

Review of Acceptable Flash Rusting for Ship Coatings

Final Report – June, 2009

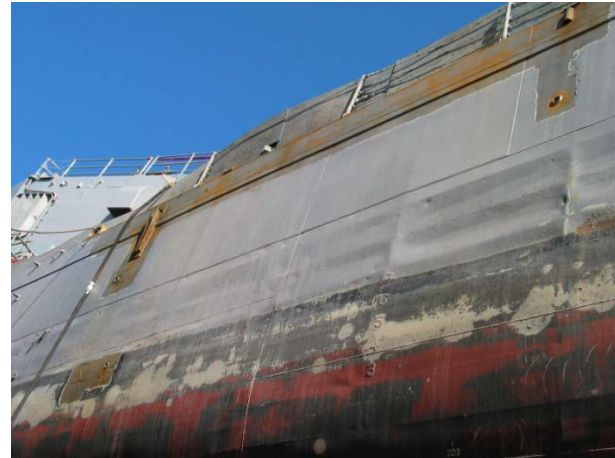
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Are We Done Yet?



The Problem:

“Hand Lance Areas” Develop Moderate Flash Rust which must be Remediated



Background

- FY07 NSRP project
 - Ship inspection data suggest no significant performance difference between MFR and LFR
 - Round robin suggested that inspectors should be able to differentiate between MFR and HFR
- NSRP FY08 follow-on study
 - Based on feedback from Fleet Forces Command
 - Confirm that results are not unique to the shipyard/primer which was observed
 - Continue to collect data defining the risk of painting over MFR
 - Work with NAVSEA 05P23 to develop basis for CWP-351



Multiple Initiatives

- NAVSEA Research
 - Lab testing
- NSRP White paper projects
 - Identified ship case histories
 - Evaluated alternative inspection methods
 - Developed training for inspectors
 - Evaluated consequences of “Heavy” flash rust
- Cumbersome Work Practices Project (CWP 351)
 - Developing enhanced Inspection Tool
 - Evaluating consequences of “Heavy” flash rust
 - Quantifying potential cost savings



Low risk of painting over MFR with Navy underwater hull coatings

- Conclusion based on:
 - Review of Navy testing
 - Observation of 14 underwater hulls after up to 6 years in service
 - Evaluation of panel testing by various parties
- Can we consistently and accurately identify Moderate Flash Rust?

Improved Definition of “Rag Test”

- Part of NSRP Flash Rust Inspection Training Program
 - Propose making a draft addendum to VIS-4 based on the body of NSRP flash rust work



Quantitative Test for Moderate Flash Rust?

- Tape Test w/Transmittance Measurement
 - Adaptation of Hempel “10 tape” test
 - Measure light transmittance through tape applied to flash rusted area
- Shows promise based on two ship demonstrations, feedback from inspectors, and use on test panels



How Much Can the Navy Save if the Allow Painting Over MFR?

- NSRP Project identified potential savings of 20% of surface preparation cost on an FFG
- CWP Project is working the issue for CVN
 - Difficult obtaining return cost data
 - Depends on what baseline process is considered