With over 30 years manufacturing experience in composite panelling, we invented the Modular Wall 16 years ago, with our Founder Nick Holden appearing on ABC’s The New Inventors. Since then, we have continued to innovate and expand our product range, supplying across all of Australia, with an additional manufacturing base in the UK.

We are proudly Australian owned and manufactured, with a reputation for quality. We continue to lead through innovation, producing cost-effective and acoustically proven solutions for our clients.

With a proven performance record across thousands of commercial noise abatement, security, privacy and architectural projects, and having partnered with some of Australia’s largest companies and government departments, we are proud to be the trusted industry leader in modular acoustic solutions.
The ModularWalls® advantage

A reputation for quality and innovation
As the inventor of the Modular Wall and trusted market leader, ModularWalls has delivered over 20,000 projects – some of which have been located in the harshest, remote and most challenging climatic conditions.

Cost effective
There is a rapidly increasing trend of businesses looking to more cost-effective wall solutions that combine innovative technology with the durability of traditional materials. ModularWalls can deliver a more affordable, aesthetically superior alternative that matches traditional block or concrete solutions in durability and design life, with an unparalleled focus on quality and delivery.

Strong and durable
Composite panel technology provides a panel that is strong, lightweight and will not rot, warp or corrode. Virtually maintenance-free and impact resistant, a modular wall displays amazing rigidity and durability in any situation.

Designed and manufactured in Australia
The products are Australian designed and manufactured to strict international ISO 9001 quality standards. With years of proven performance, ModularWalls products are applied in a wide variety of industries and government departments both nationally and internationally. With inhouse design engineers and draftspersons, ModularWalls can confidently provide end-to-end service.

WHY MODULARWALLS®?
As the leading manufacturer of cost-effective wall systems, ModularWalls can offer a solution to every challenge. Whether it be noise reduction, impact resistance, overcoming environmental hazards or difficult site access, customised design or rapid installation requirements, ModularWalls is able to deliver.
EnduroMax®
Impact resistant panels

The EnduroMax is an ultra-resilient, high-performance modular noise wall panel designed specifically for the extreme conditions associated with road, rail and civil infrastructure environments.

The superior acoustic performance and strong fire resistance of the EnduroMax panel make them ideal for the intense rigours of rail lines and highways.

The panel can span 4.2 metres in width and have a typical density of ~30 kg per square metre, making them much lighter and more manoeuvrable than the concrete walls conventionally employed for noise abatement within transportation infrastructure.

- Roadway compliant
- Ultra-high impact resistance
- Fibre cement outer skin
- High impact reinforcing layer
- Vandal resistant
- Superior acoustic performance
- Panel span up to 4.2m

Applications
- Road and rail corridors
- Civil infrastructure environments
- High traffic areas
- Car parks

AcoustiSorb®
Sound absorbing panels

The AcoustiSorb is a simple, effective and aesthetically pleasing noise wall panel that is custom-designed to meet some of the toughest acoustic pollution challenges that clients are likely to encounter in transportation and industry.

The robust, lightweight design of the AcoustiSorb makes it ideal for sound insulation purposes in noise-intensive environments such as road and rail corridors, as well as businesses that make extensive use of loading docks, heavy machinery, HVAC units or large-scale generators.

- Pre-coloured, perforated aluminium outer skin
- PET sound absorbing core
- Lightweight yet robust construction
- Panel span up to 4.0m
- Typical audible noise reduction of 30db to 40db and an NRC of up to 1.0

Applications
- Extreme acoustic attenuation requirements with tunable RW rating
- Loading docks
- Road and rail tunnels
- HVAC units
- Acoustic enclosures (e.g. around generators)
**AcoustiMax®**

Acoustic walls and panels

The proprietary AcoustiMax panel is our core modular wall solution for light commercial applications, and the ideal choice for architects and developers seeking an effective noise barrier that’s aesthetically versatile as well as economical.

Composed of an EPS core with an external layer of fibre-reinforced cementitious sheets, the AcoustiMax panel is a lightweight, impact resistant modular wall panel that possesses outstanding acoustic properties and a smooth designer finish.

- Fibre cement/EPS composite construction
- Lightweight
- Panel spans up to 4.2m
- Custom manufactured posts or universal beams - subject to height and wind region

**Applications**
- Visual screening
- Security
- Boundary walls
- Acoustic fencing
- Housing developments

**TECHNICAL SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Thickness Post Type</th>
<th>Post</th>
<th>Density</th>
<th>Rw</th>
<th>Fire Class†</th>
<th>Max Wall Height</th>
<th>Post Widths</th>
<th>Wind Regions</th>
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<tbody>
<tr>
<td><strong>EnduroMax</strong> impact panel</td>
<td>75-150mm</td>
<td>Steel</td>
<td>30.50 kg/m²</td>
<td>34</td>
<td>BAL29</td>
<td>12m+</td>
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<td><strong>AcoustiSorb sound absorbing panel</strong></td>
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<td>Steel</td>
<td>14.32 kg/m²</td>
<td>29-34 (NRC 0.9 typical)</td>
<td>BAL40</td>
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<tr>
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<td>15.49 kg/m²</td>
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<td>BAL29</td>
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<td>Steel</td>
<td>22.00 kg/m²</td>
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APPROVALS AND COMPLIANCE

The EnduroMax panel range meets and exceeds all road and rail specification requirements.

QLD Department of Transport and Main Roads: MRTS15
The MRTS15 specification is known for its stringent impact & durability requirements, the toughest in Australia. During approval assessment the various EnduroMax panels were selected from the Manufacturing line and tested under supervision of independent and DTMR RPEQ Engineers in accordance with the testing procedures outlined as part of the specification. The EnduroMax panel met and exceeded all performance requirements and was granted approval by the department of main roads and listed on the pre-approved products register for Noise Walls/Fences.

QLD Rail: Civil SR-014
Both EnduroMax and AcoustiMax panels have been approved by QR and previously utilised on numerous projects where the Civil SR-014 specification applied. Both panels comfortably exceeded the requirements of the specification.

NSW Roads & Maritime Service: R271
The EnduroMax panel was assessed against the R271 specification and comfortably exceeded the requirements. R271 has similar requirements for impact and durability to the QLD MRTS15 specification requiring detailed impact testing and documentation of results by suitably qualified engineers. AAC panels have been used for many years in NSW under this specification, however the EnduroMax panel proved to have superior impact and durability qualities when like for like tests were conducted.

VicRoads Bridge Technical Note: BTN 007/2018
Whilst VicRoads do not offer formal assessment for products, the noise walls specifications stipulated under note BTN 007/2018 set out requirements for composite panels, all of which are exceeded by the EnduroMax panel.

Main Roads Western Australia: Specification 904
With no pre-prescribed testing requirements set out in the specification, the EnduroMax test results from both RMS and QLD DTMR assessments were submitted to the Senior Bridge Engineer and Specification Custodians for assessment. All requirements were exceeded and the panel was advised to be acceptable.
**Carbon Emissions Reductions**

EnduroMax offers a far smaller carbon footprint compared to precast concrete panels. ModularWalls conducted a comparative case study of the carbon footprint created by the installation of a noise wall running a distance of 1000 lineal metres.

The EnduroMax panel provided a massive 80% carbon reduction project-wide against concrete, dramatically reducing CO₂ emissions across the manufacture, transportation and installation of the panels.

The embodied CO₂ of the EnduroMax panel itself is just a third that of precast concrete noise wall panels, measuring the same dimensions; this translates into savings of roughly 135.35 tonnes of embodied CO₂.

The low weight of an EnduroMax panel, at 146kg as compared to 1440kg (for a 4 x 1.2 x 0.125m product), also meant that transportation would incur only 9.58 tonnes of CO₂ emissions over a distance of 1000 kilometres, as compared to 74.52 tonnes for traditional concrete, achieving a savings of 66.9 tonnes of CO₂.

During installation, the modular design of EnduroMax also achieved major greenhouse gas reductions due to quicker and more convenient construction, with a CO₂ load of 6.3 tonnes, as compared to 16.53 tonnes for precast concrete panels, or a savings of 10.05 tonnes.

In all aspects of the project, EnduroMax came out with the lowest carbon footprint.
Impact Resistance

One of the key advantages of EnduroMax is its ultra-high level of impact-resistance and durability, enabling it to successfully withstand the minor collisions and vandalism that so often affect road and rail infrastructure.

EnduroMax is approved by the Queensland Department of Transport and Main Roads, and has passed highly rigorous testing for impact resistance and strength. When Queensland engineers dropped a 4kg steel shot put ball (approved MRTS15 test) onto the EnduroMax from a height of 3 metres, the impact failed to leave an impression of more than 2mm, attesting to the sheer strength of the panel.

The EnduroMax panel approaches concrete in terms of durability, yet is far cheaper, quicker and easier to install, due to its low weight and modular structure.

Compounded by its vandal resistant properties and superior acoustic performance, EnduroMax is the ideal panel solution for the intense rigours of rail lines and highways.

Minimised Risk

Our lightweight materials offer the added benefit of minimising risk factors involved with transportation of materials and hazardous manual handling.

ModularWalls’ products are packed to volume rather than weight, resulting in the transportation of lighter loads, as well as a reduction in transport vehicles on the road. This results in fewer chances for unexpected incidents to occur, such as breakdowns or accidents due to overloaded vehicles.

Additionally, the reduced weight of parts and the composite construction methodology minimise the risk of injury or material damage during installation. The chance of injury from incorrect or excessive manual handling of tradespersons onsite is far lower than on sites involving solid concrete materials, and ensures installers can work productively and efficiently, with less physical fatigue to hinder build schedules.
Design and Engineering

ModularWalls engineering designers will assist contractors in completing a project on time and on budget, using the latest and most up-to-date software programs to design and model your complete wall and footing solution.

Using leading edge structural analysis engineering software, we design and construct the most robust structures from the ground up to ensure your project is completed as cost effectively as possible.

The products are Australian designed and manufactured to strict international ISO 9001 quality standards. With over 16 years proven performance, ModularWalls products are employed in a wide variety of residential, commercial and infrastructure projects, both nationally and internationally.
CASE STUDIES
Case Study 1

CAPTAIN COOK DRIVE, CARINGBAH NSW

Project Summary

- Sound barrier required to protect local residents from increasing semi-trailer traffic
- Demanded high levels of consultation between public services and local community
- Final barrier design showcased EnduroMax panels and custom-engineered foundations

Background

ModularWalls was approached during the design stage to design and construct a noise wall that protected local residents from the ever-increasing traffic from residential developments within Shark Park, as well as regular semi-trailer activity to Kurnell and the desalination plant.

Solution

This project demanded high levels of consultation and synergy between public services and the local community to reach the final proposed solution.

Designing custom-engineered foundation solutions around underground high-pressure gas, water, and sewer services required multiple meetings with Sydney Water, Jemena Gas, and ModularWalls engineers. Additional group consultations with the RMS and local communities spanned over 2 years to ensure the proposed design was in the best interests of all parties involved.

The final design specified a 2.4m high EnduroMax noise wall, with an additional 1200mm of clear acrylic on top, allowing light to pass through whilst still blocking traffic noise.

The wall was finished with Wattyl Solagard, ensuring a highly durable, quality finish for years to come.
Case Study 2

BRUCE HIGHWAY, COOROY QLD

Project Summary

• Noise barrier required to shield residential community along busy Bruce Highway
• Uneven and unstable terrain added building complexities
• GuardianWall solution with EnduroMax impact resistant panels exceeded QLD Department of Transport and Main Roads requirements (MRTS 15)

Background

This master-planned community in the Queensland town of Cooroy is situated adjacent to the Bruce Highway – the largest carrier of traffic in the Sunshine State. Its roadside location necessitated the erection of a highly effective noise barrier in order to insulate residents of the development from the constant drone of the highway.

In addition to acoustic properties, the wall also had to satisfy the impact-resistant requirements of civil infrastructure. Installation itself also posed a challenge, given the terrain of the development was not flat or level, and the noise barrier itself was situated on top of a sloping landscape mound.

Solution

The client opted to use the GuardianWall in combination with our EnduroMax panel to create a 300 metre long noise barrier that fully satisfies civil infrastructure requirements, as well as protects residents from highway traffic noise.

The impact-resistant EnduroMax panel, approved by the Queensland Department of Transport and Main Roads, enhanced the durability of the wall by enabling it to better withstand any bumps or flying debris. The lightweight, modular nature of the product greatly facilitated the installation of the noise barrier, particularly given the variable terrain of the development.
CENTRAL STATION, SYDNEY NSW

Project Summary
- Acoustically-rated visual screen needed for major construction and trackwork at Central Station
- Highly impact-resistant EnduroMax panels exceeded acoustic and durability requirements
- ModularWalls’ solution delivered a lighter, faster, more cost-effective alternative to traditional materials

Background
ModularWalls was contracted by Laing O’Rourke to supply a noise attenuation and screening barrier for major construction and trackwork, spanning over several years, at Sydney’s Central Station. As well as delivering vandal resistance and high durability, unique site constraints also required the design to be easily and quickly installed.

Solution
ModularWalls worked closely with Laing O’Rourke, offering detailed consultations, design work and engineering, as well as support during installation, which was easily undertaken by the site crew.

With its unique control over the entire supply chain, ModularWalls were able to supply the custom length EnduroMax panels within a 2-week turnaround period, a much faster turnaround than a concrete or AAC alternate design.

Due to its lightweight, modular nature, the wall itself offered rapid construction and overcame the detailed challenges of the site constraints. Measuring 200m long at heights of 4.5m, utilising impact-resistant EnduroMax panels, the design exceeded expectations for both acoustic attenuation and durability.
Case Study 4

COLES, ASHMORE QLD

Project Summary
- Acoustic solution required to protect residential neighbours from two separate noise sources
- Visual appeal a high priority due to Commonwealth Games
- EnduroMax and AcoustiSorb combined in superior, customised solution

Background
The Coles Benowa Village Shopping Centre was developed as part of major Gold Coast infrastructure changes, creating a new urban heart, including Coles and 13 specialty stores. As with any development, there was a responsibility to neighbouring residents with regards to acoustic abatement solutions.

Coles Group Property were required by Council to provide an acoustically rated screen alongside the acceleration lane, shielding neighbouring residents from traffic noise. In addition, a custom designed acoustic solution needed to shield residents in adjoining properties from the noise of a highly patronised Coles loading dock that operates late into the evening. Given the region was on show to the world whilst the Commonwealth countries toured the area, any barrier design had to be of superior aesthetic quality.

Solution
It was a combination of two different noise abatement products that provided the perfect solution. For the Ashmore Road Acceleration Lane, 190 metres of GuardianWall standing 3 metres high deemed most suitable. When incorporated with AcoustiMax75 panels, a noise reduction of 28Rw is comfortably achieved and ensured sufficient noise attenuation for neighbouring residents. The customised design, including a dynamic colour scheme of pre-coloured panels, meant that no painting post-installation was required and allowed for a faster, more cost effective installation.

A superior noise absorption solution was required for the Coles Loading Dock. ModularWalls' noise absorption composite wall panel, AcoustiSorb, provided the perfect solution, with each panel’s perforated face absorbing sound waves within its core material, resulting in an NRC rating > 0.9.
Case Study 5

OAKDALE INDUSTRIAL ESTATE, NSW

Project Summary
- Industrial estate development required visual and acoustic barrier to shield nearby residents from activity
- AcoustiMax75 panels utilised within GuardianWall system, with decorative strips adding architectural edge
- Custom installation behind keystone block gravity retaining wall using void forming pier liners

Background
The industrial estate development in Eastern Creek, NSW, required an acoustic barrier to protect nearby residents from the future noise generated by the new Costco Headquarters. The client required a durable solution that offered maximum acoustic capabilities, an aesthetically-pleasing finish and compatibility with a pre-existing retaining wall.

Solution
The GuardianWall system from ModularWalls fit the client’s design brief perfectly. AcoustiMax75 panels, universal beams and proprietary UB infills were utilised within the noise barrier design, reaching 5m high and spanning almost 800m in length.

The wall was installed behind the keystone block gravity retaining wall, using void forming pier liners into which the universal beam posts were installed and concreted into place.

The proprietary AcoustiMax panel achieves an Rw rating of 28, an ideal solution for commercial and industrial grade sound barriers. The barrier provided local residents a visually appealing backdrop, that ensured their peace would remain undisturbed by the new Costco Headquarters development.
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