

Case study

Monitoring solution for tunnel structures

July
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Tunnel Rehabilitation Project

Client:

State contracting authority/state enterprise

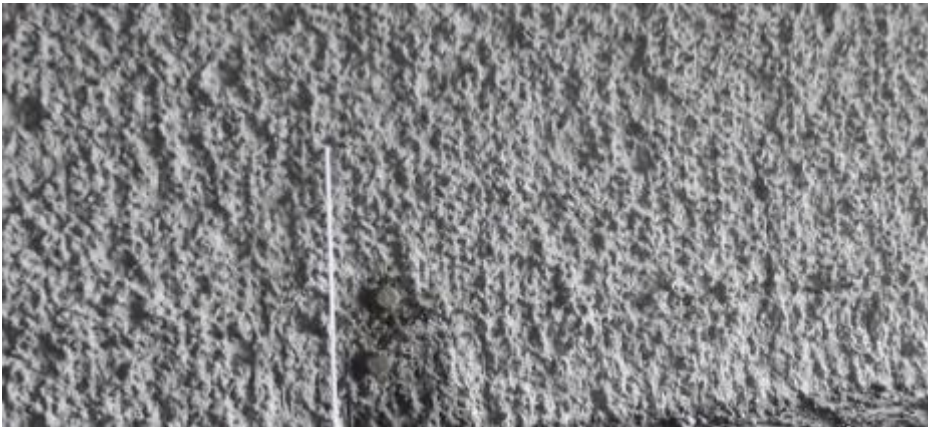


Initial situation:

As a result of operational retrofitting work, the operators of the motorway tunnel detected chlorides in the portal area, which made it necessary to rehabilitate the concrete of the tunnel walls.

The rehabilitation aimed to reduce the costs of the necessary repair measures and to observe the residual risk (chlorides remaining in the structure) and the effectiveness of the surface protection systems used over a very long period.

Solution:



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After the gradual removal of the chloride-contaminated concrete layers by a rehabilitation company, the installation of cable- and energy-free BS2 corrosion and moisture sensors of the type Corrodec©2G was carried out at the positions specified by the planner/builder, e.g., in the portal tunnel areas.

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The data was read out manually using a hand-held reader and remotely (via GPRS) to visualize the information. The status of the sensors can thus be queried remotely at any time. In addition, the condition of the sensors can be determined directly on-site by means of a hand-held reader within the scope of the maintenance intervals customary for the building.

Added value:

- ✓ Uncomplicated visualisation of the building condition
- ✓ Cost reduction in concrete repair - less removal or SPCC
- ✓ Proof of repair success
- ✓ Differentiated repair in case of OS system failure
- ✓ Targeted control of inspection intervals by remote query
- ✓ Standard-compliant work with the applied "W" repair principle
- ✓ Reduced blocking times for subsequent repairs