عنوان مقاله:
Dissimilar electron beam welding of high temperature titanium alloys

محل انتشار:
چهارمین کنفرانس بین المللی جوشکاری و آزمایش های غیرمخرب و بیست و دومین کنفرانس ملی جوش و بازرسی و یازدهمین کنفرانس ملی آزمایش های غیرمخرب (سال: 1400)

تعداد صفحات اصل مقاله: 10

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خلاصه مقاله:
Electron beam welding was applied to join dissimilar Ti۵۵/TA۱۵ high temperature titanium alloys. Defect-free joints were obtained. Microstructure observation via optical and electron microscopes showed that FZ consisted of martensite α' and acicular α. The HAZ of both Ti۵۵ and TA۱۵ sides consisted of two regions; LT-HAZ consisted of primary α, secondary α and prior β and HT-HAZ mainly composed of martensite α' and acicular α. In addition, a characteristic asymmetrical microhardness profile was observed in dissimilar welded joints lower hardness of fusion zone rather than HAZ of both Ti۵۵ and TA۱۵ alloys.Room temperature tensile test results represented slightly weakness of weld metal compared to the Ti۵۵ and TA۱۵ alloys, however, good strength of welded joint at high .temperature test results was achieved

کلمات کلیدی:
Electron beam welding, Dissimilar welding, High temperature titanium