

# HYDRAULIC RAM REPAIR FOR HEAVY-DUTY MARINE LIFTER

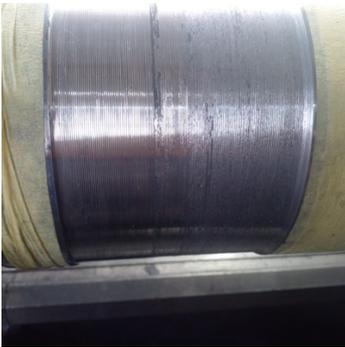
ID: 9546

Industry: Marine  
Application: MPT-Mechanical Power Transmission  
Substrate: Other  
Products: Belzona 1131 (Bearing Metal)

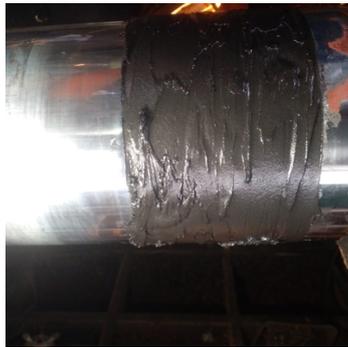
Customer Location: Colombo, Sri Lanka.  
Application Date: September 2024

## Problem

Three hydraulic rams, each with a 140 mm diameter shaft, were severely damaged around the seal area due to mechanical wear. These rams, essential for loading operations in a marine environment, became ineffective, and replacement parts were not readily available. With no spare rams on hand, a rapid and robust repair solution was necessary to avoid costly downtime.



Surface Preparation



Belzona 1131 applied



Machined (by using lathe machine)



Smoothness, Tolerances checking (QA)

## Application Situation

The rams were part of a critical lifting system (Hatch cover) on a marine vessel, designed to handle heavy-duty loading operations. The failure of the hydraulic system posed significant delays and risks to ongoing operations. The damage to the chrome steel shafts occurred primarily in the seal area, which affected the performance of the rams and jeopardized the entire lifting process.

## Application Method

The repair process followed Belzona's Know-How System Leaflets MPT-01, MPT-03:

**Preparation:** Damaged areas were cleaned and prepared using the lathe machine to ensure proper adhesion of the Belzona 1131 compound.

**Application:** The prepared areas were then treated with Belzona 1131, a self-lubricating epoxy, which was applied precisely to rebuild the damaged seal area.

**Finishing:** Once cured, the surface was polished to ensure smoothness and fit within the hydraulic system's tolerances, ensuring effective sealing and operation.

The repaired Pistons rods were pressure tested on the Dockyard Testing Rig at a pressure of 200 Bar.

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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## Belzona Facts

Belzona 1131 provided an efficient, cost-effective solution that restored the shafts to working condition within hours, minimizing downtime.

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