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Improving the corrosion resistance of SS 316 (G)

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This talk will look at cost effective and environmentally friendly surface treatments to improve the corrosion resistance of SS 316. Mechanically polished samples were treated by heating in deionized water, a hydrogen peroxide solution, electropolishing and heat treating in an oven. Cyclic voltammetry and optical microscopy were used to measure corrosion on the samples in a 0.9% NaCl solution. X-ray photoelectron spectroscopy was also used to analyze the composition of the different oxide layers. The greatest improvement in corrosion resistance was observed after treating the steel in a hydrogen peroxide solution. However, electropolishing also showed a large improvement while having other practical advantages.

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