

Repair and Coating Split Case Pump and Impeller by Belzona

ID: 10176

Industry: *Other* Customer Location: *Thailand*
Application: *CEP-Centrifugal Pumps* Application Date: *June 2025*
Substrate: *Carbon steel*
Products: *Belzona 1311 (Ceramic R-Metal), Belzona 1331, Belzona 9111 (Cleaner Degreaser)*

Problem

Split case pump and impeller were reported with severe erosion-corrosion damage.



Corroded surface area on pump casing

Corroded surface on impeller

Surface was sandblasted and cleaned with Belzona 9111 (Cleaner Degreaser) to give minimum profiles at 75 microns and surface cleanliness by standard Sa 2.5.

Application of Belzona materials on pump parts to rebuild pitted area and overcoat to protect against erosion-corrosion

Application Situation

The pump elements were disassembled as sand blasting was required prior to the application of the solution.

Application Method

1. Carbon steel surface was prepared by sand blasting to give minimum profiles at 75 microns and surface cleanliness prepared to ISO 8501-1 Sa 2.5 standard.
2. Clean and brush away and loose contaminant and then, clean the surface with Belzona 9111 (Cleaner Degreaser)
3. Check salt containment on the surface by the salt contamination meter SCM 400. The salt content should be less than 4 ug/cm². If more than 4 ug/cm² was detected, the surface was then rewashed or re-blasted accordingly.
4. Once the desired profile was achieved, apply the first layer of Belzona 1331 at a dry film thickness of 250 microns.
5. The corroded area was filled with Belzona 1311 (Ceramic R Metal).
6. Apply the second coat of Belzona 1331 at dry film thickness 250 microns.
7. Check dry film thickness with PHYNIX DFT Tester.
8. Use the PCWI Low Voltage Tester to check the pinhole.

Belzona Facts

Belzona provides a cost-effective alternative to full pump component replacement, reducing both downtime and repair costs.

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.

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The proposed system incorporates Belzona 1311 (Ceramic R-Metal), which was used to rebuild areas damaged by erosion and corrosion.

For long-term protection, Belzona 1331 is applied as the coating. This material is specifically designed to protect the immersed surfaces of machinery and equipment, making it highly suitable for pump components that handle fluid transfer.

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