

HYDRAULIC RAM REPAIR FOR HEAVY-DUTY MARINE LIFTER

ID: 9546



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.

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.

BELZONA FACTS

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

INDUSTRY

Marine

LOCATION

Colombo, Sri Lanka.

APPLICATION DATE

September 2024

PRODUCTS

Belzona 1131 (Bearing Metal)

SUBSTRATE

Other

PHOTOS

1. Surface Preparation
2. Belzona 1131 applied
3. Machined (by using lathe machine)
4. Smoothness, Tolerances checking (QA)

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

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