

Project:

El Salam Bridge

Location:

El Qantara (Over Suez Canal)

Project completion:

2001

Owner/s:

General Authority for Roads,
Bridges & Transport
Ministry of Transport and
Communication

Maintained by:

General Authority for Roads,
Bridges & Transport
Ministry of Transport and
Communication

Maintenance

Applicator/Contractor:

Arab Contractor – Bridge
Sector – Repair Unit

Maintenance Year:

2012

Designer:

Kajima

Products used:

Protectosil CIT (2500 ltr)

Maintenance of El Salam Bridge

Protectosil CIT



The Background

The bridge was built with assistance from the Japanese government. The main contractor was Kajima Corporation.

The bridge, which has a 70-metre (230 ft) clearance over the canal and is 3.9 kilometers (2.4 mi) long, consists of a 400-metre (1,300 ft) cable-stayed main span and two 1.8-kilometre (1.1 mi) long approach spans.

The height of the two main pylons supporting the main span is 154 meters (505 ft.) each. The towers were designed in the shape of Pharaonic obelisks.

The clearance under the bridge is 70 meters, which defines, therefore, the admissible maximum height of 68 m above the waterline (Suez max) of ships that can pass through the Suez Canal.

The Challenge

For the already constructed pylons:

- Reduces corrosion in carbonated concrete steel reinforced structures
- Reduces the chloride-ion-induced corrosion rate of concrete steel reinforcement.
- Mitigates corrosion of rebar while the structures subjected to an environment with high relative humidity
- Not discolor or change the substrate's surface appearance or surface friction
- Penetrates the concrete and chemically bonds with steel, cement paste and other siliceous material





Project facts at a glance:

The bridge has the highest clearance in a navigation area ever built as it has a free navigation height of 70m.

More Information

The Protectosil CIT is specified as only approved material from the designer (Kajima) for the bridge maintenance system according to the material high and unique advantage

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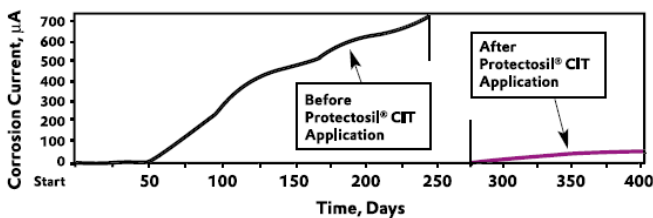
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The Solution

- Using Protectosil CIT as a surface-applied clear liquid that penetrates concrete and provides an organo functional molecule to inhibit the electrochemical corrosion process between the rebar and the chloride ions, and oxygen and moisture within the concrete.

Effectiveness of Protectosil CIT on Heavily Corroding Reinforced Concrete

Corrosion Currents During Salt Water Exposure Cycle, Before and After Protectosil CIT Application



Autopsies of steel reinforced concrete specimens after 520 days of cyclic salt water exposure



Protectosil[®] CIT



Amino alcohol/carboxylate Inhibitor

