Corrosion Assessment for Commercial Vessels

Home of forensic investigations

The Lab at Brookes Bell

Full Corrosion and Mapping Services

Corrosion costs time and it costs money. In fact, the collective global cost of corrosion to shipowners has been estimated between $50bn and $80bn according to The Association for Materials Protection and Performance (AMPP).

For commercial vessel owners and operators and those involved in the management or maintenance of commercial vessels, corrosion presents a number of significant challenges, from compromised structural integrity and the consequential safety issues to the need for expensive repairs.

However, there's an innovative new solution that will:

– Identify carbon steel corrosion across all areas of a commercial vessel – not just spot checks.

– Allow this corrosion data to be interpreted and understood in a visual format derived from a digital twin: a virtual representation of the vessel's steel structure enabling real-time monitoring and analysis.

– From there, a comprehensive understanding of the corrosion issues affecting the vessel can be attained, helping to identify critical areas requiring immediate attention and forecasting repair costs, prior to the vessel entering dry dock.

The name of this solution? **CMAP** – The Lab at Brookes Bell's innovative new corrosion mapping service. **CMAP**, which is accredited by Lloyd's Register, can be used to scan:

– Teak decks.

– Corrosion under antifouling.

– Tanks.

– Hull and other exterior painted surfaces.

– Swimming pools and surrounding areas.

– Flooring in bathrooms / showers / galleys.

– Vehicle deck spaces.

– Loading ramps.

– Wet deck areas.

What is The Lab's **CMAP** service?

The Lab's **CMAP** service consists of a highly refined Pulsed Eddy Current Array (PECA) inspection technique, the results of which are modelled using The Lab at Brookes Bell's 3D data visualisation software before being married to a visual dashboard that creates a **CMAP** global overview report highlighting the condition of a vessel's steel, the remaining wall thickness and therefore the material loss.

What are the benefits of The Lab's CMAP service?

Our **CMAP** survey provides detailed information on the remaining steel plate thickness and the extent of corrosion present on the vessel which allows for an accurate quote for works prior to or during a repair, refit or rebuild, with minimum disruption to the commercial vessel's operations.

- For vessels classed with Lloyd's Register, our **CMAP** service is accepted by Lloyd's Register inspectors as a factual indication of the material state of the vessel's steel structure allowing for more targeted repair or refit schedules – resulting in significant cost and time savings.
- The inspection can be carried out some months in advance of a docking period to suit the vessel movements.
- Allows the management company, shipyards and other stakeholders to understand the scope of work and to more accurately prepare and align schedules, budgets and for subcontractors to be briefed well in advance.
- Accurately understand the required repairs including common wet areas and coating areas that need repairing or replacing helping to avoid wasting time and resources.
- Gain a benchmark understanding of the material state of the vessel allowing accurate decision making regarding the vessel's remaining service time before repair / refit and overall life expectancy.

By providing a deeper level of understandable data, provided in a truly legible format, The Lab's **CMAP** service allows commercial vessel owners and operators to make better, quicker, more informed decisions that result in tangible cost, time and resource savings.

The Lab's **CMAP** service allows commercial vessel owners and operators to make better, quicker, more informed decisions that result in significant cost savings.

How does The Lab's CMAP service work?

Developed over the past five years, The Lab has collaborated with OEM manufacturers of PECA instrumentation and probes to develop a unique material state evaluation and thickness measuring technology.

Our PECA technology is arguably the most thorough corrosion mapping and detection solution on the market due to its ability to assess through myriad surfaces and thick coatings or coverings, such as:

– SynDeck, Camrex and hull fairing compounds.

– Wooden or composite coverings such as Bolidt-deck.

– Ceramics tiles, carpet, underlays and lagging.

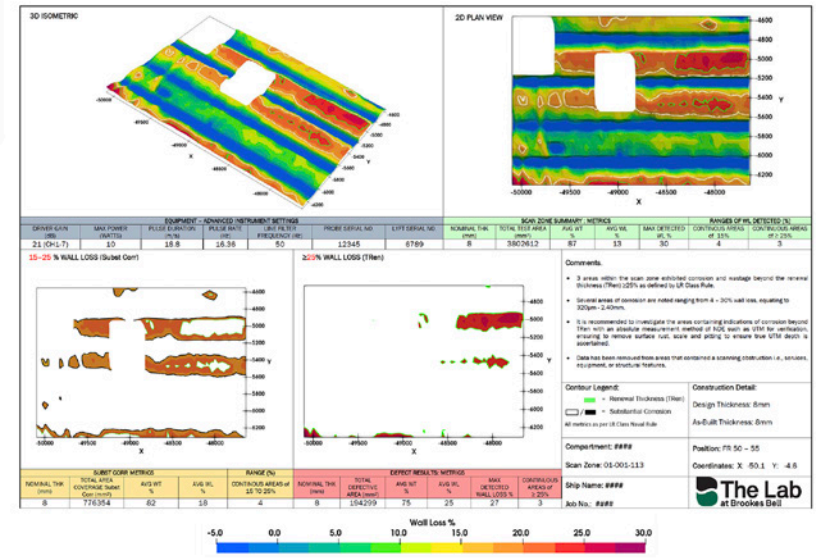
– Antifouling and other cementitious screed and paint coatings.

However, the corrosion data gathered from a PECA analysis is only useful and valuable if it can be correctly interpreted.

With that in mind, The Lab developed **CMAP**.

This is a powerful dashboard that translates the results of our PECA analysis into visual, easily digestible – and most importantly – actionable findings.

This results in significant savings for you in terms of both cost and time.



How was The Lab's **CMAP** service developed?

For over half a decade, The Lab has developed and actively tested its **CMAP** service across all inspection scenarios that could be encountered on marine vessels.

We have worked closely with the classification society Lloyd's Register and the British Royal Navy's Warships Technical Authority (WTA) – along with wider Ministry of Defence stakeholders – to validate **CMAP** for use on all marine vessels, platforms and structures.

During the course of its development, we focused on the continuous improvement, scalability and efficiency of our **CMAP** service.

The technology has been tested and honed on superyachts, Ro-Pax ferries and on the Royal Navy's Type T23 frigate vessels and landing platform docks (LDPs).

These ship types all exhibited the range of corrosion that continuously plagues superyacht owners and operators around the world.

Validation of The Lab's CMAP service

The Lab's **CMAP** service has been put through its paces, analysing corrosion on vessels that have spent time in some of the world's most testing, brutal environments.

Based on that development background, and its proven credentials, The Lab's **CMAP** service has received full validation of the PECA method from Lloyd's Register and is endorsed for the utilisation of PECA and **CMAP** on both naval vessels and the entire commercial and merchant fleets.

Save time, money and reduce downtime with The Lab's **CMAP** service.

Why choose The Lab?

The Lab has extensive experience using a wide array of NDT techniques in the maritime world and has used this knowledge to build and develop our innovative and award-winning **CMAP** scanning service. With accreditation from Lloyd's Register, you can be assured that when you need a solution to find corrosion on your commercial vessel, you can rely on The Lab.

If you'd like to find out how The Lab's **CMAP** service could help you identify and tackle corrosion more efficiently and effectively, or you'd like to book a **CMAP** inspection, speak to one of our team today.

We are happy to provide a free, no obligation discussion on your initial requirements.

The truth is here:
The Lab at Brookes Bell
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