



Strengthening, Corrosion Protection and Structural Health Monitoring

Columns inside Water Supplies Department (WSD) To-Shek Service Reservoir were found deteriorated after 40 years in service. Since 2005, the Tyfo® Systems have been widely adopted by WSD as the strengthening and corrosion protection method or choice for water treatment tanks. With its long track record and being compatible with fresh water, this technology was adopted to strengthen more than 100 concrete columns. In addition, a structural health monitoring system was also designed and installed to monitor the condition of rehabilitated columns.

The scope of works included the following:

- Condition survey to existing structure
- Application of the proprietary TYFO® CIS Corrosion Inhibitors to slab soffit to inhibit steel corrosion and increase integrity of the structural concrete.
- Design and installation of structural health monitoring using optical sensors for long-term performance monitoring of the concrete structures.
- Design and application of the TYFO® Fibwrap® Composite System for structural strengthening to concrete slabs.