BIO D'SCALE

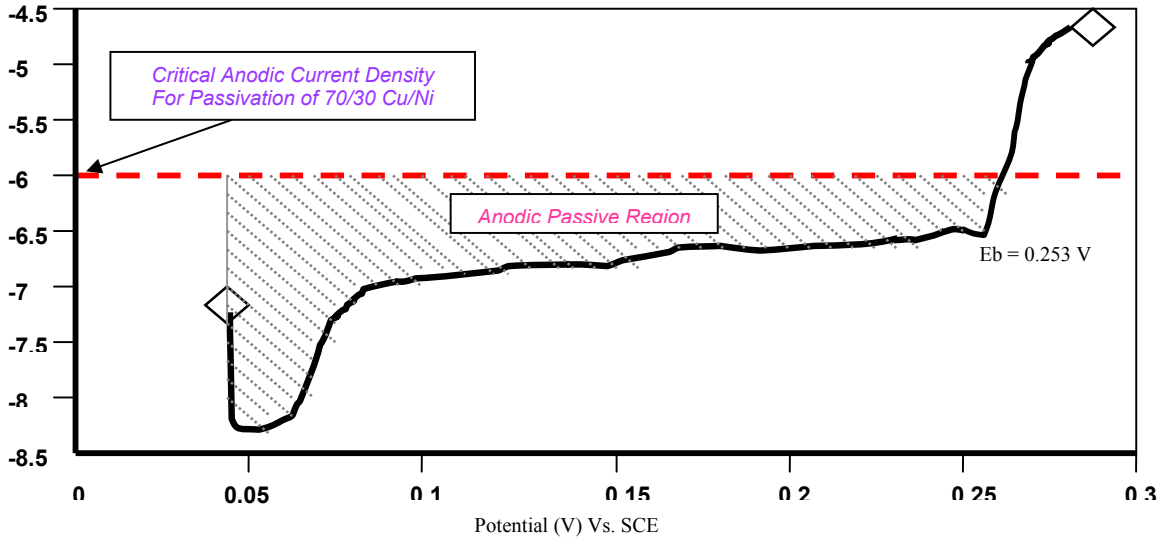
US NAVY TEST

SUMMARY OF DYNAMIC DESCALER RESULTS

Property	CID Requirement	Dynamic Descaler
Hydrogen-ion concentration (pH) of 10% aqueous solution	No more than 2.0 pH	0.7 pH
Corrosive effect on copper alloys for 34-hour test at 35°C	90/10 CuNi (UNS#C70600) not more than 20 mpy	5.8 mpy
	70/30 CuNi (UNS#C71500) not more than 20 mpy	5.8 mpy
	Tin Bronze (UNS#C92200) not more than 20 mpy	5.0 mpy
Scale dissolving ability: rapidly dissolve solid calcium carbonate (1 gram in 50 mLs at 25°C)	Less than 1 hour	3 minutes
Effect on passivation	Original passive surface restored within 30 days of exposure to natural seawater	Pass Day One

mpy - mils per year

Anodic Polarisation Behaviour of Experimental Sample #3 After Exposure to Natural Seawater for a minimum of 21 Days Followed by a 6 Hr Immersion In Bio D'Scale (Dynamic Descaler), Sample was tested on day one following exposure to Bio D'Scale (Dynamic Descaler) and did pass.



Conclusion

Anodic Polarisation Testing on six 70/30copper/nickel samples in flowing natural seawater was conducted. Based on testing and analysis, it was found that:

- All samples pass current density criteria (10^6 A/cm^2) after the initial 21 days plus an additional 28 days. After immersion to BIO D'SCALE (Dynamic Descaler), the experimental samples passed the critical current density criteria immediately (< 1 day).
- Immersion in BIO D'SCALE (Dynamic Descaler) solution has a negligible effect on the nature of the passive film formed by seawater immersion of 70/30 copper/nickel