

# MARINE CHILLER UNITS MADE SHIP SHAPE WITH BELZONA

ID: 7469

**Industry:** Marine  
**Application:** HEX-Heat Exchangers  
**Substrate:** Aluminium  
**Products:** \* Belzona® 1111 (Super Metal) ,  
\* Belzona® 1212 ,  
\* Belzona® 1321 (Ceramic S-Metal) ,

**Customer Location:** Deep Sea Diving Vessel, Teesside, UK  
**Application Date:** March 2017

## Problem

These aluminium chiller units had suffered severe pitting and metal loss caused by microbial attack and bi-metallic corrosion. The newly commissioned ship had a series of 17 chiller units and two of these had been severely damaged in just 8 months of service.



## Photograph Descriptions

- \* 1. Badly corroded chiller block ,
- \* 2. Corrosion cleaned and roughened back to bright metal ,
- \* 3. Damage rebuilt with Belzona 1111 & 1212 ,
- \* 4. Coated with Belzona 1321 ,

## Application Situation

Marine engine chiller units

## Application Method

Work was carried out in accordance with Belzona system leaflets HEX-2 & HEX-3. In addition to the extensive rebuilding needed, there was also a 2mm wide gasket lip to rebuild. Due to the small scale of the work, a router and pendant drill were used to dress back the Belzona metal repairs before lining with Belzona 1321.

## Belzona Facts

The Belzona 1111 allowed for a very precise and accurate rebuild of the unit back to its original dimensions. Only one unit at a time could be taken off the ship, so to help with time limitations, Belzona 1212 was also used in the rebuild work. Finally the Belzona 1321 was used to create an erosion resistant lining to prevent further damage. The vessels chief engineer was impressed with the

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ISO 9001:2015  
FS 695214  
ISO 14001:2015  
EMS 695213

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9000 Registered Quality  
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results and is considering the solution on the rest of the units.

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