Layher

More Possibilities. The Scaffolding System.

SITE SEEING

PPC Cement Hercules - Safe, Continuous Access for a 48m High Silo in Operations

48m high	25m diameter
9 levels of boards	84 tons of material

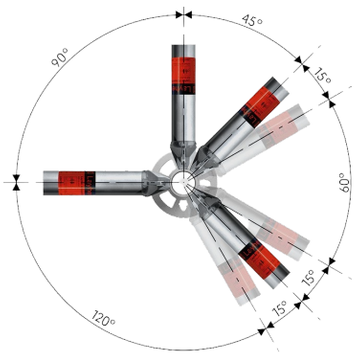
When Kwena Scaffolding was appointed to provide access for maintenance work on the 48-metre-high concrete silo at PPC Cement's Hercules Factory in Pretoria, they faced a demanding brief. Continuous vehicle access was needed around the base, work would occur at significant height, and the site allowed no room for compromise on safety or workflow. To meet those requirements, Kwena partnered with Libra-Plant and turned to Layher.
SMART Civils & PT Systems were the appointed contractors to carry out the maintenance. Kwena Scaffolding took on the challenge of erecting the demanding scaffolding and providing the required access, doing so in close partnership with Libra-Plant and trusting Layher's system to meet the project's requirements.

Understanding the challenge:
Maintenance on tall industrial silos comes with inherent complexity: height, load requirements, restricted base access, and the need for constant material movement all influence the design of the scaffolding solution.

The silo had two entrances. Entrance 1 consisted of two openings, each 4 metres wide and 5.6 metres high, while Entrance 2 comprised a single opening measuring 10.3 metres wide and 5.6 metres high. Both entrances had to remain open at all times for vehicles and equipment, meaning the support structure could not rely on continuous ground-level bays. Additionally, the 48-metre-high scaffold needed to carry its own considerable self-weight while offering secure access for the teams conducting the repairs.

These conditions required a solution that could span, support, and stabilise without compromising on safety or efficiency.

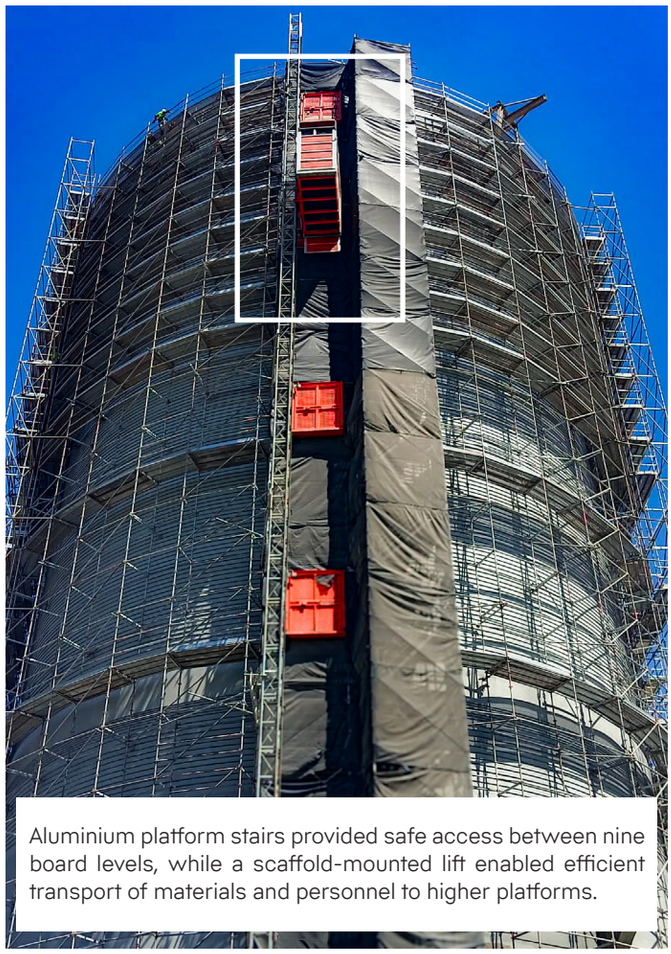
To address these demands, the versatile Layher Allround Scaffolding System was used to wrap the 25-metre-diameter silo efficiently.



The bolt-free, eight-direction rosette connection enabled the scaffold to create a tight, continuous fit around the circular structure, ensuring complete accessibility and reducing the time normally required to work around curved surfaces.

Above the ground-level openings, two engineered FW system bridges were installed 6 metres above the base. These bridges carried the vertical load from the upper scaffold levels while keeping the wide entrances completely accessible for vehicles throughout the project. This preserved day-to-day operations at the plant without compromising the structure's integrity.

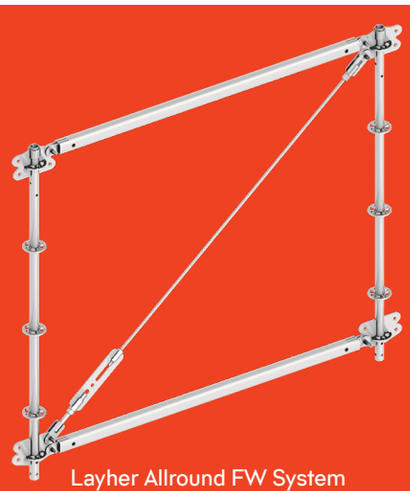
Kwena Scaffolding played a central role in this project. Known for their depth of experience in access work, they were responsible for the erection of the scaffold around the silo, ensuring that the system aligned correctly with the structure's geometry and met the project's demanding safety requirements. Their expertise was essential in maintaining accuracy at height and assembling the elevated bridge spans that supported the full structure.



Aluminium platform stairs provided safe access between nine board levels, while a scaffold-mounted lift enabled efficient transport of materials and personnel to higher platforms.

The project highlighted several advantages of choosing Layher equipment for industrial maintenance environments:

- **Stability with interrupted base supports**. The FW bridges ensured that even with open entrances below, the scaffold could carry the cumulative load of its full height—an essential requirement for tall structures.
- **Adaptability to circular forms.** Allround's rosette system made it straightforward to follow the silo's circular geometry without compromising fit or safety.
- **Minimal disruption to plant operations**. Because the entrances remained functional throughout, site logistics continued seamlessly, reducing costly downtime.
- **Safe, predictable workflow at height.** Integrated stair access and mechanical lifts ensured that workers and materials reached upper levels efficiently, improving both safety and productivity.



Layher Allround FW System

The Hercules silo project demonstrates how a well-planned access strategy, supported by experienced partners, can turn a challenging industrial requirement into a stable and efficient workflow. By combining adaptable components with reliable load-bearing solutions, the project maintained safety, continuity, and productivity from the ground to the uppermost levels—a strong example of how thoughtful engineering and skilled collaboration can deliver successful outcomes in demanding environments.

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