



# Supporting the PreFab Market



The housing shortage and affordability issues have generated an increase in prefabricated housing in New Zealand, and Winstone Wallboards is playing an instrumental role in supporting this growing market.

A recent wave of research and development has honed in on ensuring performance systems meet building code requirements and fit client expectations and manufacturing processes.

When designing houses for multi-unit developments a number of aspects must be taken into consideration.

These include not only the structural performance of the building but also the fire and acoustic performance. The panels used for this type of construction need to fit within the manufacturing methods, be robust enough for transportation and construction and also provide some degree of temporary weather protection.

Winstone Wallboards has been working closely with the client to model possible solutions.

As part of the development process, existing fire and acoustic systems were modified to fit manufacturing processes but also to ensure they met the performance requirements of the New Zealand Building Code.

To verify performance a number of intertenancy systems were modelled and extensive acoustic laboratory testing was undertaken in order to find an optimal solution.

Alternative methods of attaching linings have also been under investigation, as traditional methods prove too slow for the production of factory-made panels and stapling of linings has been determined as a good option.

Panelised construction is different than standard timber frame construction. Access to the timber frame is limited because panels are usually lined both sides, which makes it difficult to provide adequate hold-down of panels.

As a result, traditional methods of load transfer for bracing are not applicable, so the team at Winstone Wallboards have developed and tested a range of methods to hold down the panels.

Specific design and bracing values have been determined from this testing, and test reports and supporting documentation have now been provided to the client for territorial authority consenting.