

WATER RESERVOIR RESTORATION

In the Regional Municipality of Halton in Oakville, Ontario, the restoration of a 23,500 square foot water reservoir created a ripple effect when similar projects in the area specified the same heavy-duty cementitious repair mortar and protective concrete lining system from Tnemec. "Besides this project, there are several other reservoirs in the area that have used the exact same lining system," according to coating consultant David Walker. "Overall, more than 200,000 square feet of concrete surface have specified this lining system to protect against corrosion from chemicals used to treat the water."

The existing coating system in isolated areas of the Halton reservoir was a urethane bitchum or bitchum tar, which is no longer approved by NSF International for contact with drinking water. Surface preparation included removal of the existing coating and other bond inhibiting materials in accordance with SSPC-SP13/NACE No. 6 Surface Preparation of Concrete. "When the concrete was blasted to remove the bitchum, some of the walls ended up deteriorated as much as 2-inches deep in some places," Walker noted.

Damage to two of the reservoir walls required the use of Series 217 MortarCrete, a single-component, cementitious repair mortar, specifically designed for heavy-duty repair of concrete surfaces. Series 217 was trowel-applied by hand, allowed to cure and then dry-abrasive blasted to achieve a SSPC-SP13/NACE No. 6 surface condition with a minimum profile of ICRI-CSP 5. It was then coated with Series 218 MortarClad, an epoxy-modified cementitious mortar, which was spray- and trowel-applied at 1/16 of an inch. Series 218 was also used on the reservoir's remaining walls, columns, footings and floors.

Specifications required the project's topcoat to be certified by NSF International in accordance with ANSI/NSF Standard 61 for use on tanks and reservoirs of 1,000 gallons capacity or greater. The specified topcoat was Series 22 Pota-Pox 100, an advanced generation, 100 percent solids modified polyamine epoxy, which was spray-applied. "The specification indicated a three-coat epoxy topcoat, but with Series 22 we achieved the required DFT with two - a blue primer coat and a white topcoat," Walker added.

FEATURED PRODUCTS

- Series 22 Pota-Pox 100
- Series 217 MortarCrete
- Series 218 MortarClad



PROJECT INFORMATION

Project Location

Oakville, Ontario, Canada

Project Completion Date

April 2010

Owner

Regional Municipality of Halton - Oakville, Ontario

Engineer

AECOM - Mississauga, Ontario

Field Applicator

Tarpon Contracting - Mississauga, Ontario

The deteriorated walls at the Water Reservoir Restoration in Oakville, Ontario, Canada were repaired using Series 217 MortarCrete.

