

# CASE HISTORY

## Restoration of Concrete Foundations at Carmel Olefins



### DATE

2016

### DISTRIBUTOR

Glimmer - Industrial Consultation

### SPECIFYING ENGINEER

Adam-Atias Engineering

### LOCATION

Haifa Bay, Israel

### PRODUCTS

MCI®-2006 NS

MCI®-2020

MCI® Tablets (Cor-Pak® Tablets)

### PROBLEM

Dozens of cubic meters of concrete foundations that support heavy equipment in a polyethylene/polypropylene plant had suffered significant corrosion damage. This is common in aggressive environments saturated with chemicals. Embedded rebar had corroded and expanded, causing the concrete to crack and delaminate in many areas. Renovation required a long-term perspective without stopping the plant's production.

### APPLICATION

The chosen solution addressed three aspects of concrete preservation.

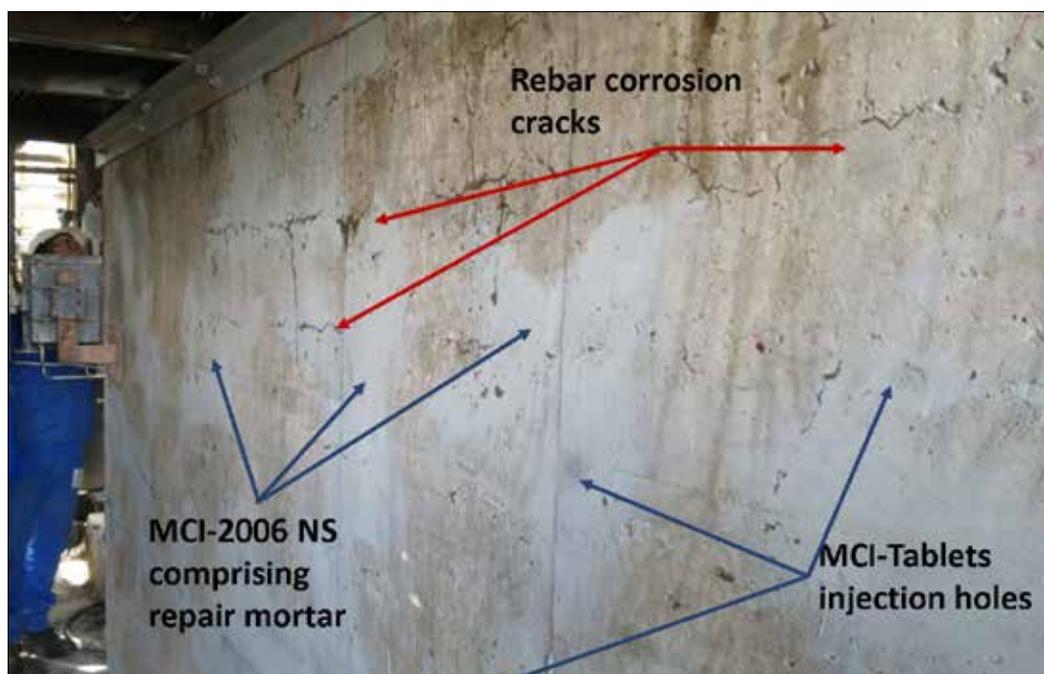
- Protection of Deeply Embedded Rebar: Four small diameter holes per square meter were drilled through the surface of the concrete bases. MCI® Tablets were inserted into these holes at 100 units per cubic meter (1.3 yd<sup>3</sup>) of concrete. The holes were capped with repair mortar containing MCI®-2006 NS.



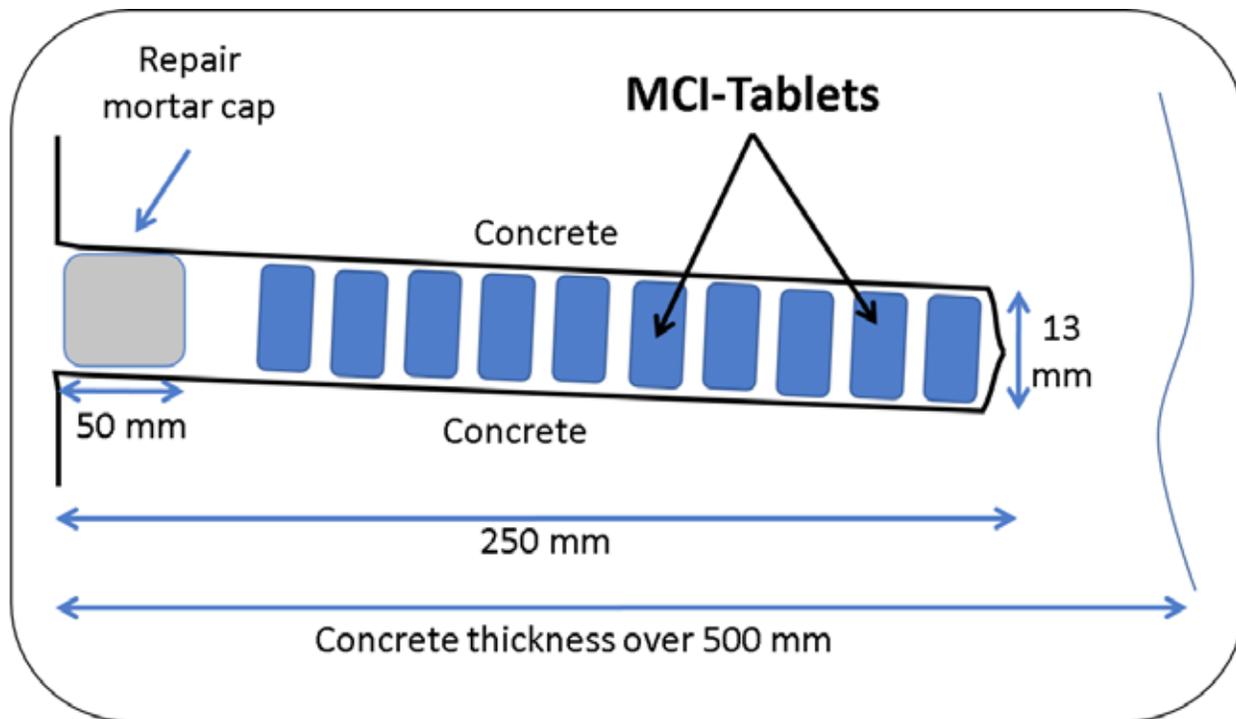
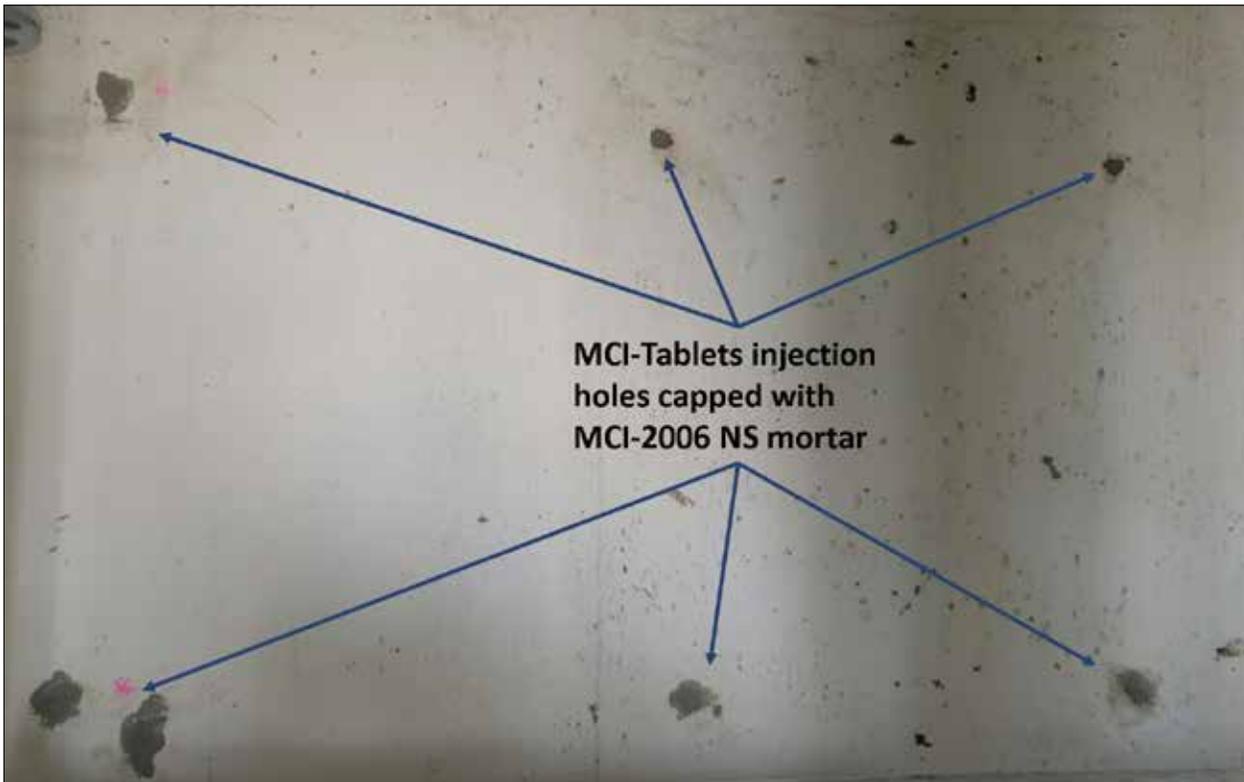
- Repair of Delaminated Concrete: All delaminated, unstable concrete was removed and chiseled to a depth of 2 cm (0.8 in.) beyond the level of the rebar. Exposed reinforcing steel was cleaned, and new concrete patches were placed using a low shrinkage repair mortar containing MCI®-2006 NS.
- Further Protection of Undamaged Concrete Surfaces: MCI®-2020 was applied at a dose of 0.27 liters per square meter (0.05 pt./ft<sup>2</sup>) to protect undamaged concrete from future corrosion.

## CONCLUSION

The unique MCI® repair solution addressed the corrosion problems in a practical way, allowing for the repair and future protection of the foundations without requiring plant production to stop.



**MIGRATING CORROSION INHIBITORS**  
FROM GREY TO GREEN



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