World Academy of Science, Engineering and Technology
International Journal of Materials and Metallurgical Engineering
Vol:13, No:03, 2019

Investigation of the Effect of Nickel Electrodes as a Stainless Steel Buffer Layer on the Shielded Metal Arc Welding

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Abstract : In this study, the effect of nickel-electrode as a stainless steel buffer layer is considered. Then, the effect of dilution of the last layer of welding on two samples of steel plate A516 Gr70 (C-Mn-Si) with SMAW welding process was investigated. Then, in a sample, the ENI-cl nickel electrode was welded as the buffer layer and the E316L-16 electrode as the last layer of welding and another sample with an E316L-16 electrode in two layers. The chemical composition of the latter layer was determined by spectrophotometry method. The results indicate that the chemical composition of the latter layer is different and the lowest dilution rate is obtained using the nickel electrode.

Keywords : degree of dilution, C-Mn-Si, spectrometry, nickel electrode, stainless steel
Conference Title : ICCMT 2019 : International Conference on Carbon Materials and Technology
Conference Location : London, United Kingdom
Conference Dates : March 14-15, 2019