Case Study: Recital Centre, Melbourne, Australia

For those who know architects Ashton Raggatt McDougall (ARM), their striking design of the Melbourne Recital Centre may come as no surprise. Starting with a cell-like pattern akin to styrene-based foam packaging, the firm created a work of art that has already collected awards and become a city landmark.

ARM specified glass fiber reinforced concrete (GRC) for the panels which make up the Centre's distinctive facade and selected Adelaide-based GRC specialist, Asurco Contracting Pty Ltd, to manufacture the customised panels. To realise the architects' vision, Asurco used a new molding technique and Cem-FIL® alkali resistant (AR) glass fibers.

PROJECT REQUIREMENTS

The architects were challenged with creating a building with its own identity, but fitting with the "family" of other cultural buildings situated in Melbourne's Southbank precinct, notably the National Gallery of Victoria and the Melbourne Theatre Company. Secondly, they were asked to do so in a cost-effective and sustainable fashion while ensuring that the design and construction techniques and materials delivered maximum acoustic performance – a particular challenge given that the building is sited along a tramline and one of Melbourne's major traffic thoroughfares.

The Melbourne Recital Centre is an inspiring design, combining aesthetics, environmental performance and cost-effectiveness in this busy city location.

Construction of the Melbourne Recital centre was completed in October 2010.

SOLUTION

The choice of material was simple, but execution of the project was still challenging. The individual tiles had to be interlinked, and since the patterns had to match up exactly there was very little tolerance. Asurco used a new technique to create the fine detail of the bubble-effect surface pattern the architects wanted. They used a mould to imprint a pattern of fine recessed lines, and had to ensure the mould came away cleanly and all the edges so the lines were sharp and well defined. They did this by stapling a polyurethane mould liner onto melamine-coated particleboard placed inside each steel mould. When demoulded the polyurethane came away cleanly revealing the desired pattern.
For structural strength, each panel had a steel framework fixed into the rear of the GRC, which acted as a connection medium for fixing the panels to the building structure. The design also features an overlap detail which hides joins between panels. Adelaide Brighton white cement was used to achieve the final colour. Panels were up to 12 meters (nearly 40 feet) in length, and each had its own unique shape.

PROJECT INFORMATION

The Melbourne Recital Centre and MTC Theatre complex won the Moore Stephens National Award for Public Buildings at the Property Council of Australia. The complex also won the Victorian Architecture Medal, the William Wardell Award for Public Architecture and the Joseph Reed Award for Urban Design at the Australian Institute of Architects State Architecture Awards.

Contributors	Architect	Ashton Raggatt McDougall
	Consultant	Arup
	GRC Producer	Asurco Contracting Pty Ltd
	Project Owner	City of Melbourne
Project	Location	Melbourne, Australia
	GRC Type	Sprayed GRC Facade panels
	GRC Volume	1000m2
	GRC Finish	White ex-mould GRC
	Mould Type	Steel lined with PU rubber
	Completion Date	October 2010
Materials	AR Glass Fiber	Cem-FIL® 61 Roving

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