

Belzona materials repair, protect and improve severely damaged diffuser for pump station

ID: 9528

Industry: Water / Wastewater
Application: CEP-Centrifugal Pumps
Substrate: Cast Iron
Products: Belzona 1111 (Super Metal), Belzona 1982 (SuperWrap II), Belzona 2141 (ACR-Fluid Elastomer), Belzona 2941 (Elastomer SP-Conditioner), Accessories

Customer Location: Longview, WA
Application Date: December 2022

Problem

Following the decision to rebuild a pump station for mechanical wear issues, it was unexpectedly discovered that there was severe cavitation damage had occurred to the diffuser housing to the point that was expected to be unrepairable as the metal loss was so extreme that there were through wall holes around the entire perimeter.



Initial Damage



Metal loss rebuilt with Belzona 1111 Super Metal



Exterior of diffuser reinforced with Belzona Superwrap II System



Interior of diffuser protected with two coats of Belzona 2141 ACR Elastomer (top coat of black shown)

Application Situation

The costs of having a new diffuser fabricated would have been multiples of this repair method. Worse yet the time it would take to source would have put negatively impacted the final user by extending the outage by several months if not an entire year.

Application Method

A modified version of system leaflet CEP_1 was used to rebuild the metal loss utilizing Belzona 1111 Super Metal. The exterior of the diffuser was reinforced using the Belzona Superwrap II carbon fiber wrap system. Finally two coats of Belzona 2141 ACR fluid were applied to the interior to protect against the devastating effects of cavitation.

Belzona Facts

This application saved the customer money, reduced downtime and provided future protection. The customer had previous experience with Belzona products and procedures and chose to bring us in when faced with this difficult situation.

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FS 695214
ISO 14001:2015
EMS 695213

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