

HEMPEL COATINGS (POLSKA) SPÓŁKA Z O.O.

ECOLOGICAL HULL DD TREATING REPORT

Issued Date: 5 JUL 2002

Owner: LAURITZEN KOSAN TANKERS

Executor: MUHLHAN Gdansk at REMONTOWA

Project Name:

µ-jet system surface preparation

Project Subject:

Ecological hull cleaning / painting during DD

Customer's requirement for DD paintworks calls for full cleaning / old paint system removal of underwater part of hull. Ordered and executed surface preparation done by executor MUHLHAN Gdansk company with µ-jet system surface preparation and HEMPEL paint system.

**Persons
present:**

LAURITZEN KOSAN TANKERS – Asger Hansen

MUHLHAN Gdansk – Mariusz Koziel

HEMPEL COATINGS POLSKA – Roman Skwiot

**Vessel
treated:**

LINDA KOSAN, LAURA KOSAN – underwater parts

µ-jet system:

1. Used water pressure up to 1800 bar
2. Used abrasive: copper slug 0,2 – 2,0 mm
3. Efficiency: 9 – 14 sqm / hour depend of initial surface condition
4. Subsequent high pressure fresh water washing: sharp nozzle 400 bar

**Contract
requirement:**

Existing paint system to be removed. Rusty areas (spot rust grade D) cleaned to min WJ-2 acc to NACE 5 / SSPC –SP 12. Flash rust degree acc to Hempel's standard FR – 2, preferably FR – 1.

Evaluation:

Cleaning done during night and day shifts with out environmental pollution. Water and abrasive after cleaning collected and utilised.

**Achieved
result:**

Generally WJ – 1 and minor areas WJ –2, NACE 5 / SSPC – SP 12
Flash rust FR –1 / minor areas FR – 2.
Cleaned surface profile COARSE (G) ISO 8503-1
Fully accepted for Hempel's paint system based on epoxy HEMPADUR 45143
Dry dust less process allow for 24 hour per day working.
Dry dust less process allow for other job preceding.
Dry dust penetrating in to the internal compartments of vessel avoided.



HEMPEL'S CA Roman Skwiot

5 JUL 2002

Date

PHOTOS FOR HULL DD TREATING



Photo 1. LAURA KOSAN – initial condition.



Photo 2. LAURA KOSAN underwater part – surface preparation.

PHOTOS FOR HULL DD TREATING



Photo 3. LAURA KOSAN underwater part – surface preparation.



Photo 4. LAURA KOSAN underwater part – surface preparation.

PHOTOS FOR HULL DD TREATING



Photo 5. LAURA KOSAN underwater part – surface preparation.



Photo 6. LAURA KOSAN underwater part – surface preparation.

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Photo 7. LINDA KOSAN – initial condition.



Photo 8. LINDA KOSAN underwater part – surface preparation.

PHOTOS FOR HULL DD TREATING



Photo 9. LINDA KOSAN underwater part – surface preparation.



Photo 10. LINDA KOSAN underwater part – surface preparation.

PHOTOS FOR HULL DD TREATING



Photo11. LINDA KOSAN underwater part – surface preparation.



Photo 12. LINDA KOSAN underwater part – surface preparation.

PHOTOS FOR HULL DD TREATING



Photo 13. LINDA KOSAN underwater part – surface preparation.

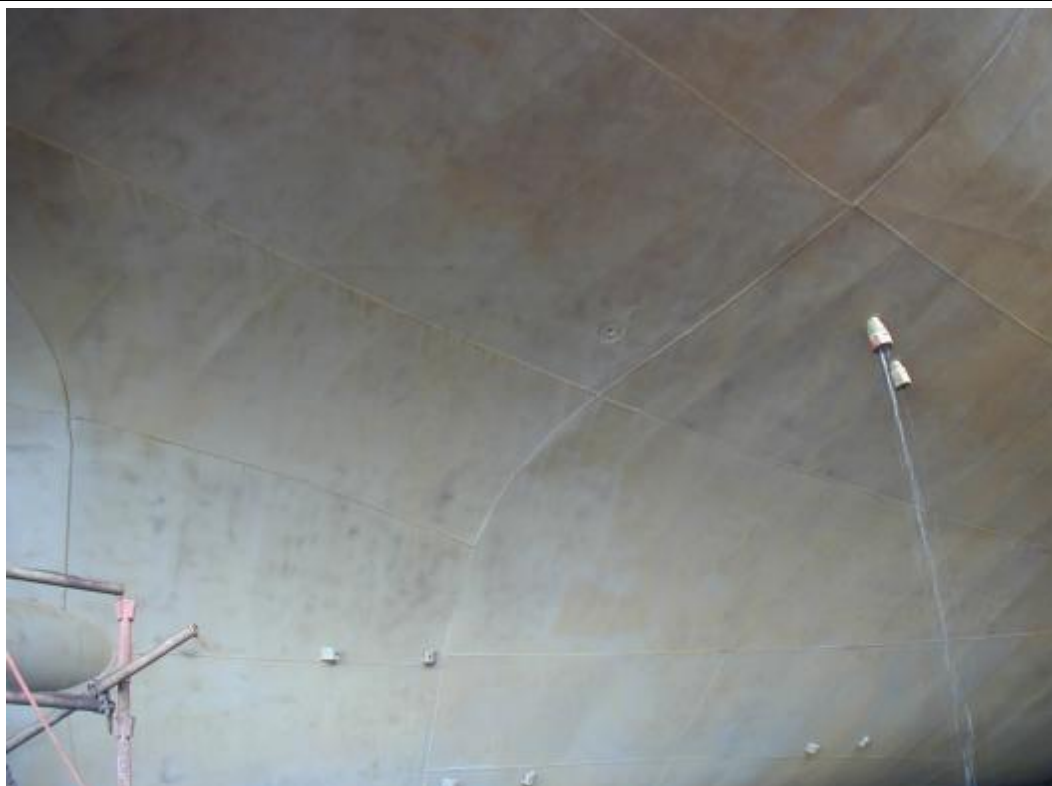


Photo 14. LINDA KOSAN underwater part – surface preparation.

PHOTOS FOR HULL DD TREATING



Photo 15. LINDA KOSAN underwater part – surface preparation.



Photo 16. LINDA KOSAN underwater part sea chest – surface preparation.