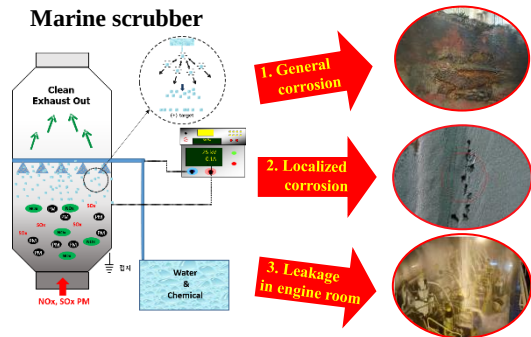


Electrochemical characteristics and damage mechanism in scrubber washing water of UNS N08367 with plasma ion nitriding and electropolishing

1. Introduction

Marine scrubber

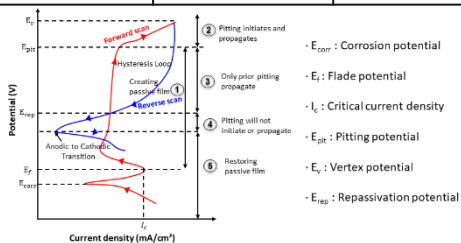


2. Experimental method

Mechanical polishing

Electropolishing

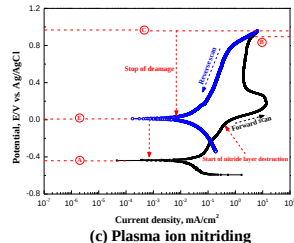
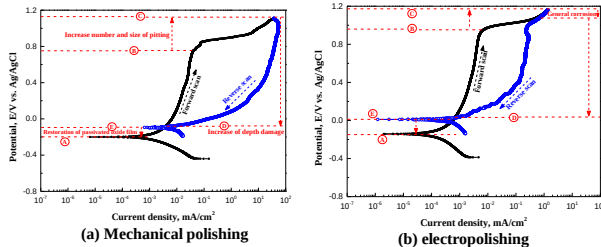
Plasma ion nitriding



3. Results and Conclusion

3.1 Cyclic potentiodynamic polarization curve

Ⓐ=Corrosion potential, Ⓑ=Pitting potential, Ⓒ=Vortex potential,
Ⓓ=Repassivation potential, Ⓔ=Anodic to cathodic transition potential

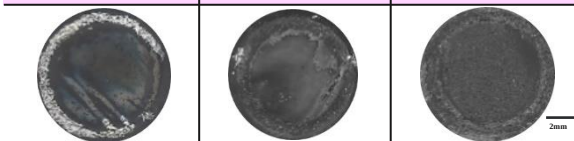


3.2 Appearance after CPP

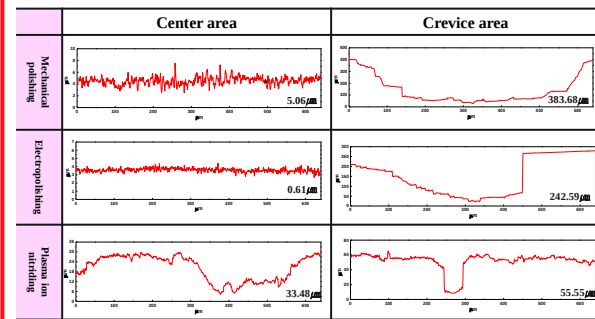
Mechanical polishing

Electropolishing

Plasma ion nitriding



3.2 Maximum damage depths after CPP



3.3 Schematic diagram of corrosion mechanism

①: initial state, ②: forward scanning, ③: reverse scanning

