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## New HQ for CSR a tribute to state of the art building performance

CSR Ltd, is one of Australia's most influential and reputable manufacturing companies and are famous for the certainty built in to the company's large range of leading building solutions.

CSR's building materials brands cover the full range of construction applications from Viridian Glass, Bradford Insulation, Gyprock Plasterboard, Cemintel Fibre Cement, Fricker Ceiling Systems, Hebel Aerated Concrete, PGH Brick & Pavers and Rockcore and Alturi Panel Systems.

Staking a major claim on building innovation and a proud 150 year heritage committed to more sustainable living, CSR embarked on an ambitious project with Stockland to build its own headquarters as a monument to environmentally sustainable, modern design and a centerpiece of CSR's expertise.

CSR's Trinit 3 Building, situated in Stockland's North Ryde A-grade Office campus, is a remarkable six storey, 9000sqm building ( CSR occupy 6,700 sqm ) that has brought together 360 CSR staff from multiple CSR operations in one location. It has transformed company culture, business efficiencies, staff comfort and set a higher benchmark for corporate responsibility and environmental sustainability.

"A major move like this presented the unique opportunity to bring together all our brands, with each of their innovative features and unique contributions, and apply them to create one outstanding building that says as much about our brands and products as it does about our company culture and values," said Andrew MacKenzie, CSR General Manager Property.

The project has been a collaboration before even the first stone was turned between CSR and three primary parties; property owners Stockland, Architects Morris Bray and builders Baulderstone.

Architect Cameron Martin of Morris Bray says: "The intention was to create a bright, comfortable and pleasing space that took advantage of natural light and encouraged a collaborative culture among the staff working across different brands."

"It was also important to reflect CSR's environmental credentials and honour its famed history and market leader position," said Cameron. "All design elements and product specifications flowed from this."

CSR also decided to register for a Green Star Office Interiors rating aiming for a 5 star Green Star rating, which provided a great opportunity to work with the interior design team on the requirements of the Green Star Office Interiors rating tool.

Rob Ferrari, Commercial Segment Manager, completed the GSAP course and exam and joined the Green Star design team to assist with the use of materials and determine which ones could contribute to points in the Green Star Rating Tool.

From the outside of the CSR Trinit Building, one is immediately struck by the blue toned glass which performs as the protagonist for the outside feel of the building.

"We used Viridian's EVantage SuperBlue™ with a vertical glaze to create a unique and distinctive visual appearance within the office campus, but also harness the good light transmission this glass offers to reduce need for artificial lighting within the building," said Anthony Gunther, Viridian Architectural Manager.

"Performance of this glass was enhanced by using it in the Viridian ThermoTech™ Double Low E insulating glass units," said Anthony. "This minimises variations in office temperature thanks to superior U Values and SHGC values thus improving office comfort and assisting to reduce the running costs of the building; an important green star contribution."

Inside the CSR Trinit building the essence of comfort and efficiency is noticeably built into every detail.

The slender office floor plates, orientated in an east-west direction, minimise early morning and afternoon heat loads while allowing maximum natural light into all office spaces, helping to reduce lighting loads and improve the quality of the indoor environment.

The most conspicuous of design elements to affect company culture and business efficiencies is the open plan layout for all staff including those at executive and CEO levels, which allows for easy flow of staff between teams and businesses and fosters a collaborative approach to inspire innovation in products and processes.

The use of glass for the staircase creates a decorative and harmonious feature that welcomes people to move easily between floors and diminishes the need for a lift

thus improving energy efficiency and encouraging a healthier workplace.

The crowning glory to the stairwell is the application of Cemintel's new BareStone 9mm compressed fibre cement lining panels, with 50 customised, perforated units with an acoustic back feature to provide a striking design treatment.

In an open plan office layout, minimising noise transference is a major consideration when choosing building materials, and one which CSR paid due deference to, resulting in a surprisingly quiet atmosphere for the workplace.

Acoustic Consultant Victor Fattoretto of Acoustic Logic Consultancy said: "It was important this space allowed for collaboration as well as an adequate level of acoustic privacy, and the design of each desk space, special break-out rooms, over 20 meeting rooms of varying sizes and the large communal kitchen areas on each floor all incorporated the choice of acoustically superior building materials."

Providing the backdrop to this workplace is 5000 metres of Gyprock EC08 plasterboard, a fire grade board with high acoustic properties and the essential added benefit of being the first Australian-made plasterboard to be certified by Good Environmental Choice Australia (GECA). This reduced the documentation required to contribute to certification points in the Wall & Partition calculator.

Bradford Insulation specified 2800 metres of 75mm, 14 kg partition batts throughout the partition walls to further improve the acoustics of the building, though the solid R1.8 value of these batts has also contributed to improving the building's energy efficiency and level of comfort.

Hebel, the only lightweight masonry product approved by GECA and quicker to install than traditional masonry products, is fastened to the Rondo wall grid and when attached to the Gyprock EC08 provides the complete acoustic and environmentally sustainable solution that also meets and exceeds BCA fire grade regulations.

Cemintel™ Fibre Cement Systems, with their new water blocking technology, have been used in bathrooms and shower areas and, complemented by Hebel, provides the best acoustic option for wet zones.

Looking up, the discreet office ceiling disguises a wealth of scientific research into sustainable building design. Fricker, known as a leading supplier of suspended ceilings to premium commercial developments, supplied top of the range systems for the building. Its premium Fricker 611 tile was used throughout with specialist areas such as the boardrooms featuring the Fricker System 150 perforated metal ceiling tiles.

Suspended from the Fricker ceiling is the acoustic genius of the Ecophon range of products marketed by Fricker. Being used for the first time in Australia, the Ecophon MasterSolo are stylishly slim floating panels, which are fully encapsulated high density wool panels that have excellent sound absorption for frequencies above 250 Hz while also providing high absorption for low frequencies, making them a good choice for office areas where maximum absorption throughout the frequency range is desirable.

Starring alongside are a colourful collection of Ecophon Wall Panels, which look and function like fabric pin boards, and were installed on each meeting room wall,



due to their ability to absorb around 80% of the sound energy, which corresponds to a clearly noticeable 7dB reduction in reflected sound.

Bradford Insulation has uniquely applied the baffleblock installation technique above the top floor ceiling, which places 10-12 of 75mm, 14 kg insulation batts on top of each other throughout the 2000sqm of area to further maximise ceiling acoustic and thermal performance.

Just below the roof on Trinti's concrete underslab, 2000 metres of Bradford's Anticon 75, 80mm R1.8 blanket with Light Duty Foil was chosen to protect the area from the build up of condensation as it was the most economical solution which provided the highest density rating of glasswool and reflective insulation in a single product for maximum protection.

Stocklands and Baulderstone delivered the building right on schedule, with the fit out being completed by FDC, CSR moved into the Trinti 3 building in January and welcomed in a new phase of our long history that will enable better business performance and contribute further to environmental and community sustainability," said Andrew Mackenzie.

"The knowledge CSR gained from working directly with the Green Star project team is also now being put into practice helping designers work on their own projects," said Rob Ferrari.



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## CSR Cemintel™ launches a pre-finished panel that provides a raw concrete look and repels water

CSR Cemintel™'s new BareStone commercial façade is a pre-finished panel utilising 9mm compressed fibre cement and incorporates the ExpressWall fixing system, providing a striking design element and quick, simple installation. The results provide a raw concrete-like look.

Following the successful launch of the CeminSeal family of products, Cemintel™ has launched BareStone, providing yet another ground-breaking product that incorporates CeminSeal waterblocking technology.

A first from Cemintel™, BareStone allows additional design freedom, having been developed to meet the demand for the 'raw' and 'earthy' look, many clients and architects are requesting. It offers a natural finish and provides the assurance a pre-finished panel.

BareStone was recently specified by Architectus Directors Lindsay and Kerry Clare as the major cladding material for The University of Western Sydney (UWS) Student Housing project.

The Clares chose BareStone for its aesthetic qualities as the product has warm tones and slight variation in colour signifying a product in its more natural state.

"BareStone is a very flexible product for designers to work with as it compliments a variety of colour and material palettes due to its neutral and natural qualities," Director, Kerry Clare said.

Once BareStone is installed as part of the ExpressWall Installation system incorporating top hats, there is no need for additional trades or processes. BareStone is a pre-finished panel and it can be installed and left as supplied, or painted if desired.

Environmental responsibility is a design priority for the Clares, and BareStone enabled them to create cost effective reverse masonry veneer construction where the compressed fibre cement protects the thermal mass walls and makes a substantial difference to indoor room temperatures and comfort levels throughout the year.

"Fibre cement products have excellent environmental credentials with minimal environmental impacts, low embodied energy, superior lifespan and freedom from maintenance," Kerry Clare said.

Architectus Director, Kerry Clare said BareStone was used on the majority of external walls.

"The internal skin of masonry is over clad with BareStone which shades the masonry in summer and provides an air gap for insulation in winter. It also provides excellent weathering for the wall and is ideally suited to the low embodied energy principles behind our approach.

BareStone has been weather tested to AS4284-1995 and AS4040.3-1992 and uses 1.15BMT galvanised top hats and exposed head Class 3 or stainless steel fasteners.

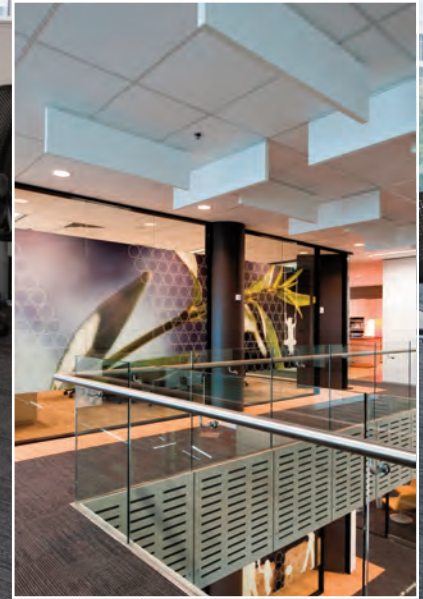
**BareStone is available now, for more information contact CSR Cemintel™ on 1300 236 468 or visit [www.cemintel.com.au](http://www.cemintel.com.au)**



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Ecophon®



## Ecophon Masters Acoustic Privacy

Ecophon™ Master Solo ‘floating panels’ have taken a starring role in a challenging design brief which required acoustic privacy in an open plan office. Specified for the very first time in Australia, Ecophon Master Solo S panels, suspended from the typical lay-in grid ceiling, incorporate the Akutex FT coating which provides a damage resistant, visually pleasing coating and allows sound to penetrate into the acoustic panel material behind it.

While open plan offices are typical in fit-outs, mid/upper level management are usually provided with enclosed offices because of the need to maintain an adequate level of acoustic privacy.

So when a recent design brief required acoustic privacy for all, including executives and CEO level, the challenge was on. CSR worked closely with Acoustic Logic Consultancy to come up with a solution that would meet the needs and expectations in a completely open plan workspace.

Extensive research, which consisted of modeling sound radiation patterns around open plan areas, determined the level of audible penetration in executive office workstations.

The final solution to the problem was not one single idea but a combination of three key approaches that would ensure the workstations were acceptable to the end user and consisted of:

- **Physical treatment of the workstation areas**
- **Planning of the office space**
- **Education of the end user**

The physical treatment saw the use of highly absorptive Ecophon floating panels to minimize any reflected sound energy. These panels are able to absorb around 95% of the sound energy corresponding to a 13 dB reduction in reflected sound. The result was a significant and clearly noticeable reduction in sound. The final design incorporated Ecophon Master Solo S panels which met both the acoustic performance and aesthetic requirements.

In planning, buffer areas were created by corridors, corners and partitioned rooms were designed as natural boundaries arranged adjacent to executive work stations. The provision of ‘quiet’ and meeting spaces meant there was a place where conversations requiring privacy could take place.

Ecophon ceiling baffles were used to dampen noise reverberation from the glass treads on the internal stair case which potentially could have become an acoustic concern. In meeting rooms Ecophon XT wall panels were installed to absorb the lateral sound reflections typically found in these rooms.

Executives were advised as to the expected levels of acoustic privacy and in this way expectations were managed.

Overall the use of Ecophon Master Solo S floating panels meant the desired acoustic effect was achieved while adding to the aesthetic design of the office space.

**For more information contact CSR Gyprock™ on 1800 621 117 for further information.**

# Gyprock™ Perforated Plasterboard

Recent testing of Gyprock™ Perforated Plasterboard with an acoustic fabric backing shows that it can achieve a high level of sound absorption.

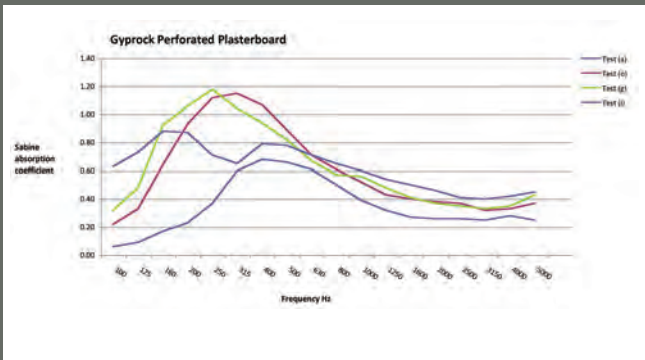
Extensive testing was carried out at CSRIO Highett, Victoria, with various insulations and cavity depths. The tests revealed that the system with insulation achieves a rating up to NRC 0.75.

(See graphic)

Designed to meet the requirements of schools set by the BER program, Perforated Plasterboard can be flush jointed for a paint finish and has more damage resistance than mineral fibre tiles. The tests used Gyprock™ Perforated Plasterboard with a black acoustic fabric adhered to the back and achieved good performance. High levels of acoustic performance were achieved with an overlay of 50mm Bradford glasswool batts.

Gyprock™ Perforated Plasterboard has been specifically developed for use in both ceilings and walls where sound absorption is required, and it is ideal for high traffic areas such as schools, libraries and shopping centres.

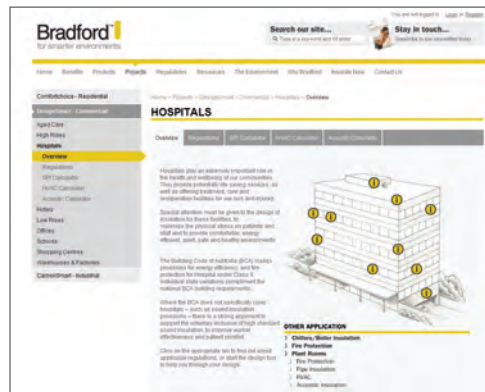
The board is dense-core 13mm plasterboard with 6mm diameter holes, with the perforations totalling 8.2% of the sheet area. Long edges are recessed to assist in producing a smooth, even and continuous surface once jointed.



Key:	Insulation	Cavity mm	NRC
Test (a)	Nil	100	0.40
Test (o)	50mm Bradford Glasswool Partition 14kg/m <sup>3</sup>	100	0.75
Test (g)	50mm Bradford Glasswool Partition 14kg/m <sup>3</sup>	200	0.75
Test (i)	50mm Bradford Glasswool Partition 14kg/m <sup>3</sup>	600	0.65



## Bradford DesignSmart adds thermal Roofing Calculator to the mix



Bradford Insulation set the benchmark high when it launched DesignSmart in 2008. DesignSmart was aimed at helping designers, specifiers and architects meet the requirements of the BCA quickly and easily – online.

From its inception, DesignSmart offered three calculators: HVAC, SPI and Acoustic, all proving popular in assisting designers calculate the insulation required for their project, in any climate zone, based on a number of possible scenarios, in accordance to the BCA.

Bradford has since introduced a new tool to the mix – the Roofing Calculator. Bradford Commercial Segment Manager, Roger Pecnik, said they have developed the new calculator to ensure users were obtaining the whole package from the DesignSmart website, from air-conditioning and acoustics and now to roofing.

“According to the feedback we obtained from specifiers and architects, there was the need to simplify the complexity around designing roofing systems. Now we have implemented this tool, it will allow users to vary the type of building, climate zone, roofing type and colour, and the design the insulation for their project. It really has made the designer’s job a lot easier,” Mr Pecnik said.

The Roofing Calculator takes the user through the BCA requirements, step by step. Starting with the commercial building type, such as: aged care; offices; hospitals or high rise buildings, and leading into building climate zone and roofing: conditioned or non conditioned. It also calculates any reductions from the roof colour as permitted by the BCA. The design total R-Value is then determined.

The calculator then allows the roof type to be selected, such as pitched tiled roof with flat ceiling or metal roof with cathedral ceiling, and from there DesignSmart allows users to vary the type of blanket or batt being specified to calculate a total R value of the roof. A copy of the calculations and specifications are then emailed to the user for inclusion in project and tender documentation.

DesignSmart is a free service which offers other tools that are essential in designing and specifying commercial projects.

Visit [bradfordinsulation.com.au](http://bradfordinsulation.com.au) or call 1300 850 305 for assistance.

# Gyprock puts a lid on VOCs



The effect of Volatile Organic Compounds (VOCs) on indoor air pollution and how this can affect human health is rapidly gaining awareness. This knowledge and attention has direct implications for the building and construction industry with a new focus on reducing the chemical emissions gained from the use of building materials.

VOCs can be generally defined as organic compounds with potentially harmful gases that are emitted into the indoor atmosphere. Contributors include: hard surface and carpet flooring materials, paints, adhesives and sealants, insulations, vinyl wall coverings, ceiling tile, fireproofing, and textile furnishings.

The Green Building Council of Australia's (GBCA) Green Star Rating Tools encourages product suppliers, designers and specifiers to use low VOC emitting materials. The level of VOC content of a product can affect Green Star credits.

Gyprock has committed its business to producing more environmentally sustainable products to support the green building market. The company has engaged CETEC Pty. Ltd to test its range of compounds and adhesives for levels of VOC. Gyprock has uploaded Volatile Organic Compounds (VOCs) certificates to its

website for each of its relevant products, which may be required if using Gyprock products on a Green Star project.

Due to the fact building materials and furnishings are recognised as being some of the largest contributors to indoor air pollution, Gyprock sees this as an area of priority.

For example, studies conducted overseas showed that 96 percent of the VOCs found in a large office building following construction resulted from the materials used to construct and furnish the building<sup>1</sup>. It is also estimated that in Australia in excess of 80,000 tonnes of VOCs is released into the atmosphere each year.

Relatively high levels of pollutants from building materials, finishes, paints and backing materials have also been known to cause health problems such as irritation of the eyes, nose and throat, headaches and dizziness.

Visit <http://www.gyprock.com.au/resources/voc-certificates.aspx>, to ensure the correct VOC certificate is downloaded or contact Gyprock on 1300 306 556.

1. Studies were conducted at State of Washington's East Campus Plus Program





## COAG commitment on new building energy efficiency fulfilled

COAG (The Council of Australian Governments) has recently announced changes will be made to the 2010 Building Code of Australia

to increase the energy efficiency of new buildings.

Implementation of the new commercial building standards will commence in May 2010 and the States and Territories have undertaken to implement the new residential standards by May 2011.

The new energy efficiency standards are part of a suite of proposals under the National Strategy on Energy Efficiency, which includes increasing the minimum requirements for residential building from five stars to six stars.

According to the International Energy Agency, Australia lags other major developed countries in its implementation of recommended policies for buildings. Adoption of 6 Star standards is an important step forward for sustainability in Australia's houses.

"Reducing energy loss through the roof, walls,

windows and floors of houses provides ongoing permanent savings in energy for the life of the building and should not be traded off for other short term measures, such as appliances," said Rob Sindel, CEO of CSR Building Products Limited.

"Insulation will play an important role in meeting the new standard. However, in a typically otherwise well insulated house with ordinary clear single glazed windows, around 49% of unwanted heat losses in cooler months, and up to 87% of solar heat gain in summer, occurs through the windows," he said.

The Australian window and glazing industry is well equipped to meet the new performance levels through a wide array of internationally proven technologies. Investments by CSR's Viridian™ glass business in advance of this regulatory change have ensured that the local industry will not be left behind.

"The great virtue of the high performance windows and glass available today is that they can contribute significantly to meeting the 6 Star standards and provide a higher standard of home comfort. There is no need to compromise on aesthetics or amenity when designing new homes or renovations," said Lachlan Austin, General Manager, Marketing Viridian.

## The Red Book Is Getting An Upgrade

CSR is busy working on the next edition of the Red Book to ensure the fully revised edition of the Gyprock™ and Cemintel™ fire and acoustic design manual has more information than ever before.

The Red Book™ is a well known guide to plasterboard and fibre cement fire and acoustic systems. The guide is being updated to include new product ranges and systems, a new section for Green Building Applications using the ECO8 range, thermal rating to roofs and external walls and additional installation details.

Commercial Segment Manager, Rob Ferrari said; "With the addition of new products, systems and applications, the Gyprock™ and Cemintel Fire & Acoustic design guide will have the most comprehensive range available in the market, maintaining its position as the industry 'bible' for architects and designers".

The "How to Use" guide shows how to find a solution using the section index, system index and application index. The colour coded sections and application icons allow users to promptly find the system they are seeking.



The Red Book is expected to be available in June 2010.

The Red Book™ will be available on CD-ROM at Gyprock™ Trade Centres and our Internal Lining Specialists. Please contact CSR Gyprock™ and Fibre Cement on 1800 621 117 for further information.

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