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# Concepts

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CSR

# Custom Solution for Challenges of Common Ground Project

**The successful New York “Common Ground” social housing model, which has reduced street homelessness in the city by 25% over the past five years, is now being adopted in Australia.**

“Common Ground” is a 10 storey building in the Melbourne CBD, designed to accommodate up to 120 homeless people, and was constructed using environmentally sustainable design (ESD) principles. This Melbourne public housing project is a result of a partnership between the Lord Mayors Charitable Fund, the Victorian Government, project builder Grocon, Yarra Community Housing and Common Ground Australia.

The cost of the development is estimated to be around \$50 million and Grocon has undertaken to construct the project at cost price using ESD principles. The requirements of the Green Building Council of Australia, Green Star Multi Unit Residential Pilot, IEQ-6 Internal Noise Levels meant that wall ratings were to be 10% higher than standard. CSR building products were selected to meet this requirement, and as a result the building's internal walls are insulated with Bradford Glasswool insulation, and lined with 16mm Gyprock FyrchekMR.

The project's challenges of time and cost were overcome by a customised solution from the CSR team. VIC Commercial Account Manager, Sam Barrasso explains, “The building's acoustic requirements were generally satisfied by single layered systems, but various walls required double layered wall systems because of higher acoustic requirements. Grocon were concerned about the extra time and labour required to construct the double layered system and asked if we could tailor a single layered wall type that would achieve the same result.

“With the support of CSR DesignLink's Technical Manager, Michael Ryan, we were able to form a tailored result, which absolutely met the needs of the project. Together, we worked with Grocon to change the wall type specification from double layer to single layer, using Gyprock 16 mm Moisture Resistant Fyrchek.” Being slightly heavier than Fyrchek, the MR board combined with a generous wall cavity was predicted to reach  $R_w + C_{tr} 55$ . In-situ tests carried out by Acoustic Logic Consultancy confirmed that the system exceeded the high acoustic values specified.

The “Common Ground” facility, at 660 Elizabeth St was completed in August 2010 and occupation of the units began progressively in early September. The facility will not only provide accommodation to those in need, but will also provide medical assistance, mental health and employment services onsite.



# Impact Rated Walls for Liverpool Hospital

The new Clinical Services Building of Liverpool Hospital in Sydney has been completed using Gyprock EC08™ Impact for the corridor walls. EC08™ Impact is a superior wall lining that provides impact, acoustic and fire performance, and is ideal for health care projects.

CSR's EC08 Impact is fast establishing its credentials as the ideal solution to meet the design needs of hospital projects and aged care facilities, meeting the complex challenges posed by impact, fire and acoustic requirements.

The \$296 million extension and refurbishment of Liverpool Hospital commenced in mid 2008 and will be completed during 2011. With 855 beds, 23 operating rooms and 60 intensive care beds, the hospital is one of the largest tertiary health facilities in the state, serving almost one million people in South West Sydney. Large patient and visitors numbers will mean a heavy flow of corridor traffic, so the need for these walls to withstand all sorts of impact was an important issue.

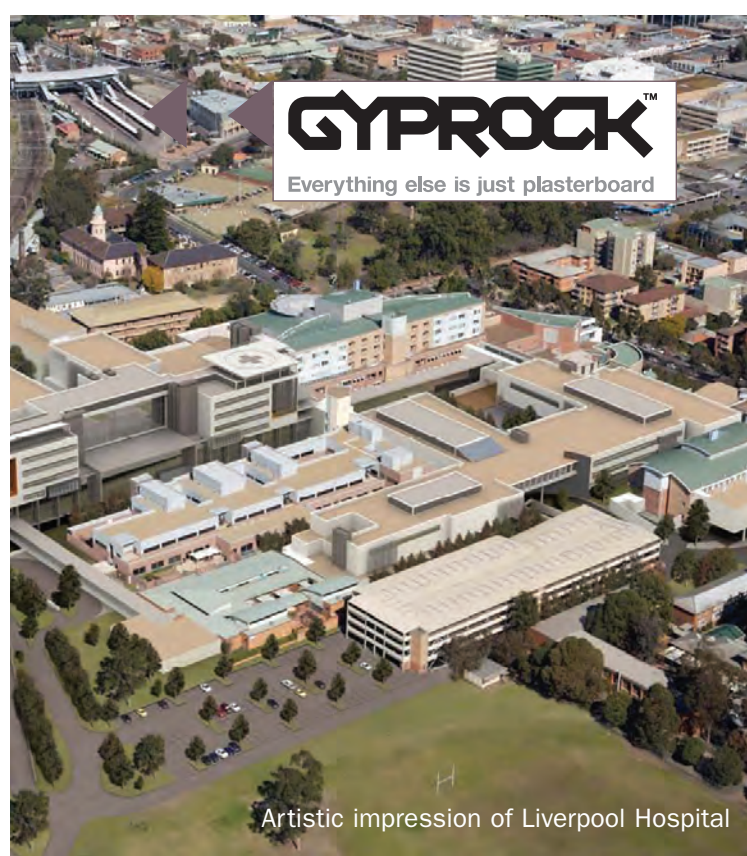
CSR Gyprock Commercial Sales Manager Antoine Veling explains that at the time of specification, an array of other wall lining products were selected because EC08 Impact was not yet on the market. Once it had been developed, CSR Gyprock presented EC08 Impact to the project engineers as the ideal solution for the corridor linings and general high volume traffic.

Antoine Veling explains, "EC08 Impact is ideal for areas in hospitals or aged care facilities which are exposed to bumps and abrasion. For example, corridors and passages can be regularly damaged by patients' beds or wheelchairs, as well as sharp and heavy forces like electric trolleys and heavy medical equipment.

"It is specifically designed for both hard and soft body impact applications, and offers substantial benefits, being both fire and acoustic rated, and with impact resistance."

Bovis Lend Lease's Construction Manager – Liverpool Hospital, Nick Gaudry, said, "Bovis Lend Lease is always investigating new materials, techniques and technologies that improve the performance, quality and sustainability of our projects. Originally we had both 9mm fibre cement and impact rated plasterboard specified for high traffic areas of the clinic. When however we became aware of the newly released EC08 Impact we decided to put a change in specification to the users group.

He added, "EC08 Impact appealed to us because it offered additional benefits of hard body impact resistance together with a high recycled content. A test wall at the hospital was then built using EC08 Impact and new costings were completed. The subsequent testing resulted in agreement that EC08 Impact was going to be the best material for parts of the hospital. The specifications were then altered to accommodate this new material."



Artistic impression of Liverpool Hospital

The project fit out contractors, Brighton Australia, said installing the 3900sqm of EC08 Impact was generally no different from standard plasterboard or fibre cement.

Eddie Alves from Brighton Australia says, "The installation of EC08 Impact is practical and simple. EC08 Impact is easier to cut than mesh reinforced impact grade plasterboard, making it easier to work with. The feedback from our staff on the site was that it is light, easy to handle, and easy to cut and finish. Even the painters commented that the product resulted in a better end finish. Overall, we were very happy with the outcome."

EC08 Impact is one of the three boards in the Gyprock EC08 range that carry Good Environmental Choice Australia (GECA) and can contribute to Green Star points in the Green Building Council Australia's calculators. The original Gyprock EC08 launched in 2008 was the first Australian-made plasterboard to have been certified by GECA.

The Gyprock EC08 range is available in 13mm thickness and in three types – EC08 Partition for walls generally, EC08 Fire for fire rated walls, and EC08 Impact for fire and impact rated walls.

**For more information on the EC08 Range, contact Gyprock on 1800 621 117 or visit [gyprock.com.au](http://gyprock.com.au)**

**Gyprock EC08™**  
with reCore™ technology

## Ecophon Panels to the Rescue in Noisy Restaurant

Many restaurants struggle to find the right balance between creating an atmosphere with the right buzz of excitement and action, and providing a welcoming environment where patrons can dine and converse easily. In too many cases, it's conversation that loses out as patrons struggle to hear themselves think or talk above the ever increasing noise reverberation.

One restaurant which has recently successfully overcome this challenge is Baldovino's, a family run café and restaurant in Melbourne. Owned by Jim Bakos and Mark Averte, the restaurant has been in business for over 40 years and specialises in serving local produce within an intimate setting. Baldovinos has a minimalist, yet inviting design with polished concrete flooring and a combination of glass and plasterboard walls. Jim Bakos comments, "We soon began to realise that when they we operating at full capacity, the acoustics in the room were insufficient and detracted from the full dining effect that we had envisaged and desired."

"We decided to get in touch with CSR who was able to come up with the perfect solution to our issue. CSR specified Ecophon Focus F panels as they can be directly fixed to battens, plasterboard or concrete soffits,

creating a smooth appearance, and meant we wouldn't have to completely re-sheet the 40sqm ceiling," says Jim.

The owners are impressed with the immediate results. Jim says, "We are over the moon with the instant improvement. The Ecophon panels have done exactly what we wanted. The restaurant was noisy at the best of times and when it was busy it was just too loud. The panels improved the noise instantly."

Ecophon Focus F panels have a tongue and groove edge which allows good alignment on installation, while the bevelled edges create a narrow groove between each tile. The panels are designed to be installed directly with screws and adhesive, and can be installed in discrete areas to avoid interfering with lights, sprinklers etc. This simple installation meant that the tiles could be installed in one day so there was no need to close the restaurant.

The 20mm thick tiles are manufactured from high density glasswool and have NRC 0.7. The visible surface has an Akutex FT coating and the back of the tile is covered with glass tissue. The edges are reinforced and painted, and the panels weigh approximately 2.5kg/m<sup>2</sup>.

For more information on Ecophon ceiling tiles, please visit [www.gyprock.com.au](http://www.gyprock.com.au) or contact 1300 306 556.



# CSR's New HQ achieves an Australian First for Environmentally Sustainable Design in Interiors



CSR



Suzie Barnett, Executive Director for the GBCA and Rob Sindel, CEO of CSR

**CSR relocated its headquarters to the North Ryde based Stockland Trinité campus in January this year. Now, CSR's Trinité III building has become the first to achieve a 5 Star Green Star rating (Office Interiors v1.1) in the first round.**

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Stockland has also registered the Trinité III building for a Green Star – Office As Built v2 rating, which it has achieved for campus buildings I and II.

CSR was awarded with its certification by the Green Building Council of Australia (GBCA) at an official event at the end of July. Industry professionals including representatives from CSR, Stocklands, Colliers and the GBCA were in attendance.

"The CSR Trinité Project is the first to achieve a 5 Star Green Star – Office Interiors v1.1 rating in the first round," explains Chief Executive of the GBCA, Romilly Madew.

"This was the result of a very high quality submission, and the CSR Trinité Project joins just a handful of other projects that have achieved their Green Star ratings in the first round."

Rob Ferrari, Gyprock Commercial Segment Manager, says, "There were a number of CSR Gyprock products used in the fit out which have a significant environmental advantage, and these were instrumental in helping us to achieve the Green Star certification.

"For example, Gyprock EC08™ Fire plasterboard, a fire grade board with high acoustic properties, was the first Australian-made plasterboard to be certified by Good Environmental Choice Australia (GECA). The application of this product assisted by reducing the documentation required to contribute to the Green Star certification points for the fit out.

"In addition, the use of Gyprock compounds, adhesives and sealants, all of which have low VOCs and are CETEC approved, had a positive impact on Green Star credits."

Other CSR products used throughout the building include: Bradford Insulation, Cemintel Fibre Cement, Fricker Ceiling Systems, Hebel Aerated Concrete, Rockcore & Alturi Panel Systems and Viridian Glass.

**For the GBCA case study, please visit <http://www.gbca.org.au/green-star/green-building-case-studies/csr-trinité-project/3027.htm>**

**CSR Cemintel's BareStone™ pre-finished facade system was selected as the optimal solution for Bernard Hockings' latest ambitious project, a 100% self sufficient eco-house based in Newcastle.**

BareStone, part of the CeminSeal family of products, is another ground-breaking product that incorporates the CeminSeal water blocking technology. Bernard says, "I chose BareStone because I believe it's a great all round solution. It's a high performance cladding system that looks great, is cost effective, easy to install, and has minimal environmental impact."

The two storey, three bedroom house includes a composting toilet and grey water treatment system to handle all sewerage on site. A 40,000 litre underground rainwater tank is incorporated in the building foundations and will supply all household water needs. Photovoltaic panels and a 2kW wind turbine will generate approximately 150% of the building's electricity needs with excess energy fed into the grid. Good passive solar design achieved a 9 star thermal rating so indoor temperatures will only be too hot or cold for a handful of hours each year. When needed, heating can be provided by a solar heated hydronic system, and active cooling will be provided by using the underground water tank as a heat sink.

"I've roughly calculated that after 20 years, the building will have generated enough renewable energy to meet the day-to-day operation of the building as well as

enough surplus to offset the carbon impact of producing the building's materials, making it truly carbon neutral," says Bernard.

Bernard has been a carpenter and builder for 30 years and has undertaken most of the construction of this current project himself, beginning in early 2009 and with a completion date expected later this year.

Bernard has been involved in green building industry since the mid 70s', and his name is synonymous with sustainability and innovation. His career includes environmental manager for the Master Builders Association, founding president and principal technical consultant for the Association of Building Sustainability Assessors (ABSA), and the founding president for the Australian Fenestration Rating Council (AFRC). He has also conducted hundreds of training seminars for building professionals throughout Australia and New Zealand.

"This current project has provided me with an opportunity to see just how far I can practically go in reducing environmental impact," comments Bernard.

"With its 9mm compressed fibre cement panels, BareStone provides an extremely weather tight, highly durable, low maintenance cladding system. The top hat sub-frame provides a ventilated cavity which improves thermal performance and keeps condensation away from the timber frame, and the CeminSeal technology gives me confidence that the panels will be stable, watertight and mould free. The fact that there is no render, paint or flush jointing allows for faster, cleaner



and more economical construction. In addition, at the end of its life, the exposed fittings and express joints mean that the house can be dismantled instead of demolished," adds Bernard.

Some of the other building materials used include 90% recycled content concrete, VOC free paints made from recycled engine oil, concrete blocks that act as carbon sinks, HDPE plumbing and boron treated hoop pine timber frames.

Bernard comments, "I really wanted to break some stereotypes with this project. I don't want people to drive past and necessarily say, "Oh look, there's an eco house". The house is contemporary in style, built with terracotta tiles on the upper storey walls and oiled external timber. BareStone is the principal cladding, which gives the finished building a raw and earthy look - it's a natural finish and a sharp, modern trend.

Once finished, Bernard plans to rent the house to people that are interested in experiencing eco-friendly living. He says, "I want to demonstrate that living sustainably should mean enjoying greater comfort in a healthier, attractive home that cost less to run.

"People often ask me what I think the next fashion in building style will be, and I have to say that BareStone has to be a likely contender. It ticks a lot of boxes."



For more information on Barestone, please contact CSR Cemintel on 1300 236 468 or visit [www.cemintel.com.au](http://www.cemintel.com.au)

## Bradford Introduces New Batt Products to Meet the BCA 2010

The BCA 2010, introduced in May this year, requires newly constructed homes to meet 6 star energy efficiency. The "deemed to satisfy" provisions now require significantly higher levels of insulation to be included in walls, ceilings and floors.

Bradford Insulation has introduced a number of new batt products to meet these provisions. The range includes low profile products that are suitable for use in 75mm and 90mm stud wall construction and in cathedral ceilings. These new low profile products complement the broad range of ceiling, wall and floor insulation currently available. This ensures Bradford has an insulation product available to meet each part of the building envelope across a range of R-Values, to cater for new homes being designed and constructed in the various climate zones outlined in the BCA.

For more information, please contact Bradford on 1300 850 305 or visit the website [www.bradfordinsulation.com.au](http://www.bradfordinsulation.com.au)





## Sustainable Living Solutions for the Eco Challenge Project

Gyprock Superchek™ is a standout feature in four new homes that were designed to demonstrate just how sustainable residences of the future can be.

Located on one large block in Rose Bay, NSW, the homes are part of a cutting edge project known as The Eco-Challenge. The Challenge involves Australian Living, a sustainable building management and consultancy firm, who assist owners and architects to create homes that exceed the current standards for sustainability.

Australian Living began building the four homes in December 2009 and the project is nearing completion. Each home has a different owner who has chosen their own architect, so the result is four residences demonstrating superior sustainable building design in unique ways.

When it came to planning the walls and ceilings for the homes, director of Australian Living, Cameron Rosen says they looked closely at what was on offer from different building product manufacturers and researched the relevant sustainable building products and services. They also investigated the Green Building Council of Australia (GBCA), Good Environmental Choice Australia (GECA) and ISO rating systems to assist their decision.

As a result, all four homes used Gyprock Superchek™ throughout their walls and ceilings. Superchek has been formulated with a heavy duty, high quality facing material and a more resilient, denser core. Walls lined with Superchek provide resistance from the damage of everyday knocks, requiring twice the force compared to standard plasterboard to leave an indent.

Superchek also improves acoustic performance and offers flame resistance up to 20 per cent longer than standard plasterboard.

Cameron says, "When selecting CSR as a partner, we were influenced by the fact that the company is Australian-owned as well as its reputation as a pioneer in the industry. The decision was made to use Superchek™ because of its suitability for residential buildings and because of its recycled content. We also liked the fact that CSR collects discarded board for reuse."

Superchek™ can be installed throughout the entire house, apart from wet areas, eliminating the need for specifiers and architects to specify different plasterboards for every part of the home, as well as making the installation process more streamlined for contractors.

Superchek™ is a high density recessed edge plasterboard and is available in 10mm thick and a range of lengths. It has about 20% recycled content.

**For more information on Superchek, contact Gyprock on 1300 306 556 or visit [www.gyprock.com.au](http://www.gyprock.com.au)**



More information about Australian Living is available from [www.australianliving.info](http://www.australianliving.info)