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GREAT LAKES **SEAWAY REVIEW**



Handheld Laser Emitter

Portable Rolling Case

7" Touch Screen Panel

Powered by Standard 110v Outlet

CORROSION CONTROL AT YOUR FINGERTIPS

Before

After

A non-abrasive laser cleaning process that is **safe, easy to use,** and **eco-friendly**. Perform surface treatment on parts of your vessel such as cleaning and removal of coatings, rust, and corrosion.

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NEW TECHNOLOGY AIMS TO COMBAT SHIP CORROSION

By David Thierer

Sooner or later, a ship owner will come face-to-face with iron oxide (Fe_2O_3), commonly known as “rust.” This reddish-brown invader will eventually show up on a vessel and find its way into every crevice and crack if allowed – it is not a question of “if” this will happen but rather “when.” And with this well-known adversary, time will do nothing but worsen the situation if rust is not dealt with quickly and effectively.

Another term many ship owners become acquainted with over time is “corrosion.” Rust is only one type of corrosion, which is defined by The American Heritage Science Dictionary as “the breaking down or destruction of a material, especially a metal, through chemical reactions. The most common form of corrosion is rusting, which occurs when iron combines with oxygen and water.” Also, electrochemical reactions, erosion and stray currents are just some of the causes of corrosion that can take their toll on a vessel.

Corrosion is a \$5 billion problem plaguing the maritime industry and affects ship owners worldwide regardless of what their vessel is made of or where they are located. Thankfully rust and corrosion can be avoided through regular maintenance and cleaning. But how can ship owners effectively treat corrosion on marine vessels and ships?

Corrosion can be addressed through traditional methods of rust removal, such as wire brushing, sandpapering and

sandblasting. The problem is that these methods are messy, time-consuming, labor-intensive and can even damage the material being worked on. These methods also make it next to impossible to work on an isolated surface without damaging the surrounding area.

A New Kind of Technology

Cutting-edge laser cleaning technology can address corrosion in an eco-friendly and safe way. Laser Photonics, a Florida-based industrial laser manufacturer, has recently introduced the Marine Application Rust Laser Inhibitor (“MARLIN”). This new laser cleaning tool can address corrosion and rust on marine vessels. Ship owners are now able to clean corrosion in a cost-effective and time-efficient manner.

The MARLIN Handheld LPC-100M-MHS laser is an air-cooled pulse-finishing laser system that can tackle corrosion on small marine vessels. Its portable design allows it to effectively clean and treat surfaces that require delicate cleaning, coating removal, corrosion removal and other forms of surface preparation. The Marlin product line offers various systems with multiple power levels to match the specific needs on a vessel.

The MARLIN laser system offers a non-abrasive cleaning process that is safer and easier to use than traditional abrasive cleaning methods. Another benefit of the MARLIN is that it eliminates the need for chemicals or other consumables while complying with regulations from organizations like OSHA and EPA. ■

Advantages of using laser cleaning to combat corrosion

- Low operating cost
- Quiet operation
- Maintenance-free with no consumables
- Non-contact
- Non-abrasive
- Non-toxic
- Extreme precision and accuracy
- Easy cleanup
- Competitively priced
- Laser lasts for 50,000 to 100,000 hours
- Eco-friendly “green” technology which decreases health and safety risks

Ship parts that can be cleaned using laser technology

- Engines and generators
- Outdrives
- Rudders and centerboards on sailboats
- Sailboat chainplates and standing rigging
- Propellers, shafts, and through-hull fittings
- Cables and fittings
- Throttle controls
- Gear shift controls
- Fuel pumps
- Fuel tanks
- Water tanks
- Water separators
- Hatch/door hinges, latches, and locks
- Brightwork
- Anchors, chains, and chocks
- Winches
- Sacrificial anodes
- Aluminum rowboats and Jon boats



MARLIN laser system



MARLIN