

### Rebuilding of Stern Boss flange

Job executing contractor: Gemak Shipyard

Contractors Representative:

Customer representative: Vessel superintendent and online guidance is given by Wencon Denmark

Report done by: PI-ES Marine AS

Date: 29.06.2020

Type of repair: Refurbishment

Appendices to this report: N/A

Products used: Wencon Ceramic Cream, Wencon Ceramic Coatings & Wencon Release Agent.



## Rebuilding of Stern Boss flange

Service description:

Due to bimetallic corrosion the Stern tube Boss Seal Surface has been damaged and required by Class to be reconstructed / recovered.

Traditional rewelding and on-site machining seems too time consuming and is associated with huge costs, and further delays in the docking schedule would be a fact.

The Class Surveyor determined that the physical properties are remaining sufficient in the Stern Tube construction, and the task is then quite simple; to rebuild the deteriorated metal, followed by a double layer of protective coating to insure Lifetime Extension of the Stern Tube.

### Rebuilding of Stern Boss flange



1. Rope Guard removed.  
Oil drained and propeller dismantled.  
Stern tube seal box and flange ring has been protected with rubber gasket a plastic tape before blasting.  
Stern boss corroded parts have been grit blasted to SA 2½ / 75 µm.



2. Seal box prepared and positioned on shaft.



3. Release agent applied by brush to the flange ring surface and remain for about 20-25 min.  
  
Thereafter rubbed with clean cloth and polished.

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4. Wencon ceramic cream mixed in accordance to instructions in the box and applied to the corroded parts of the boss.

The thickness of the ceramic cream was about 1-3 mm close to the bolt holes and were getting thicker towards outer diameter.

The thickness rebuilds using Wencon Ceramic Cream. was about 10 mm at max diameter of the flange seat.



5. Flange ring is bolted without gasket and tightened firmly while the Wencon Ceramic Cream was still wet.

Excess material is cleaned by scraper and left for curing over the night.



6. In the morning, which is about 16 hrs. of curing, flange ring is dismantled.

Excess material pop-up on the flange surface & the lubricating holes were recovered by hand to original shape and size.

Those areas and the exit material around the flange edge were sanded flush by power disc and sandpaper.



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7. Seal box has been put back with new gasket and red silicone underneath. Bolts are tightened in accordance with the required torque.

Seal box refitted and Oil Filled and tested for leaks.



8. Wencon protective coating is applied to the remaining corroded surface of the stern boss from flange rings up to the fwd. edge of the rope guard.

The first coat is applied about 300 microns. Second coat is applied about 1 hr. of curing with the same thickness.

After 4 hrs. of curing, rope guard welded in place.



9. Completed.