

REPAIR AND COATING SPLIT CASE PUMP AND IMPELLER BY BELZONA

ID: 10176



PROBLEM

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

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.

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.

INDUSTRY

Other

LOCATION

Thailand

APPLICATION DATE

June 2025

PRODUCTS

Belzona 1311 (Ceramic R-Metal)
Belzona 1331
Belzona 9111 (Cleaner Degreaser)

SUBSTRATE

Carbon steel

PHOTOS

1. Corroded surface area on pump casing
2. Corroded surface on impeller
3. 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.
4. Application of Belzona materials on pump parts to rebuild pitted area and overcoat to protect against erosion-corrosion

For more examples of Belzona Know-How in Action, please visit khia.belzona.com

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