



Construction Of Innovative Showroom On Track

Barloworld Equipment's Showroom for CAT Earthmoving Equipment – A First For SA



Large spanning trusses that carry a simplified roof were incorporated, sitting on a grid that can accommodate the different sized equipment sizes equipment

Paragon Architects South Africa (PASA) was tasked to design an aesthetically-appealing corporate head office and showroom for Barloworld Equipment, the Southern African dealer for Caterpillar earthmoving equipment, that fits in with the industrial environment of Isando in Johannesburg.

Barloworld Equipment, which currently operates out of various sites and offices across sub-Saharan Africa, decided that the corporate head office in Sandton, Johannesburg be relocated to the Isando site. Here the building had to provide sufficient space to consolidate all corporate staff, while promoting employee well-being.

The building also had to facilitate a productive but agile working environment, taking into account efficiency with regard to water use, energy consumption, and waste management. Another important criterion was that the look and feel had to reflect the Caterpillar Brand and industries in which it operates, PASA Project Architectural Technologist David Cloete highlights.

A feature of the project was its prime location adjacent to the busy R24 highway, where it was vital to maximise the available frontage. Apart from housing offices for Cat Rental

and Used Equipment, the design had to showcase the brand via internal and external areas.

The state-of-the-art 4 500 m² head office consists of two elongated, north-facing buildings: A two-storey north building, and a three-storey south building, linked by an enclosed, glazed bridge. The office structures sit lightly on a landscaped podium, which floats above a semi-basement parking level.

The 3 200 m² showroom is the first of its kind in South Africa dedicated to large earthmoving equipment. The building is split into two speciality areas, namely equipment defined by a 'tyre' or 'track' category, open and enclosed showroom area. The space also includes two floors of office space to the rear.

"This is not a conventional showroom, but one with a strong connotation of heavy equipment. The building flows, with familiar angles, as does the equipment it's designed to house. Yes, the concept was strongly influenced by the profile of the CAT track," says Cloete.

"Our intention was not only to make the equipment the hero, but to accommodate interaction with the equipment itself, promoting its presence so that users could appreciate the shape of the space. This was achieved by means of subconscious similarities with key elements taken from the form of the equipment itself," Cloete explains.

Challenges faced during construction included heavy rains which affected soil conditions. The structure is set on a concrete raft bed some two meters deep into the ground and acts independently of the surrounding soil surface.

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David Cloete, Paragon Project Architectural Technologist



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different sized equipment sizes, with an intermediate steel girder framework allowing for the track-shaped design. This meant that the elongated, curved form of the showroom tied the entire design together.

Simple yet innovative use of corrugated iron roofing – horizontally aligned – enabled easy bending to achieve the curved roof. Internally, thermal insulation was coupled to this, thus creating the all-important thermal sandwich.

From an architectural point of view, nothing is straight except the glass frontage. The challenges here revolved around securing the junctions of steel and glass, where straight meets curved, and ensuring weatherproofing of these joints.

All design and construction was based on cost-effective, value-engineered systems, with the primary focus of cost application being on the visible aesthetic of the structure. "The main contractor, Trencon Construction, worked very closely with us, and developed a full understanding of the design requirement by contributing their own solutions and innovations during the construction process."

On the Interior

The interior design and layout takes the brand right through to the ablutions, interior curves and signage throughout the building. When standing inside the showroom the pervading aura of a design specifically for earth-moving equipment is tangible, and massively impressive.

A World First

In what is believed to be a world first, an 8.4 m x 5.5 m section of the high-performance glass frontage is designed to be raised vertically into the full height of the upper



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volume. This complex motor driven system enables easy access for the heavy equipment into the showroom.

The head office itself features flush glazed strip windows, artfully creating a more sophisticated floor-to-ceiling experience. The showroom boasts a highway-facing flush glazed façade that not only allows visual interaction, but also accommodates the required height and side clearance for the equipment, while conforming with the structural grid itself.

Green Star

Although not specifically designed for Green Star rating all the basics are inherently in place to a 3-Star rating compliance, including strengthening of the roof to carry a solar panel array.

The project, which broke ground at the end of 2018, is now 80% complete and is on track for completion by the end of 2019. ■



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Lift Consultant: Solutions for Elevating
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Main Civil Contractor: Phoenician Earthworks & Demolition

Paragon Architects, established in October 1997, is an internationally-active African design business, based in Johannesburg. It delivers commercial architecture, master-planning, interior design, and space planning to visionary clients in all property sectors.