

Belzona 1111 keeps the 210' Cutter safe.

ID: 9452

Industry: Marine

Customer Location: Washington

Application: SOS-Ships and Offshore Structures

Application Date: November 2018

Substrate: Carbon steel

Products: Belzona 1111 (Super Metal), Belzona 9411 (Release Agent)

Problem

The shaft and gasket seal face were eroded from salt water corrosion on both propulsion shafts.



Showing the area of damage to the shaft and gasket surface prepped.



The shaft former in place showing the excess Belzona 1111 squeezing out.



The gasket area former in place with Belzona 1111.



Application complete showing the initial clean up.

Application Situation

The eroded gasket surface and shaft was increasing the risk of a major failure. These areas are very important as they need to be in perfect condition should the outer seal around the propulsion shaft fail, there is an expanding secondary safety gasket that seals against these two areas that would prevent sea water from entering the vessel. This application was completed in two days as the shafts and gasket areas had to be done separately because of their close proximity to each other, and there was no space for both formers to be in place at the same time.

Application Method

The shaft was prepped with a hand grinder removing roughly 1/4" of damaged shaft to allow for a decent bed of Belzona 1111. The gasket surface was hand prepped using an MBX Bristleblaster since the damage was fairly deep. Belzona 9411 was liberally applied to the formers in two coats to ensure a good release. Belzona 1111 was applied with a short bristle brush to the application area, and then to both surfaces in thin layers to avoid any air pockets. The formers were then put in place and tightened down being sure that excess Belzona 1111 squeezed out from all sides. Once the Belzona 1111 was cured, the formers were carefully removed, and the application areas dressed down with emery cloth on the shafts and hand sanding blocks on the gasket surface.

Belzona Facts

Replacing the shafts and cutting out and replacing the gasket surface on this vessel built in 1968 was not an option financially. Welding was also not an option due to location, and the amount of time it would take for a major project of that nature. This application was completed in two days which worked well with the other work that was happening while the vessel was in dry-dock. This repair was still in place when the vessel was decommissioned in 2024.

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