

Belzona Proven Cavitation Protection to Francis Turbine

ID: 1441

Industry: Power
Application: CEP-Centrifugal Pumps
Substrate: Cast Iron
Products: Belzona® 1311 (Ceramic R-Metal),
Belzona® 1341 (Supermetalglide),
Belzona® 2141 (ACR Elastomer)

Customer Location: Hydroelectric plant, Slovakia
Application Date: 2019

Problem

Cavitation had caused erosion of the metal and loss of turbine performance. Belzona® 1311 and Belzona® 1341 had been applied in 2004, but had suffered further cavitation, so system upgraded by applying more cavitation resistant Belzona® 2141.



Photograph Descriptions

1. Cavitation damage to turbine runner
2. Belzona® 1341 showing some cavitation damage
3. Belzona® 2141 being applied to the runner
4. After 24 months service Belzona® 2141, inspection shows no further cavitation damage

Application Situation

Francis turbine runner, 800 mm diameter, 40-50 m head and optimum 600 rpm. Power output 2.1 MW with 4m³/s flow rate.

Application Method

Application was carried out in accordance with Instructions for use.

Belzona Facts

Inspection of the Belzona Ceramic coating in 2006 showed damage from cavitation, so specification was changed to Belzona® 2141. Further inspection after 2 years showed no damage on the turbine runner. In 2013 small areas of coating damage were repaired with further Belzona® 2141.

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

ISO 9001:2015
Q 09335
ISO 14001:2015
EMS 509612

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