

Motheo repairs grain silos at East London port

Motheo Infrastructure Contractors is carrying out repair work on the Port of East London grain silos for Transnet Port Terminals (TPT). The grain silos are 50m from the Indian Ocean, resulting in spalling of the concrete due to constant exposure from the damp, salty air.

Spalling refers to corrosion of the steel reinforcement in the concrete due to the ingress of water and oxygen through minute cracks that develop over time. Scales of rust form as a result, which expand, causing the concrete layer covering the steel to crack and fall away. If allowed to continue unabated, the steel reinforcement rusts away to the point where the structural integrity of the structure is compromised.



The first step is to remove the degraded concrete to expose the affected rebar, which can then be repaired. “We remove all traces of rust, and then apply a primer and a final seal with a rust-resistant coating,” site foreman Roger Kirkby explains.

Highly specialised process

In severe instances where the steel has rusted away to the point where its function is compromised, the rebar is removed completely and replaced with new steel that is either spliced or epoxied to the existing concrete. Once the rebar has been repaired, a high-strength, non-shrink grout is applied to the spalled areas. “This is a highly specialised process requiring care, skill, and experience,” Kirkby highlights.



A particular challenge posed by the project is that some of the concrete slabs that needed to be inspected and repaired are at the top of the grain silos themselves, which are about 40m high. Here the windy conditions experienced on the coast played a major factor in erecting the scaffolding needed to be able to work at height.

The fast-track project has proceeded without any complications or delays to date. Apart from the concrete-repair work itself, Motheo Infrastructure Contractors was also responsible for the mechanical design portion of the project.

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