

National Certificate in Building, Construction, and Allied Trades Skills (BCATS)

**Demonstrate knowledge of the
interior systems industry within a
BCATS environment**

Unit Standard – 25329

Level 2, Credit 2

Name: _____





What you need to do

By the end of this module, you should be able to demonstrate knowledge of the interior systems industry covering:

- major industry sectors
- industry work processes
- industry clients, supply and inter-trade relationships
- the impact of regulatory and trade bodies on the industry and
- industry jobs and their training requirements.

How you will be assessed

Your teacher/tutor will give you a worksheet that you need to complete, which your teacher/tutor will mark.

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Glossary of Terms

| Term | Meaning |
|----------------------|---|
| AS/NZS | Australian Standard/New Zealand Standard. A standard that applies in both Australia and New Zealand. |
| Fibre cement linings | Sheet material made of water, fine sand, cement and wood pulp |
| Fibrous plaster | An interior lining material made up of gypsum plaster and fibreglass reinforcement. |
| Industry bodies | Organisations that play a role within an industry in a regulatory, support or advisory capacity. This includes regulatory bodies, industry training organisations and trade or professional associations. |
| ITO | Industry Training Organisation. A tertiary education organisation which develops qualifications and arranges training for a specific industry. |
| NZS | New Zealand Standard. |
| Plaster board | A sheet material with a core of gypsum plaster between two sheets of heavy paper. |
| Regulations | Regulations are rules that tell companies how work should be done or what the finished product should be like. |

Introduction

The interior systems sector of the construction industry consists of people who manufacture, supply, install or plaster the components that make up interior walls and ceilings.

There are two key parts within the Interior Systems sector, and within these are some further sub-parts. They are:

Interior linings including the fixing and finishing of:

- plaster board;
- fibre cement linings;
- fibrous plaster; and

Specialist interiors including the installation of:

- proprietary partitions;
- suspended ceilings; and
- access floors.

In order to understand each part and sub-part of the Interior Systems Sector, we will look at each one separately.

Interior linings

Interior linings are the materials used to cover or line walls and ceilings inside buildings. The three types of linings most commonly used in New Zealand construction are plaster board, fibre cement linings and fibrous plaster.

Plaster board

Plaster board is manufactured by sandwiching a core of wet gypsum plaster between two sheets of heavy paper. As the core sets and is dried in a large drying chamber, the panel becomes rigid and strong enough for use as a building material.

Winstone Wallboards is New Zealand's only manufacturer of plaster board, which is known as GIB® board. Manufacturers from other countries supply product to New Zealand for purchase, but GIB® board is the only locally manufactured plaster board.

Plaster board is also known as drywall, gypsum board, Gibraltar board and gyprock, and is available from building supply outlets throughout New Zealand.

Fibre cement linings

Fibre cement linings are a composite material made of water, fine sand, cement and wood pulp that is manufactured in a sheet form and steam-cured in an autoclave oven.

James Hardie is New Zealand's only manufacturer of fibre cement linings which is – known as Hardies. Manufacturers from other countries supply product to New Zealand for purchase, but Hardies are the only locally manufactured fibre cement linings.

Fibre cement linings are also known as fibre sheet, fibrous cement and fibro, and are available from building supply outlets throughout New Zealand.

Fibrous plaster

Fibrous plaster is an interior lining material that is made up of gypsum plaster and fibreglass reinforcement that together are cast either as a flat sheet for lining flat surfaces or in a mould to create cornices and other decorative mouldings.

If we were to liken plaster board and fibrous plaster to a family, fibrous plaster would be the grandparent and plaster board would be the grandchild. Or in other words, fibrous plaster is the older, more historical product and plaster board is the more modern alternative.

Specialist interiors

'Specialist interiors' is a term used to describe the components used to break-up a large interior space into a series of smaller ones. Specialist interiors are most commonly found in commercial spaces such as offices and multi-storey buildings. Within the construction industry, specialist interiors are often referred to as interior fit-out. The three main components of specialist interiors/interior fit-outs are suspended ceilings, proprietary partitions and access floors.

Suspended ceilings

Suspended ceilings are ceilings that are hung at a distance from the floor and roof above. There are two main forms of suspended ceilings. Both types use a "grid" or "framework" of some description. The main difference comes in the way the ceiling lining material installs to the framework.

The most common suspended ceiling has tiles or panels that drop into the grid – and these are known as "tiled" ceilings. The other type uses a lining material (usually plaster board) that is fixed to the underside of the grid – and these are known as "plaster board" ceilings.

There are a number of different manufacturers and types of suspended ceiling systems – the largest in New Zealand being USG Interiors with the DONN suspended ceiling range.

The components for suspended ceilings are available direct from the manufacturer or through various suppliers of suspended ceiling systems, components and products.



Proprietary partitions

Proprietary partitions are used to divide up large, open interior spaces into different areas.

Most proprietary partitions consist of top and bottom tracks, vertical studs, horizontal members, and door and window fittings. The components that make up the framework for the partition can be made of steel or aluminium that is fastened together in a manner that is suitable to receive a lining material (board, panels or glazing) to complete the partition.

There are a number of different manufacturers and types of proprietary partition systems – the three largest in the New Zealand market being USG Interiors, Rondo Building Systems, and Potter Interior Systems.

The components for proprietary partitions are available direct from the manufacturer or through various suppliers of proprietary partition systems, components and products.

**Access floors**

Access floors are false floors that are raised some distance from the actual floor to provide a cavity between the two floors. Generally, they are designed into new buildings if necessary – although it is possible to retro-fit into an existing space provided there is sufficient floor-ceiling height available. Access floors are not all that common in the construction of buildings in New Zealand.

Access floors basically consist of an under-floor structural framework that supports panels that are placed on the framework to form the finished surface.

There are no manufacturers of access floors in New Zealand. Specialist interiors companies, however, have contacts overseas and are able to supply various types and designs of access floor systems and components.

 **Sectors**

There are four key sectors of the interior systems industry, some of which cut-across all the different parts that we have described above.

Manufacturing

As we have already mentioned, there are several key manufacturers within New Zealand and overseas who all have an impact on the interior systems industry. The size and scale of these manufacturers depends on what it is they are manufacturing.

In looking at the manufacturing side of things, we will focus on two different interior linings products – plaster board and fibrous plaster.

Winstone Wallboards produce approximately 80% of the plaster board installed in New Zealand buildings. They are a large manufacturer with two large production plants – one in Auckland and the other in Christchurch. These production plants are very large and heavily automated as the manufacture of plaster board sheets requires a mechanical, machine-made process.

Plain and decorative fibrous plaster products are manufactured in a number of factories throughout New Zealand and distributed either through specialised retailers or direct from the manufacturer themselves.

By comparison with plaster board, fibrous plaster manufacturers have been on the decline for a number of years now as plaster board has become cheaper and more readily available. Most of the main centres still have a fibrous plaster manufacturer, some of which are listed below.

- Plastercraft 2000 Ltd (Auckland)
- Atlas Fibrous Plaster Ltd (Hawkes Bay)
- Biggins Interior Solutions Ltd (Wellington)
- Seddons Fibrous Plasterers Ltd (Dunedin)

Fibrous plaster manufacture is a very hands-on process. The factories are small in comparison to plaster board manufacturing plants, and very hands-on - the manufacture of fibrous plaster products is done quite literally by getting up to your armpits in plaster!

Supply

Within the interior systems industry, some manufacturers supply direct to the industry and others rely on distributors or suppliers to sell their product.

For example, Winstone Wallboards do not supply direct to the industry. In order to purchase GIB board or any other GIB products, you need to purchase them from a supplier such as Placemakers, Carters, Bunnings, Mitre 10, or a more-specialised supplier such as New Zealand Ceiling and Drywall Supplies.

USG, on the other hand, are both a manufacturer and supplier of products to the interior systems industry, with a particular focus on the suspended ceiling market. They also supply their suspended ceiling components to other suppliers, such as Potters Interior Systems, who in turn supply to the interior systems industry.

Installation

Because all the products within the interior systems industry are manufactured and need to be “put together” on-site, there is a specialist part of the industry that are known as interior systems installers.

There are three parts to the installation process. Sometimes these parts are undertaken as separate roles and sometimes the same person does all three. They are:

- **Installer** Associated with specialist interiors work where you “install” a suspended ceiling or proprietary partition or access floor. Also associated with fibrous plaster work where you “install” fibrous plaster products – which covers both fixing and finishing (described below).
- **Fixer** Associated with interior linings where you “fix” the plaster board or fibre cement linings or fibrous plaster.
- **Finisher** Associated with interior linings where you “finish” or “stop” or “plaster” the plaster board or fibre cement linings or fibrous plaster.

Plastering

The most well-known job within the interior systems industry is that of a plasterer. People doing this job are also known as finishers or stoppers. Because we live in New Zealand, where the most popular interior lining is GIB Board, they are also commonly known as GIB stoppers.

Note: *There are also plasterers who plaster the exteriors of buildings – but this is a completely different trade and not to be confused with interior plasterers.*



Work Processes

Fibrous plaster manufacture

The oldest of the interior systems trades in New Zealand is that of the fibrous plaster manufacturer.

The work processes of a fibrous plaster manufacturer include:

- Casting flat, curved and decorative sheets for use on walls and ceilings
- Casting decorative mouldings (such as cornice, centres, domes, fire surrounds, archways and corbels) that are used to adorn interior spaces
- Casting ceiling panels and tiles for use in suspended ceilings
- Running moulds out of plaster
- Making moulds out of plaster, timber, rubber and other substances in which to cast items of fibrous plaster

Casting is the process where a combination of gypsum plaster and fibreglass reinforcing is placed in a mould to create a product. Flat sheets are cast on a flat, glass-like surface and therefore are flat and have a glass-like face. Curved sheets are cast on a purpose-built curved mould with the radius of the curve being the required radius of the finished sheet. Concave sheets are cast on convex moulds and convex sheets are cast on concave moulds. Decorative sheets are cast on a patterned surface.

While fibrous plaster factories hold a significant number of moulds in which items can be cast, they also produce special one-off products for clients who want something for which there is not already a mould. This is the more specialist side of the trade and one that requires considerable skill and creativity in order to produce something unique.

Moulds can be made out of a number of different materials and are sometimes constructed directly off a master (or model) that is provided by the client and sometimes constructed from scratch.

Fibrous plaster installation

Some fibrous plaster manufacturers offer an installation service to their clients. Their products are taken directly from the factory to the site and installed by skilled fibrous plasterers.

There are also fibrous plaster installers who work independently from the manufacturer. Because fibrous plaster is not the most common interior lining used, fibrous plaster installers often also install other types of interior linings.

Fibrous plaster installers offer the complete fix and finish service. This entails:

- fixing fibrous plaster sheets to interior surfaces;
- finishing (plastering) the fibrous plaster to hide all the joints and fixings; and
- fixing and finishing fibrous plaster cornice and other decorative mouldings.

Fibrous plaster sheets are fixed using mechanical fixings (nails or screws) and adhesive and can be fixed to timber or steel framing.

Joints between two fibrous plaster sheets are formed by building up layers of plaster and reinforcing tape and feathering the surface of the joint into the body of the sheet. Because fibrous plaster has a plaster face, joints between sheets are easier to disguise as the entire finished surface is plaster. For this reason, many hi-spec designs specify the use of fibrous plaster to ensure a clean, seemingly joint-free surface.

Fibrous plaster cornice and decorative mouldings are fixed using a combination of mechanical fixings and a special plaster mix. The fixing and finishing of cornice requires the formation of internal and external mitred corners. Care must be taken in pattern-matching designs with repetitive features.



Plaster board – fixing

Plaster board is often installed by builders. However some builders recognise that this is a specialist job best handled by a team of professional fixers. (Often their decision is based on the volume of work and size of the job.)

Plaster board fixers:

- fix different types of flat plaster board to interior surfaces. (The GIB range of plaster boards include standard GIB board, Aqualine, Braceline, Fyreline, Noiseline, Toughline, Wideline, Ultraline Plus and X-line); and
- form curves and other architectural shapes with plaster board.

Plaster board fixers fix the board according to the manufacturer's specifications and the job's working drawings and specifications. GIB board is not simply sold as a board with which to line walls and ceilings, but rather as a "system" or "solution" that includes the framing, fixings, finishings and other critical considerations that go into making it a complete product.

Plaster board sheets are fixed using mechanical fixings (nails or screws) and adhesive and can be fixed to timber or steel framing.

Plaster board – finishing

Plasterers are the people responsible for finishing or plastering the plaster board to obtain a finished surface that can be painted or papered.

Plaster board finishers:

- stop and finish (plaster) the plaster board to hide all the joints and fixings;
- stop and finish internal and external corners (including fixing trim that is bedded in the plaster); and
- fix and finish paper-faced cove between walls and ceilings.

Joints between two plaster board sheets are formed by building up layers of plaster and a paper reinforcing tape and feathering the surface of the joint into the body of the sheet.

Paper-faced cove is fixed using a special plaster mix. The fixing and finishing of cove requires the formation of internal and external mitred corners.

Plaster board is finished to one of three specified levels of finish. They are:

- **level 3** used in areas that do not require decoration such as above ceiling level or inside service shafts and the like;
- **level 4** the default level of finish for gypsum linings unless specified otherwise; and
- **level 5** used where gloss or semi-gloss paints are specified or where critical lighting conditions occur on satin, flat or low sheen paints

Plasterers check the quality of their work using high-powered lights that shine across the plastered surfaces; it shows any imperfections. This is done to ensure that joints and fixings are not visible under “normal” lighting conditions.

Fibre cement linings – fixing and finishing

Fibre cement linings are not used as widely as plaster board and therefore it would be unlikely to find someone whose sole job was associated with fixing fibre cement linings to the interiors of buildings.

Fibre cement linings are often installed by builders. However some builders recognise that this is a specialist job best handled by a team of professional fixers. Where professional fixers are used, often they fix a variety of different interior linings, which fibre cement is just one.

Fibre cement linings fixers:

- fix different types of flat fibre cement linings to interior surfaces. (The James Hardie range of fibre cement linings for interior use includes Villaboard, HardiGlaze, and HardiGroove.); and
- form curves and other architectural shapes with fibre cement linings.

Fibre cement lining fixers fix the linings according to the manufacturer's specifications and the job's working drawings and specifications. Fibre cement linings are generally fixed using mechanical fixings (nails or screws) and adhesive and can be fixed to timber or steel framing.

Some fibre cement linings require a plasterer to finish them. Others don't need plastering, – either because the joints do not require plastering or because the linings have a pre-finished surface and can be joined together with a custom-made PVC jointer.

Proprietary partitions installation

Proprietary partition installers create partitions (or walls) from steel or aluminium that divide up a large interior space. (Walls that are constructed from timber are usually built by carpenters, not proprietary partition installers.) Their job includes:

- constructing the framework for the partitions
- creating the openings in the partitions
- installing the linings onto the frames they have constructed
- installing doors and windows in the openings they have formed

The framing for a proprietary partition generally comprises of a series of steel (or aluminium) studs that are fitted between a top and bottom track. The top track is generally fixed to the underside of a suspended ceiling and the bottom track fixed to the floor. The components that form a proprietary partition are fastened together using a variety of different methods developed by the particular manufacturer of that partition.

Each proprietary partition system manufacturer will have their own diagrams and tables to provide guidance for installers. It is important that manufacturers' specific installation methods and specifications are followed because the methods of installation different systems are often unique.

Because proprietary partition installers also fix the interior linings to the partitions, they also do the jobs of plaster board or fibre cement linings fixers.

Suspended ceilings installation

Suspended ceiling installers create ceilings that are hung from the structure supporting the roof or the floor above. Their job includes:

- constructing a gridded framework into which the ceiling linings are either "placed" or "fixed";
- forming special details around the perimeter of the ceiling or at the junction between the ceiling and walls, columns or beams;
- placing the tiles into grid and tile ceilings; and
- fixing the ceiling linings where the grid is concealed and a continuous flat surface is required.

Not all suspended ceilings installers fix linings to ceilings. Where linings are fixed by the installer, they are predominantly plaster board and so a suspended ceilings installer who undertook this as part of their role would also be a plaster board fixer.

Suspended ceilings generally comprise of a series of hangers that are fixed to the underside of the floor above that “suspend” the main tees (or strongbacks) and cross tees (or furring channels) that form the gridded framework of the ceiling. The ceiling is confined at the junction with the wall by either a wall angle or channel. The components that form a suspended ceiling are fastened together using a variety of different methods developed by the particular manufacturer of that ceiling.

Each suspended ceiling manufacturer will have their own diagrams and tables to provide guidance for installers. It is important that manufacturers’ specific installation methods and specifications are followed because the methods of installation different systems are often unique.

Access floors installation

Access floors installers create false floors that sit above the original floor – providing a cavity space in which services such as cables, electrical wiring, air conditioning or water pipes can be concealed. Their job includes:

- constructing a gridded framework into which the floor linings are either “placed” or “fixed”;
- forming stairs and ramps to allow access to the newly formed raised floor; and
- placing tiles and other specialist floor panels into grid.

Access floors can generally be thought of as an upside-down suspended ceiling. Instead of thin wire hangers supporting the framework that makes the floor, there are a series of pedestals.

Each access floor manufacturer will have their own diagrams and tables to provide guidance for installers and as the method of installation for one system may not apply to another, it is important that manufacturers’ specific installation methods and specifications are followed.

Access floors are not all that common in New Zealand construction and as such, this role is quite specialist and usually undertaken by a contractor working as a suspended ceiling or proprietary partition installer.

Client Base

Subcontracting

An interior systems subcontractor is a tradesperson, company or business contracted by a main contractor to work in their specialised trade as part of an overall project.

The subcontractor will take instructions from, is paid by, and is responsible to the main contractor or their on-site representative.

By way of example, a builder is building a new house and engages the local plasterer to do all the stopping and finishing of the interior walls and ceilings. The builder will generally have an existing relationship with the plastering subcontractor as they will with other subcontractors (such as the plumber, electrician, concrete placer etc) but will probably still ask them to quote for the job and the negotiated price will be included in their tender price to the client when determining the cost for the whole job.

In this example, the builder is acting as the main contractor and is managing all the different relationships with subcontractors who are assisting them in completing the full scope of work.

Direct to client

Many interior systems tradespersons have clients who aren't "in the trade" – but who choose to manage the building process themselves and engage directly with the trades or professions whose skills they need to hire.

In this situation, they are working direct for the client and will take instructions from, be paid by, and be responsible to them.

By way of example, a homeowner is re-furbishing some rooms in their house and wants to have the walls and ceilings plastered and some cornice and mouldings attached. They get a local plasterer to do the work and agree on the provision of materials and the timing of the job. The plasterer will work directly with the client on all matters of the job.

Of the various interior systems trades, those associated with the interior linings side of things are likely to be both subcontractors and work directly for clients. Those associated with the specialist interiors side of things are likely to only be subcontractors.

Supply Relationships

Different interior systems contractors will have different supply relationships depending on the type of work they undertake and the necessity to form relationships with one or more manufacturer and/or supplier to the industry. There is no “one size fits all” for this industry sector – or in fact most other sectors of the construction industry. However there are some general principles that apply. The following explains some specific relationships and gives some examples relating to Interior Systems.

Trade accounts

This is where a manufacturer or supplier agrees to sell trade goods to approved customers on the basis that the customer promises to repay on or before a stipulated date in the future (generally the 20th of the month following invoice).

Trade accounts allow contractors to obtain materials without having the money up-front – therefore benefiting from the credit given to them by the supply company. Suppliers have the benefit of selling more of the products they supply over those same or similar products that may be supplied by their competitors. Realistically, the relationship has to be mutually beneficial for it to work and so by and large, both the contractor and the supplier need to work together to ensure that they both get what they need out of it.

Trade discounts

Most suppliers reward their loyal customers with a discount – and this is certainly true of those suppliers to the Interior Systems industry. From a supplier perspective, they want repeat business and the ability to be able to sell larger quantities than your Jo-average shopper might buy when walking in the door.

Trade discounts are usually expressed as a percentage of the retail price and may vary depending on the type of product and quantity ordered. For example, with a 10% trade discount goods worth \$100 would be reduced to \$90.

There is no guarantee that the trade discounted price will always beat “specials” or other discounts that may be available from time to time on standard retail stock.

Manufacturer guarantee systems

Manufacturer guarantee systems are written assurances from manufacturers that their goods or services meet a certain standard of quality and durability.

- Sometimes the manufacturer guarantees only their products/systems to be manufactured to a specific quality level.
- Sometimes the manufacturer also guarantees the use of their products/systems in their installed state by a contractor whose work they are prepared to stand behind.

Either way, manufacturers have a vested interest in ensuring their good name remains at the forefront of people's minds.

In New Zealand, the Consumer Guarantees Act protects consumers. This Act of Parliament sets out the guarantees that goods and services must meet when they are sold or provided and gives consumers rights when faulty goods are purchased or the work paid for is not completed to an acceptable standard.

GIB example: GIB manufacture their plaster board to exacting standards and provides a manufacturer's guarantee when it is installed to their specifications by someone who they have approved as part of their accredited network of fixers and finishers. The Consumer Guarantees Act protects consumers for any faults resulting from the manufacturing process.

GIB want to make sure that designers continue to specify their products and systems over and above imported plaster boards, that contractors continue to use their products and systems as their preferred choice, and that the public thinks of GIB as the best quality plaster board.

Specialist interiors example: All of the information used in the GIB example applies except perhaps the reference to the public. Specialist interiors are a commercial building product and seldom found in New Zealand homes. The name USG (for example) would not be known to those who don't work in the construction industry. However, USG are just as concerned as any other manufacturer and supplier to the industry when it comes to guaranteeing the products and systems and making sure that they are the preferred manufacturer and supplier to the industry.

Accredited supply networks

As hinted above under manufacturer guarantee systems, many manufacturers and suppliers to the construction industry have accredited supply networks whereby a manufacturer or supplier of products and systems is prepared to stand by certain contractors work provided they satisfy the manufacturer's accreditation criteria.

There are no set criteria when it comes to the various accredited supply networks of the different manufacturers associated with the interior systems industry, but by and large they develop long-term relationships with those contractors who have a good standing in the industry and are known for the quality of their workmanship.

Product training

Many modern construction products and systems have become more complex over time and require specialist knowledge and skills in order to ensure that the finished job meets the required quality standard.

Because manufacturers have a vested interest in ensuring that their products and systems are installed correctly and they know that technical trade literature is often not read as thoroughly as it should be, the larger companies offer technical training (often free) on the use of their products and systems to ensure that they are used the way they were designed to be used.

Sometimes this training is delivered by a specialist technical training team and sometimes the manufacturer's sales representatives lead the training as a part of their role. Depending on the size of the manufacturer, in-house engineers and designers may also be involved in training, especially those who want to incorporate the manufacturer's products and systems into the buildings they are creating.



Relationships with other Trades

The successful completion of any construction project relies on bringing together people with a wide range skills and expertise along with good organisation, quality control, coordination and clear lines of communication. All trades have a duty of care to respect and avoid damage to the work of other trades that have preceded them.

The responsibility for organising and coordinating all construction operations for a project will usually rest with the main contractor, who is usually the builder or a building company's project manager. Clear avenues of communication need to be established to ensure that everyone involved in the project is fully aware of their specialist roles and responsibilities and also the roles of other trades that they will be associated with. The complex task of planning and organising the various construction trades relies on the coordination and cooperation of all construction trades working on the project. This will also include their material suppliers and all other companies and individuals associated in any way with the project.

Interior systems contractors tend to be involved in projects towards the end because of the nature of their work. If we look at a large commercial building, specialist interiors come into the job to get the ceilings installed and the partitions erected once the floors are ready. . If we look at a smaller residential job, the interior linings are installed after the house is watertight, all the interior walls are constructed, and the carpenter is getting ready to get the decorators, kitchen installers and carpet layers involved.

Working to tight timeframes is a reality and if there have been any hold-ups earlier on in the project, these will impact on the time allowed for the finishing trades coming in towards the end of the project.

Along with a good relationship with the main contractor, interior systems contractors need to consider the trades that come immediately before them and those that follow immediately after them.

Trades that come before and the relationships with them

- Specialist interiors contractors need to make sure that all the services are in place before they can start putting in suspended ceilings and proprietary partitions. That means having a relationship with the air-conditioning contractors, plumbers, electricians, data cable technicians etc. While some services will be completely in place before they arrive on site, others will be installed in tandem (such as wiring and pipes inside any partitions that require them). The specialist interior contractor will also require assistance from the main contractor (the carpenter) to "make ready" for them – which may mean some additional carpentry work needs to be done so that they can do their job.
- Interior linings contractors who focus on the fixing side of the trade need to make sure that the walls, partitions and ceilings that have been constructed are ready for lining. They also need to ensure that all services that need to be in place are in their finished position before they cover them up with their linings.

- When interior lining fixing contractors accept the surfaces to line, they are agreeing that the framing is up to standard and therefore take responsibility for the lined surface once complete. When lining timber framed buildings, this means that they must do a pre-line inspection to ensure that the timber is dry enough to take the linings. It also means that they are checking on the standard of the carpenters work as any framing members that “stick out” or are not in the correct position will have an impact on the finished product. This will require assistance from the main contractor (the carpenter) to “make ready” for them – which may mean some additional carpentry work needs to be done so that they can do their job.

Trades that come after and the relationships with them

The trades that follow the interior systems contractors tend to be those that come before them (such as the plumbers, electricians, air-conditioning technicians etc) to finish off the work that they started and can only complete once the surface is finished.

The other trade that follows immediately is the painters and decorators – the work of a painter goes hand in hand with the work of a plasterer if the finished surface is going to achieve the level specified.

A lot of plastering contractors do a hand-over with the painter to ensure that the finished surface that they are leaving meets the expectations of the painter (who is the trade that leaves their final stamp on the surface). In a similar way to how an interior linings fixer accepts the framing and an interior linings finisher accepts the lined surface, a painter needs to accept the plastered surface as it is the painter that is ultimately responsible for it once they put their brush or roller on it.



Requirements of Industry Bodies

Construction work in New Zealand is primarily governed by the following legislation:

- the Building Act 2004; **and**
- The Building Regulations (which includes the Building Code)

All new building work must comply with the Building Code. Its purpose is to ensure that buildings are safe and healthy for the people who use them and identifies the minimum requirements to be met to guarantee this.

WorkSafe New Zealand (WorkSafe)

WorkSafe is the work health and safety regulator and is responsible for implementing the Health and Safety at Work Act 2015.

WorkSafe's functions include:

- Monitoring and enforcing compliance with work health and safety legislation
- Providing guidance, advice and information on work health and safety
- Fostering a co-operative and consultative relationship between the people who have health and safety duties and the persons to whom they owe those duties and their representatives.
- Collecting, analysing and publishing statistics and other information relating to work health and safety.

Department of Labour

The Department of Labour (DOL) has number of roles but the major role in respect of the building trades is that it is responsible for administering the Health and Safety in Employment Act and Regulations.

The goal of the Act and the Regulations is to set standards for safety in the workplace and their contents spell out the responsibilities of employers and employees when it comes to safety and accident prevention.

The main safety issues that WorkSafe will look out for in the interior systems industry include:

- manual material handling (safe lifting);
- safe use of plant, equipment and tools;
- working at heights (ie above floor level, scaffolds, ladders and stilts);
- dust (from cutting sanding); and
- noise.

Ministry of Business, Innovation and Employment (MBIE)

MBIE is responsible for the functions that used to be done by many other departments, including the Department of Labour and the Department of Building and Housing.

MBIE administers the Building Act and Building Code and also oversees a range of other building and housing related acts and regulations (including occupational licensing in the building trades).

While some industries require licensing or registration, this is not the case for the interior systems industry at this time. However, all work done by interior systems workers must conform to the Building Code. The New Zealand Building Code requires all building elements to have a low probability of failure when exposed to loads likely to be experienced within their lifetime.

Building Consent Authorities

A Building Consent Authority (BCA) is an organisation or individual accredited to administer building control functions. This is most commonly done by Territorial Authorities (local authorities or councils).

BCAs administer the requirements of the Building Code. They make sure that the work that has been done meets the Building Code.

They have to check the work before it starts, while it is underway and when it is finished. This is shown in the table below.

| What the BCA does | When | What they are checking |
|------------------------------------|---------------------------------|---|
| Issue building consents | Before any building work starts | Checking that the details shown on drawings meet the Building Code |
| Perform inspections | As building progresses | Checking that construction, insulation, lining, bracing, weather tightness, plumbing, and electrical work complies with the Building Code |
| Issue Code Compliance Certificates | When the building is completed | Checking that all the requirements of the Building Code are met. |

While the work of the interior system industry does not require an individual building consent, the jobs they do and the specifications they must meet form part of the approved working drawings and specifications that make up a building consent. Furthermore, their work is often subject to inspection prior to fixing (especially prelining and post lining inspections) and is even more common if the interior systems contribute to a buildings bracing.

Standards New Zealand

Standards New Zealand is the operating arm of the Standards Council, an organisation set up under the Standards Act 1988. The Standards Council is the governing body for Standards New Zealand.

What is a Standard?

Standards are agreed specifications for products, processes, services, or performance. New Zealand Standards are used by a range of trades to enhance their products and services, improve safety and quality, and meet industry best practice.

What are Standards for?

- Standards help to keep homes, buildings, playgrounds, and health services safe. They help to prevent accidents and injuries in a broad range of areas.
- Standards minimise the impact of potential disasters such as earthquakes, or fires and electrical hazards, and also improve the quality of goods and services. They help to protect the environment, and they boost our country's economic growth and our trade opportunities.

The standards that directly relate to the interior systems industry are:

- AS/NZS 2589:2007 - Gypsum Linings Application and Finishing and
- AS/NZS 2785:2000 - Suspended Ceilings Design and Installation
- NZS 1170.5:2004 - Structural Design Actions – Part 5: Earthquake Actions
- NZS 3101 Part 1. Concrete Structures; 2006. – The Design of Concrete Structures. Clause 17.5.5 includes "Post-installed mechanical anchors intended to resist seismic actions shall have passed the simulated seismic test of ACI 355.2."

Association of Wall and Ceiling Industries of New Zealand Inc (AWCI NZ)

The Association of Wall and Ceiling Industries of New Zealand Inc is a grouping of building industry organisations, including contractors, tradesmen, trainees, manufacturers and suppliers, established to represent the interests of members and their customers for ceiling, wall and lining sheathing systems and related products.

The association covers every sector represented in this introduction to the Interior Systems industry.

The association is focused on:

- Providing the New Zealand consumer with complete security in the knowledge that Certified AWCINZ Members are either trade qualified or possess the trade skills to perform and adhere to strict guidelines for achieving the highest possible standards in both workmanship and business practices.
- Providing customer service support, which includes dispute resolution facilities for members and their customers.
- Developing and directing Industry Training for contractors and students via the Interior Systems National Advisory Group (NAG) in conjunction with the Building & Construction Industry Training Organisation (BCITO).
- Representing the interests of members in industry developments and trade related matters.

In early 2016, AWCI released their *Code of Practice for the design, installation and seismic restraint of suspended ceilings*. The Code is intended to:

- Provide guidance and create awareness in the construction sector, from design to sign-off, of requirements and conditions for suspended ceilings that are appropriately designed and are installed to meet appropriate seismic performance limits.
- Reduce earthquake damage (and associated repair costs) caused by failure of suspended ceilings.
- Address recommendations of the Canterbury Earthquakes Royal Commission on better collaboration and evidence-based information to encourage low-damage buildings and the prevention or limitation of secondary damage.

Industry Training Organisations

Industry training organisations (ITOs) set the skill standards and arrange training for people employed in the industries the ITO is responsible for. Almost all apprentices in New Zealand are enrolled with an ITO.

The ITO that serves the interior systems trades is the Building and Construction Industry Training Organisation (**BCITO**). Aside from interior systems, the BCITO also serves industries such as:

- Cement and Concrete
- Tiling
- Frame and Truss Manufacturing
- Carpentry
- Proprietary Plaster and Cladding Systems
- Solid Plastering

Because the interior systems industry has two sectors and several sub sectors there are a range of qualifications offered by the BCITO. They are:

- National Certificate in Plaster Board – with strands in Fixing and Finishing
- National Certificate in Fibre Cement Linings – with strands in Fixing and Finishing
- National Certificate in Specialist Interiors (Installation) – with strands in Suspended Ceilings, and Proprietary Partitions,(optional strand in Access Floors)
- National Certificate in Fibrous Plaster – Manufacture
- National Certificate in Fibrous Plaster – Installation
- National Certificate in Construction Trades (Supervisor) - with an optional strand in Business Management

Job Roles and Training

The interior systems industry offers a range of jobs and a progressive career structure so you can grow and develop with experience.

We list most of them below, starting from the more junior roles and working upwards towards those that require more qualifications and experience but have subsequently greater rewards.

Unskilled labourer

This is the most junior position in the trade. The labourer does a lot of the general basic “lifting, carrying, loading and unloading” sort of jobs and is not expected to have a qualification. However a person with a good record of on-site experience can be a valuable asset to a construction company. It may also lead to an opportunity to do an apprenticeship.

The labourer will report to the main tradesman, foreman or leading hand.

Often their job may be on a casual contract basis and they can be easily out of work if the industry goes through a lean time.

Apprentice

To become qualified, interior systems tradespeople complete a formal apprenticeship. An apprentice is a person who has signed into a Training Agreement with an employer to learn the range of knowledge, skills, and competencies that are required for a career in interior systems. The qualification the apprentice gains will depend on which specialty they're working in.

Apprentices receive on the job training and are assessed for a range of theory and practical plastering work. Apprenticeships are "competency based" which is all about demonstrating the ability (both in terms of knowledge and skill) to complete a range of tasks to a recognised industry standard.

Once apprentices graduate, they are able to successfully complete, without supervision, all facets of their speciality to a professional standard.

Interior systems tradesperson

An interior systems tradesperson is a skilled person who performs a range of work operations involved in the interior systems trade, in which they have been successfully trained.

Once qualified, there are a variety of career paths to choose from - some requiring further experience and extra training including;

- Specialising in the residential (housing) or commercial sector.
- Working for a large construction company.
- Starting up in business as a sole trader.

Depending on the area of the trade that the tradesperson has chosen to work, they may report to different people.

If they are working on a large commercial site they will generally report to the construction foreman, although if they are a contractor they may report to the construction supervisor or project manager.

If the tradesperson is an independent business person (sole trader) they will be responsible for their own work performance but will have to perform to the contract and/or expectations of the home owner/building manager or the owner/architect if working in a residential or commercial structure.

Foreman/Supervisor

A foreman is usually a tradesperson with years of experience and specialist knowledge who is charged with the day to day organisation of a gang/team generally made up of qualified tradespersons and labourers. They will probably spend a reasonable amount of time still doing exterior plastering tasks.

Foremen/supervisors report to the project manager on large sites or to the main contractor/builder on smaller sites.

The National Certificate in Construction Trades (Supervisor) (Level 4) is designed to recognise the skills and knowledge required to be a supervisor/foreman in the construction industry.

Training enquiries

If you are interested in a career in the interior systems industry contact the BCITO:

Phone : 0800 4BCITO
0800 422486

Web: www.bcito.org.nz
getacareer@bcito.org.nz

For more experience at school contact your school Gateway supervisor or careers advisor,