عنوان مقاله:
The Influence of the Nickel Content on Microstructure and Mechanical Properties of the Al-Mg Weld Metal

محل انتشار:
مجله مواد دوستدار محیط, دوره 1, شماره 2 (سال: 1396)

تعداد صفحات اصل مقاله: 4

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خلاصه مقاله:
In this investigation, the microstructure and mechanical properties of the Al 5058 weld metals have been studied in respect of Nickel content in the range of 0.5 to 4.5 percent. Samples were produced by automatic TIG welding process in Butt weld condition with different wire feeder speed rate of pure nickel filler metal. The optical metallography and EDX analysis result shows that by increasing of the nickel content in the weld metal, the grain size decreased and the volume fraction of the inter-metallic compounds of Nickel rich phase was increased. The mechanical test results show that by increasing of the nickel content in the weld metal, the tensile and yield strength .increased, whilst impact energy and elongation decreased

کلمات کلیدی:
nickel, Al 5000 Series, Weld Metal, Microstructure, mechanical properties