

# CORRIZON



## Case Study

## QUEEN MARY Primary Hull Renovation

# Queen Mary

## – Primary Hull Renovation

### Background:

Since July 2017, a new system of paints has been used during maintenance.

This system includes the **Corrizon Base** as a shop primer / base layer, which protects the base metal against corrosion and treats the corroded surfaces, unlike other paint systems whose only function is to delay the rust appearance over time. The top paints are chosen according to the client's needs.

The **Queen Mary** is an ocean liner Vessel that sailed primarily on the North Atlantic Ocean from 1936 to 1967. After it was retired, it sailed to the port of Long Beach, Ca, USA where it is permanently moored as a tourist attraction, hotel, museum and event facility. It has been over 15 years since the ship was last painted.



The ship's length is about 1,020-foot. (~311m) and the rusted surface area is approximately 1 million square feet (~92,903m<sup>2</sup>).

**Corroded steel debris inside**

### The Challenges:

The Queen Mary Hotel was still active during the project. The guests and tourists continued to visit this attraction. Conventional abrasive blasting and re-coating could be done but some steel was so rusted that abrasive blasting would have done more damage than good. Moreover, old coatings were lead-based, therefore blasting would have generated hazardous waste and vapors.

## The Solution:

Rather than use abrasive blasting to prepare the outdoor surfaces on the vessel, high pressure water cleaning was used to remove all loose paint, mill scale and rust.

Nearly **80 tons of corroded steel debris** was cleared out.

Once the preparations were done, the crew applied a **Corrizon Base** over the steel to create a chemical bond that becomes part of the metal.

Furthermore, the **Corrizon Base** has extremely low VOC [Volatile Organic Compound] (~0) levels the smell was not disturbing to the Hotel guests.

The water pressure used was 500 bars with super duty rotary head nozzles to remove rust, scale, disbanded metal and dirt. In areas that couldn't be pressure washed, the men removed the steel debris by manual rotary brushing. Finally, after degreasing, the crew used an airless spray to apply a single layer (1-2 mil) of **Corrizon Base**. 24 hours the ship was ready for the chosen top coat of paint and no additional treatments.

## The Results:

After a year, the painted areas are in excellent condition. There is no sign of rust or paint lamination. Also, the DFT remains the same and the adhesion is very good.



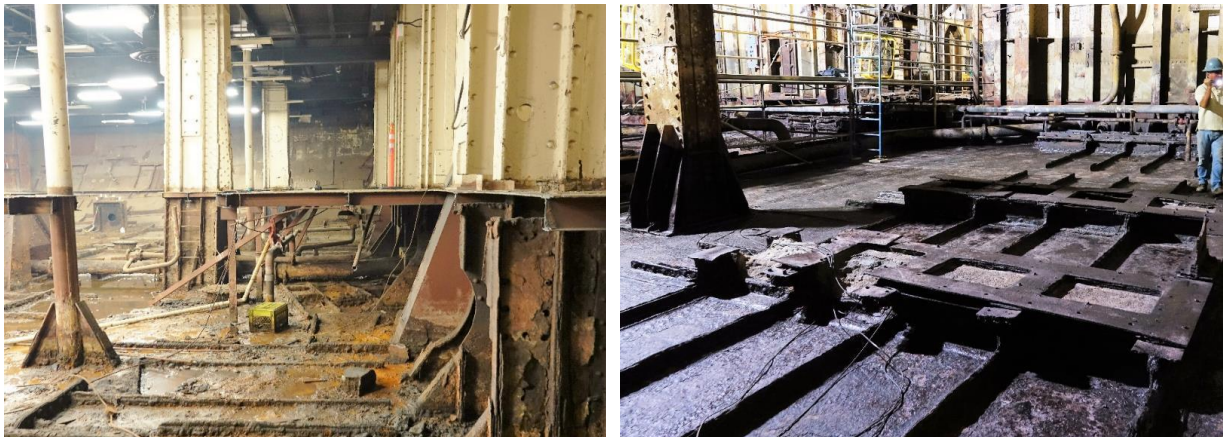
**Corrizon Base application inside the boiler room**



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**Before**

**After**

For further information contact us: [www.corrizon.com.au](http://www.corrizon.com.au)

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