GIB® Canterbury Earthquake Online Guidelines

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A series of possible details to provide freedom of movement & reduce earthquake damage to non-structural linings.

New updated Technical Bulletins can now be viewed at **gib.co.nz/canterburyearthquake**. These include guidelines for the damage assessment and repair of plasterboard linings in earthquake damaged properties. Guidance is also available for the repair of lath and plaster linings, and for the design of supplementary bracing using other sheet materials.

We must remember that the Canterbury earthquakes are structural events that test a building's bracing system in real life. Before committing to repairs it is essential to assess and reinstate where necessary, the structure's resistance to possible future events. Failure to do so can result in repeated damage and the need for ongoing repairs. Keep an eye out for updates on our website.

We have also posted a paper by our engineers Hans Gerlich and Richard Hunt summarising their observations relating to the performance of houses in and around Christchurch. In low-rise timber or steel framed buildings plasterboard linings will attract earthquake forces first and must be designed to resist them.

In commercial buildings, gypsum plasterboard linings obviously cannot be designed to resist forces resulting from imposed lateral movements of the main structure during a design level earthquake (see image).

Gypsum Plasterboard Linings in a Commercial Building Being Severely Damaged and Forced off the Wall Framing by Structural Movement

Where gypsum plasterboard cannot be expected to resist such forces, a degree of freedom must be provided. Figure 2 on the next page shows the principles of control and movements joints which can be easily incorporated in partition designs (whilst maintaining other performance attributes such as fire resistance or noise control).

Unfortunately architectural trends and owner requirements often dictate that walls are finished flush with a minimum of visual interruptions. A change in aesthetic design and acceptability of such details is required if we are to minimise post-earthquake damage in commercial structures.

Figure 2: Principles of Control and Movements Joints