عنوان مقاله:

Machining of 304 stainless steel Using Electrochemical Machining (ECM) Process: Response Surface Methodology Approach

محل انتشار:

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خلاصه مقاله:

In this study, the electrochemical machining (ECM) of the 304 stainless steel with the response surface methodology (RSM) approach for designing, analyzing and mathematical modeling was used. The electrolyte type, concentration and current parameters were considered as the machining parameters. The mathematical model for the responses was presented and based on the type of electrolyte including NaCl, NaNO3 and KCl. The results showed that the current has the highest effect on Surface Roughness (SR) and Material Removal Rates (MRR) and respectively it improves them to 0.465µm and 0.425gr/min. The electrolyte concentration has the highest effect on Over Cut (OC) and causes to increase its values. Under the conditions of NaCl electrolyte, 1 molarity concentration and 55 A current, .the optimum condition 0.4006 gr/min MRR, 0.75 mm OC and 0.465mm SR was achieved

کلمات کلیدی:

(Electrochemical Machining (ECM), RSM, Material Removal Rates (MRR), Over Cut (OC), Surface Roughness (SR