ABSTRACT

Aluminum is one of the most widely used metals, because it has such properties like light, radiant, electrical conductivity, and easily combined with other elements. Other aluminum properties used as a protector are easily oxidized with oxygen at the open air, and forming a thin layer of oxide (Al_2O_3). Anodizing on aluminum can increase thickness from oxide layer. By varying parameters such as electric conductivity and time of anodizing process, the hardness of the aluminum surface layer can be increased. In this study the type of anodizing used was sulfuric acid anodize with temperature 10˚C, electrical conductivity 0,5, 1, 1,5 ampere and time 5 until 15 minutes. After anodizing process is complete, the surface hardness test will be using 25g.f micro vickers indentation. The highest value of hardness occurs in strong current and time variations 1,5 ampere and 15 minutes, the hardness value is 320,4 VHN, and the lowest value of hardness occurs in electric current and time variations 0,5 ampere and 5 minutes, the hardness value is 220,4 VHN. So, after the experiment the result is that electric current more effected than experiment time. The greater the value of surface hardness due to the effect of the higher electric current.