

A study on the effect of modified electrolyte to the formation of AAO membrane in anodising process

Abstract

The formation of anodic aluminium oxide (AAO) membrane in anodising process has been studied. The anodising process was done in two different type of electrolyte which are single phosphoric acid and a mixture of phosphoric acid and acetic acid. This study was done to determine the influence of this mixed electrolyte toward the formation of AAO membrane. The anodising voltage was control from 90V to 130V while concentration, time, and temperature were kept constant at 1M, 60 minute and 15°C respectively. The characterisation of the AAO membrane was done by using scanning electron microscopy (SEM). The results of this study confirm that the addition of organic acid in the acidic based electrolyte resulted to the larger pores size of AAO membrane.

Keywords — AAO membrane, acetic acid, anodizing, anodising voltage, phosphoric acid, pore size