Deposition of Aluminium Oxide (Al_2O_3) Coatings on Aluminium Substrate Using Anodizing Processes.

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The aim of this paper is to describe anodizing technology for deposition of Al_2O_3 coatings on Al substrates. Various methods of layer deposition were used for the experiments. Deposition was carried out in acidic environments, using sulphuric acid (H_2SO_4) and chromic acid (H_2CrO_4). Several samples were heat treated (annealed). Chemical composition of the substrate and the coating was tested by GDOS method using SA2000 and GDS 500A devices. Surface morphology and structure were evaluated by SEM, using VEGA5135 electron microscope. Selected mechanical properties as thickness, microhardness and adhesion were also determined.

Keywords: coatings, aluminium oxide, microhardness, surface morphology

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