



EUCLID CHEMICAL

PROJECT PROFILE

PARKING GARAGE RESTORATION - TORONTO, ON



SCOPE OF PROJECT

Concrete rehabilitation of 2 lower levels of a parking deck.

PRODUCTS FEATURED

Duralprep A.C.

Three -component, Bonding Agent, Anti-corrosion coating

EucoRepair V100

Single-component vertical and overhead repair mortar

Sentinel Galvanic Anodes

Highest self-generating protective current, Unique V-Notch design

NS Grout

Non-staining natural aggregate, Non-shrink grout

PROJECT DATA

Location – Toronto, ON

Engineer – exp Services Inc.

Concrete Producer – Dufferin Concrete

Contractor – Structural Contracting

PROJECT SUMMARY

PROBLEM:

Built in the mid 1970's, this two story waffle slab parking structure was in dire need of repair due to corrosion of the reinforcing steel and spalling concrete. This restoration project had to be completed in two phases over a two year period in order to accommodate the commercial tenants in the building. All of the work had to be done at night as the demolition and construction noise prevented daytime operations.

In order to reduce further corrosion of the reinforcing steel adjacent to the repairs known as the "Anode Ring Effect", Sentinel GL Anodes was specified by exp Services Inc. A high resistivity, low permeability concrete was also specified for the restoration to add life to the structure, so the Sentinel GL Anodes had to be packed in EucoRepair V100 to create a bridge for proper current flow through the high resistivity concrete.

SOLUTION:

Portions of the waffle slab were cut out completely to replace the reinforcing steel in order to restore the structural integrity of the slab system. After shot blasting the remaining slab sections and forming from the underside, Sentinel GL Anodes were installed on the reinforcing steel at 12" on center on average; this was determined by the level of corrosion of the existing steel, the density of steel in the slab and the chloride level in the concrete. The anodes were then packed in the EucoRepair V100 mortar and the remaining slab area was treated with Duralprep A.C. for a proper bond of the 2" concrete topping.

Portions of the parking structure that could not be repaired in this manner due to lack of accessibility, were reinforced with steel plates on the un-der-side of the slab. The void area between the underside of the slab and the steel plate was then grouted in using NS Grout to complete the restoration.