



# STRUCTURAL TESTING

The BRANZ Structural Engineering laboratory has been purposely designed to test the performance of various products and systems used in the construction of buildings.

While we test to common standards, our strength lies in our ability to design and deliver custom test arrangements to address client issues. This draws on the in-depth experience and expertise of our specialist staff.

BRANZ also has a worldwide reputation for its consulting and research expertise in seismic and wind engineering.

BRANZ works with clients wanting to use test results for product awareness or consent purposes. We can prepare specific design documents post testing to meet individual client needs.

Our capabilities include:

- **Wind face-loading tests** – Pressure chamber testing up to 6kPa of building envelopes (wall and roof cladding systems). We have a purpose-built chamber with a 2.4m square opening. We can also construct larger chambers on our strong floor for testing longer specimens such as roofing.
- **Dynamic system response** – Our shake table facilities allow us to replicate and monitor real-time response of building systems subjected to simulated earthquakes.
- **Earthquake response of non-structural components** – We can ascertain the dynamic response of suspended ceilings and other non-structural building elements such as items of mechanical plant and components, partition systems and claddings in buildings when subjected to simulated earthquakes.
- **Fast response field testing** – We can determine the serviceability compliance of building and floor systems subjected to actions associated with normal use, such as occupancy or externally induced vibrations, and soft-or hard-body impacts. We can also carry out field testing of structures and structural elements.
- **Prototype testing** – We can demonstrate code compliance through prototype testing of new or innovative structural systems, either in our laboratory or in the field.
- **Elemental testing** – We can derive fundamental mechanical properties using economical small-scale tests (e.g. load-slip testing of panel fixings).
- **Impact resistance** – We can test walls, glazing and roof claddings using a range of hard and soft body impacting devices so as to ascertain their resistance and indentation characteristics when they are subjected to various kinds of occupancy induced impact loads.

## Other areas

BRANZ staff are experts in their field, committed to strengthening relationships and developing value so our clients achieve greater benefit over the long term.

BRANZ regularly contributes towards the development of New Zealand, Australian, and international standards and Building Code. Our clients can be assured that advice BRANZ provides is informed by global development, trends and requirements.

Our expertise and testing services cover:

- Fire testing
- Fire engineering
- Material durability
- Material performance
- Product assurance framework including Codemark
- Structural performance
- Ventilation and energy efficiency
- Thermal performance
- Water efficiency and environmental performance
- Economic and life cycle costing
- Weathertightness testing

Our strength lies in having a great team of experienced technical specialists combined with sophisticated testing facilities, delivering in-depth analysis and solutions to our clients.

**BRANZ, inspiring the building and construction industry to provide better buildings for New Zealanders.**

## Accreditations and membership

BRANZ is accredited by International Accreditation New Zealand (IANZ) to the ISO/IEC 17025 laboratory standard for both fire resistance and reaction-to-fire testing. BRANZ is also a registered testing authority under the provisions of the Building Code of Australia.

Through the International Laboratory Accreditation Cooperation (ILAC) mutual recognition agreement, BRANZ test reports are recommended as the equivalent of those issued by laboratories accredited by more than 70 bodies around the world.

BRANZ has achieved and operates to a management system conforming to AS/NZS ISO 9001.

BRANZ is a member of the World Federation of Technical Assessment Organisations (WFTAO). A worldwide network for coordinating and facilitating the technical assessment of innovation in the construction field.



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