

Repair of Ship Deck Using Belzona

ID: 10100

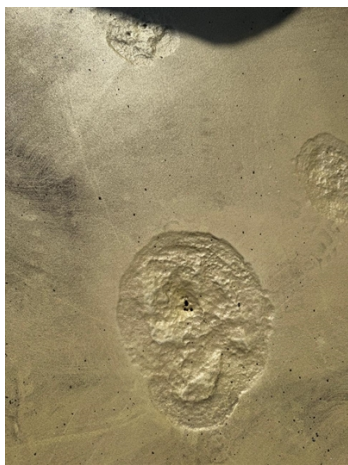
Industry: Marine
Application: SOS-Ships and Offshore Structures

Customer Location: Dammam, Saudi Arabia
Application Date: November 2025

Substrate: Carbon steel
Products: Belzona 1111 (Super Metal)

Problem

A routine inspection revealed that the steel deck had suffered from heavy corrosion, resulting in noticeable metal loss and the formation of multiple pinholes. This level of deterioration posed a threat to the deck’s operational reliability, highlighting the need for an effective and long-lasting repair solution.



Evident pinhole damage on steel deck



Multiple damaged locations on the steel deck



After surface preparation to SSPC-SP11



Completed Belzona application

Application Situation

During inspection of the vessel’s monkey island (upper deck), several areas of the steel deck were found to have recurring corrosion patterns showing through despite recent painting. The client needed a fast, controlled repair that avoided hot work and heavy equipment. Conventional grit blasting was not feasible due to the location and operational constraints, so a cold-work solution was required to restore the deck and its profile.

Application Method

Surface preparation was completed using a rotary power tool to achieve an SSPC-SP 11 Power Tool Cleaning to Bare Metal standard. This produced a clean and consistent anchor profile suitable for rebuilding with Belzona. All surfaces were then cleaned using a residue-free solvent to remove contaminants and ensure proper adhesion.

Belzona 1111 (Super Metal) was then mixed and applied to rebuild the corroded sections and reinstate the deck to its original geometry. The material was worked and feathered to blend smoothly with the surrounding steel, restoring surface integrity, encapsulating the previously visible corrosion patterns, and protecting the rebuilt areas against future corrosion.

Belzona Facts

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

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The customer was disappointed when the steel deck deteriorated shortly after being coated with locally available paints. As the deck had been painted recently, grit blasting was not permitted, limiting conventional surface-preparation options. To overcome this challenge, Belzona 1111 (SuperMetal) was selected and applied without the need for hot work, ensuring a safe and efficient repair.

Choosing Belzona allowed the customer to avoid welding or full steel replacement, significantly reducing downtime while providing a clean and practical repair method. The client expressed satisfaction with the simplicity of the application and the reliable performance of the completed repair.

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