Using Lab Based and Controlled Environmental Testing to Qualify Coating Systems For Demanding Consumer Products

Abstract: Laboratory based testing like ASTM B117 (Salt Spray Testing) and ASTM B368, the Copper-Accelerated Acetic Acid Salt Spray (CASS Test) are used in many industries to "qualify" corrosion performance of numerous components. There are countless variations that companies use to put their own "twist" on these tests to suit their particular / environmental needs. Literature commentary of these tests generally is very negative on their ability to predict life of "typical products" in the field. Mercury Marine struggled with these same issues and we developed a hybrid test that uses similar principals to established ASTM tests while correlating testing results to actual customer field warranty claims to establish performance criteria for our coating systems which are designed to prevent corrosion of the product in salt water applications.

Biography: Mr. Misorski is a Technical Fellow-Materials and Corrosion for Mercury Marine, A Fellow of ASM-International, Past Trustee of ASM-International, Chairman of the Governance Committee (ASM International), Board member of the Milwaukee Chapter of ASM-International, Fellow of Alpha Sigma Mu, a member of the National Association of Corrosion Engineers, a Board Member of the Failure Analysis Society and the Chairman of the Industrial Advisory Board –Materials Science for the University of Wisconsin-Milwaukee. He received his B.S. and M.S. in Metallurgical Engineering from the University of Wisconsin-Madison. Mr. Misorski's industrial background experience includes the areas of die casting, aluminum casting operations, investment casting of stainless steel, steel rolled products, iron foundry products, aerospace forgings, heat treating and marine engines/propulsion systems. Mr. Misorski is presently a Technical Fellow - Materials Science with Mercury Marine. At Mercury Marine, Mr. Misorski has technically led the evaluation and development of various new manufacturing advancements including vacuum carburizing with high pressure gas quenching line, directional shot-peening processing system, robotic finishing of castings, unique laboratory corrosion testing cabinets/procedures and environmental exposure corrosion testing in marine saltwater environments. His areas of expertise include corrosion protection, coating system design and testing, failure analysis and material selection/processing. Mr. Misorski holds 15 U.S. patents in the areas of biofouling prevention, unique materials usage/processing and product designs.