

Marine vessels routinely face varied and severe operating conditions. Due to many metallic components being exposed to weather, salt water and galvanic effects, being able to deal with the effects of, or even prevent corrosion, is critical. Marine equipment also suffers from cavitation, impingement and entrainment, which can lead to performance failure of conventional coatings and lead to further corrosion. For either new construction or maintenance and repair, Belzona offers long-term protection and repair solutions proven by years of successful experience with ships and offshore structures.

Belzona solutions for the marine industry have shown reliability and success in the repair and protection of the machinery, equipment, and structures including but not limited to:

- Shipyards, dry docks, port facilities
- Workboats, tugboats, pontoons, dredgers, cargo vessels
- Passenger ships, cruise liners, yachts
- Floating hoses, fenders, offshore platforms, buoys



Belzona Is a Global Manufacturer of Repair Composite Materials & Industrial Coatings.



View the Marine Solution Map



For more information, please contact your local Belzona® representative:



ASSET INTEGRITY AND HIGH PERFORMANCE IN MARINE



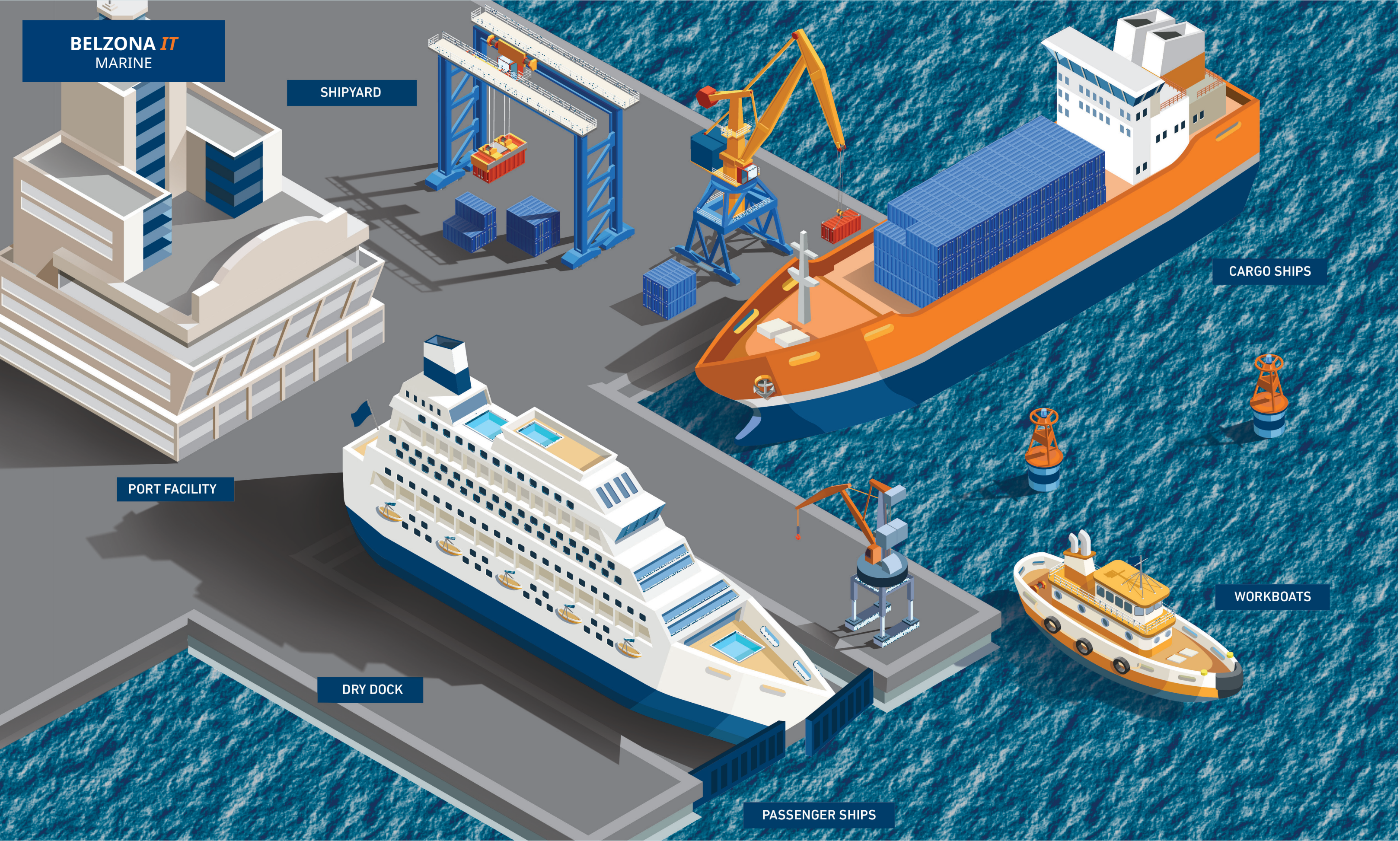
Examples of Belzona Applications in the Marine Industry



ISO 9001:2008
Q 09335
ISO 14001:2004
EMS 509612

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This diagram of a typical marine dry dock facility is designed based upon data retrieved from various sources. It is to be used as general guidance only. It describes the most common repair and maintenance problems found at various marine facilities and in vessels of different types together with Belzona solutions which could potentially help mitigate such problems. It does not aim to supersede any drafted process flow charts in use at various marine facilities. It is strongly recommended that each user of this guide contact the local Belzona representative to discuss the specific needs and operation conditions of their marine facility or vessel.

SHIPYARDS	DRY DOCKS
<p>TYPICAL PROBLEMS: Constant and severe corrosion and erosion due to contact with salt water on dock gates, overhead cranes, crawler cranes, diesel and hydraulic hammers, dump trucks, concrete mixers, dredging equipment, fenders, bollards, steel piles, multiwheel transport systems.</p> <p>POTENTIAL SOLUTIONS: Belzona 1000 series 100% solids paste- and fluid-grade materials for metal rebuilding and erosion-corrosion and abrasion protection. Belzona 4000 series for concrete repair and protection, expansion joints repair and replacement.</p>	<p>TYPICAL PROBLEMS: Severe concrete degradation and concrete spalling on concrete decks, walls and beams due to constant contact with sea water. Corrosion-erosion on the dock gates, cranes and crane rails, syncrolifts and shiplift systems, haul-out marine railways and shipways, compressed air systems, steam lines and gas lines.</p> <p>POTENTIAL SOLUTIONS: Belzona 1000 series 100% solids paste- and fluid-grade materials for metal rebuilding and erosion-corrosion and abrasion protection. Belzona 4000 series for concrete repair and protection, expansion joints repair and replacement.</p>
PORT FACILITY MAINTENANCE	WORKBOATS
<p>TYPICAL PROBLEMS: Weathering damage of concrete structures, slippery transit areas, roof damage, expansion joint failures, HVAC.</p> <p>POTENTIAL SOLUTIONS: Belzona 1000, 2000, 3000, 4000, and 5000 series paste- and fluid-grade materials for waterproofing and weatherproofing, concrete rebuilding, expansion joint repairs, and floor slip resistance.</p>	<p>TYPICAL PROBLEMS: Cavitation, pitting and corrosion on keel coolers, hulls, rudders, bilges and the propulsion system (propeller shaft, engine, gear box, stern tube). Splits and tears of rub rails and fenders.</p> <p>POTENTIAL SOLUTIONS: Belzona 1000 series 100% solids paste- and fluid-grade materials for metal rebuilding and erosion-corrosion and abrasion protection. Belzona 2000 series elastomeric materials for the repair and protection of rubber and metallic equipment and components</p>
CARGO/PASSENGER SHIPS - BOW	CARGO/PASSENGER SHIPS - STERN
<p>TYPICAL PROBLEMS: Severe pitting and corrosion on bow thrusters, bulbous bows, hulls, decks, mooring winches.</p> <p>POTENTIAL SOLUTIONS: Belzona 1000 series 100% solids paste and fluid-grade materials for metal rebuilding and erosion-corrosion and abrasion protection</p>	<p>TYPICAL PROBLEMS: Pitting, corrosion-erosion on CHT tanks, potable water tanks, feed water tanks, propulsion system, pumps, sea chest, heat exchangers, pipework, rudders, ventilation trunks. Misalignment of crankshaft in marine engines or shafts in pumps or rotating equipment.</p> <p>POTENTIAL SOLUTIONS: Belzona 1000, 5000, 7000 series paste and fluid-grade materials for metal rebuilding and erosion-corrosion, abrasion protection, linings of tanks, pipes and pumps, precise alignment and installation of engine and pump blocks, floor slip resistance in engine rooms and other areas with heavy foot traffic.</p>
CARGO/PASSENGER SHIPS - BRIDGE	MARINE APPROVALS
<p>TYPICAL PROBLEMS: Corrosion due to constant contact with sea water and exposure to weather elements.</p> <p>POTENTIAL SOLUTIONS: Belzona 1000, 3000, and 5000 series paste and fluid grade materials for corrosion-erosion protection, waterproofing, weatherproofing, and floor slip-resistance.</p>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>