

# BELZONA REPAIR & PROTECTION OF FRANCIS TURBINE RUNNERS

ID: 3645

Industry: Power

Customer Location: Hydroelectric power plant, Barcelona, Spain

Application: CEP-Centrifugal Pumps

Application Date: November 2011

Substrate: Steel

Products: \* Belzona® 1111 (Super Metal) Belzona® 1341 (Supermetalgilde) ,

## Problem

The turbines were suffering from corrosion and erosion cavitation damage in the runner blades which caused holes.



## Photograph Descriptions

\* Damaged turbine Close-up of the damage Belzona® 1111 used in combination with a metallic mesh Application completed with Belzona® 1341 ,

## Application Situation

Three Francis turbines severely damaged.

## Application Method

The application was carried out in accordance with the Belzona Know-How System Leaflets CEP-1, CEP-3 and CEP-5. Firstly, the holes and metal losses were repaired with Belzona® 1111 combined with a metallic mesh to bridge and strengthen the holed areas. Once the damaged areas had been repaired, the turbine runners were completely coated with Belzona® 1341.

## Belzona Facts

The client has been doing this type of repair and coating application on his Francis turbines for more than 30 years using Belzona products. Therefore, no alternative repair was considered. The application was completed within one week, ensuring the client could continue to supply electricity to their customers with minimal disruption.

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

ISO 9001:2015  
FS 695214  
ISO 14001:2015  
EMS 695213

Belzona products are  
manufactured under an ISO  
9000 Registered Quality  
Management System.

[www.belzona.com](http://www.belzona.com)

  
**BELZONA®**  
Repair • Protect • Improve