliance bodies
 - Working effectively involves every day contact on site and the ability to discuss and reach conclusions about work requirements and the integration of activities
 - Communicating effectively involves written, oral and graphic communications

To achieve this proprietary partitions specification, you must understand and be able to set out, construct and install proprietary partitions.

This specification contains the following **2** skill sets:

- Materials
- Construct and line

Each skill set comprises:

- **Know** – the theory that underpins the practical skills
- **Do** – the practical skills you need to have
- **Comments** – explanatory notes to clarify specific aspects of knowledge and skill

Skill Set 1: Materials

- Know:**
- Types, properties and components of proprietary partition systems
 - Types, properties and uses of sheet linings
 - Types, properties and uses of fasteners and fixings used when constructing and lining proprietary partition systems
 - How to handle and store materials

- Do:**
- Receive, handle and store materials

- Comment:**
- Types of proprietary partition include steel and aluminium partitioning suites
 - Properties of proprietary partition systems include the physical composition and attributes of the different systems and individual components that make up the different systems
 - Types of sheet linings include plaster board and fibre cement sheet
 - Properties of sheet lining materials include physical composition and attributes such as size, thickness, finish, edge treatments, and the ability to form into curves, resist impact, fire, sound etc
 - The level of materials knowledge required is that of an industry practitioner rather than that of an expert with specialist knowledge

Skill Set 2: Construct and line

- Know:**
- How to set out and construct the framework that forms proprietary partitions
 - How proprietary partitions are secured in place to other building elements
 - How to line proprietary partitions
 - The different types of special detail and how they can be formed or constructed
 - How to install doors and framework for glazed areas in proprietary partitions

- Do:**
- Set out and construct the framework that forms proprietary partitions
 - Line proprietary partitions
 - Construct proprietary partitions to special detail
 - Install doors and framework for glazed areas in proprietary partitions

- Comment:**
- Constructing the framework includes cutting, fitting and fixing the individual components that form proprietary partitions
 - Lining proprietary partitions includes cutting, fitting and fixing lining materials to conform to system requirements
 - Both steel and aluminium partitioning suites must be installed
 - Types of sheet linings include plaster board and fibre cement sheet
 - Special details can be architectural features or functional requirements and include curved walls, bulkheads, openings, fire resistance rated partitions, sound controlled partitions and wet area partitions
 - The quantity of proprietary partitions to be installed and lined in any given day depends on the size, shape and complexity of the partitions; the specific system being used; the quantity and complexity of special details; the requirements to accommodate services; overall manpower; and site conditions. Proprietary partition contractors determine individual requirements accordingly but restrict their expectations on productivity to those associated with a newly qualified and competent proprietary partition installer, not someone with years of experience in the trade

To achieve this suspended ceilings specification, you must understand and be able to set out, construct and install suspended ceilings.

This specification contains the following **4** skill sets:

- Materials
- Substrates and ceiling cavities
- Install ceiling framework
- Install ceiling linings

Each skill set comprises:

- **Know** – the theory that underpins the practical skills
- **Do** – the practical skills you need to have
- **Comments** – explanatory notes to clarify specific aspects of knowledge and skill

Skill Set 1: Materials

- Know:**
- Types, properties and components of suspended ceiling systems
 - Types and properties of tiles, panels and sheet linings
 - Types, properties and uses of fasteners and fixings used when installing suspended ceiling systems
 - How to handle and store materials

- Do:**
- Receive, handle and store materials

- Comment:**
- Types of suspended ceiling include two-way exposed tiled grid, one-way exposed tiled grid, concealed tiled grid, concealed lined grid, and metal liner systems
 - Properties of suspended ceiling systems include the physical composition and attributes of the different systems and individual components that make up the different systems
 - Components of suspended ceiling systems include perimeter angles and channels, suspension systems, frameworks and grids, and accessories
 - The level of materials knowledge required is that of an industry practitioner rather than that of an expert with specialist knowledge

Skill Set 2: Substrates and ceiling cavities

- Know:**
- The types and properties of solid substrates in relation to suspended ceiling installation requirements
 - The types and properties of framed substrates in relation to suspended ceiling installation requirements
 - The types of and requirements for services in relation to the suspended ceiling cavity and suspended ceiling installation requirements

- Do:**
- Check substrates for suitability prior to installing suspended ceilings
 - Facilitate any necessary remedial work to allow for the installation of suspended ceilings

- Comments:**
- Types of solid substrate include concrete and timber
 - Types of framed substrate include timber and steel
 - Suitability of substrates includes checks set out and load bearing capabilities
 - Services include electrical, plumbing, gas and telecommunications, heating, ventilation, fire protection services and air conditioning
 - The level of knowledge relating to substrates is restricted to the things that are encountered when suspended ceilings are installed

Skill Set 3: Install ceiling framework

- Know:**
- Requirements to ensure structural stability and aesthetic qualities of the ceiling framework
 - How perimeter angle and channels are set out and installed
 - How hangers are set out and installed
 - How frameworks and grids are set out and installed
 - The different types of special detail and how they can be formed

- Do:**
- Set out and install perimeter angles and channels
 - Set out and install hangers
 - Set out and install frameworks and grids
 - Construct special details

- Comment:**
- Ensuring structural stability and aesthetic qualities requires compliance to working drawings, specifications, and manufacturer's and engineer's requirements
 - Special details can be architectural features or structural requirements and include bulkheads, light troughs, expansion and control joints, seismic strengthening, penetrations, curved ceilings and floating islands
 - The quantity of ceiling framework to be installed in any given day depends on the size, shape and complexity of the suspended ceiling system; the quality and type of the substrate from which the ceiling is suspended; the position and number of services in the suspended ceiling cavity; the requirement to construct any special details; individual system requirements; overall manpower; and site conditions. Suspended ceiling contractors determine individual requirements accordingly but restrict their expectations on productivity to those associated with a newly qualified and competent suspended ceiling installer, not someone with years of experience in the trade

Skill Set 4: Install ceiling linings

- Know:**
- How tiles and panels are installed into one and two-way exposed suspended ceiling systems
 - How sheet linings are installed onto a concealed grid suspended ceiling system

- Do:**
- Install tiles and panels into suspended ceiling systems
 - Install sheet linings onto suspended ceiling systems

- Comment:**
- Installation includes trimming and cutting tiles and panels to fit within the framework and securing tiles and panels in place
 - The quantity of tiles and panels to be fixed in any given day depends on the size, shape and complexity of the suspended ceiling system; individual system requirements; overall manpower; and site conditions. Suspended ceiling contractors determine individual requirements accordingly but restrict their expectations on productivity to those associated with a newly qualified and competent suspended ceiling installer, not someone with years of experience in the trade

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