

BELZONA REPAIR TO FRANCIS TURBINE END COVER

ID: 3427



PROBLEM

The velocity of the water had led to erosion damage on the end cover of the turbine casing. Several through wall defects were reducing the efficiency of the unit. The end cover was 2.6m wide, 0.2m deep and 1.4 m long

APPLICATION SITUATION

End cover of Francis turbine manufactured by KMW in 1939. This hydro plant is one of the main electric utilities in the country.

APPLICATION METHOD

Application was carried out in accordance with Belzona Know-How System Leaflets CEP-3 & 5. The work was done in the contractor's workshop. After preparing the substrate by grit blasting and sealing holes with Belzona® 1291, Belzona® 1311 was applied up to a total thickness of 5-6 cm to restore original profile (100 kg of Belzona® 1311 was used for the repair on the two turbine ends). Finally two coats of Belzona® 1341 were applied to offer erosion protection and to create a smooth finish.

BELZONA FACTS

Thanks to the previous experience and successful jobs done by the contractor in the hydro industry, and also previous successful inspections, the Belzona solution was the chosen option for this application. Given the fast curing properties of the Belzona solution versus conventional solutions, the end cover was back on-site within a few days.

INDUSTRY

Power

LOCATION

Hydro power plant, Sweden

APPLICATION DATE

April 2011

PRODUCTS

Belzona 1291 (ES Metal)
Belzona 1311 (R-Metal)
Belzona 1341 (Supermetalglide)

SUBSTRATE

Cast iron

PHOTOS

1. One of the end cover halves (there are 4 in total)
2. View of the end cover after surface preparation. Through wall defects clearly visible
3. A former was used to create the original profiles
4. The application of Belzona 1341 to complete the repair

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