Stainless Steel Materials Performance against Corrosion in Peracid Bleach Media

Rohtash[1], Ajay K. Singh[2] and Rajendra Kumar[3]

ABSTRACT

Peracids are being adopted as bleaching media by paper industries, with low environmental impact as reducing pollution. The changeover to the new chemicals is expected to effect the metallurgy of existing bleach pant due to change in the corrosivity of the media Corrosion investigations were performed in peracids to test austenitic stainless steel 317 L, SS containing 6% Mo(654 SMO, 254 SMO) and duplex SS 2205. The performance of candidate alloys was evaluated by long term immersion tests and Electrochemical polarization tests with their pH value 4.0 for P.A. media and 5.0 for C.A. media having concentration 0.2% as Active oxygen (condition of better brightness) in pulp-free laboratory solutions of peracetic acid (a mixture of acetic acid and hydrogen peroxide), Caro's acid (a mixture of sulfuric acid and hydrogen peroxide),. 0.1% or 0.2% chlorides were added to these test solutions

Key Words: Bleach Plant, Peracids, bleach media, stainless steel, electrochemical polarization, Weight loss, cell reaction, stainless steel localized corrosion, material selection.