عنوان مقاله:

Effect of friction stir post-processing on microstructural and mechanical properties of AAl۵۰۵۲ GTAW welds

محل انتشار:

سومین کنفرانس بین المللی جوشکاری و آزمایش های غیرمخرب ایران، بیست و یکمین کنفرانس ملی جوش و بازرسی و دهمین کنفرانس ملی آزمایش های غیرمخرب (سال: 1399)

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خلاصه مقاله:

In this study, the effect of friction stir post-processing on the microstructural characteristics and mechanical properties of GTAW (Gas Tungsten Arc Welding) welds in the aluminum ۵۰۵۲ alloy were evaluated. Friction stir processing destroyed the grains dendritic microstructure and due to dynamic recrystallization resulted in very fine and equiaxed grains structure in the fusion zone. The hardness of the friction stir processed welds significantly improved because of microstructure grain refinement. Besides, the friction stir processed weld demonstrated higher ultimate tensile strength (~۲۷۵ MPa) and superior elongation (۳۱.۱%) as compared to those of the base metal and unprocessed weld

کلمات کلیدی:

Grain refinement, Friction stir processing, GTAW, ۵۰۵۲ Aluminium alloy

لینک ثابت مقاله در پایگاه سیویلیکا: