

COMPLETE REHABILITATION OF FIRE PUMP

ID: 9832



PROBLEM

The customer was facing severe internal corrosion on their fire pump casing, with extensive material loss, flaking rust, and erosion damage. Several areas showed wall thinning and through-wall defects, compromising the structural integrity of the equipment. The pump was no longer reliable for emergency operation, posing a safety risk to the vessel.

APPLICATION SITUATION

The customer required a fast and effective solution to restore a critically corroded fire pump casing without replacing the equipment. The Belzona solution allowed for in-situ repairs using Belzona 1121 for rebuilding and Belzona 1341 for internal protection. The application was completed within 5 days, significantly reducing downtime compared to traditional welding or replacement. By avoiding the cost and logistics of sourcing a new pump casing, the customer achieved substantial cost savings and extended the service life of the existing equipment.

APPLICATION METHOD

The internal surfaces of the fire pump casing were blasted to ensure proper mechanical adhesion. Surface cleanliness was verified, and Belzona 9111 was used to remove contaminants. Belzona 1121 was applied using applicator tools to rebuild areas with wall loss and restore the original geometry. After curing, two coats of Belzona 1341 were applied by brush, the first in grey and the second in blue to ensure full coverage and visual confirmation of coating integrity.

BELZONA FACTS

The Belzona solution provided a fast, cold-applied, and cost-effective alternative to full pump replacement or hot work repairs. Traditional replacement would have involved long lead times and high material and labor costs. Belzona 1121 allowed for in-situ rebuilding of lost material without welding, while Belzona 1341 improved flow efficiency and offered long-term protection against erosion and corrosion. The project was completed in just 5 days, minimizing downtime and eliminating the need for specialized machining or fabrication.

INDUSTRY

Marine

LOCATION

North Cargo Pier 6 9180 Grouper Rd. Port Canaveral, FL

APPLICATION DATE

June 2025

PRODUCTS

Belzona 1121 (Super XL-Metal)
Belzona 1341 (Supermetalgilde)
Belzona 9111 (Cleaner Degreaser)

SUBSTRATE

Cast Iron

PHOTOS

1. Initial condition of the fire pump casing before repair. Severe internal corrosion, wall loss, and surface damage are visible, requiring structural rebuilding and protective coating.
2. Restored fire pump casing after application of Belzona 1121 for rebuilding and two coats of Belzona 1341 for internal protection and hydraulic efficiency. The light grey topcoat indicates the completion of the first protective layer.
3. Large flakes of rust detached from the internal surfaces of the fire pump casing, highlighting the severity of corrosion and the urgent need for rehabilitation."
4. Fire pump casing fully rebuilt and coated. Final coat of Belzona 1341 Blue applied to improve hydraulic efficiency and provide long-term protection against corrosion and erosion.

For more examples of Belzona Know-How in Action, please visit khia.belzona.com

Belzona products are manufactured under an ISO 9001 Registered Quality Management System.

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