

## **Benzimidazole as Corrosion Inhibitor for Heat Treated 6061 Al-SiCp Composite in Acetic Acid**

**Authors :** Melby Chacko, Jagannath Nayak

**Abstract :** 6061 Al-SiCp composite was solutionized at 350 °C for 30 minutes and water quenched. It was then underaged at 140 °C (T6 treatment). The aging behaviour of the composite was studied using Rockwell B hardness measurement. Corrosion behaviour of the underaged sample was studied in different concentrations of acetic acid and at different temperatures. Benzimidazole at different concentrations was used for the inhibition studies. Inhibition efficiency of benzimidazole was calculated for different experimental conditions. Thermodynamic parameters were found out which suggested benzimidazole is an efficient inhibitor and it adsorbed onto the surface of composite by mixed adsorption where chemisorption is predominant.

**Keywords :** 6061 Al-SiCp composite, T6 treatment, corrosion inhibition, chemisorption

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