

Cathodic Protection of the Flap Pillars – Aggersund



The Aggersund bascule bridge was completed in 1945 in the northern part of Jutland, Denmark. The bridge has two flap pillars of reinforced concrete. In 1988 a condition survey revealed severe reinforcement corrosion. Further investigations showed that the corrosion had emerged due to exposure to seawater and to de-icing salts from the crossing road. The Danish Road Directorate decided to establish a cathodic protection system on the two flap pillars above sea level. Each pillar was being protected from the granite foundation to the pillar top (app. 180 m² concrete surface area each) by an impressed current cathodic protection system. The surfaces were covered by an anode mesh and an overlay of shotcrete to distribute the protective current.



In the concrete area over the cross-beam in the navigation channel discrete anodes were mounted in drilled holes on both flap pillars.

The system performance is regularly checked by measurement with built-in reference electrodes and macro cells/corrosion sensors. Furthermore, the shotcrete bonding are checked at regular intervals by bond tests.



Services:

- Condition assessment
- Planning and design
- Control measurements
- Evaluation of performance

Project period: 1989 -

Client: The Danish Road Directorate