



**CRANE**

## Innovation Infosheet

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# An Improved Method for Intergranular Corrosion and Intergranular Stress Corrosion Cracking Resistance

**Track Code:** CRANE-103029

### **Categories:**

- Materials and Manufacturing
- NSWC Crane

### **Keywords:**

- Alloys
- Corrosion
- Crane
- Materials and Manufacturing

Naval Surface Warfare Center, Crane Division (NSWC Crane), has patented a process of improving the intergranular corrosion and stress corrosion cracking resistance of metallic alloys and aluminum alloys. One embodiment disclosed in the patent includes a method, structure, and/or material composition associated with overetching a structure or alloy of interest to create a depletion zone or deplete magnesium content at and in a vicinity of grain boundaries which mitigates or prevents corrosion. Another aspect of the patented invention includes a process, structure, and/or a material composition associated with providing a particular coating, e.g., a ceramic coating of various alloy parts such as aluminum parts. Additional steps, material compositions, and/or exemplary structure are also included which provide a nano coating over a depletion zone.

### **People:**

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### **Intellectual Property:**

**Application Date:** (None)

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