

Adelaide's newest icon built with GRC pentagons

As one of Adelaide's oldest private Catholic Schools, Christian Brothers College (CBC) prides itself on blending history with innovation. The College is welcoming the construction of a new Centre of Innovation and Learning that will become an icon in a city that is starting to be recognised for its unique architecture.

With the campus founded in 1878, the buildings located on the college are of a more traditional architectural style. The new state-of-the-art Centre will add a contemporary aspect to the school and its façade, providing an uncompromising facility which will maximise the educational opportunities for boys.

The three storey building is a multi-disciplinary facility, containing music, art and science amenities and also hosting the main entrance to the CBC campus. Innovating the educational experience, it will feature an ecological roof deck classroom and a purpose-built astronomy observatory.

Multiple above ground walkways will link the Centre to adjoining buildings, making it an integral part of the Senior Campus precinct. At the same **Precast manufacturer** Asurco Contracting

Builder Mossop Construction + Interiors

Engineer Rickard Engineering

Client Christian Brothers College

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time, it will open up the Western Courtyard's previously underutilised space, providing ample undercover leisure and breakout areas for students.

Lightweight precast Glass Reinforced Concrete (GRC) cladding was used extensively for the structure's façade. Adelaide-based National Precast member Asurco Contracting manufactured 705 pentagon façade forms and the entry canopy on the south-west corner, as well as panels that extend down to street level.

Tessellated geometric design

According to architect Mr Kon Michael from Swanbury Penglase, the design process was complex. The design intent was based around a crystallised form, reflecting one of the many factors within the building itself – it's multidisciplinary function.

Mr Michael started with a basic configuration of various pentagon patterns. The irregular pattern was one of only 15 irregular pentagon patterns that can be geometrically







tessellated. The pentagons are aligned to create a ribbon effect around its main southern street façade, which slowly expands and rises along the western façade and around the splayed curved corner. As well as providing a striking impact, the ribbon also serves to provide added heat protection to the interior spaces.

"The design process was an evolution. It was about trying to achieve a natural result while enabling the crystallised form, including 3D shaping using irregular pentagons to complement the very angular shapes of the adjoining matching coloured precast panels."

"We contemplated using another type of concrete product early on, which uses metal fibres rather glass. This was revised to GRC, to aid local manufacturing using elements that would better connect with the proposed shaped precast that was supplied for the project," Mr Michael explains.

GRC

With many years of GRC manufacturing experience under its belt, Asurco Contracting collaborated with the architect with assistance with façade engineer, Arup to produce the façade components.

Managing Director of Asurco Des Pawelski says the elements were manufactured from a slightly coloured natural Brighton Light cement finish. Due to averaging only 1400 x 800 mm in size, the pentagons, with some in 3D shaping, were able to be installed by hand onto the underlying steel structure.

"Precision of manufacturing accuracy was critical to ensuring that the shaping pentagons in particular, could be placed into exact position during construction without delay," Mr Pawelski commented.

"This was no problem for us", Mr Pawelski commented. "We've had plenty of experience manufacturing GRC for many applications right around the country. In this case, we are proud to be involved with a project that will continue to raise the standard for the Adelaide architectural scene", he said.

Mr Michael is delighted with the result early on.

"What we're seeing is what we expected in terms of my vision for the project. The natural material looks good. The western façade that was installed earlier in the construction programme and there's already a slight difference in the patina of each panel, which are almost starting to fade as one, which is what we expected. We wanted that look from day one," he explained.

The result is a stunning complex crystallised geometric 3D façade that is making its mark on Adelaide's architecture and leading by example in educational facilities.

The project is due to be finished by Term 3 later this year.

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