ABSTRACT

To utilize a low cost nickel element as catalyst material for monolith support of catalytic converter is a challenge to the engineer who works on the field of material science. The dual ability of nickel as catalyst and also as coating material may need further explored. The present paper shows how the influence of difference on deposition technique of nickel to the FeCrAl metallic monolith and also on the development of two techniques of nickel electro deposition into FeCrAl foils. The first technique is related to the conventional electroplating combined with ultrasound approach, and the second one is related to make a washcoat of Al2O3 oxide layer to act as a supporting catalyst material through electroplating process by using electrolyte mixed with Si-C and other one with alumina (Al2O3). The effect of each processes on oxidation behaviour of FeCrAl, then, were analyzed.

Keywords: Ultrasound, Nickel electroplating, FeCrAl, Metallic monolith, Catalytic converter.