

# Mud Pump Casing Repair and Protective Coating Application

ID: 10263

Industry: Oil & Gas  
Application: CEP-Centrifugal Pumps  
Substrate: Cast Iron  
Products: Belzona 1311 (Ceramic R-Metal), Belzona 1321 (Ceramic S-Metal)

Customer Location: Assam, India  
Application Date:

## Problem

Our esteemed customer required restoration of metal loss to recover optimal flow rate and to protect the pump casing from ongoing damage caused by extreme wear during the extraction of oil contaminated with soil, grit, rocks, and other abrasive materials. Due to these severe operating conditions and excessive erosion, the pump casing was typically damaged within three months. Therefore, a cost-effective solution was required to improve service life and enhance equipment longevity.



Severe erosive wear of the pump casing due to the presence of grit and rock particles in the mud and oil extracted from underground formations.

Surface preparation carried out using hand-held tools.

The damaged portion was rebuilt using Belzona 1311 (Ceramic R-Metal).

The application was completed using Belzona 1321 (Ceramic S-Metal).

## Application Situation

The mud pump is used to extract oil mixed with mud, grit, and rocks, creating a highly abrasive and corrosive operating environment. These materials continuously erode and mechanically damage the pump components during operation. Belzona 1311 (Ceramic R-Metal) was applied to rebuild and repair the damaged areas. The surface was then overcoated with Belzona 1321 (Ceramic S-Metal).

These materials were selected for their excellent resistance to corrosion and erosion, restoring the casing profile and providing long-term protection against further damage.

## Application Method

The application was carried out in accordance with Belzona Know-How Leaflets CEP-3, CEP-5, and CEP-6.

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  
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1. Surface preparation was carried out using hand-held tools (Bristle Blaster and grinder).
2. The surface was then cleaned with a suitable cleaner/degreaser to remove all loose particles. A minimum surface profile of 75 microns and surface cleanliness to ISO 8501-1 Sa 2.5 standard was achieved.
3. Belzona 1311 (Ceramic R-Metal) was applied to the damaged areas to rebuild metal loss in the casing.
4. Belzona 1321 (Ceramic S-Metal) was applied in two coats to provide a protective barrier in accordance with the Instructions for Use (IFU).

## Belzona Facts

The use of Belzona doubled the service life of the casing and significantly reduced replacement costs. Previously, the equipment without Belzona application lasted only three months before requiring replacement. With the repair and protection system in place, service life has been extended to six months, and the casing can be refurbished repeatedly.

As a result, capital expenditure for the end user has been reduced, as the repair cost is approximately one-quarter of the equipment replacement cost while delivering twice the operational life.

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