

# Investigation on Corrosion Behavior of the Al/SiC Nanocomposites in Sea Water

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## Abstract

In the present investigation, the static electrochemical corrosion behavior of nano (SiC)<sub>P</sub> based (AA6063) aluminum alloy in sea water was evaluated. The nanocomposites were fabricated using Powder metallurgy technique. The effect of nano-particulates weight percentage (0,3%, 6%, 9% & 12%) on the corrosion was studied. The corrosion rates of composites were calculated using electrochemical method. The results showed that Al/SiC composites have higher corrosion resistance than (AA6063) Al matrix. The corrosion rate was found to be increased by increasing of the weight percentage of the nanoparticles more than 3% nano (SiC)<sub>P</sub> composites exhibited the highest corrosion resistance among all the investigated nanocomposites. The corrosion rate was found to be increased by increasing of weight percentage of the SiC particles. Optical microscope were carried out to identify the corroded surface.

## Keywords

Aluminium alloy (AA6063), Nano Composites, Powder Metallurgy, Corrosion Rate, Potentiostatic Measurements.