# **BELZONA CRUISE SHIP CENTRIFUGAL PUMP**

Industry:	Marine
Application:	CEP-Centrifugal Pumps
Substrate:	Bronze
Products:	* Belzona® 1311 (Ceramic R-Metal) ,
	* Belzona® 9411 (Release Agent) ,

Customer Location: Italian Cruise Ship in a Southern California Shipyard, U.S.A. Application Date: December 1996

#### Problem

Severe erosion/corrosion damage, evidenced by more than a dozen small holes, and one large hole completely through the casing as well as a loss of up to two inches of the cutwater. The wear ring seats were also eroded in the same area.



## **Photograph Descriptions**

- \* The pump casing and cutwater after blasting and fitting with expanded metal mesh. Note the hole at the center of the cutwater.
- \* Belzona® 1311 (Ceramic R-Metal) being pressed through the mesh and into the surface profile of the bronze.,
- \* The finished application. Repaired cutwater edge and casing holes. The seal area and rebuilt seating groove is on the right. ,

# **Application Situation**

Main circulating water centrifugal pump

## **Application Method**

Application was carried out in accordance with modified versions of Belzona Know-How Leaflets CEP-1, CEP-2, and CEP-6.

# **Belzona Facts**

The ship was in process of being sold and without this quick repair (completed over a weekend), the multi-million dollar sale would have been cancelled. Replacement costs were approximately \$10,000, with extensive downtime.

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

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