

عنوان مقاله:

Role of traversespeed on intermetallic compounds formation in dissimilarsteel/aluminum friction stir welds

محل انتشار:

شانزدهمین کنفرانس ملی جوش و بازرسی و پنجمین کنفرانس ملی آزمایش های غیر مخرب (سال: 1394)

تعداد صفحات اصل مقاله: 9

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خلاصه مقاله:

It is difficult to obtain a sound joint in joining of steels to aluminum alloys by the fusion welding processes due to the large difference between the melting points of steel and aluminum alloys and also the formation of thick brittle Al/Fe intermetallic compounds at the joint interface. In this study, lap welds between Al 1100 to st37 steel wereperformed by solid state friction stir welding (FSW)in differnt tool traverse speeds.The joint characteristics such as shear tensile strength and fracture surface of fractured tensile specimens were investigated. SEM and EDS analysis suggested that .intermetallic compound (IMC) layerswere formed at joints interface but it is not critical inshear strength of joints

کلمات کلیدی:

Dissimilar friction stir welding, Intermetallic compounds, Steel, Aluminumalloy

لینک ثابت مقاله در پایگاه سیویلیکا:

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