

DALIC

DALIC selective plating job on a cruise ship for a French shipyard

Friday, September 10, 2021 – We were contacted by a shipyard in the South of France. It encountered grooves on a propeller shaft of a cruise ship named "Island Princess" under the Bermuda flag.

This defect causes mechanical damage and requires repair as soon as possible. Indeed, this anomaly blocks the shipyard and therefore the maintenance of other boats. The shaft is difficult to remove, on-site intervention is necessary.

Urgent repair job required

We were contacted on Friday by the customer who informed us of the emergency. After evaluating the feasibility and validating the price offer, we organized ourselves to intervene on site the following week.



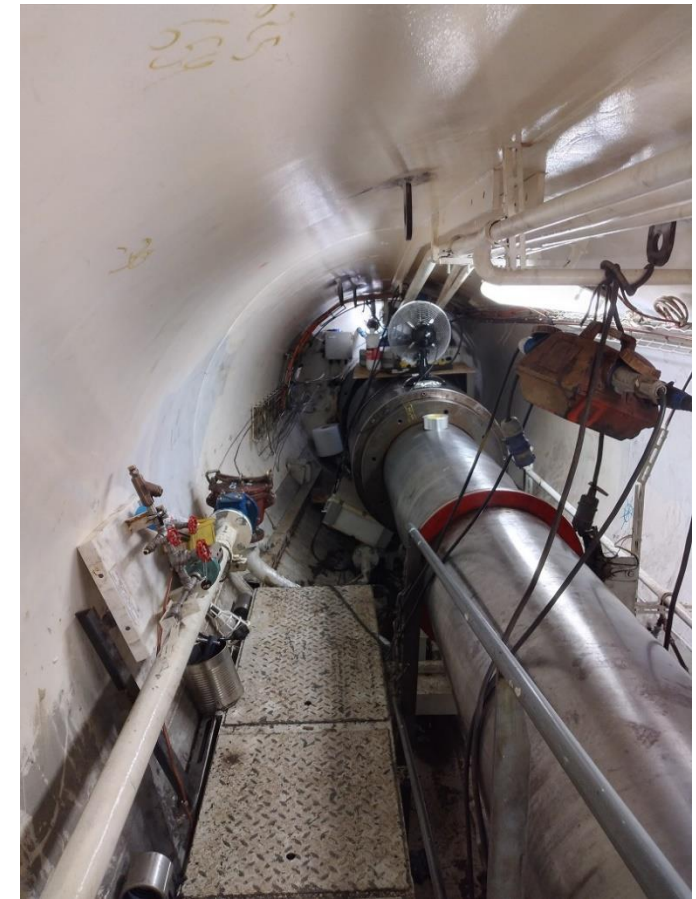
Input data

- Type of part: propeller shaft
- Areas to be plated: 2 longitudinal scratches

1. Length 200 mm / width 10 mm / depth 500 μm

2. Length 10 mm / width 5 mm / depth 400 μm

- Base material : steel
- Customer's need: Defect repair and dimensional restoration



Workplace environment

The repair should be carried out in a confined place that is difficult to access (picture above).

DALIC selective metallization requires few materials and consumables which is a considerable advantage for this type of intervention. The technician has all the PPE (gloves, mask, safety shoes, helmet) to guarantee his safety.

Surface preparation and coating

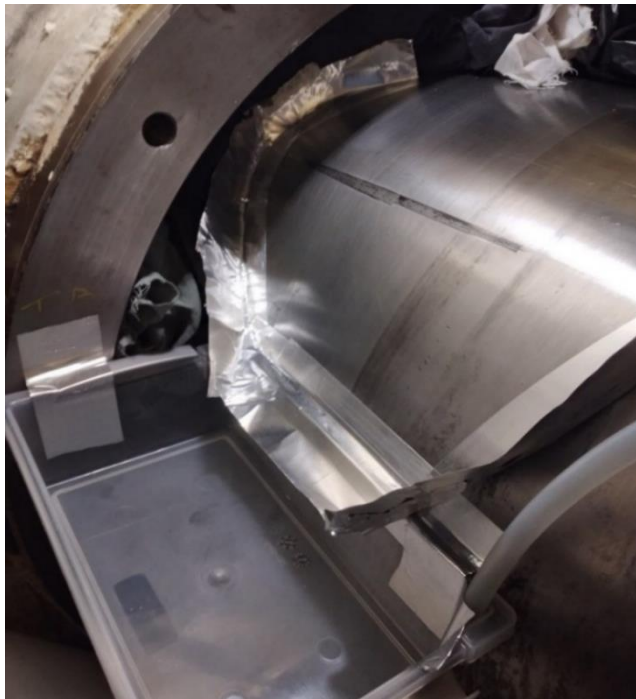
Selective plating requires several steps before the final deposit (flaring of the defect, degreasing, activation, undercoat to make the final coating adhesive).

The masking step (adhesive tape around the plating area) is also important to delimit the treatment area and allow the collection of the chemical solutions in a container. The chemical waste is taken care of by the DALIC technician after the work.

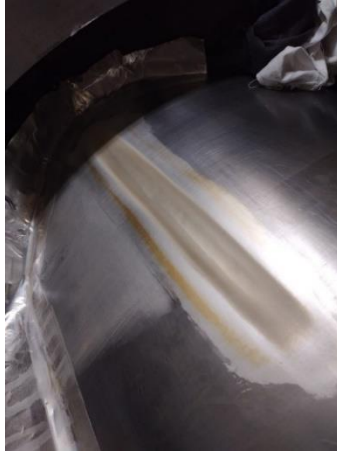
In some cases, a finishing step can be performed to add an additional characteristic to the final deposit.

For this repair, we opted for an electrochemical silver plating with a nickel finishing layer.

Manual adjustment is necessary following deposition to restore the original diameter.



Preliminary stage



Final aspect



Treatment

- Main coating: Silver S (reference: 13009)
- Tolerance needed: +/- 10 µm
- Silver properties: used for impact filling, electrical conductivity, and corrosion protection
- Finishing stage: Nickel (5 à 10 µm) to increase hardness (440 HV) and to improve aspect
- Manual sanding with scotch brite to restore the dimensions of the initial diameter
- Adhesion tests and thickness measurement

Duration of repair

The intervention of the DALIC technician lasted 2 days.

Customer satisfaction

“The repair perfectly meets our expectations from a functional point of view. DALIC's responsiveness allowed us to meet the desired repair time and therefore limit the vessel's immobilization costs.”



Some of our valued customers

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