

# Hydro Power Kaplan Turbine Case Coated with Belzona

ID: 8544

Industry: Fluid Flow

Application: CEP-Centrifugal Pumps

Substrate: Steel

Products: \* Belzona 1311 (Ceramic R-Metal) ,  
\* Belzona 1321 (Ceramic S-Metal) ,

Customer Location: Austria

Application Date: November 2020

## Problem

The impeller shell of the Kaplan turbine at a Hydro power plant was badly damaged by cavitation and wear over several decades.



## Photograph Descriptions

- \* Image 1: The turbine casing after sandblasting. ,
- \* Image 2: Before the reconstruction, a template of the target shape was made. ,
- \* Image 3: Belzona 1311 applied to rebuild the profile. ,
- \* Image 4: Complete with a top layer of Belzona 1321 ,

## Application Situation

Kaplan Turbine was badly damaged by cavitation and wear over several decades.

## Application Method

Blasted to 90µm roughness according to Testex with abrasive Asilikos 0.2-1.4 (carried out by Bauschutz) Residual moisture burned out of the casting Flaws slightly raised and rebuilt with Belzona 1311 - curing: 18 hours at 15 ° C Reconstructed areas ground to the target contour Swept jacket - Belzona 1311 spots were slightly roughened and bare steel surfaces were derusted Coating of the jacket with two layers of Belzona 1321 - the first layer was completely covered within 2 hours - total target layer thickness: 600 µm Applications carried out in line with Belzona system leaflet CEP-5

## Belzona Facts

No specialist equipment was required and a fast return to service.

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