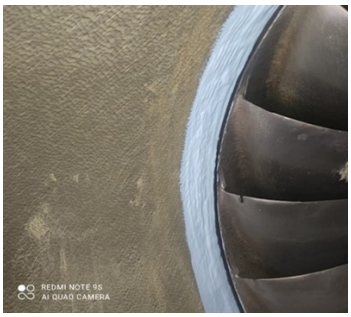
Successful Trial Application for Pump Cone and Impeller in Hydropower Plant

ID: 9200

Industry:	*Power*	Customer Location:	*Frontino, Antioquia, Colombia*
Application:	*CEP-Centrifugal Pumps*	Application Date:	*October 2022*
Substrate:	*Carbon steel*		
Products:	*Belzona 1111 (Super Metal),Belzona 1341N (Supermetalglide),Belzona 2141 (ACR-Fluid Elastomer),Belzona 2911 (Elastomer QD Conditioner)*		

Problem

After an initial inspection was carried out by authorized personnel, most of the pump's cone and impeller were found in good conditions. However, the customer chose small, damaged areas (where cavitation was present) to perform a trial application with Belzona. The trial application involved the protection of two blades of opposite poles near the axis area to avoid any unbalance of the impeller and cone.



Belzona 1111 used to repair and Belzona 1341N used to protect the perimeter area of the cone.

Different angle of Belzona 1111 being used to repair and Belzona 1341N being used to protect the perimeter area of the cone.

Belzona 2911 used to condition the repair area of the impeller.

Belzona 2141 used to protect the impeller from cavitation.

Application Situation

The trial involved the application of Belzona products in two different areas. The areas to be repaired were small as the customer wanted to perform a test with Belzona products to evaluate their performance and effectivity.

Application Method

For cone application:

- Brushes to be used were cut by half for an effective application.
- Belzona 1111 was mixed by volume - three parts of Base to one part of Solidifier until reaching an homogeneous color.
- Area was repaired with Belzona 1111 and left to cure for two hours.
- Belzona 1341N was mixed by volume - three parts of Base to two parts of Solidifier until reaching an homogeneous color.
- First coat was applied at a thickness of 10 mils (250 microns) and left to cure according to the Instructions for Use.
- Once past cure time, a second coat of Belzona 1341N was applied at a thickness of 10 mils (250 microns) and the application was left to cure.

For impeller application:
- Brushes to be used were cut by half for an effective application.
- Belzona 2911 was used to condition the surface. Conditioner was left to dry for forty five minutes.
- Belzona 2141 was mixed completely for two minutes until reaching an homogeneous color.
- One coat of Belzona 2141 was applied at a thickness of 32 mils (800 microns) to the repair areas and left to cure according to the Instructions for Use.

Belzona Facts

Currently, a competitor product is used for these areas by the customer. This was a trial application as the customer wanted to test Belzona. The application was a success, demonstrating the effective properties of Belzona solutions. As a follow up, Belzona will be used for twenty eight additional hydropower stations with the sample applications.