



ENGINEERING EXCELLENCE WINNER: BUILDING ELEMENTS

North East Parkade – Fourways Mall, Johannesburg

The North East Parkade at Fourways Mall is the first precast parkade in the country, and the largest precast framed structure to date. This alternative design uses precast columns, beams and slabs as the main structural elements, with other precast elements including balustrades, stairs, retaining walls and a roof for a truck tunnel.

The precast concrete elements enabled faster construction in a confined space and the elements were sufficiently light to be lifted into position by tower crane. Hidden column and beam connections were critical in complying with the architectural design criteria and also simplified the installation process.

“This project broke the mould for the design and

construction of structured parking. It is an example of efficient streamlined engineering,” the judges commented.

Product(s) used:

Echo Prestressed Floor Slabs

Echo Prestressed Wall Slabs

Project team:

Architect: ARC Architects

Engineer: WSP South Africa

Quantity surveyor: Quanticost Quantity Surveyors

Main contractor: Mota-Egil Contraction South Africa

Entrant/manufacturer: Echo Prestress (Pty) Ltd Floor Slabs



ENGINEERING EXCELLENCE WINNER: PRODUCT INNOVATION

New retaining wall block, Midrand

A new retaining wall block was designed and granted a patent (2016/00519) in May 2017.

It is manufactured in a different way to all other retaining wall blocks commercially available in South Africa, and one of its clear benefits over existing products in the market is its consistency in block heights. The block guarantees tolerances within half a millimetre – six times more accurate than the outer limit of SANS 508, which specifies

dimensional variances of not more than $\pm 3\text{mm}$.

The block also offers superior crushing strength, derived from various design elements including the unique V-shape stiffeners in the block, which enables retaining walls of 50 blocks high.

Product(s) used:

New Retaining Wall Block

Project team:

Entrant/manufacturer: Bosun Midrand