

BELZONA REPAIRS DEFECTS ON HYDRAULIC RAMS

CUSTOMER

Hydroelectric Plant, Bulgaria

APPLICATION DATE

February-March, 2015

APPLICATION SITUATION

280mm diameter x 3500 mm long hydraulic rams used to operate main dam outlets.

PROBLEM

Ongoing corrosion of point defects in the stainless cladding on the rams had led to the large defects now seen. Sharp edges on the defects could cause damage and rupture of the rubber seals. Repair area was only accessible through a 450x300mm window at the bottom of the hydraulic device.

PRODUCTS

Belzona 1111 (Super Metal)

SUBSTRATE

Steel base with stainless steel cladding

APPLICATION METHOD

The application was carried out in accordance with Belzona Know-How System Leaflet MPT-3. The area was prepared using a small grinder to roughen and form a dove-tail shape of every defect. After cleaning and masking of the repaired defect Belzona 1111 was applied. Once Belzona 1111 cured, different grades of sandpaper were used to remove excess material and create the required profile with a smooth surface.

BELZONA FACTS

In total over 20 defects were repaired in two dams. Alternative repair methods would require dismantling of the rams, transportation to workshop, grinding to sound metal, welding and coating with stainless steel cladding. Such alternative repairs would cost up to €35,000, more than ten times the cost of the Belzona alternative. The cost of a newly manufactured shaft would be of the same or higher order. The Belzona repair was carried out on site without dismantling, promptly and without interfering with the work of the staff of the dam.

PICTURES

1. Defects in one of the rams
2. Preparation completed
3. Masking defects
4. Completed application



1.



2.



3.



4.

For more examples of *Belzona Know-How In Action*, please visit <http://khia.belzona.com>



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