

MODULAR BUILDING CASE STUDY

BUILDER'S PERSPECTIVE

Wall Panel Systems in Modular Construction

Replacing ceramic wall tiling with Fibo wall panels resulted in a significant improvement to the efficiency and throughput of our production line. Fibo fundamentally changed for the better the way I consider the adoption of new materials and methodologies.

I joined the Construction Industry in early 1980s as an apprentice carpenter and now have 25 years' experience as registered builder in Queensland and Victoria. Over this time, I have built spec homes, managed large refurbishment projects and completed many commercial buildings. I also spend a few years working in Marine for Riviera, who make high-end motorboats. Around 2010 I was presented with an opportunity to construct a four-storey 45 apartment building. This was my sort of work, albeit at the upper end of my range. Accepting this job was to be a watershed point in my career.

First, the job wasn't in Queensland where I had built relationships with local dependable trades and had established trading accounts with most of the suppliers I needed. Although starting over presents a challenge, setting up from scratch is not unfamiliar. A seismic shift for me was that the Development Group wanted to use modular construction to build the apartments.

At the time the building industry in South East Queensland was in recession. Following some research, I noted that beyond mining camps and transportable buildings modular and more generally, off-site construction techniques, were almost non-existent in Australia. But were far more common in other western countries. Always open to try something different I decided to get involved with the project. Since then I have become a module devotee and have undertaken numerous modular projects.

I'm the 'Builder in Charge' at Amoveo, who produce modules for Australian project builders from a Chinese factory. When based in the factory I am responsible for supplier selection, scheduling production and most importantly checking that every module we supply is certified to Australian standards. All compliance work is authorised under my building licence. I have no desire to stop building, therefore ensuring sign offs are done according to the required Australian building code is paramount. In simple terms my job is to maximise production efficiency and throughput whilst maintaining compliance and quality standards; often a tricky tightrope to walk.



Our production is managed via a series of sequential 'Bays' that work like many other factory production lines. In our case a module enters the factory at one end as a steel frame and leaves at the other as a part of an Australian building.

There are 12 Bays that form our production line, where each Bay has a designated set of tasks to be completed. Starting at Bay 1 where joists and wall frames are installed until the final Bay where modules are shrink wrapped and prepared for shipping. In an ideal production schedule, all modules are ready to progress at the same time. This means that the number of tasks and resources allocated along the production line are balanced. So modular buildings are manufactured in much the same

MODULAR BUILDING CASE STUDY

way as cars, following a production line with materials feed to each bay from a central store as these are required.



If a module includes a wet area, such as a bathroom, ensuite or laundry that has floors and walls finished with ceramic tiles, then six Bays are required to complete the fit out. The tasks include lining walls, waterproofing, cutting and fixing tiles, grouting and caulking. Waterproofing is the task that has the highest probability of causing production delays. Fortunately, not all modules include wet areas.

Several years ago, I was introduced to a waterproof wall panel system called Fibo. Fibo is developed and manufactured in Norway where it is used extensively as an alternative to ceramic tiles. Although initially sceptical, the panels were very familiar due to my experience as a chippie. I found working with Fibo very straight forward and was really impressed by the design of the locking tongue and groove. In no time it was easy to understand the benefits that wall panels offered over tiling. Beyond any generic benefit there are specific reasons why a waterproof panel system is particularly relevant in modular construction:

- Fewer trades required, which has meant that on some projects we no longer need Tilers.
- In a single application we can line, waterproof and finish a wet area wall, resulting in a reassignment of two bays to improve productivity.
- Time previously lost while waiting for membranes to cure, which represented a significant production risk during periods of high humidity, were no longer an issue.
- The ease and speed of fitting off fixtures without the need to predrill is a big productivity gain.
- Also, for most bathroom fixings there is no need to noggin-out the frame as the panel can easily support robe hooks, towel rails, shower screen channels and toilet roll holders, reducing materials and weight.
- With wall panels we have less in-transit damage compared to ceramic tiles, which can chip, pop out or crack.

As demand for new buildings grows in Australia, I see a need for more efficient construction becoming a necessity. This will change construction with smart products like Fibo being more frequently used in Australia, as it is in other parts of the world. I have changed my career on the strength of that belief and am working hard to see this become a reality. I believe that my career has benefited by choosing to challenge the 'way things are' by staying one step ahead of the crowd.

John Annear

Registered Builder

Amoveo Pty Ltd
