

[New Technology for Slab Repairs

An interesting project has been undertaken at McMaster University's Hamilton Campus in Southern Ontario. The Ronald V. Joyce stadium, which seats over 5,000 fans for many different sporting events, also encompasses a large parking facility directly below the playing surface.

Andrew Royick, Site Supervisor for the campus' Facility Services department approached Uretek Canada Inc. with some concerns regarding the slab-on-grade concrete panels throughout the stadium's parking facility. As was evident from site inspections and meetings to discuss these issues, the slabs themselves were moving and rocking with the vehicular traffic using the parking facility.

To varying degrees each of the facility's hundreds of slab-on-grade panels were moving when automobiles moved throughout the parking structure. It would only be a matter of time before this condition would cause the concrete slabs to begin to deteriorate, crack and require complete removal and replacement.

In their current state the slabs - although moving under the weight of car traffic - were still in excellent condition. There were no cracks present in the slabs, and so taking proactive action would serve to save the University thousands of dollars, in addition to drastically minimizing logistical challenges should the parking facility need to be closed for repairs.

The parties involved in the pre-screening discussions regarding the feasibility of a proposed system were pleased with the scope of work and methodology to eliminate this issue. The system of drilling and injecting a

polymer resin to fill existing voids and stabilize the slabs in a matter of hours greatly reduced the cost and impact to the normal use of the facility. A meeting of the principals was held and an agreement was secured to conduct the process in a small test area. A test injection of five bays - approximately 20 panels was undertaken.

From small 5/8" holes drilled through the slab, the polymer resins are injected, delivering them to the underside of the slab to fill any existing voids, lock up loose base soil material and eliminate the rocking or movement of the parking facility slabs immediately. The resins cure and harden to 95% of their compressive strength in 20 minutes, drastically reducing the down time and impact on the normal operations of this parking facility. McMaster University plans to proceed with the remainder of the parking garage area.

The impact to the daily operation of the parking facility is reduced greatly as sections can be closed to traffic, treated and re-opened in the same day. The traditional "fix" to similar problems is costly replacement of the concrete slabs, and is not limited to the construction costs, but also in the lost revenue from having to shut down the facility during repairs. The system proved to be fast, efficient and cost effective and can be used for surrounding walkways and larger concrete slab settlement issues. Trip hazards and associated liability claims are always a concern for facility operators and this repair system can provide further cost effective solutions in a variety of applications. ■

For more information, contact URETEK Canada Inc. 905-738-6698 www.URETEK.ca

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