Evolution on the Microstructure of Alumina Coated Stainless Steel Using Electro Phoretic Deposition

Abdul Ahad Ali Khan, Sathish Sathyavageeswaran, Senthilvel, Mohd.F.Shabir,
Dilip Jerold, Salim Meeran, Mohamed Abbas, Manikandan
Department of Mechanical Engineering,
Aalim Muhammed Salegh College of Engineering, Avadi IAF,
Chennai-600055, India,

***Abstract*-This paper emphasizes on the microstructure of Al_2O_3 coating fabricated on biomedical 316L stainless steel using Electrophoretic deposition technique (EPD) by varying the voltage from 10-70 V. An adherent dense coating was obtained at 55 V. The microstructure of the coated surfaces was characterized using Scanning electron microscope (SEM). The coatings fabricated at 55 V have resulted in higher adhesion, lower porosity as compared to the bare substrate.**

Key words: **Al_2O_3, Microstructure, EPD**

IJARE