

CASE

Cathodic protection at the Maritime Museum of Denmark



The Maritime Museum of Denmark has in several ways been a very unique case for the cathodic protection department at FORCE Technology. The museum itself is built around an old dry dock for container ships. The museum is therefore situated closely to the coastline, this led to some architectural complexities.

The base slab of the museum had to be anchored into the ground to prevent the museum from floating. In order to install cathodic protection all of the reinforcing rods must be connected in an electric circuit. It turned out that none of the rods were connected and thus the first task that FORCE Technology performed was to weld together all of the rods approximately 2400 welds in total.

FORCE Technology has provided a complete solution for the museum by designing, installing and monitoring the cathodic protection system.

Cathodic protection installed at 1980 m² base slab surface

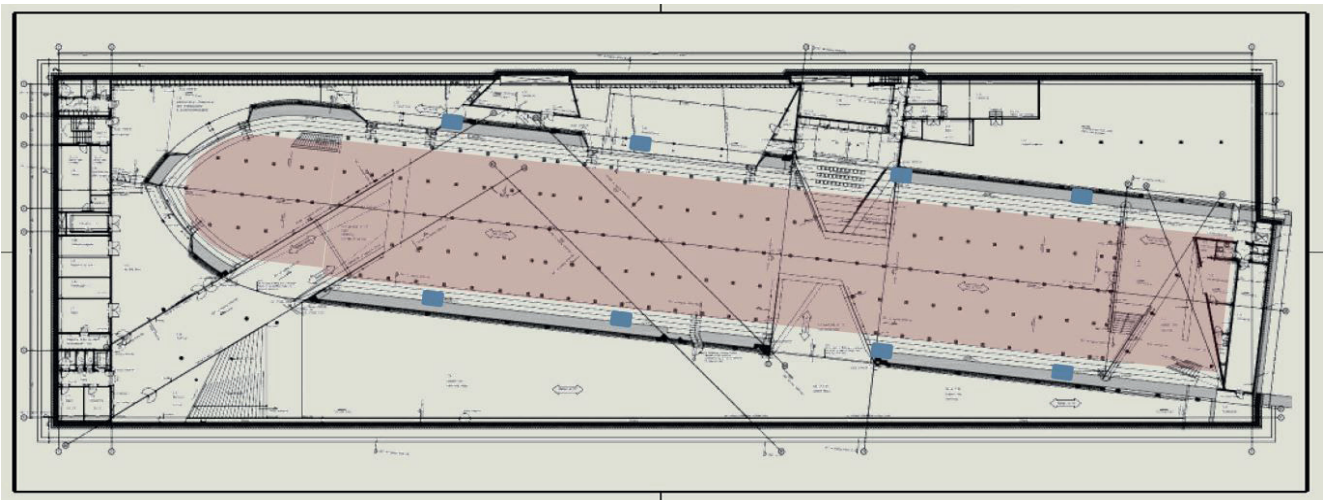
Cathodic protection has been installed in the main base slab of the dock. The embedded system consists of durAnodes and ERE20 reference electrodes for monitoring and is covering the entire surface of the base slab, a total of 1980 m².

It was important for the client that the system was not visible and ruined the overall impression of the construction, thus the installation was performed with extra care to ensure that all wires and components were hidden by the structure itself.

The anodes were installed with an aperture of 1.2 m by 1.4 m. The base slab was divided into 16 zones with 2-3 reference electrodes each.

Project facts

Base slab surface (m ²):	1980
Grouting material (kg):	2220
durAnodes (pc.):	1338
ERE20 Reference electrodes (pc.):	32
Ti wire (m):	632
Control cabinet (no.):	1
durAcenter systems (pc.):	8
Total project costs (€):	300,000



Installed 4+8 durAcenter control systems
 Area of installed anodes



The base slab layer of the Maritime Museum of Denmark ready for installation of cathodic protection.



Installation of a durAcenter (the grey box). The durAcenter is a control system, communicating with the central control cabinet.



The 1338 durAnodes are connected with a titanium wire. A total of 632 m of wire was in the process.

Front page image courtesy of Ramboll (<https://dk.ramboll.com/projects/rdk/soefarts-museet-helsingoer>)

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