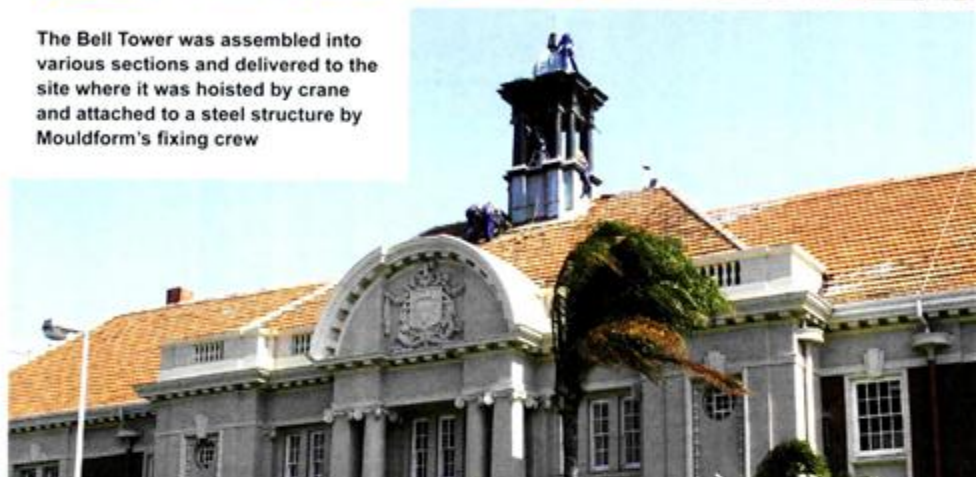




The Bell Tower was assembled into various sections and delivered to the site where it was hoisted by crane and attached to a steel structure by Mouldform's fixing crew



The refurbished Bell Tower at the Durban University of Technology (DUT) campus

Mouldform wins construction award

MOULDFORM has been awarded the prestigious Master Builders Association 2011 Award for Restoration Projects.

Leading the operation is Tony Holmes who also does all the designing and manufacturing. He is ably assisted by his two right-hand men, Moses Mdletshe in production and Lee Breakwell who heads up the fixing team.

Mouldform KZN cc, a glassfibre moulding company operating out of Durban since 1982, was commissioned in 2010 to remake and install the Bell Tower at the Durban University of Technology (DUT) campus. The previous Bell Tower was 100 years old and made from wood and copper. Mouldform designed the moulds from which a new Bell Tower could be manufactured from glassfibre.

Over the years Mouldform has built an excellent reputation for itself on projects around South Africa as a 'small operation which takes on big projects, and does them well'.

The Plastic Convertors Association is proud that one of its members has won this prestigious award and Garth Taylor, PCA Regional Manager for KZN and East London, said "it is a feather in small business' cap that this award was presented to Mouldform."

Delicate task

The task of removing the old structure and replacing it was an extremely delicate one.

The original Bell Tower was removed and sections were re-assembled at the contractor's factory. Fibreglass moulds were then taken from the sections and silicone moulds from the more complex shapes, for instance, the column heads. As the original copper was missing, a new pattern was made for the dome and base.

"The Bell Tower was very old and it needed to be dismantled in sections, taken to the workshop before reassembling the original part and making a mould from it. Where there were rotten places these had to be constructed to look like the original," explained Tony.

Mouldplas tendered against a wood and copper clad replacement and came in more cost effective. As the City Campus is a listed building, a request to replace the bell tower in fibreglass was referred to AMAFA (KZN Heritage Agency). The DUT approved the request and will spend what they save on the tender to refurbish the building's interior.

"The laminate comprised an external isopholic polyester gel coat, and in place of exposed timber, a brown pigment gel coat was used. For the copper, a 75% fine copper powder to 25% gel coat mix applied at a rate of 1,25kg/m² was used," he added.

The structural laminate was a minimum of four layers of chopped strand mat sandwiching in flat surfaces, a 10mm end grain balsa and impregnated with fire retardant

polyester resin. To achieve the green copper patina, the gel coat was abraded to expose the copper particles and acid washed to produce the green patina.

Biggest challenge

The Bell Tower was assembled into various sections and delivered to the site where it was hoisted by crane and attached to a steel structure by Mouldform's fixing crew.

Tony said that the biggest challenge of the project was to replicate the wood and copper of the original.

"We have developed a method of producing the green copper patina by incorporating 75% copper powder in the external gel coat and once removed from the mould abrading to expose the copper powder and acid wash," he explained.

Mouldplas have also worked on projects which include domes at Caesars Palace Casino and the Lost City, tower domes at DiData Campus and the Emerald Casino, domes and mouldings at the Pavilion Shopping Centre in Westville, Durban, numerous temple and mosque domes, and fascia mouldings at the Gateway Shopping Centre in Umhlanga.

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