

## Condenser Tubesheet Repair / Condenser Tube Lining

**Case:**

Single Pass unit with approx 8,000 CuNi tubes X 20 long  
Tube-sheet Brass

**Client:**

Matson – SS Matsonia

**Solution:**

Ships condenser was in need of repair. The condenser tubes were leaking leading to inefficient condenser operation. This was leading to condenser tubes having to be plugged and the need for unscheduled maintenance on the condenser while in port. The client had three options; 1) to re tube the condenser, 2) to keep plugging the condenser tubes and dealing with the maintenance, or 3) apply a thin film coating to the tubes to stop the condenser tubes from corroding. The client was trying to get 5 more years out of the condenser, but the tube corrosion required them to attempt to repair the condenser before that time. Because re tubing the condenser would have cost 4 times the cost of coating the condenser tubes, the client opted to have Curran International apply coating to the condenser tubes and tube sheet. Also a condenser re tube would have been difficult in the bottom of a ship where space is limited. Below are pictures and a summary of the condenser repair project.



## Condenser tube sheet and tube coating preparation

Tube-sheet prior to surface preparation (grit blasting). Note how the tube-sheet is worn away at the tube end.

Condenser tube sheet and tubes being grit blasted



Condenser tube sheet and tubes after grit blasting for surface preparation





Condenser tube sheet and tubes after application of coating (tube lining)



Condenser is now repaired. Both the condenser tube sheets and tubes have a thin film epoxy coating that will prevent corrosion and eliminate fouling. The client now has virtually a new condenser that was less costly and took less time than re-tubing the condenser. At last report, 3 years after Curran International repaired the condenser, the ship's engineer reports that the condenser is operating perfectly and unscheduled maintenance on the condenser has been eliminated.

