عنوان مقاله:
A review of underwater welding

محل انتشار:
اولین کنفرانس بین المللی مهندسی مواد و متالورژی (سال: 1401)

تعداد صفحات اصل مقاله: 16

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خلاصه مقاله:
welds were developed with a rutile electrode in air welding conditions and at the simulated depths of ۵ and ۱۰ m with the use of a hyperbaric chamber and a gravity feeding system. In this way, voltage and current signals were acquired. Data processing involved the welding voltage, determination of the sum of the anodic and cathodic drops, calculation of the short-circuit factor, and determination of the melting rate. Cross-sectional samples were also taken from the weld bead to assess bead geometry. As a result, the collected data show that the generation of energy in the arc–electrode connection in direct polarity (direct current electrode negative-DCEN) is affected by the hydrostatic pressure, causing a loss of fusion efficiency, a drop of operating voltage.The underwater welding robots are replacing humans in several harsh working environments however further strategies are required to achieve better control of robotic motion in order to extend their utility. This paper presents a smooth trajectory control strategy to improve the welding quality and efficiency using an underwater

کلمات کلیدی:
wet welding; polarity; arc phenomena; weld bead morphology; underwater welding robot