January 30, 2026
Furukawa Electric Co., Ltd.
MOL Drybulk Ltd.

Verification of the Effectiveness of Laser-Based Deck Maintenance During Voyage

– "InfraLaser™," featuring waterproof and corrosion-resistant performance, operated stably and improved the efficiency of rust and coating removal –

- InfraLaser™ was installed on a 64-type Ultramax bulk carrier to verify the effectiveness of laser-based deck maintenance on the trans-Pacific route (Japan–North America)
- Verification will continue on multiple vessels to further improve laser-processing specifications for maritime applications

MOL Drybulk Ltd. (President: Toshiaki Fukui; hereinafter "MOL Drybulk") and Furukawa Electric Co., Ltd. (President: Hideya Moridaira; hereinafter "Furukawa Electric") conducted the world's first demonstration test to verify the effectiveness of laser-based deck maintenance during voyage. The test was carried out on the 64-type Ultramax bulk carrier Green Winds (hereinafter "the Vessel"; Note), owned by Mitsui O.S.K. Lines, Ltd. (President & CEO: Takeshi Hashimoto; hereinafter "MOL") and operated by MOL Drybulk, using a portable 1 kW system from the InfraLaser™ series—Furukawa Electric's surface-treatment solution for infrastructure structures.

Background

During voyage, crew members perform various maintenance tasks, including repainting and other anti-corrosion work as part of deck maintenance. Conventional mechanical tools used for removing rust and deteriorated coatings generate noise, vibration, and dust, posing occupational health challenges, and are also difficult to use in confined spaces or on complex-shaped components. Laser processing is expected to address these issues. Since 2021, Furukawa Electric has been developing a laser-based system to improve the efficiency of rust and coating removal on decks, in cooperation with MOL and MOL Drybulk, who are working to reduce the workload of crew members during ship maintenance.

Details

In this demonstration, Furukawa Electric's 1 kW portable InfraLaser™ system was installed on the Vessel operated by MOL Drybulk, and its effectiveness for removing rust and deteriorated coatings during deck maintenance was verified while the Vessel

made a round trip across the Pacific between Japan and North America.
As a result, compared with conventional mechanical tools, the laser system significantly reduced noise, vibration, and dust during operation, allowing off-duty crew members to rest comfortably in the living quarters. It was also confirmed that the system helps maintain a safe working environment for crew members performing maintenance. MOL and MOL Drybulk regard these improvements as an important contribution to enhancing crew working conditions.
Furthermore, the demonstration confirmed that the system—featuring waterproof performance and corrosion resistance—operated stably without trouble or failure, even under harsh conditions on the trans-Pacific route, including salt damage, wind, rain, vessel motion, and impact. Going forward, InfraLaser™ will be installed on multiple vessels for long-term operation to verify durability and further improve specifications for maritime laser processing.

Overview of the Demonstration Test
Period: July 2025 – November 2025
Vessel: Green Winds
Route: Trans-Pacific route (Japan–North America)
Content: Verification of the effectiveness of laser-based deck maintenance, including removal of rust and deteriorated coatings
Roles:

- MOL / MOL Drybulk: Operational management of the vessel, development support, and feedback
- Furukawa Electric: Development of the laser system and rust/coating removal technology

Equipment Usage Image 1

Equipment Usage Image 2

Equipment Usage Image 3

Exterior of the Vessel

Note: Green Winds is equipped with the Wind Challenger, a telescopic hard-sail wind propulsion system that converts wind energy into propulsive force.

“InfraLaser” is a trademark of Furukawa Electric Co., Ltd. (pending application).

Related News Release

Successful Field Trial of the “InfraLaser” Rust and Coating Removal System on an Actual Vessel https://www.furukawaelectric.com/en/release/2025/dev_20250214.html

Furukawa Electric Group's approach to the SDGs

Considering the United Nations' Sustainable Development Goals (SDGs), the Furukawa Electric Group has established the Furukawa Electric Group Vision 2030, with the year 2030 as its target. This initiative aims to "establish a social infrastructure that integrates information, energy, and mobility to safeguard the global environment and facilitate safe, secure, and comfortable living." We are currently working towards this objective. To achieve our Vision 2030, we will contribute to the achievement of the SDGs by promoting Open, Agile, and Innovative ESG management that aims to enhance our corporate value over the medium to long term.

The Furukawa Electric Group's approach to the SDGs:
https://furukawaelectric.disclosure.site/en/themes/182

MOL Group's Sustainability Management

The MOL Group's sustainability management is based on a long-term strategy to achieve sustainable growth for society and the Group. The Group's vision is "We will develop a variety of social

infrastructure businesses in addition to traditional shipping businesses, and will meet the evolving social needs including environmental conservation, with innovative technology and services.
MOL group aims to be a strong and resilient corporate group that provides new value to all stakeholders and grows globally." To achieve this goal, MOL is working on the Group management plan "BLUE ACTION 2035" and the "Environmental Vision 2.2" for the environment. We are committed to maximizing the value we provide to all stakeholders by implementing BLUE ACTION 2035 in accordance with our corporate mission and values, "MOL CHARTS," while addressing the materiality of "Sustainability Issues."
https://www.mol.co.jp/en/sustainability/management/

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