



NEWCASTLE
INNOVATION™

STRUCTURAL RESEARCH, CONSULTING AND TESTING

The Discipline of Civil, Surveying and Environmental Engineering provides an extensive range of research, consulting services and independent testing to support the development of better building products and systems, and improve the competitiveness of Australia's building and construction industry. The discipline's involvement in drafting Australian and international standards and building regulations ensures that any advice provided is based on the very latest information.

Masonry Group

The Structural Masonry Research Group is the largest in Australia and is actively involved in consulting, testing and research in the area of structural masonry.

The Discipline has a long history of providing consulting services to Industry in the masonry area in product development and assessment, routine and specialist testing, and specialist advice. Professor Adrian Page holds a Chair in Structural Clay Brickwork which is supported by the Think Brick Australia. Professor Page is also Chairman of the Standards Australia Masonry Code Committee as well as being active on other national and international code committees.

The range of tests include:

- Testing of masonry units and segmental pavers - AS/NZS 4456
- Testing of masonry for compressive and flexural strength - AS 3700
- Wall tie testing - AS/NZS 2699
- Lateral load testing of masonry walls
- Diagonal tension (shear) in masonry assemblages - ASTM E519

- Water penetration and leakage through masonry - ASTM E514
- Retaining wall testing
- Purpose designed tests for product development

Structural and Materials Testing

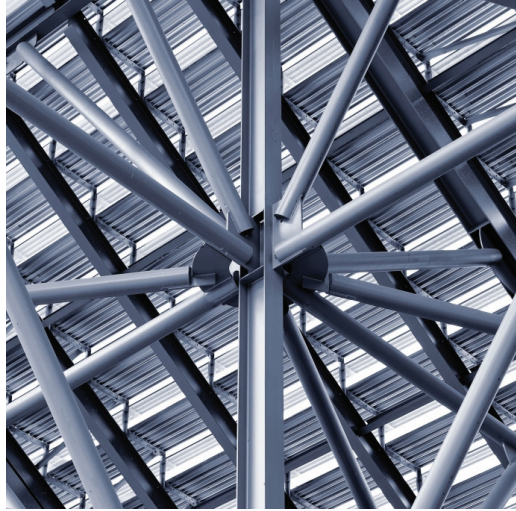
The Discipline has a well equipped laboratory, which together with the skills and expertise of the laboratory and academic staff, has been used to solve a range of industrial and research problems. These range from simple material or structural tests to complex tests requiring elaborate testing rig design and sophisticated monitoring of performance.

Structures Laboratory

- Reaction "strong" floor (31m x 7m) with a grid of 22 tonnes capacity anchorage points and associated "mecano" testing frames
- Very stiff three dimensional structural testing facility ("strong wall") 15m long, 5m high and 0.6m thick
- Loading equipment to 300 tonnes and 3m high samples
- Cyclic testing system
- Sophisticated data logging system with capacity of simultaneously scanning up to 100 inputs.

Materials Testing Laboratory

- Tinius - Olsen Universal Testing Machine (180 tonnes capacity)
- Instron Universal Testing Machine (20 tonnes capacity) load, deflection and strain controlled.
- MTS Universal Testing Machine (100 tonnes capacity) load, deflection and strain controlled with independently operated hydraulic grips (100 tonnes capacity).



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PAST PROJECTS AND CLIENTS

Examples of Past Projects

- Testing of casting interface connection on rail wagons
- Testing of wall ties in accordance with the AS NZS2699-2000
- Hydraulic jack calibration
- Structural testing of plywood - AS/NZS2098
- Structural testing of Keylock storage system
- Flexural toughness and first crack strength of Fiber Reinforced Concrete - ASTM C1018
- Torque-tension test on rock bolts
- Rail carriage seat burn test
- AOK therapy ball testing
- Testing of the Ultrafloor slab system
- Testing of the rubber tyre retaining wall system
- Structural testing of 12m long power poles
- Steel grate testing - AS3996
- A comparative study of shear key profiles in concrete slabs
- Testing of manhole access cover - AS4198
- Cyclic testing of composite floor panels for rail cars (5 000 000 cycles)
- Static testing of the fold-a-way shower chair
- Testing of interaction between pavers and their bedding material
- Testing of ezy-drive guide posts
- Testing of the EMI shielded doors for the Huon Class Minehunters
- Static, cyclic and impact tests on the Tangara rail car seats
- Shadecloth material testing

Client List

- Abey Australia Pty. Ltd.
- Abigroup Contractors
- ADI Ltd.
- Advanced Foundation Solutions Pty Ltd
- Ancon CCL
- AOK Health, Bradbern Pty. Ltd.
- Austral
- BHP Billiton
- Blue Circle Southern
- Bluescope Steel

- Boral Masonry Ltd
- Carlray Pty. Ltd.
- CivilBuild Constructions Pty. Ltd.
- Connell Wagner PPI
- CSR Hebel Australia
- Davidson Chain (Aust.) Pty. Ltd.
- Delnorth Pty. Ltd.
- Dexion (Australia) Pty. Ltd.
- D.M.K. Forest Products Pty. Ltd.
- Eastway Metal Specialties Pty. Ltd.
- Energy Australia
- Erosion Control Systems Pty. Ltd.
- Hymix Concrete
- Industrial Galvanizers Corporation Pty. Ltd.
- Leighton Contractors Pty. Ltd.
- JPM Industries Pty. Ltd.
- Newcastle City Council
- PGH
- Port Waratah Coal Services Ltd.
- Rail Corporation NSW
- Ramset Fasteners Pty. Ltd.
- Rocla, Building and Paving
- Saddingtons
- Structural & Engineering - Tubemakers Australia Ltd.
- Transform Composites Pty. Ltd.
- Ultrafloor
- Wilson Mining Services

Contact

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