

# **UMC International Plc**

*In water maintenance and through life waterborne support*

**NOVEMBER 2007**

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## **UMC DESIGN AND INSTALL AN 11-TON COFFERDAM IN DUBAI**

During November 2007 the Dubai branch of UMC International were called on to propose a method to support the repairs to the shell plating of a RO-RO vessel below the waterline following damage at sea.

The proposal accepted by the owners was for UMC to design and fit a large open top cofferdam to the side of the hull allowing repair workers dry access to the hull plating below the waterline.

The damaged shell plating to be removed was approximately 7m x 2.9m that started just above the turn of bilge requiring the cofferdam to be fabricated with curvature to give a good seal against the ship's hull.

Utilising UMC's Design and Consultancy Division, the shell expansion plans were provided and the complex design produced. Due to the intricacy of the cofferdam, it would need on-site fitting and modifying to obtain the required exact fit to the curvature of the hull.

On receipt of design drawings the cofferdam was fabricated locally by the "Afloat Repair Division" (ARD) of Drydocks World-Dubai (formerly Dubai Dry Docks).

During the cofferdam fabrication ARD started working inside the hull to prepare the internal structure for the repair.

Simon Doran stated, “We needed to fabricate a cofferdam approx 8m x 4.5m to allow fitting onto good plating to allow the hull steel to be replaced.” He continued, “Due to the curvature to the shell plating in way of the repair area the bottom of the cofferdam has a stand-off from the turn of bilge of approximately 10cm to 20cm fwd to aft and the cofferdam weight was going to be approximately 11 tons.”

The work was carried out whilst the vessel was alongside at Port Rashid in Dubai and UMC divers were on-site initially and on stand-by day-and-night throughout the five day internal repair operation to ensure that the rig and all internal repairs met with the customer’s exact requirements.

After the initial cofferdam fit up ARD then rolled steel and added this to the cofferdam to take up the curvature in way of the turn of bilge. UMC divers then fixed the cofferdam in place using shore side craneage. Once the water was evacuated and the cofferdam’s integrity was confirmed safe to work in, ARD were able to start the cutting of the external shell plating both internally and externally from inside the open top cofferdam.

On completion of internal repairs NDT and a Class Survey were carried out and confirmed as acceptable.

“This operation is typical of the repair work we are looking at on a regular basis, and increasing our world-wide mobilisation, often at short notice,” said Managing Director, Alan Trevarthen. “Our in-house team of naval architects and design engineers are accomplishing some demanding engineering tasks.”

November 2007

PHOTOS: Please go to the PRESS page on our Website: [www.umc.co.uk](http://www.umc.co.uk) to view the photographs and then contact the UMC Press Desk as set out below for receipt of high-resolution jpg's.

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