

## BELZONA SAVES TUG BOAT COMPANY \$200,000+

**CUSTOMER**  
VA, USA

**APPLICATION DATE**  
August 2014

**APPLICATION SITUATION**  
Tug boat in dry dock for routine repairs.

**PROBLEM**  
While in dry dock, it was found that the lower half of the port and starboard Kort nozzle drive assemblies had severe erosion on the propeller side of the housing.

**PRODUCTS**  
Belzona 1311 (Ceramic R-Metal)

**SUBSTRATE**  
Cast Steel

**APPLICATION METHOD**  
The housings were blasted to a near white metal and were checked for chlorides. Plywood formers were made to ensure the original shape of the housings were restored. A release agent was applied to the formers. A generous amount of Belzona 1311 was applied to the housing. The formers were immediately installed and the excess of Belzona 1311 was faired smooth, even with the former, and tapering to the housing.

**BELZONA FACTS**  
To weld the eroded housing would require complete removal and disassembly of each Kort nozzle and drive assembly at a cost of about \$100,000+ per drive assembly. The Belzona solution does not require welding. It is an economical, fast, and effective repair. Also, while using Belzona 1311 to complete the repair, the owner was able to widen the diameter of the housing a half inch so that it has a more hydrodynamic water flow around hub of the propeller.

### PICTURES

1. Eroded housing
2. Belzona 1311 applied and the former installed
3. Repair completed
4. The Port and Starboard Kort nozzles and drive assemblies shown while the tug is in dry dock



1.



2.



3.



4.

For more examples of *Belzona Know-How In Action*, please visit <http://khia.belzona.com>



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