



Sanjay Puri Architects

Case Study: '72 SCREENS', Shree Cement Ltd Office, Jaipur, India



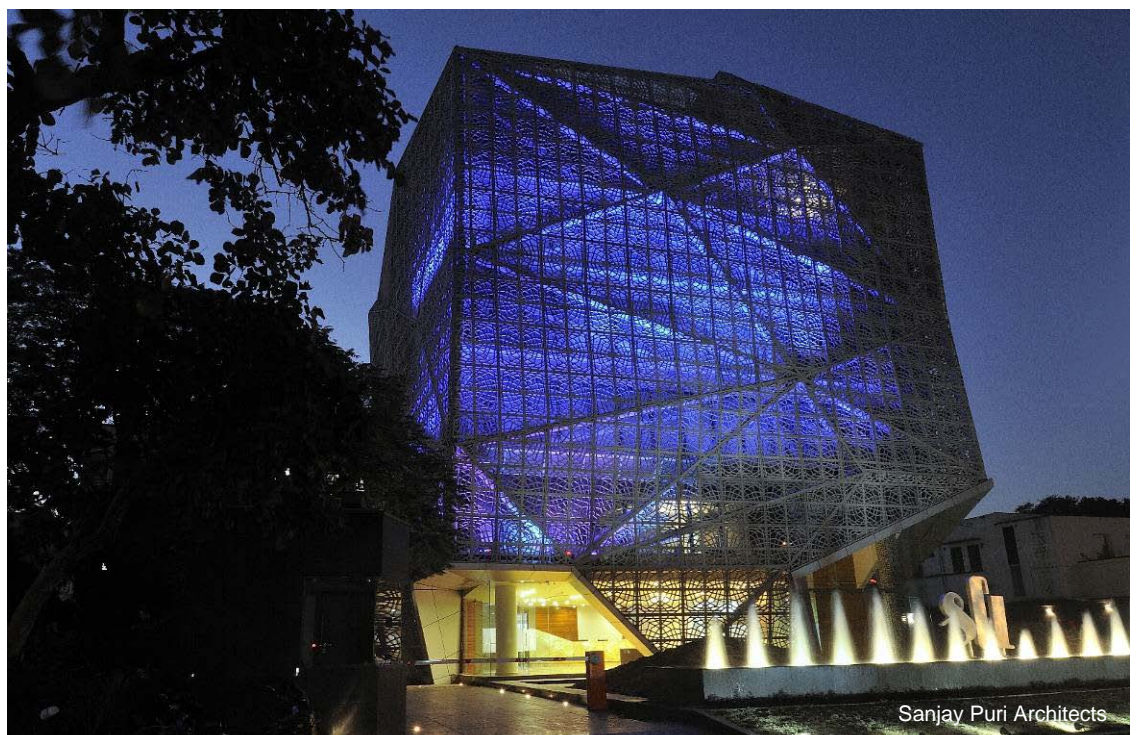
Jaipur is the capital, and the largest city in the state of Rajasthan. Also known as the Pink City because of its adoption of the colour in its architecture in the 1870's, it is a major tourist destination because of its magnificent forts, palaces, temples and bazaars. Within the old city there is still an obligation for all houses to maintain its unique pink colour, but in the fast developing surrounds there is greater freedom, and architects are able to be more innovative.

PROJECT REQUIREMENTS

The City of Jaipur in India has a desert climate with average temperatures ranging from 30 to 50°C through most of the year. The building is designed in response to the excessive heat.

Located in an area of Jaipur having problems with traffic congestion, it was also necessary to have a product which could be installed quickly, and with a finish requiring minimum maintenance. After considering a lot of options, the architects of the project chose Cem-FIL™ GRC.

The idea of a 3D elevation was the inspiration of the principal architect of the project, Mr. Sanjay Puri, a strong believer in GRC.



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Panels protrude from the vertical surface of the RC structure by as much as 2m.



Panels were installed without the need for heavy lifting equipment.

SOLUTION

The primary structure of the building is reinforced concrete. As the elevation was designed with a 3D effect, wherein the GRC panels were protruding out from the finished vertical surface of the reinforced concrete structure as much as 2m, it was decided that an additional auxiliary tubular steel structure should be supported on the primary reinforced concrete frame, and GRC panels would then be anchored to the steel structure.

The square panels were cast using a mix of grey cement, sand and Cem-FIL™ Alkali resistant glass fibres. The process employed for the casting was both Premix as well as Sprayed GRC. The fixing system of dowels and brackets was used at some places to enable the protrusion of the facade panels. The majority of the panels were produced with a size of 1m X 1m, and a thickness of 40 mm. The panels were cast in FRP moulds, and had no additional surface coating or treatment.

Due to the light weight of the panels installation was fast and made without the need for heavy lifting equipment. The panels could be erected onto the tubular structure using only a chain pulley, and in total approximately 50 people were employed to both manufacture and install the panels.

PROJECT INFORMATION

By October 2012, Cem-FIL™ GRC fabrication and cladding experts M/s Terra Firma, Delhi had completed about 3700 m2 of Cladding for the 3D facade using Cem-FIL™ Fibres in vibration-cast and sprayed GRC.

Contributors	Architect	Sanjay Puri Architects
	Consultant/Contractor	Creative Constructions
	GRC Producer	Terra Firma
	Project Owner	Shree Cement
Project	Location	Jaipur, India
	GRC Type	Vibration-cast & Sprayed GRC
	GRC Volume	3,700m2
	GRC Finish	Grey, ex-mould
	Mould Type	FRP
	Completion Date	October 2012
Materials	AR Glass Fiber	Cem-FIL™ 61 roving + 60 Ch.Strands

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