

# Cost-Effective Pump Repair Using Belzona Composite Solutions

ID: 10178

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

## Problem

The upper and lower areas of the pump casing were reported with corrosion damage. The pump impeller was also damaged and needed repair to restore the pump's performance and efficiency. Rather than replacing the entire unit of the pump, the client looked for a repair solution that was more cost-effective.



Corrosion on the upper pump casing



Corrosion on pump impeller



Application on pump casing and pump impeller using Belzona 1311 (Ceramic R-Metal) and Belzona 1331 in progress



Complete application on pump casing and pump impeller

## Application Situation

Having previously used Belzona solutions on other pump units, the client decided to contact Belzona Authorised Distributor in Thailand for the solution. Following the consultation, the damaged pump casing and impeller were removed from service and delivered to the Belzona Authorised Distributor's workshop in Thailand.

## Application Method

1. The pump components were delivered to the workshop for repair.
2. The carbon steel surfaces were prepared by sand blasting to achieve a minimum surface profile of 75 microns and a surface cleanliness by standard Sa 2.5.
3. Any loose contamination was removed by brush, followed by degreasing using Belzona 9111 (Cleaner/Degreaser).
4. Salt contamination on the prepared surfaces was measured using an SCM 400 salt contamination meter. The acceptable salt level was less than 4 µg/cm<sup>2</sup>. If readings exceeded this limit, the surfaces were rewashed or blasted again.
5. The first coat of Belzona 1331 was applied at a dry film thickness (DFT) of 250 microns verified by a PHYNIX DFT tester.
6. Areas with metal loss were rebuilt with Belzona 1311 (Ceramic R-Metal) to restore the original surface profile.
7. The second coat of Belzona 1331 was then applied at a DFT of 250 microns. Use the PHYNIX DFT tester to check DFT.
8. Prior to returning the pump components to the customer's premises, a pinhole inspection was carried out using a PCWI low-voltage tester.

## Belzona Facts

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  
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The proposed solution involved a complete Belzona repair and protection system.

The application of Belzona 1331, a coating engineered to safeguard pump components from erosion and corrosion.

Belzona 1311 (Ceramic R-Metal) was specified to reinstate areas affected by metal loss and restore the original surface profile.

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