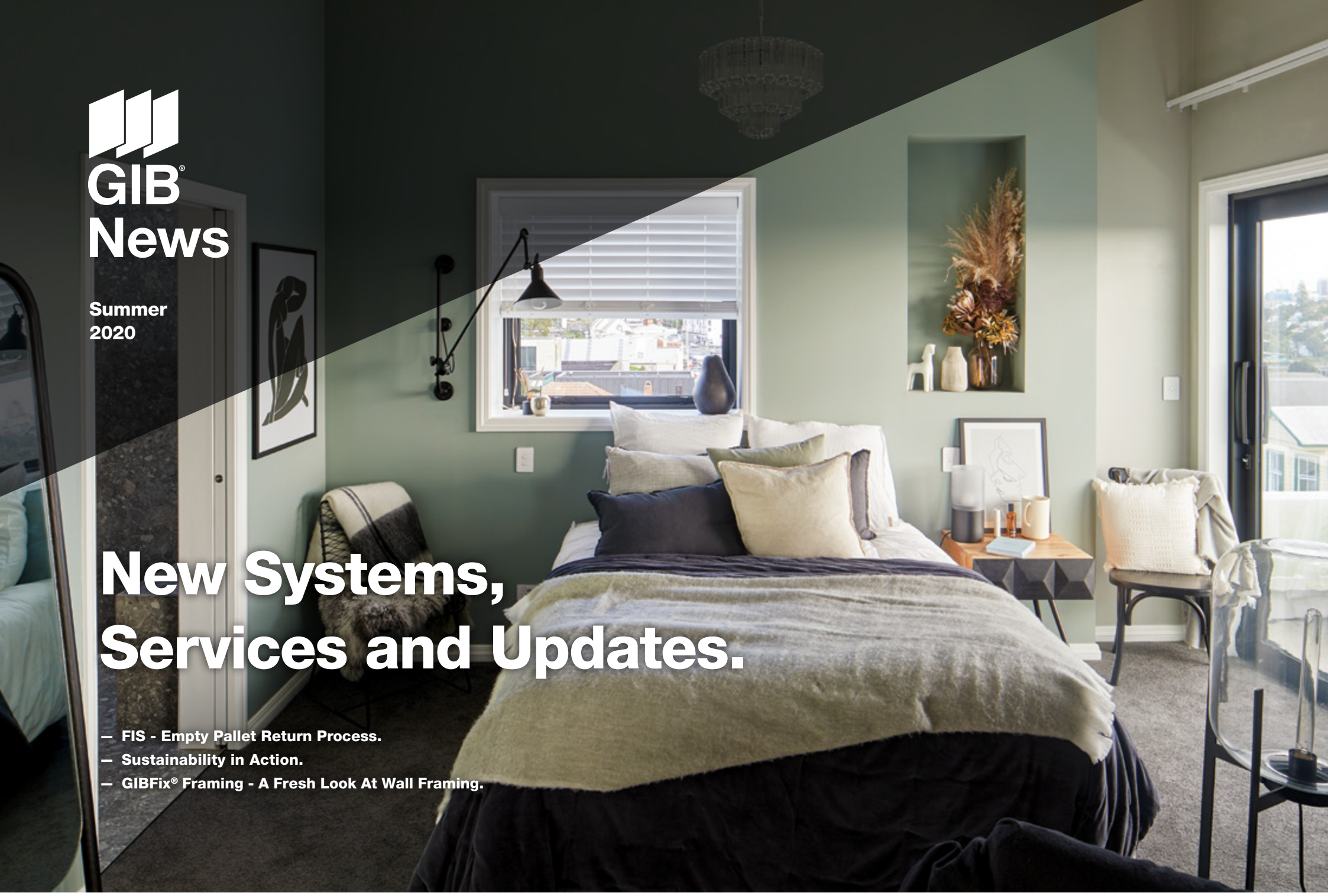


GIB® News

Summer 2020

New Systems, Services and Updates.

— FIS - Empty Pallet Return Process.
— Sustainability in Action.
— GIBFix® Framing - A Fresh Look At Wall Framing.

'Channel your inner sloth'

SUSTAINABILITY

by Karen Richter
Marketing Executive

Many of us will be glad to see the back of 2020. Covid-19 has wreaked havoc around the world, over a million people have lost their lives and economies have been battered. Here in New Zealand we've fared better than most but according to many experts, levels of anxiety, stress and uncertainty remain very prevalent.

So, what can we do to navigate these uncertain times?

The New Zealand Institute of Quantity Surveyors couldn't have anticipated the need to address this conversation with more clarity than they did at their recent conference themed 'Rethinking Construction; Creating a fairer and sustainable future', not only does this align with the Construction Accord but also our industry in taking charge and working towards a positive future.

With the support of Winstone Wallboards Ltd, NZIQS hosted a talk by renowned Kiwi psychologist, Nigel Latta. Here are his top tips for how to manage in times of uncertainty.

Don't just look after your body – look after your brain too.

We all have a fight or flight mechanism designed to protect us from harmful situations. But too much stress can over-activate our survival mechanism, impairing our health and making us feel out of whack. After periods of continued stress, the body loses its ability to rebound to bring itself back to balance and we become less able to deal with any curveballs thrown our way.

To help bring more balance into our lives Nigel suggests:

— Whether you're at work or at home, be mentally present – your head needs to be where your feet are.
— If you need help, follow John Kirwan's lead and go to your GP and ask for it.

Uncertainty is the new certainty.

If you're feeling overwhelmed by the uncertainty Covid has dished up, you're not alone. The challenge is learning to live with it.

"It's important to know that bad stuff happens regardless, but we are in charge and we can choose how we react to it" says Nigel.

Channel your inner sloth – slow down, take a breath, don't panic. Use the breath to focus the mind through 'box breathing': inhale for a count of four, hold for a count of four, exhale for a count of four, hold for a count of four. Repeat.

— Keep regular track of how you're feeling. And find out why you are feeling that way.
— Distract your mind by doing something you enjoy – mow the lawns, walk the dog, repair something.

Flexibility – developing new strategies and ways of thinking

In the words of Albert Einstein – "Insanity is doing the same things over and over again and expecting a different result."

Nigel agrees. "The same old, same old won't work anymore. We need new strategies, new ways of thinking and new ideas of how to deal with things."

— Nurture your organisational culture through teamwork, good communication, and ensuring team members feel safe to express their thoughts and ideas – the stronger the team, the better the psychological safety.
— Develop your lateral thinking skills – learn to look at problems from different angles. Check out Edward de Bono's book 'Lateral Thinking'.

Thanks to NZIQS for addressing this important conversation and with the help of familiar, trusted and renowned presenter Nigel Latta providing its members with some practical and helpful tips.

WE LOOK FORWARD TO WORKING WITH YOU IN 2021

FOREWORD

by David Thomas
General Manager

In reflecting on 2020, it is impossible to go past the impact of Covid-19. Of course the major factor in determining any response was the huge uncertainty about what the future would bring. For us in the building industry, there was a strong view there would be a fair level of work that would need completion. However who would have thought, as we came out of Alert Level 4 in May, that the expected short term surge in demand would last as long as it has and indeed appears to have more life in it yet?

Certainly the depth and longevity of demand has surprised us and, given the downsizing we executed in June, we have been running flat out to meet record output levels. We are very confident that we have sufficient manufacturing capacity to meet our forecasted demand and, being mindful of potential global supply chain and NZ port issues, we are looking to improve our stock position of imported materials.

Of course Covid-19 forced us all to operate in an environment where face-to-face contact with customers and stakeholders was very limited and "working from home" became the norm for a fair proportion of our workforce. Exactly how this will evolve over time is an interesting question. While the increased flexibility and saving in travel time (for some) was a big plus for many, so too did many miss the social contact with work colleagues and as such I am sure there will be opposing views as to which mode of work is more efficient.

In thinking about the future, we will continue to strive for operational and service excellence while creating an even safer work environment.

The project to build a new manufacturing and distribution facility in Tauranga is progressing well and, while challenging, is also very uplifting. On that note we expect to start the civils and building work in January next year with a target completion period of just over two years.

So, for what is frequently described as a very challenging year, I would like to very much thank you for your support, and trust you all have an enjoyable festive season. We look forward to working with you in 2021.

WE'VE DONE IT AGAIN

EVENT

by Sarah Joblin
Marketing Coordinator

A big thanks to all those who voted for us in this year's Hardware Awards. We feel very humble to have won the 2020 Supplier of the Year - Building Supplies award, for the 16th consecutive year.

The award is voted on by our merchant customers and it is wonderful to be recognised by them as being number 1 by the customers choice.

This is a huge sign of appreciation from our customers for what every individual does across the business every day, to make things as easy as possible for them. Thank you very much to everyone.

We believe this is the best recognition we can get, and it's an accolade we are extremely proud of.

FREIGHT INTO STORE (FIS) EMPTY PALLET RETURN PROCESS

SERVICES

by Grant Glover
Business Improvement Manager

After successful trials we are rolling out the new FIS Empty Pallet return process to all South Island Merchants.

Winstone Wallboards have been running trials in the lower half of the North Island to improve the empty pallet return process with some great results.

Previously empty pallets were collected from Merchants and not credited until the pallets arrived back to the Distribution Centre, often after being unloaded and reloaded by carriers when coordinating their return loads to also accommodate freight commitments.

This sometimes resulted in a slower return of pallets and at times discrepancies which created delays in credits to customers.

The new process now credits the Merchant on the day following collection based on the Carrier and the Merchant both signing the Merchant Pallet Collection form. This has resulted in a faster credit transaction for our customers with less discrepancies.

We have recently implemented the new process to all South Island Merchants which commenced on 7 September 2020.

A LIFE-SAVING BUILD

SYSTEM SPECIFICATION

by Dennise Austin
Architectural Sales Manager

Alpha Interiors Group – one of the country's largest commercial interior fit out companies – has played a key role in some incredibly diverse projects, from Britomart Railway Station and the Spring Hill Corrections Facility, to the Sofitel Wellington and Redbull's Auckland HQ.

But quite probably none have been as rewarding as the work they are currently undertaking at Wellington's new Children's Hospital.

Scheduled to open next year, the three-storey hospital will feature 50 beds and 21 clinical rooms and will offer state-of-the-art care for the region's young people. Made possible thanks to a $50 million donation from philanthropist Mark Dunajtschik, the new facility is being built on the grounds of the current Wellington Hospital in Newton and will connect via a link bridge to the main hospital.

"The new Children's Hospital will be world class, ensuring brighter, healthier futures for generations of children to come," says Alpha Interiors Wellington General Manager Donovan Hobbs.

Already, the Club GIB® Installer has gone through over 7000 sheets of GIB® plasterboard, 250,000 GIB® screws and 1400 tubes of glue on the job – plus they've had to navigate a whole host of challenges.

"Hospitals are very complicated builds, the sheer number of services required to be coordinated within the build is enormous. Not to mention this building is Importance Level 4, so seismic implications on all aspects of the build have been very intensive."

But Donovan says there have been plenty of highlights too.

"There has been a massive amount of collaboration between the design team, main contractors and subcontractors."

It is essential to have the right information to make the best decisions about specification and installation to ensure these buildings are well designed to perform now and into the future.

GIB® systems from our Noise Control Systems and Fire-Rated Systems literature that were particularly appropriate for healthcare and hospitals are available in the GIB® Healthcare Design Guide detailing design considerations such as acoustics in hospital environments, impact, crash rails and overlays, and surface abrasion resistance.

Additionally, as the requirements and expectations of healthcare facilities changed, we found there were opportunities to develop new systems that would be particularly suited to environments that may require a range of responses for mould resistance (high hygiene), impact resistance (gurneys in corridors) and noise resistance (for privacy and rest).

For further information on the GIB® Healthcare Design Guide go to gib.co.nz or call the GIB® Helpline on 0800 100 442.

CALLING ON ALL SITE CONTACTS

SERVICE

by Karen Richter
Marketing Executive

If you like the convenience of the DTS (Delivered to Site) text message notifications then let me introduce you to the next level of 'EASY'.

The text message that signals when your plasterboard will arrive now includes a link providing a detailed order status update.

Simply click the link, or alternatively go to the GIB® App and click on 'GIB® Delivery Tracking', type in your mobile number, and you'll be able to see all orders with you recorded as the Site Contact, including everything from the site check and delivery reports, to exactly which stage of the process your order is at. Not only that, if the truck is on route to your worksite, you'll be able to follow its journey via a live map function!

Benefits:

- View status of your delivery simply from your mobile device.
- Easy access to the 'Site Check Report'.
- Track the truck when 'On Route'.
- View 'Proof of Delivery' report instantly.

If you have questions or would like to get training call Karen on 027 475 8289. For further information visit gib.co.nz or scan the QR code to watch a short video.

Keen on making your whole ordering process simpler? Sign up to MyGIB® and order all your GIB® products online.

GIB order 1234567: 2 Example Rd, Henderson, dlvry 05/02 ETA btwn 2.00pm - 5.00pm. Track dlvry mygib.gib.co.nz/#/DTS Site not ready? ph 0800475475

Step 1

Click on the link in the text message you received. Alternatively go to the GIB® App and click on 'GIB® Delivery Tracking'.

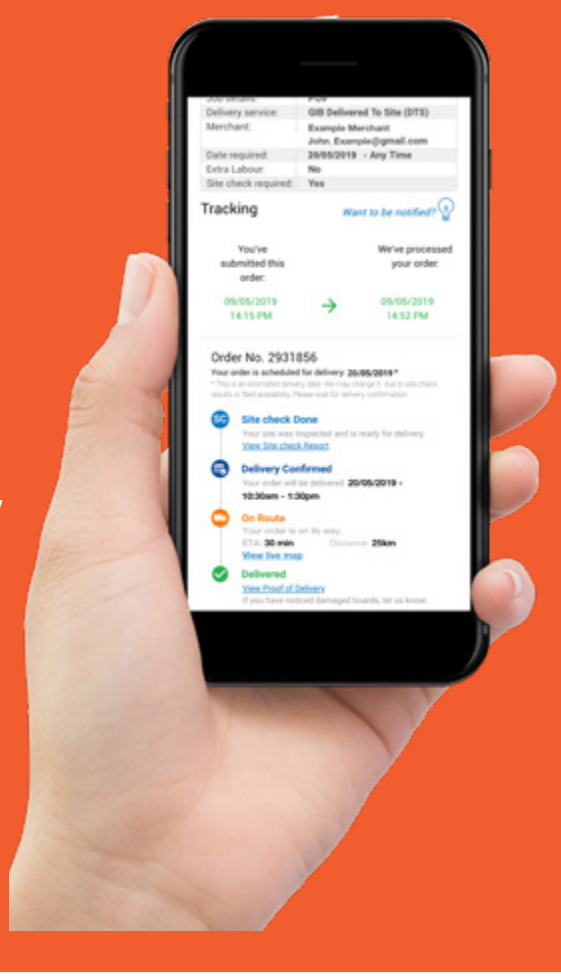
Step 2

Add your mobile number and click 'Authenticate'. Add the verification code, sent to your mobile to view orders registered with this mobile number.

Step 3

View the status of your delivery.

The site check report and the 'Proof of Delivery' report can be easily accessed via the link.



THE OLD 'SWITCHEROO'

TALKING TRADE

by Russell Pedersen
Technical Support
and Training Manager

On the GIB® Technical Helpline there isn't a day that we don't get asked about substituting components in our systems.

I mean, what's the difference between these screws? Why can't I use this other branded hold down bracket?

You may be surprised to find that the answer is actually: Yes, you can.

It's not quite that simple though, there is a catch.

We have a statement, almost like a team motto, that hangs on the wall above every desk in the Technical Support office. It reads like this:

> If you choose to substitute a component within a tested system, the responsibility lies with you to verify its suitability in every regard.

The key thing to point out here is that our systems are tested and verified. This means when we go to one of our testing sites we use a specific list of components, this list is recorded by BRANZ and we measure the performance of a specimen based on the sum total performance of all the parts. If you choose to substitute one of these components, you could potentially change the performance. If the component you choose has an equal or higher performance then this isn't a problem, all you need is to back this up with some form of verification for certification. This should be readily available from your supplier.

GIB® plasterboard is made, and tested, right here in New Zealand. This means when you specify and buy a GIB® system, the same people that carried out the testing are answering the phone and offering support. We aren't passing you around different sub-suppliers and passing the buck.

With the year closing, we are planning our testing regime for the year ahead. Many of the tests we will be conducting have come about from inquiries and real life problems put to us by customers like yourself.

Every test is planned out meticulously, every part and component designed specifically to solve these problems and we are here to help the systems be specified and installed as we designed them.

Quite simply: Tried. Trusted. True.

For further information refer to the GIB® Site Guide, also available on the GIB® App, or call the GIB® Helpline 0800 100 442.

GIB Aqualine® – As a substrate for wet area tiling.

TECHNICAL

by John Jamison
Technical Manager

GIB Aqualine® is part of a system that protects areas where there is intermittent water exposure and areas prone to water splashing within residential and non-residential buildings – in particular, areas covered by the New Zealand Building Code (NZBC), Clause E3 Internal Moisture.

Although able to cope with infrequent short-term exposure, standard gypsum plasterboard will have a shortened life expectancy when frequently exposed to water or moisture.

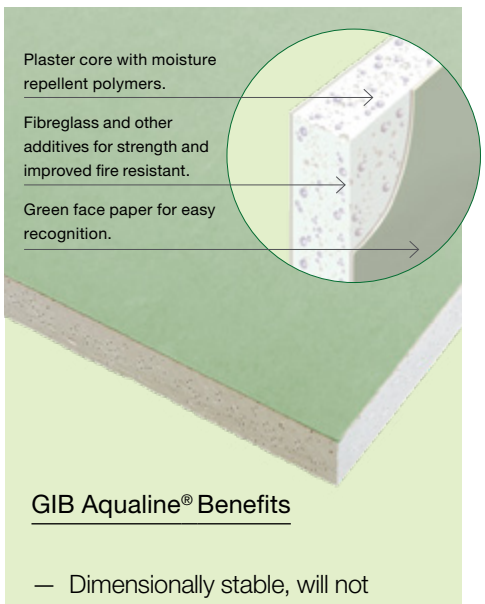
It is highly desirable to incorporate lining materials that will maintain their integrity longer when exposed more frequently to water, or steam, and particularly to one-off events such as a plumbing leak causing the flooding of a room. GIB Aqualine® is ideal in such situations because it features a water resistant core.

Unlike other commonly used substrates, the GIB Aqualine® core not only resists penetration of water through the lining into the framing behind, but also resists water "wicking" up the core, a common cause of long-term damage where a water resistant lining has not been used. GIB Aqualine® will maintain its integrity for extended periods, particularly where wicking over large areas can destroy the integrity of the interface between the lining and paint, or wallpaper surfaces, or between the lining and the tile adhesive.

Because GIB Aqualine® is dimensionally stable and resistant to water damage, it is an ideal substrate for tiling in residential wet areas. 10mm and 13mm GIB Aqualine® are suitable for tile weights up to 20kg/m² on timber framing, and 13mm GIB Aqualine® on steel framing and for tile weights between 20 and 32kg/m².

Liquid applied water proof membranes and tile adhesives readily adhere to the GIB Aqualine® face liner and GIB® jointing compounds. It is important, though, to use a water proof membrane that is compatible with GIB Aqualine® and the tiles. The Wet Area Systems book and the GIB® Site Guide provide further information to help.

For further information visit gib.co.nz/gib-aqualine-wet-area-systems



GIB Aqualine® Benefits

- Dimensionally stable, will not buckle or warp, hence an excellent substrate for ceramic tiles.
- Water resistant and durable to help protect against water damage.
- Suitable for both residential and non-residential applications.
- Conventional jointing methods.
- Easy to cut and form openings.
- Contains fibreglass and other additives for strength and fire resistance. May be used in GIB® Bracing, GIB® Fire Rated and GIB Noise Control® Systems (see Compliance with the NZBC, Clauses B1, C3 and G6). Consult the appropriate GIB® literature for installation details.
- Green face paper for ease of recognition.

Limitations

- GIB Aqualine® must not be used for bracing purposes in shower cubicles or above baths.
- Do not use GIB Aqualine® where it may be exposed for extended periods to humidities of 90 percent relative humidity and above. Such areas include group shower or steam rooms as well as moisture and chlorine rich environments such as indoor swimming pools.
- GIB Aqualine® must not be directly applied to solid plaster (gypsum or cement), wood based sheet linings or similar materials, masonry or concrete. GIB Aqualine® may only be applied to these materials where timber strapping or steel furring channels are installed.
- GIB Aqualine® must not be installed over a vapour barrier or a wall acting as a vapour barrier.
- Cracked or damaged sheets must never be used.
- GIB Aqualine® must not be used in external applications.
- GIB® plasterboard must not be exposed to temperatures in excess of 52°C for prolonged periods. Heat-generating devices may include halogen lighting, cooking elements, radiant heating, solid fuel exhausts and fire surrounds. Consult the appliance manufacturer for installation details.

THE SUPERHOME MOVEMENT

EVENTS

by Clara Sumner
Partnership Manager

The Superhome Movement 2020 has adapted well to the challenges this year. The annual tours have been replaced with video and virtual tours, and the team have been busy working on the Healthy Homes Design Guide.

Superhome Virtual Tours

As an alternative this year, the annual Superhome tours were instead completed as video tours and interviews, now available on the Superhome website.

The team are also working, in partnership with Beca, on a new 3D virtual tour tool which will compliment physical and video tours. The demonstration home at 11 Church Square has been 3D scanned as an exemplar and will be made available in the next month. The new 3D virtual tour tool will enable the public to walk through the homes and provide links to technical and professional data as an education tool. Winstone Wallboards are proud to be a Superhome tour partner.

Healthy Homes Design Guide

The Healthy Homes Design Guide has received input from over 70 professionals across New Zealand, working together to improve New Zealand's housing quality. With many of our homes being cold, damp and mouldy, it certainly needs improving.

We have one of highest rates of asthma death in high income countries*. Asthma New Zealand, who provided the foreword for the guide, says that 87% of their patients live in housing unfit for human habitation.

The Superhome Movement's focus is education through open source sharing of new ideas, technologies and techniques to improve the design and construction of all homes. The purpose of the Healthy Home Design Guide is to provide a step change pathway to help designers bridge the gap between code minimum compliant new dwellings and International Best Practice. It provides recommendations for Healthy, Resilient, Low Carbon Homes that are simple to achieve and don't require an arduous and costly rating or certification process.

The guide is in the final stages of editing and is intended to be released in late 2020. A Renovation Design Guide will follow next year.

To keep updated on the guide's release, or to join the movement, you can sign up through the Superhome website or by emailing info@superhome.co.nz

**Asthma NZ*

The article was supplied by The Superhome Movement.

GIBFIX ONE® VS. GIBFIX® ALL-BOND

PRODUCT

by Cath Montgomery
Product Manager

Have you ever felt a little unsure if you were using the right GIB® adhesive for the installation of GIB® plasterboard?

Good news is that GIBFix One® and GIBFix® All-Bond are both excellent adhesives specifically formulated for installing plasterboard on vertical and horizontal surfaces so most of the product selection comes down to user preferences. However, there are a few key differences which we have outlined in the table to ensure you select the right GIB® adhesive for your application and the environmental temperature that you are using it in.

Application	GIBFix One®	GIBFix® All-Bond
Ideal for use installing GIB® Plasterboard ceilings and walls.	✓	✓
For use on timber and metal framing including all treated timber, plywood, timber based panels.	✓	✓
Can be used on LOSP Timber*	✓	✓
Low VOC	✓	✗
Water based non toxic	✓	✗
Solvent based	✗	✓
Can be used in temperatures as low as 5°C	✗	✓
Can be used in temperatures from 10°C	✓	✓
General Purpose construction adhesive**	✗	✓

**but not wet LOSP,*
***but not polystryene or acrylic shower trays*

Note: *Sheet edges must be screw fixed. The only exception being the edges of door or window openings in walls where the sheet edges can be adhesive fixed (unless forming part of the perimeter of a bracing element). Ceiling screws are required at the edges and centre of the sheet across the batten. Refer to the GIB® Site Guide or your relevant performance system manual.*

Water based adhesives like GIBFix One® rely on the evaporation of water to cure. Bonding surfaces together that are impervious to water, such as steel and non-absorbent plasterboards, extends cure times. For this reason GIBFix® All-Bond is the recommended adhesive for fixing GIB Aqualine® to metal ceiling battens.

For further information visit gib.co.nz or call the GIB® Helpline 0800 100 442.

COMPOUND ADHESION MECHANISM TO PLASTERBOARD

CASE STUDY

by Anuradha Abhyankar
Senior Chemist

People in New Zealand mostly prefer monolithic walls - nice and smooth, finished with paint.

To achieve this smoothness, joint compound is applied on the joints, reinforcing them with tape. The choice of joint compounds that can be used are from either a setting type (plaster-based powder formulation) or air-drying type (limestone-based ready mixed paste from a pail/box). Ideally these joint compounds are applied in three coats.

01. Base coat or the taping coat in which the tape is incorporated.
02. Second coat to fill any hollows left by the earlier coat.
03. Topcoat to smooth out the joint and get an even finish.

Normally the first two coats used are from the setting type of compounds, and the topcoat used is from the air-drying type of compounds. Sometimes some stoppers use air-drying (ready mixed) compounds for all three coats.

Here, the opportunity is taken to describe the mechanism of how these two compound types (setting and air-drying) help adhere to the plasterboard and create that strong bond (base coat adhesion). Also detailed are the points we need to be aware of, and consider, when deciding on the choice of compound to be used.

Setting compounds

These are plaster-based powdered compounds and are mixed on site with water before use. They come in pre-determined working times as indicated on the bags. For example, a 90 minute product is going to set in about 90+ minutes from the time the powder is added to water. So essentially, all mixed compound needs to be used up in 90 minutes. Mechanical tools if used need to be cleaned before the compound sets in them.

This plaster mixture is applied on the plasterboard and the tape reinforced in the joint. When this compound is spread on the plasterboard, the compound starts losing moisture back into the board and some of the moisture will evaporate into the atmosphere, depending on the environmental conditions. Simultaneously the plaster is converting to gypsum. This conversion (chemical reaction) exhibits itself as an exothermic reaction. Heat is generated as the gypsum crystals form and grow. The gypsum crystals grow within themselves and into the plasterboard paper surface. This growth creates the anchor points for the compound to adhere to the plasterboard. When this compound dries, the gypsum gets its full strength realisation and presents itself as a strong joint.

Care needs to be taken to make sure that adequate compound is under the tape and the compound sets before it dries, especially in hot dry environments. A small amount of polymer binder is added to cater for the adhesion of the feathered edges to the plasterboard. Setting compounds dry relatively quicker and shrink less. The bulk of the shrinkage takes place within the setting time. The strength of the setting compound exhibits itself in the form of a product being hard to sand and therefore not recommended as a topcoat.

Air drying compounds

There are no time restrictions on use of air-drying compounds compared to the setting type compounds, especially when used in machine tools. Most air-drying compounds can be used as a base coat. These compounds bring about the adhesion to the plasterboard by compacting itself (manifested as shrinkage) and embedding into the coarse paper surface. The shrinkage helps pull the compound closer to the plasterboard surface making it denser and generating the adhesion. More polymer binder quantities are present in these formulations as compared to the setting compounds and thus exhibit good adhesion on the plasterboard when dry.

In using these compounds as a base coat, care needs to be taken to have enough compound under the tape to get good adhesion. These air-drying compounds shrink more than the setting type of compounds. Air-drying compounds take more time to dry and rely more on the environmental conditions (temperature and humidity) to come to its stable state. Until the time the compound is completely dry, shrinkage continues to occur. Drying can take much longer in winter and has potential to result in delayed shrinkage issues if not taken care of while stopping. Once dry these compounds are comparatively easy to sand and create a smooth surface much more easily.

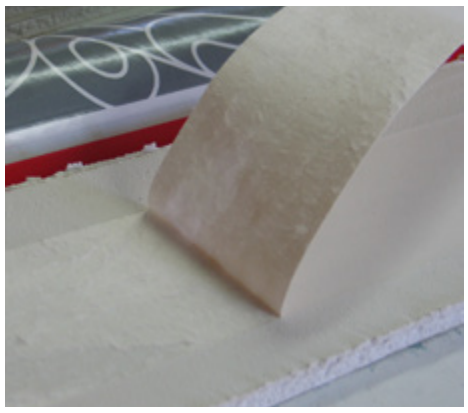


FIGURE 1: Setting compound strong joint adhesion through gypsum crystal formation.

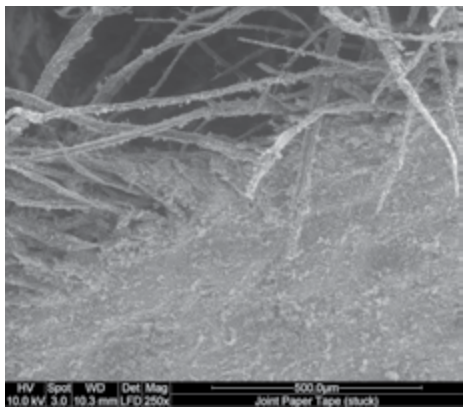


FIGURE 2: Gypsum integration with the paper fibres.

FIGURE 3: Air-drying compound strong mechanical adhesion on plasterboard.

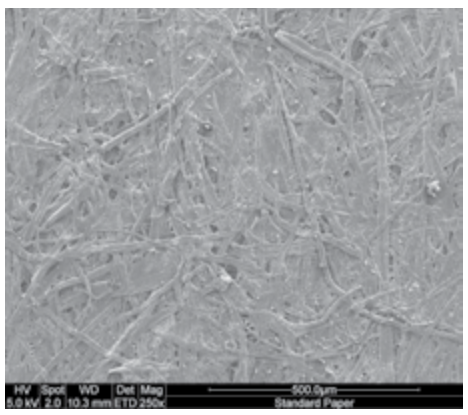


FIGURE 4: Paper surface enlarged to show keying sites.

Main points we can take away can be summarised as:

- Environmental conditions need to be kept in mind before making a compound choice. Use of appropriate heating and good ventilation to be ensured.
- Setting compounds are preferred to be used as base coats, especially in winter.
- Air-drying compounds can be used as a base coat where there are very good drying conditions, as in summer, or provided it is completely dry before the second coat is applied.

For further information visit gib.co.nz or call the GIB® Helpline 0800 100 442.

GIB NOISE CONTROL® SYSTEMS SUPPLEMENT UPDATE AVAILABLE

LITERATURE

by Hamish Ewan
Senior Technical Engineer

An update to the GIB Noise Control® Systems Supplement is available now.

The GIB Noise Control® Systems Supplement is an online document which is supplementary to the technical information found in the GIB Noise Control® Specification and Installation Manual September 2017.

The supplement contains less commonly required technical information which may not be appropriate for inclusion in the main technical literature. It includes topics such as guidance on environmental noise, polyester sound control options and additional two way FRR Noise Control Systems.

The updated supplement also includes additional GIB Barrierline® junction details which incorporate the use of rigid air barriers.

The GIB Noise Control® Specification and Installation Manual September 2017 remains our primary piece of noise control technical literature and should always be referred to in the first instance.

For more information download the GIB Noise Control® System Supplement or call the GIB® Helpline 0800 100 442.

GIB® INTER-TENANCY BARRIER SYSTEMS

CASE STUDY

by Hans Gerlich
Senior Technical Engineer

The last few years has seen a rise in multi-unit residential design and construction, and with it an increasing popularity of intertenancy (IT) barrier systems to achieve superior noise attenuation and fire resistance between dwellings.

How an IT barrier system works

Central IT barrier systems come in many forms, such as aerated concrete, concrete tilt-slab, and plasterboard systems. The main advantage is that the Sound Transmission Class (STC) and Fire Resistance Rating (FRR) is substantially achieved by a heavy central barrier between frames, leaving the unit linings conventional. Depending on the central barrier type, several internal lining service penetrations can often be permitted, without the need for complex fire-stopping or acoustic treatment.

Fixings that fail in a fire, such as aluminium clips, connect the central barrier to the frames either side. In the case of a fire in one unit, the clips on the affected side fail, allowing that unit to detach, whilst the protective central IT barrier remains connected to the adjacent unit.

A central IT barrier system was put to a real-life fire test at Hobsonville Point Auckland in September 2017. The picture below shows the substantial fire and collapse of the structure on the right, whilst part of the building on the left remains standing, protected by a central barrier vertical fire separation.

ABOVE: Figure 1, Hobsonville Point Fire, September 2017

Central barrier and conventional double frame systems

In contrast, a more traditional double frame IT wall system requires heavier and/or multiple internal apartment linings to create the mass required to meet STC and FRR performances. These linings protect the framing behind, and to maintain their integrity tested and verified service penetration seals must be installed.

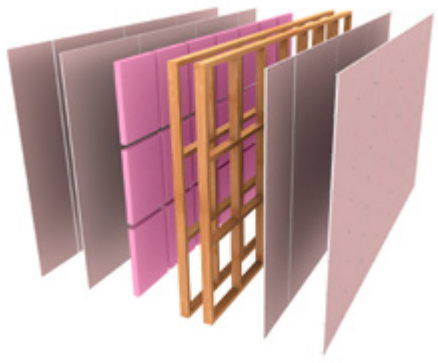
Horses for courses

It must be remembered that central IT barrier systems have been developed to provide vertical separation between units and are ideally suited for Terrace Home applications. Difficulties can arise when IT barrier systems are specified in multi-level apartment construction where horizontal separation is also a requirement.

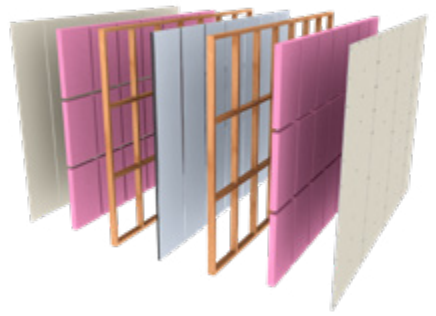
In framed multi-unit and multi-level construction, the loadbearing members of lower apartments must remain intact during a fire to avoid fire spread and progressive collapse. This means that the lower loadbearing frames require heavier protective linings and that any service penetrations must be fire-sealed. In this case central IT barrier systems with conventional apartment linings do not work, and it would be more cost-effective to revert to a traditional IT wall configuration, such as a double frame system.

Figure 6 illustrates how a traditional double frame system is used in multi-level apartment construction. If we were to substitute a central IT barrier system, then lower loadbearing frames must also remain fully protected with heavier linings. In addition to fire protection, the lower apartment linings assist with achieving required noise attenuation and minimise potential noise 'flanking' via the structure. The need for lower frame protection largely negates the benefits of a central IT barrier system.

Figure 7 gives an example where IT barrier systems can be successfully used in multi-level apartment construction. In this case a separate structure supports the higher floors and the apartment IT walls are non-loadbearing elements providing vertical fire and noise separation.

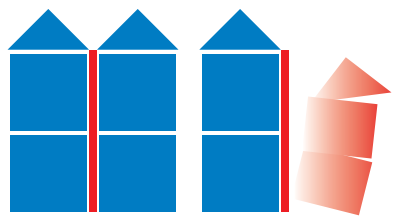


ABOVE: Figure 2, Double timber frame IT wall system, heavy unit linings, penetrations sealed

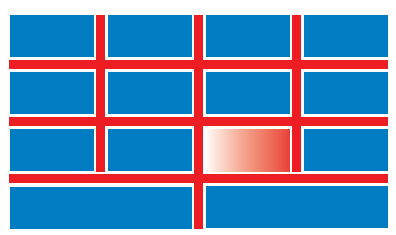


ABOVE: Figure 3, Central barrier IT wall system, conventional unit linings, some penetrations permitted

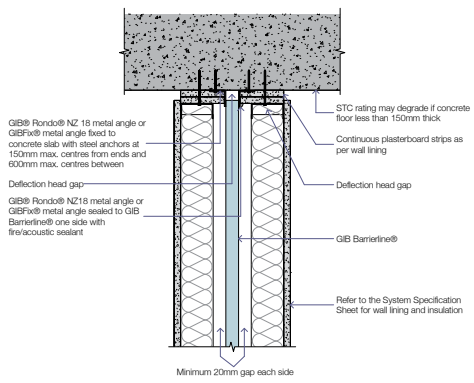
ABOVE: Figure 6, Double frame in multi-level, linings protect lower loadbearing frames



ABOVE: Figure 4, IT Barrier Systems are ideal for Terrace Homes. The central barrier remains attached to the non-fire side. Loadbearing members of the fire-affected unit can fail.



ABOVE: Figure 5, Use IT Barrier Systems with care in multi-level apartments Conventional double frame IT systems might be more efficient. Loadbearing members of the fire-affected unit must remain intact.



ABOVE: Figure 7, IT barrier in multi-level, separate structure supports floors above

Final words

Carefully consider what IT system best suits your needs. Central IT barrier systems are ideal for Terrace Home applications, whilst traditional double frame systems might be the better option in multi-level apartment construction depending on the structural system selected.

For more information download the 'Case Study' document or contact the GIB® Helpline 0800 100 442.

Sources for further information include;

GIB® Noise Control Systems, 2017
gib.co.nz/systems/gib-noise-control-systems/

GIB® Fire Rated Systems, 2018
gib.co.nz/systems/gib-fire-rated-systems/

New Zealand Wood Design Guides
nzwooddesignguides.wpma.org.nz/home/

MULTI-STOREY ACOUSTIC SOLUTIONS

CASE STUDY

by Hamish Ewan
Senior Technical Engineer

Wall types	GIB® specification number	FRR	STC	Partition width	Recommended maximum wall height
Double C-section steel frame	GBSA 60c	-/60/60	59	186mm	2700mm
Single GIB® Rondo® Quiet Stud® steel frame	GBQSA 60a	-/60/60	55	128mm	3800mm
Connected central barrier double steel frame	GBSAB 60e	-/60/60	57	193mm	4000mm

Many people engaged in the design and construction of lightweight terrace homes will have seen the shift to central barrier type intertenancy (IT) walls over recent years. The advantages that the central barrier type walls bring to the table are undeniable.

These advantages include:

01. High levels of FRR and STC performance;
02. The ability to penetrate wall linings with electrical and plumbing services (within certain limitations) without the need to fire seal those penetrations;
03. Wall linings can terminate at ceiling level.

GIB Noise Control® Systems include several central barrier type wall specifications that are suitable for lightweight terrace home designs.

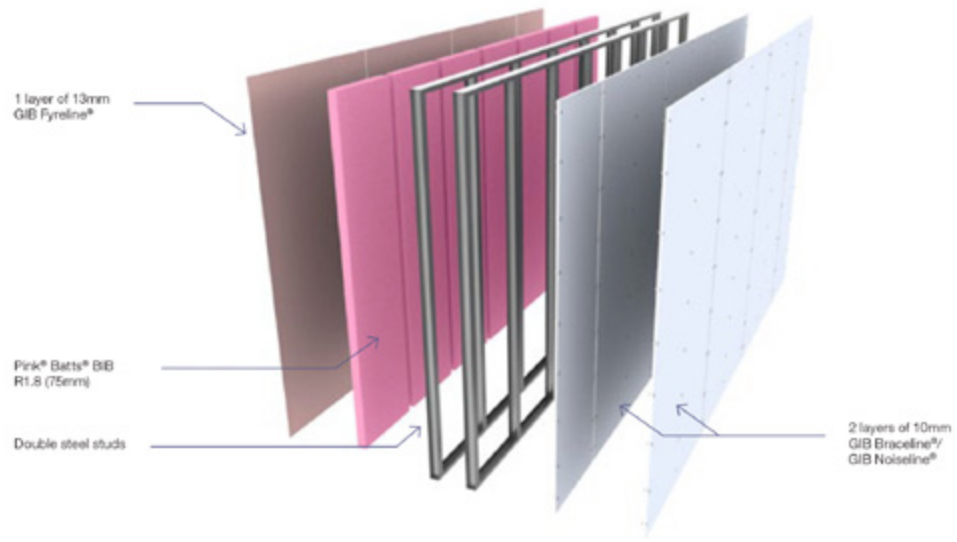
But what about large-scale apartment buildings? These designs typically utilise a primary structure made from steel and/or reinforced concrete, which then have non-load bearing partitions added to form the external and internal walls. Do the designers and builders of these large-scale apartment buildings have any viable central barrier type IT wall options? The answer is yes, they do.

The traditional framing material utilised for non-load bearing partitions in large-scale apartment buildings is light gauge steel. This is driven by cost and framing depth considerations. A narrower partition wall results in more usable floor area. Common framing arrangements for IT partition walls include double C-section steel frame and single GIB® Rondo® Quiet Stud® steel frame. A relatively new option is the connected central barrier type wall constructed from a double C-section steel frame. Examples of each of these three types of non-load bearing IT wall specifications are shown in the table above. They, along with numerous other specifications, all appear in the GIB Noise Control® Systems Manual.

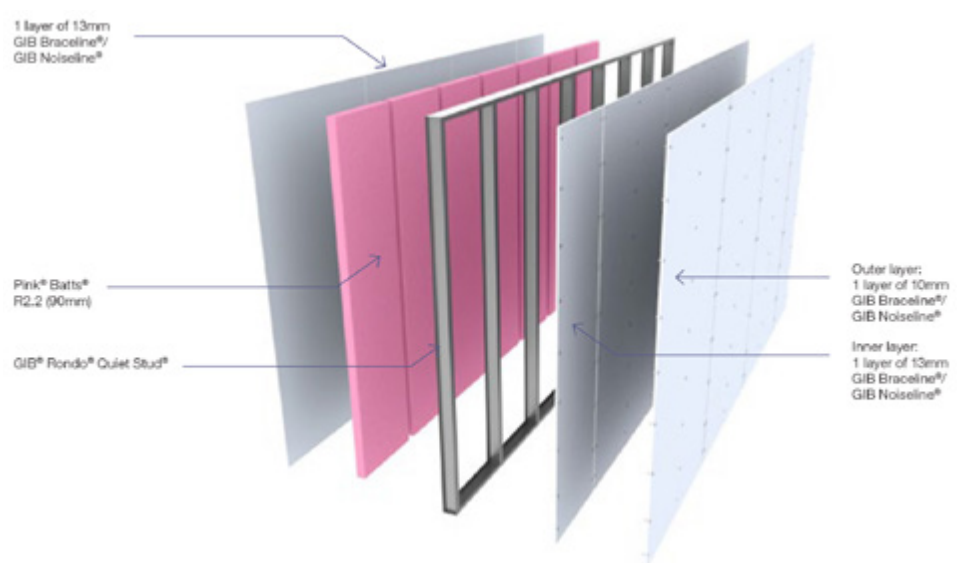
Whilst the FRR and STC performance of these three wall specifications are the same, or similar, the construction of each one is very different. This can be seen by looking at the 3D views below. What can't be seen however are the inherent advantages that come with connected central barrier specification GBSAB 60e. Not only can it stretch to a maximum wall height of 4000mm when constructed from standard 64 x 34 x 0.50mm steel framing, it can also accommodate unprotected electrical and plumbing penetrations through the wall linings (within certain limitations). This advantage over the other wall types can translate into a welcome reduction in the passive fire protection budget for the project. Having that uninterrupted central barrier also provides an additional level of confidence that the final installation will achieve the claimed levels of FRR and STC performance.

For more information download the 'Case Study' document or contact the GIB® Helpline 0800 100 442.

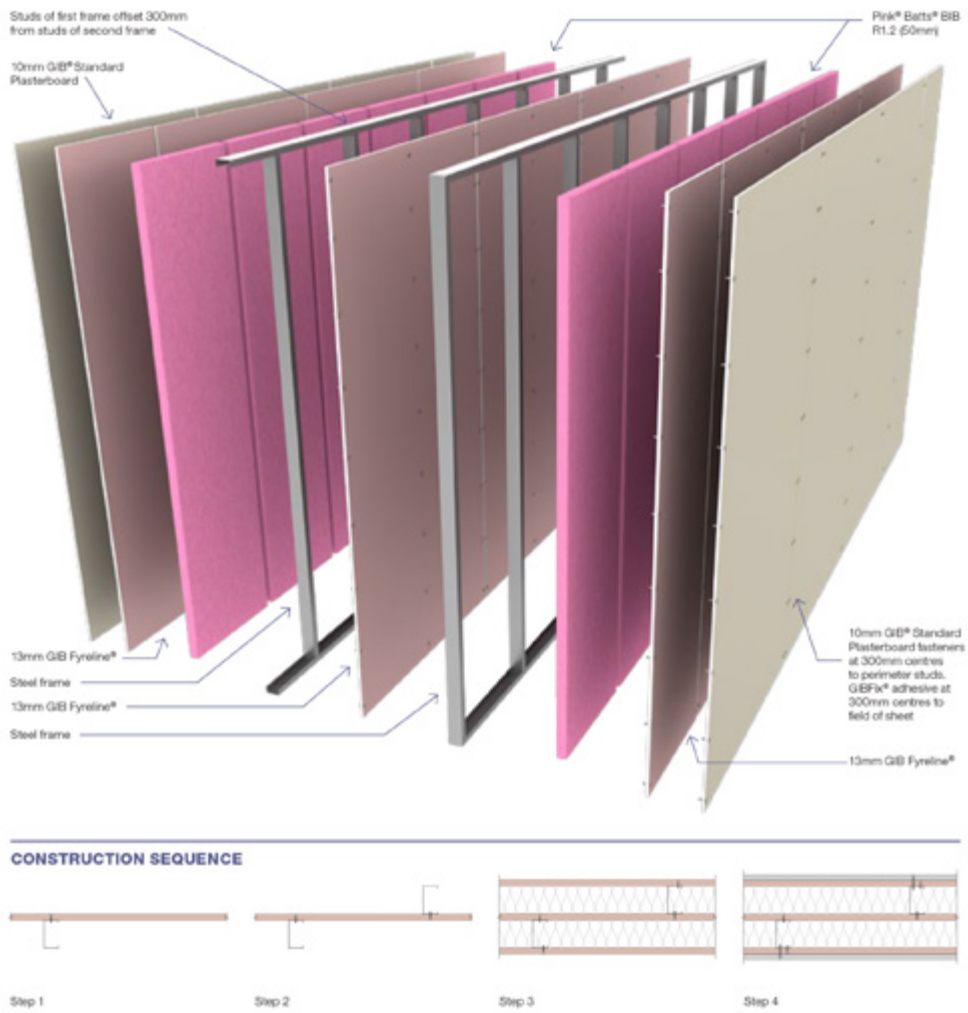
BELOW Figure 1: GIB Noise Control® System specification number GBSA 60c.



BELOW Figure 2: GIB Noise Control® System specification number GBQSA 60a.



BELOW Figure 3: GIB Noise Control® System specification number GBSAB 60e.



LOOPED CABLE PENETRATIONS

LITERATURE

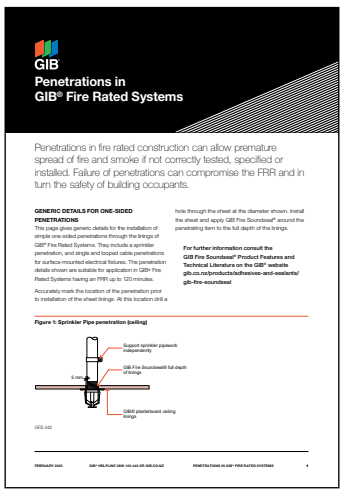
by Hans Gerlich
Senior Technical Engineer

In our 2018 GIB® Fire Rated Systems Specification and Installation Manual we introduced GIB Fire Soundseal®, an improved formulation when compared with the previous GIB Soundseal® which did not have verified fire-resistant properties.

Although we have kept the scope of application of GIB Fire Soundseal® tight, and although covered by associated BRANZ Appraisal No.289 [2018], customers have asked for separate clarification and verification. Many have also fairly pointed out that there is limited use for single electrical cable penetrations and that most surface mounted fittings require looped wiring which means penetration by two electrical TPS cables.

Our latest February 2020 release 'Penetrations in GIB® Fire Rated Systems' covers the already published sprinkler pipe and single electrical cable penetrations and adds looped two or three core TPS cable penetrations on timber blocking. These penetration seals have now also been separately covered in BRANZ Technical Opinion FC12740-001 available by visiting branz.co.nz

For more information download the 'Penetrations in GIB® Fire Rated Systems' document or call the GIB® Helpline 0800 100 442.


GIB
Penetrations in GIB® Fire Rated Systems

Penetrations in fire rated construction can allow premature spread of fire and smoke if not correctly tested, specified or installed. Failure of penetrations can compromise the FRR and in turn the safety of building occupants.

GENERIC DETAILS FOR ONE-SIDED PENETRATIONS

This page gives generic details for the installation of simple one-sided penetrations through the linings of GIB® Fire Rated Systems. They include a sprinkler penetration, and single and looped cable penetrations for surface-mounted electrical fixtures. The penetration details shown are suitable for application in GIB® Fire Rated Systems having an FRR up to 120 minutes.

Accurately mark the location of the penetration prior to installation of the sheet linings. At this location drill a hole through the sheet at the diameter shown. Install the sheet and apply GIB Fire Soundseal® around the penetrating item to the full depth of the linings.

For further information consult the GIB Fire Soundseal® Product Features and Technical Literature on the GIB® website gib.co.nz/products/adhesives-and-sealants/gib-fire-soundseal

Figure 1: Sprinkler Pipe penetration (ceiling)

GFS 242

FEBRUARY 2020 GIB® HELPLINE 0800 100 442 GIB.CO.NZ PENETRATIONS IN GIB® FIRE RATED SYSTEMS 4

GIBFIX® FRAMING - A FRESH LOOK AT WALL FRAMING

TECHNICAL

by Dan Reynolds
Technical Advisor

Increasingly homeowners, developers and builders are demanding warmer and more thermally efficient homes.

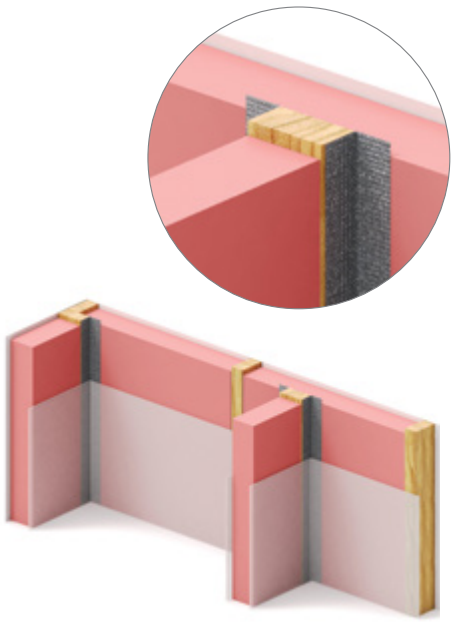
Traditional framing practices can present some problems around thermal performance, such as multiple framing members at wall intersections creating thermal 'bridges' and cavities where insulation cannot be installed effectively. Also having multiple framing members can take longer to dry, resulting in timber frame movement and an increased risk of fastener pop and blemishes on the interior wall surface.

Improved Thermal Efficiency

The GIBFix® Framing System offers improved wall thermal efficiency by reducing the volume of timber framing used at corners and intersecting walls. The GIBFix® Framing System replaces unnecessary timber framing with a GIBFix® metal angle with the overall thermal efficiency of the external wall envelope being improved as insulation can now be more effectively positioned throughout the full wall cavity. Traditionally hard-to-insulate areas such as between triple corner studs can be removed to allow insulation to better fill the framing cavity.

Reduced Potential Fastener Pop

Fastener popping or cracking of the interior linings occurring from timber frame movement can have a real impact on the house design. Strong and stable wall joints that are less susceptible to movement of individual timber framing members is another benefit of the GIBFix® Framing System. Wall corners effectively lock the plasterboard corners onto a single metal angle rather than being fastened across multiple timber studs which can more easily move.



For more information visit gib.co.nz or call the GIB® Helpline 0800 100 442.

Did you miss the latest

GIB TradeTalk® ONLINE?

Scan the QR code or go to gib.co.nz/lbp-learning-resources and view at your conveniences.

GIB WEATHERLINE® FRR TO COLUMNS AND BEAMS

SYSTEM SPECIFICATION

by John Kitchen
Area Sales Manager
- Architectural

When GIB Weatherline® was launched in 2019 a large number of clients asked "do we have a system for protecting columns and beams."

After verification by further fire testing, we have now extended our portfolio of GIB Weatherline® applications to include Fire Resistant Rating (FRR) up to 60/-/- structural adequacy ratings.

Structural steel column and beam protection (as well as timber and concrete) using both timber strapping, steel clip and steel channel framing members have now been added to the February 2020 GIB Weatherline® Design and Construction Manual, available on our website.

We believe the new GWCBT and GWCBS systems will provide a competitive alternative to intumescent paint systems and address some of the concerns about clearances between framing and paint.

The GIB Weatherline® systems complement the current column and beam protection offered by GIB® Standard and GIB Fyreline® where there may be exposure to the elements during construction.

For further information visit gib.co.nz or call the GIB® Helpline 0800 100 442.

ABOVE GWCBS beam protection with GIB Weatherline®
RIGHT: GWCBT column protection with GIB Weatherline®.

PREFAB - OUR TRIED AND TESTED SOLUTIONS

CASE STUDY

by Richard Hunt
Senior Technical Engineer

Panellised construction, an element of prefabrication, has become a method by which we can deliver more buildings in New Zealand while not being affected by weather, adverse conditions, or the lack of daylight hours. Building in a controlled environment such as a factory enables faster delivery of a semi-finished product to site come rain, hail or shine – enabling quicker installation and faster overall project completion.

Winstone Wallboards has been working closely with fabricators, drawing on the extensive experience of our engineering team, to provide technical support and specific design input; aligning or modifying our systems to allow rapid manufacture and efficient installation.

As build typologies are different for each fabricator, systems can be tested to the way the elements will be manufactured in order to show compliance to the building code. Everything is tested, verified and technically precise.

So far, we have worked with manufacturers to verify systems for bracing, fire and acoustics in the mass-production process that they are using, tailoring the solution to what the customer wants to achieve.

Specifically developed solutions – stapling systems

Staple fixing systems are often a prevalent part of the required scope to facilitate efficient manufacturing on an assembly line; a recent collaboration between Winstone Wallboards engineers, and the Manufacturers Development team has resulted in:

- Assessment of alternative panel hold down options for bracing
- Development of a staple installation option for GIB Weatherline® Rigid Air Barrier and other GIB® Plasterboard Bracing and Fire Systems.
- Testing of the stapled installation option in the ALTUS wind pressure booth.
- Testing of the stapled installation on the P21 rig for bracing resistance.
- Development of specification data sheets to support consent applications.

If you would like to explore how our Technical engineers can assist with tailoring and testing solutions to meet your needs, please call the GIB® Helpline 0800 100 442; engaging our engineering and technical resources.

REDUCING CONSTRUCTION INDUSTRY LANDFILL WASTE

SUSTAINABILITY

by Gordon White
Market Manager - Residential

The growing level of waste entering New Zealand's current landfill sites is becoming an increasingly important issue across many industries.

Many customers are now factoring in environmental considerations into their purchasing decisions, while local councils and central government continue to actively encourage waste to not be created in the first place and secondly, are looking to divert waste away from landfill sites which are becoming progressively capacity constrained.

The construction industry is not immune to the effects of this, as it is a major contributor towards landfill waste. Given this, it's pleasing to see an increasing focus on the issue amongst many of the major construction industry players, resulting in proactive steps being taken to help reduce the issue.

One example of this is in the Auckland plasterboard market where we (Winstone Wallboards) have recently added Green Gorilla 2M³ plasterboard recycling bags to our GIB® plasterboard delivered to site (DTS) service. For customers this means they can order their plasterboard recycling bags at the same time as placing their GIB® plasterboard DTS order with their preferred merchant.

Plasterboard off-cut recycling bags are delivered to site along with the GIB® plasterboard order. When the off-cut bag is full, a simple call to Green Gorilla sees the bag picked up and transported to Green Gorilla's Onehunga recycling site. Here the gypsum in the plasterboard is extracted and reused in products such as compost, while the paper lining is also extracted and recycled into paper-based products.

While this specific service is currently only available in the wider Auckland region, Winstone Wallboards continues to work with a number of industry players to develop practical, long term plasterboard waste reduction solutions given the growing customer demand for these types of services nationally.

For more information visit gib.co.nz/sustainability

DELIVERING SUSTAINABLE OPTIONS FOR INDUSTRY LEADERS

CASE STUDY

by Clara Sumner
Partnership Manager

At Winstone Wallboards we work closely with architects and designers, developing and supplying products that are constantly evolving and breaking new ground. Our commitment to sustainability makes us a perfect fit for architectural designers such as Christchurch based Fiona Macpherson, of Fiona Macpherson Architecture, who is passionate about

creating healthy, high performance homes using sustainable local materials.

As an architectural designer committed to using non-toxic materials, Fiona liked the fact that it didn't need to be treated and could be recycled. And while non-toxic materials can often be difficult or more costly to install, GIB Weatherline® proved to be affordable and easy to use, even for first time users. She also described the colour as a standout.

But Fiona wasn't the only one who was impressed. Project builders, Steve Pomeroy Builders, loved the fact that only a craft knife was needed to score and snap. Even more importantly, GIB Weatherline® contributed to the bracing and the speed of the build, enabling early close-in so that builders could keep working regardless of the weather conditions, helping mitigate delays.

For an architectural designer who designs homes, not only to meet the building code, but to exceed it, Fiona says products like GIB Weatherline® are invaluable.

Not only has Fiona completed the Living Building Challenge training, but she is also a strong advocate of Declare, considered to be the most advanced sustainability certification in the built environment. Winstone Wallboards is transparent and honest about their environmental position and has Declare certification* for a range of its plasterboards.

"Using GIB Weatherline® on our project made perfect sense - we have been searching for a non-toxic, easy to install Rigid Air Barrier," she says. "I also love that Winstone Wallboards [GIB®] are local and convey they are working hard on being more sustainably responsible. So am I."

** Visit gib.co.nz/certifications/ to view full list of Winstone Wallboards Declare certificates.*

For more information visit gib.co.nz/weatherline or call the GIB® Helpline 0800 100 442.

STORMWATER HEROES WIN LOCAL AWARD

AWARDS

by Dean Shuttleworth
Compliance Coordinator

Winstone Wallboards in Christchurch has been recognised for their site's outstanding commitment and contribution to good stormwater management, winning the Stormwater Superhero Award which was presented to them at the local council committee's public meeting.

At the beginning of 2019, an extensive stormwater compliance audit from Christchurch City Council wastewater inspectors was undertaken at Winstone Wallboards manufacturing and distribution sites.

The council remarked that we have been particularly proactive in the on-site practice of good stormwater management through engineered systems, processes, and training.

The audit was of the entire stormwater network and included a review of the site drainage plans, tracing downpipes from all buildings and underground stormwater pipes, discharge points from the site, staff training, standard operating procedure review, spill response, disposal of waste and maintenance of the stormwater system.

This award really is a credit to the team on site who over the years have worked very hard to develop and maintain the high standard of stormwater management we use today.

The audit went very well. The Christchurch City Council inspectors were very impressed with the high standard of stormwater best practices the site is following.

So much so, that the Council reported the audit findings to the local regional council Environment Canterbury (ECAN), who then nominated the site for the award.

At the presentation of the award, the business was acknowledged for their significant contribution to the industry and wider community; for their industry leadership, their ability to develop, articulate and implement changes in stormwater management and making practices part of the company culture.

We are very protective of the site's environmental footprint in the community and stormwater water quality is high on this list and we are very proud to accept this award and be recognised for our efforts.

FROM LEFT TO RIGHT: Winstone Wallboard's Daniel Horner, Dean Shuttleworth, Howard Greaves, and Matt Parr.

Sustainability in Action

SUSTAINABILITY

by John Jamison
Technical Manager

Designing out Waste

Winstone Wallboards is working hard to help the building industry reduce its construction and demolition waste, which according to the latest figures could account for around half of all waste generated in New Zealand.

The company has been involved in a study focusing on minimising the generation of waste as a more sustainable alternative to dealing with it once it hits the floor. The project tested the feasibility of slashing the generation of timber and plasterboard waste by 20 to 30 percent. Its findings? Yes, it's an achievable target – but progress could be slow.

That's because despite the fact there is growing awareness around construction waste, there is still a general lack of understanding about the actual amounts of construction waste produced (typically more than what is factored into a project).

Not only that, but New Zealand's efficient waste management industry reduces the visibility of the issue at a project level.

But it's still a goal worth striving for. Fortified by the knowledge gained during the study, Winstone Wallboards is now exploring fresh ways to boost sustainable waste reduction in the design and delivery of building projects.

30 by 30

Winstone Wallboards is developing a carbon reduction plan to help tackle one of the greatest challenges of our time - climate change.

Dubbed '30 by 30', the company vows to deliver a 30 percent carbon reduction by 2030, in line with Fletcher Building, who as a group have committed to reduce emissions 30 percent by 2030 from a 2018 base year.

The move highlights Winstone Wallboards' resolve to play its part in helping to create a sustainable future, not just for the business itself, but for all New Zealanders.

This includes helping to keep climate change below 2°C, which is what the latest climate science believes is necessary to meet the goals of the Paris Agreement. More specifically, we need to limit global warming to well below 2°C above pre-industrial levels, and pursue efforts to limit warming to 1.5°C.

These science-based targets provide companies with a clearly defined pathway to future-proof growth by specifying how much and how quickly they need to reduce their greenhouse gas (GHG) emissions.

Winstone Wallboards' Sustainability strategy focuses on what is most important to the business and to others - people, communities, and customers - and where actions will lead to meaningful change. Importantly the strategy extends on what the organisation has already put in place and deepens its commitment to people, sustainable products and carbon emission reduction.

NEW GIB LITESET® BASECOAT COMPOUND AVAILABLE

PRODUCT

by Edwin Zijderveld
Product Manager

The new GIB LiteSet® basecoat compound has been developed allowing feedback and trials with stoppers. As always, user feedback is much appreciated and invaluable.

GIB LiteSet® key benefits

- A new basecoat jointing compound that can be sanded and is easy to scrape.
- A very stable viscosity during the 90 minute work time for a nice uniform application. It only thickens up near the very end of this period to warn the working time has nearly finished.
- GIB LiteSet® is suitable for bedding in the reinforcing jointing tape as well as the second coat (in a three coat jointing process).
- Creates a strong joint between plasterboard sheets.
- Has improved rheology when applied by trowel or box, with a slick flow for easy application.

Try this new GIB® compound today. Available at your local GIB® compound stockists.

For more information visit gib.co.nz/compounds or call the GIB® Helpline 0800 100 442.

ISO 9001 CERTIFICATION

SERVICES

by Grant Glover
Business Improvement Manager

Winstone Wallboards Ltd has been recently certified under the new ISO 9001:2015 Quality Management standard. This certification is awarded by Telarc for the operation of Quality Management systems conforming to ISO 9001 : 2015.

We are pleased to continue to meet these stringent requirements for our Business Management System to maintain improving our services.

WHY DO DRYING TIMES FOR COMPOUNDS DIFFER?

PRODUCT

by Ian Morrissey
Sales and Training Specialist - Compounds and Accessories

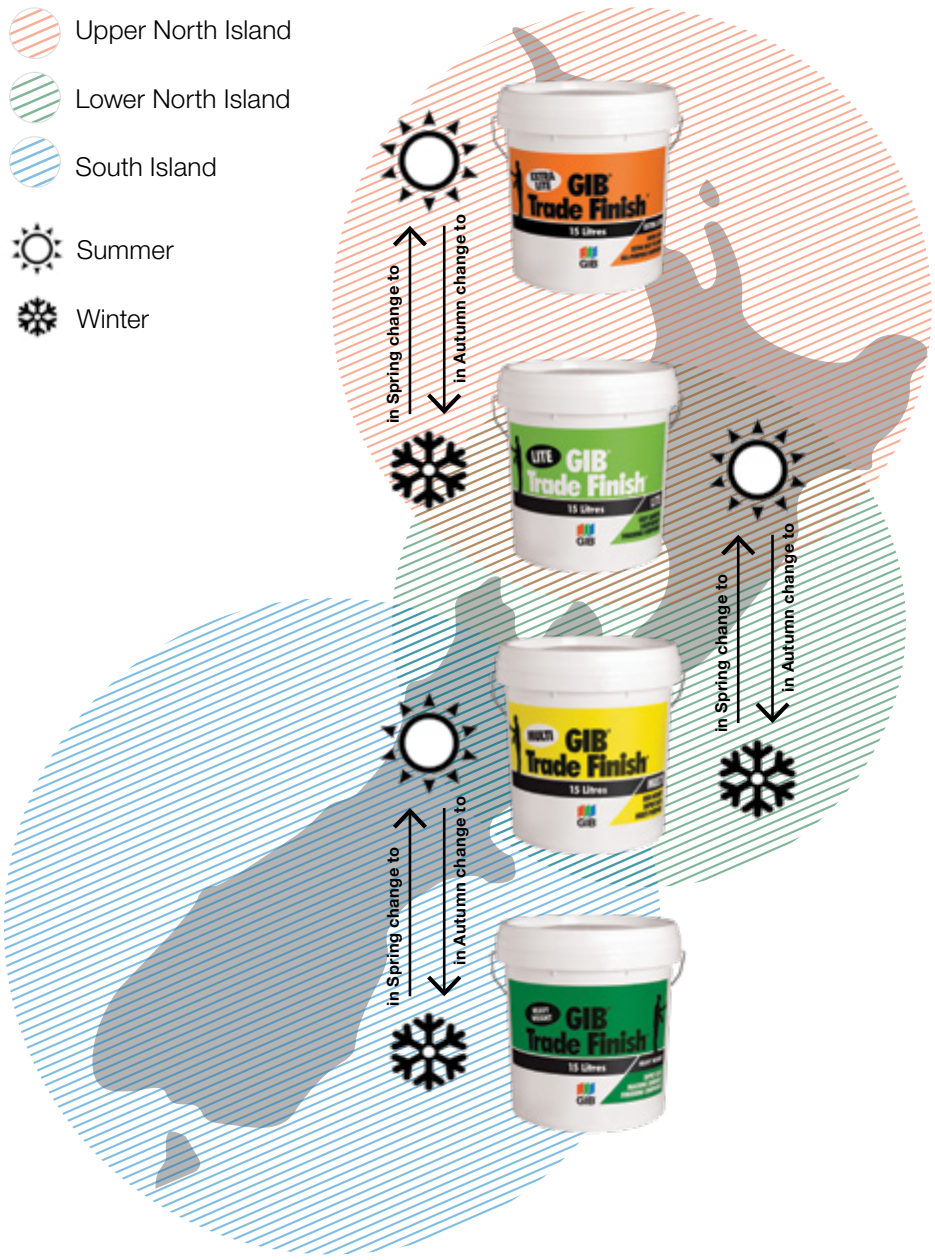
As we move into a new season, just a quick reminder that drying times for compounds differ depending on temperature. As conditions change, compounds become harder or softer to sand.

The GIB Trade Finish® range ensures a product is available that has similar trowelling properties through the range, but different sanding characteristics to suit different seasons/drying conditions.

The warmer the weather, the harder the product will become to sand.

The colder the weather, the softer the same product will become to sand.

Download the 'Case Study' document or contact the GIB® Helpline on 0800 100 442 for further information.



IMPROVING OUR NEWS

SUBSCRIPTION

by Karen Richter
Marketing Executive

GIB® NewsBites is now being published monthly as a digital newsletter. This means more frequent and up-to-date GIB® information for you and your business. A printed GIB® News edition will continue to be published twice a year.

Scan the QR code and sign up to keep up to date with regular products, systems, design and installation updates.

GIB®

Get in touch via our website **gib.co.nz**
Call the GIB® Helpline **0800 100 442**