GIB® NewsBites

June 2020

Improving our news

SERVICE

by Gordon White
Market Manager - Residential

GIB® News is now being published monthly. 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. Give us your feedback or tell us what topics you like to see in next GIB® NewsBites via e-mail: info@gib.co.nz.

WINSTONE WALLBOARDS TO BUILD NEW FACILITY IN TAURANGA

BUSINESS

by David Thomas
General Manager

Winstone Wallboards has unveiled exciting plans to build a new state-of-the-art plasterboard manufacturing and distribution facility in Tauranga.

Scheduled to open in 2023, the new facility underpins our organisation's steadfast commitment to local manufacturing, and our determination to innovate and meet industry demand, now and into the future. As our customers' needs are evolving, we too are evolving our operations to ensure we meet those future requirements.

The new, larger plant will allow future capacity growth, as well as the ability to expand new product innovation – whilst still maintaining Winstone Wallboards' strong New Zealand identity, supporting local suppliers, distributors, workforce and communities.

The site is ideal for North Island distribution and located near the Port of Tauranga, it promises convenient delivery of the raw materials used to manufacture our GIB® branded plasterboard.

Better still, the new plant will provide a more sustainable future, not just for the business, but the wider environment in which we operate. The plant will allow recycling of used plasterboard and will immediately reduce carbon emissions by ten percent. Contributing to healthier living for all New Zealanders is something we will strive for as we move into this exciting new period.

Winstone Wallboards, under the GIB® brand, has been manufacturing, marketing, and distributing gypsum plasterboard, drywall systems, products and services in New Zealand for over 90 years. And 'GIB®'- thanks to the quality of our products, the reliability of our services and the breadth of our technical support - is the brand of choice for many customers within the building industry.

This is something that we will continue to uphold, while continuing to evolve and innovate with the technology the new plant will provide.

Our existing Auckland manufacturing facility will remain fully operational until the new Tauranga plant is fully commissioned. At that time, North Island manufacturing and Freight into Merchant Store (FIS) distribution will move to Tauranga. A facility will remain in Auckland to service Auckland Delivered to site services. Head office will also stay in Auckland, and our Wellington and Christchurch operations will remain unchanged.

INTERESTED IN LBP OR CPD TRAINING?

Get in touch and register at
gib.co.nz/training-and-events/

Eg. GIB® Fire Rated Systems, GIB Weatherline® Installation, Sustainability opportunities.

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, 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.

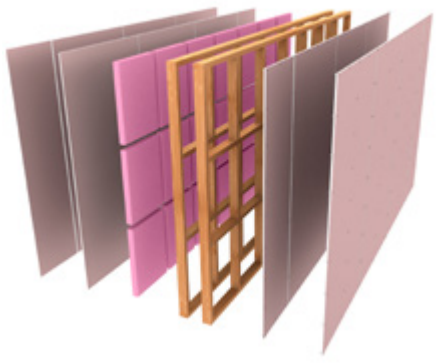
Horses for courses

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.

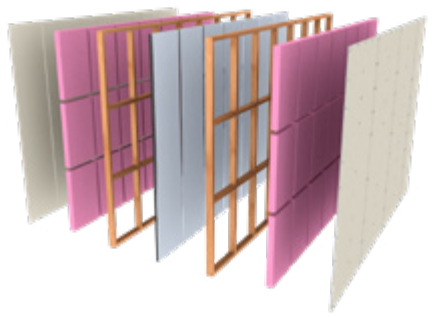
In framed multi-unit and multi-level construction, the loadbearing members of lower apartments must remain intact during a fire to avoid fire spread and progressive collapse. This means that the lower loadbearing frames require heavier protective linings and that any service penetrations must be fire-sealed. 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.

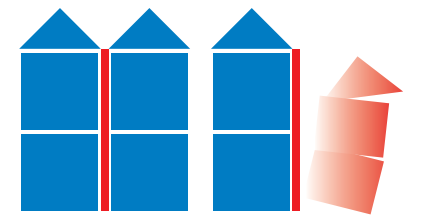


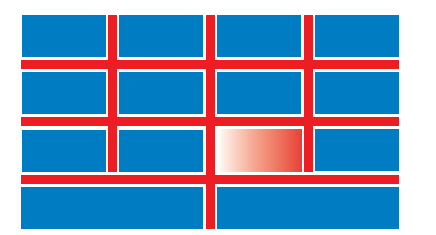
ABOVE: Figure 2, Double timber frame IT wall system, heavy unit linings, penetrations sealed



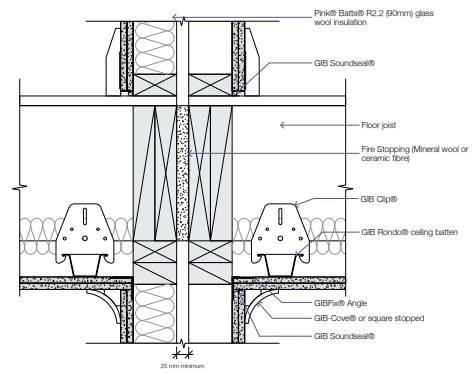
ABOVE: Figure 3, Central barrier IT wall system, conventional unit linings, some penetrations permitted

ABOVE: Figure 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.

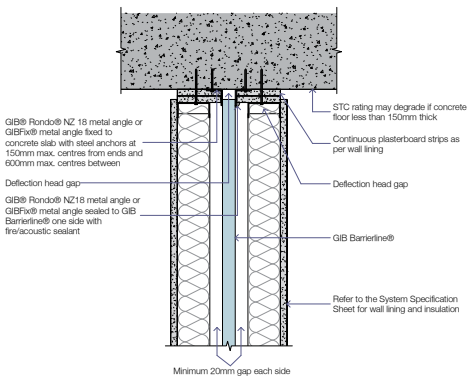




ABOVE: Figure 5, Use IT Barrier Systems with care in multi-level apartments Conventional double frame IT systems might be more efficient. Loadbearing members of the fire-affected unit must remain intact.



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



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.

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

Sources for further information include;

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

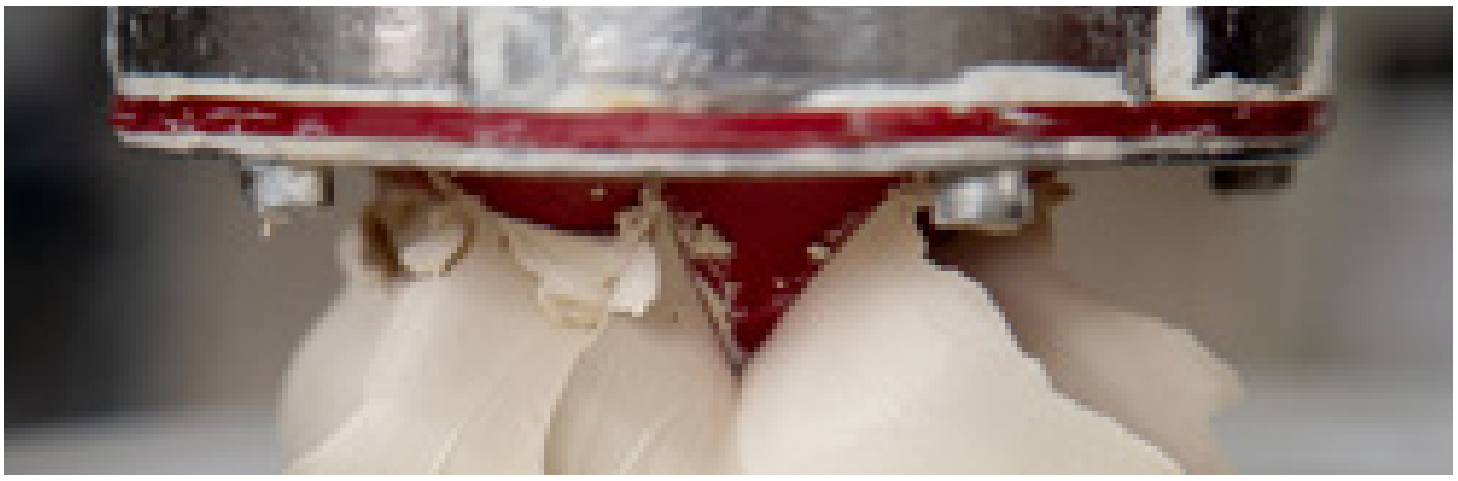
GIB® Fire Rated Systems, 2018
gib.co.nz/systems/gib-fire-rated-systems/

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

WHY DO DRYING TIMES FOR COMPOUNDS DIFFER?

PRODUCT

by Robert Steel
Technical Manager
Products



As we head into cooler weather, stoppers will find that compounds can take a lot longer to dry than in summer.

Drying rates are dictated by several things:

- The mass of compound to be dried (thick layers take longer).
- The temperature on the day.
- The set time of the compound.
- The movement of air.
- The humidity in the air.
- The amount of water added to the compound.

The drying rates shown on GIB® packaging are achieved in conditions of around 20°C, and 70% humidity (a warm day with an average humidity level).

Cold air and high humidity slow drying rates significantly. Drying can become significantly longer in winter, and time should be allowed for this.

Allowing air flow through the structure during cooler weather will replace the air which has become high in humidity due to water transfer from wet joints. The air flowing in will have a lower humidity enabling drying to continue overnight. This can be achieved by leaving a window open about 50mm at each end of the house. This is enough to enable an air flow of appropriate volume to lower humidity thereby continuing the drying process. This does not work in fog or tropical cyclones.

Heating the structure, which raises the temperature and lowers relative humidity, could also be employed. For normal houses use 2kW fan heaters at the rate of one per 50m2 of floor area. Leave internal doors open and two windows open to allow fresh air in. Run at night time. This will elevate the temperature of the room just enough to assist drying and will move the air around, which also aides drying. Make sure you check with the main contractor before doing this and remove all flammable items that could be sucked into the fan heater and cause a fire.

Dehumidifiers do work in winter, provided the house is closed to the outside. Close all windows and doors and run overnight. During the day, doors and windows will be opened by other trades and running a dehumidifier becomes ineffectual.

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

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 visit the GIB Noise Control® Systems page, or call the GIB® Helpline 0800 100 442.

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Get in touch via our website **gib.co.nz**
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