

عنوان مقاله:

Effect of repair-welding parameters on life time of die casting moulds

محل انتشار:

اولین کنفرانس بین المللی و هفتمین کنفرانس ملی مهندسی ساخت و تولید (سال: 1384)

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خلاصه مقاله:

In die casting, H13 hot working tool steels are exposed to heat shocking and cracking due to the thermal fatigue which is exerted by die casting process. The gradual destruction of mould surfaces during the service, decreases casting piece quality and limits the mould life time. These moulds are expensive and replacing of them is the main problem of the die casting industries therefore repair-welding of die casting moulds can be helpful. H13 steel has low weldability because of the significant hardening resulted from large amounts of alloying elements. Within this study, results were obtained on the performance of repair welded parts that were welded by three types of filler metals on the thermal fatigue test. The filler metals that are used in this study are H13 tool steel, maraging steel and Co-base alloy. Maximum and minimum life time of the repair welded parts of die casting mould in the thermal fatigue test were obtained from Co-base alloy and H13 hot work steel filler metals, respectively. Repair-welding by maraging filler metal shows the intermediate life time. It seems that repair-welding of H13 moulds by maraging filler metals is more economic because of its lower price in comparison with the Co-base filler metal.

کلمات کلیدی:

Die Casting Moulds; Thermal Fatigue; Repair-welding; Filler Metal

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