

Damaged Pump Parts Repair by Belzona Solution

ID: 10171

Industry: Power
Application: CEP-Centrifugal Pumps
Substrate: Carbon steel
Products: Belzona 1121 (Super XL-Metal), Belzona 1331, Belzona 1341 (Supermetalglide)

Customer Location: Bangkok, Thailand
Application Date: September 2020

Problem

Pump components, including pump casing and pump impellers, were reported to have suffered from both corrosion and erosion damage. These issues affected the pump's operational efficiency and reliability. To avoid a high cost of pump replacement and operation downtime, the client contacted Belzona for a solution.



Damaged pump casing was delivered to the workshop for repair



Damaged pump impeller before the repair



Pump casing repaired with Belzona 1121 (Super XL-Metal) and coated with Belzona 1341 (Supermetalglide)



Pinhole check on pump impeller after Belzona 1331 coating

Application Situation

The pump components were disassembled and transported to a workshop environment to allow proper inspection, surface preparation, and repair using Belzona paste-grade and coating-grade materials to restore the condition of the pump components. After the application and curing process were completed, the repaired parts were returned to the facility, reassembled, and successfully put back into service.

Application Method

1. Carbon steel surface was prepared by blasting with steel grit to give a minimum depth of 75 microns, and Surface cleanliness by Swedish standard Sa 2.5
2. Use a vacuum cleaner machine to remove all loose contaminants and clean the surface with Methyl Ethyl Ketone.
3. For the casing, apply Belzona 1341 (Supermetalglide) at a dry film thickness of 250 microns as the first coat. For the impeller, apply the first layer of Belzona 1331 at a dry film thickness of 375 microns.
4. For pitting damage area on the casing and impeller, Belzona 1121 (Super XL metal) was used to rebuild the profile.
5. Apply the second layer of Belzona 1341 (Supermetalglide) at a dry film thickness of 250 microns. For impeller, apply the second of Belzona 1331 at a dry film thickness of 375 microns.
6. Allow the product to cure.
7. Use the PHYNIX DFT Tester to confirm the dry film thickness.

Belzona Facts

Belzona solutions are engineered to minimize the need for equipment replacement. By applying Belzona materials, asset owners

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

Belzona products are
manufactured under an ISO
9000 Registered Quality
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can reduce maintenance costs while extending the operational lifespan of their critical equipment. Repairs to pump components restore pump capacity and ensure reliable operation.

The severely pitted areas were filled with Belzona 1121 (Super XL-Metal), a two-component paste grade system with extended working life for repairing and rebuilding machinery and equipment.

Belzona 1341 (Supermetalglide) has been proven to enhance the efficiency of fluid handling equipment.

Belzona 1331 is specifically designed to protect immersed surfaces of machinery and equipment exposed to erosion-corrosion, providing long-term surface protection and performance reliability.

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