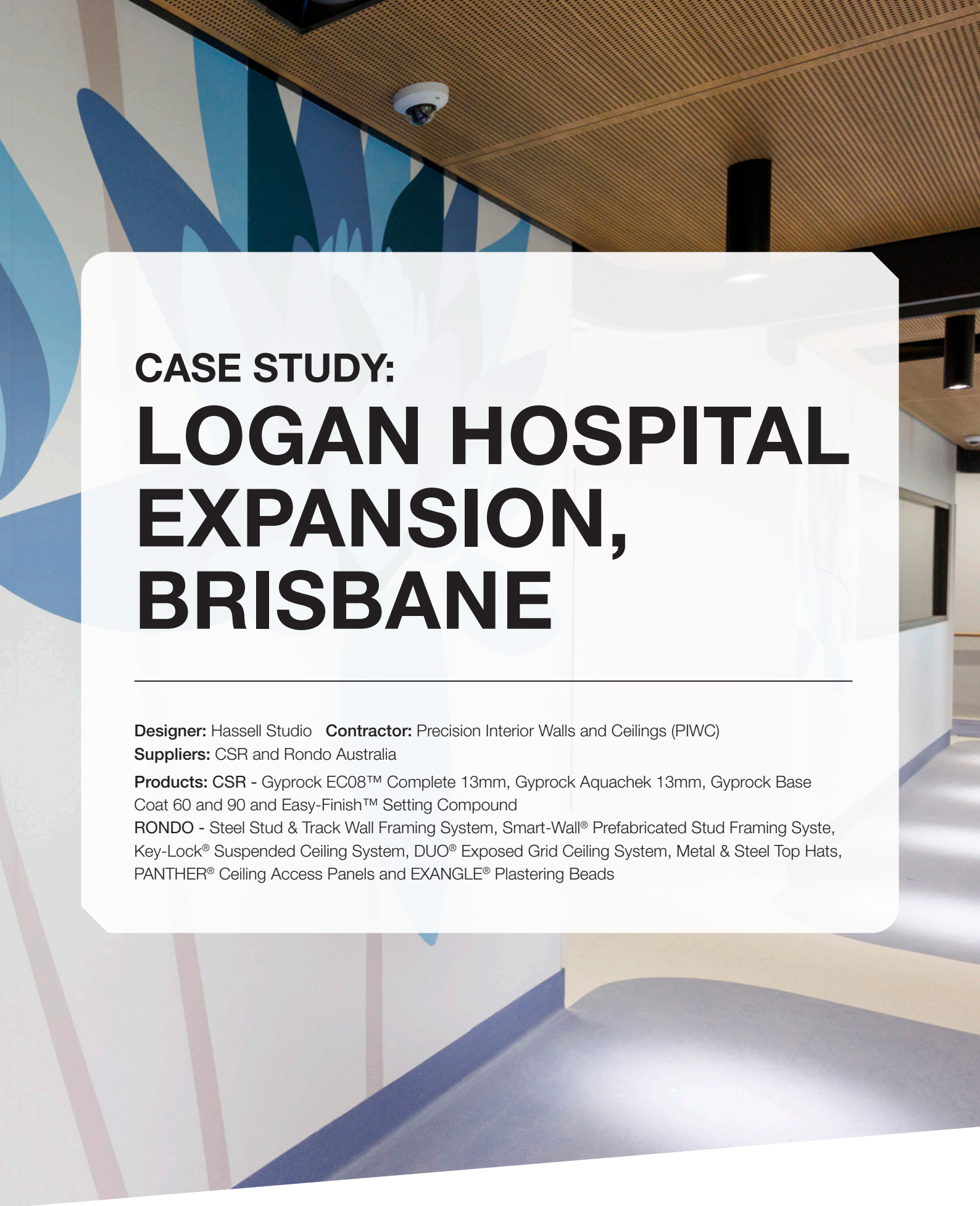


CASE STUDY:

LOGAN HOSPITAL EXPANSION, BRISBANE

Designer: Hassell Studio **Contractor:** Precision Interior Walls and Ceilings (PIWC)
Suppliers: CSR and Rondo Australia

Products: **CSR** - Gyprock EC08™ Complete 13mm, Gyprock Aquachek 13mm, Gyprock Base Coat 60 and 90 and Easy-Finish™ Setting Compound
RONDO - Steel Stud & Track Wall Framing System, Smart-Wall® Prefabricated Stud Framing Syste, Key-Lock® Suspended Ceiling System, DUO® Exposed Grid Ceiling System, Metal & Steel Top Hats, PANTHER® Ceiling Access Panels and EXANGLE® Plastering Beads

RONDO® GYPROCK® CSR

Background

The Logan Hospital Expansion is one of Queensland's largest ever hospital expansions, undertaken to cater to the growing population in the region. With a 48% increase on the existing bed capacity, it will significantly increase the size of the hospital to meet the needs of the community. The program of works included adding additional levels to an existing building, refurbishing parts of the original hospital buildings, and adding a new clinical services building.

Brisbane-based Precision Interior Walls and Ceilings (PIWC) were commissioned to deliver all internal walls and ceilings and recently reflected on their decision to partner with CSR and Rondo to deliver efficient, cost-effective building solutions.

"CSR's expert advice and service support helped us stay efficient in a complex project, making sure all deliveries were on time and booked in advance," says Conrad Cahill, Project Manager at PIWC.

Challenge

The extension and refurbishment of Level 5 included the construction of a brand-new intensive care unit with 16 wards, all needing to be sealed on all edges and corners in line with the prevention of infectious disease control and meet Rw45 and Rw50 acoustic specifications.

Some parts of the refurbishment had the added complexity of having to be done in stages and sections as the specific areas could not be closed down completely and needed to remain safely accessible and operational. The refurbishment and upgrade of the existing kitchen and staff dining in building one, for example, had to remain operational to service the rest of the Logan Hospital throughout the refurbishment, requiring construction to take place in four stages. Construction in multiple areas at the same time needed a streamlined and organised approach.

There was therefore a need to find building products that allowed for an efficient construction process, without the complexities of having multiple materials. The products selected needed to have exceptional thermal and moisture control performance that also satisfied the acoustic requirements of mainly Rw45 and Rw50, all while keeping costs down.

CSR and Rondo worked together to provide a full design for internal walls and ceilings to meet all relevant codes and site-specific requirements. Other hurdles to overcome included some significant wall heights and high internal design pressures applied to those walls. Additional loads applied to the partition framing, including handrails, vanity basins, grab rails, and shelving, were also to be considered.

Solution

Achieving the specified acoustic ratings and building the project in line with the construction program was more achievable with the proposal to use Gyprock EC08 Complete plasterboard. Part of the refurbishment required the partition walls to be constructed before the completion of the glazing and roofing.

Having one plasterboard product for multiple areas allowed for a very simple and efficient process. With a 'one-size-fits-all' plasterboard solution, the team could order in bulk and deliver and store the plasterboard as needed without having to check which products needed to be delivered where.

"Using EC08 Complete was so convenient as we didn't have to worry about moisture in the air when installing the plasterboard," explained Cahill. "We had no issue keeping up with the construction program and it was one less item to have to keep an eye on in a hospital that has more than 200 rooms per level with plenty of detail and specifications to follow."

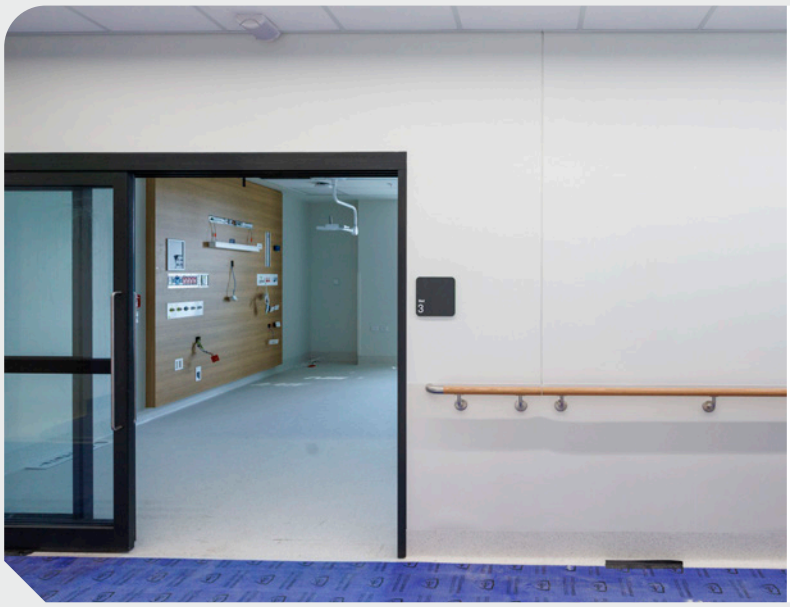
Gyprock ECO8 Complete met a multitude of performance requirements, and as expected, all acoustic testing performed by the acoustic engineer on site passed in line with the project specifications. "All in all, the acoustic, mould, and fire properties of this board made this project much more manageable."

They used a 1400mm RE/SE board, which required only one joint to set mid span as the ceilings in many parts of the hospital were 2700mm high. This meant less jointing and a more natural finish. The square edge was placed at floor level as the bottom needed to be flush for the wall vinyl skirting.

Gyprock Aquachek was also used for the ceilings in some areas, including the kitchens, hospital ward bathrooms and soffits. Its exceptional moisture resistance qualities allowed it to exceed the requirements of water-resistant grade gypsum plasterboard according to AS/NZ 2588 Gypsum Plasterboard and satisfy the requirements for wet areas in the National Construction Code.

In conjunction with CSR's Gyprock range, Rondo wall and ceiling systems were critical to the design of fire-rated walls that could accommodate the significant wall heights and internal pressure loads while maintaining the required acoustic performance. In addition, the innovative Smart-Wall® prefabricated solution was used to create stud ceiling frames for the ward and bedroom locations.

"These frames were custom made to suit specific site measurements, providing cost savings to PIWC. Several man hours were saved due to the fact that no measuring, cutting, or assembling on site was necessary," explains Stuart Boyce, Technical Sales Representative at Rondo. "Working with Conrad and the PIWC team, the installation of the frames was very quick and easy, especially due to the precise prefabricated components, which were made to the exact measurements provided to Rondo."



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