Mohan characteristic of austenitic stainless steel 304 through

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5 did study brass electrode was usedin EDM of SiC/6025 Al composites. Selected response variables were materialremoval rate (MRR), electrode wear rate (EWR) and surface roughness (SR) toevaluate the machinability. Peak current, polarity, volume fraction of SiCreinforced particles, pulse duration, hole diameter of the tube electrode, andspeed of electrode rotation were used as the process variables. Peak currentsconfirmed to have positive effects on the MRR, EWR and SR. Kuppan et al. 6 proposed asmall deep hole drilling of Inconel 718 using EDM has been carried out. A pureelectrolytic copper tube was used as a tool electrode. The parameters such aspeak current, pulse on-time, duty factor and electrode speed were chosen tostudy the machining characteristics.

The experiments were planned using centralcomposite design (CCD) procedure. The responses variables were material removalrate (MRR) and depth averaged surface roughness (DASR). Desirability functionapproach was used to optimize for maximum MRR with the desired surfaceroughness value. B. Sidda Reddy et al.

11 studied that influence by design four factors such ascurrent, servo control, duty cycle and open circuit voltage over the outputs onMRR, TWR, SR and hardness on the die-sinker EDM of machining AISI 304 SS. Theyhad been employed DOE technique with mixed level design and analyze forperforming a minimum number of runs. They achieved that for higher MRR, thecurrent, servo and duty cycle should be fixed as high levels and

95% confidencelevel with descending order in case of TWR with same factors. M. M.

Rahman et al. 12 experimentally foundout the machining characteristic of austenitic stainless steel 304 throughelectric discharge machining. The investigation shows that with increasingcurrent increases the MRR and surface roughness. The TWR increases with peak currentuntil 150 µsec pulse on time. And from the results they were found for copper electrodeal long pulse on time no tool wear with reverse polarity. S. K.

Dewangan 13 investigated the effect of machining parameter settings likepulse on time, discharge current and diameter of tool of AISI P20 tool steelmaterial using U-shaped copper electrode with interior flushing technique. Experiments were conducted with the L18 orthogonal array based on the Taguchimethod. Moreover, the signal-to- noise ratios associated with the observedvalues in the experiments were determined by which factor is most affected bythe Responses of Material Removal Rate (MRR), overcut (OC) and Tool Wear Rate(TWR). S. H. Tomadi et al. 14 analyzed the effect of setting of machining of tungstencarbide on the outputs parameters suchas TWR, MRR and Surface finish. Confirmation test performed to evaluate error betweenpredicted values and by experimental runs in terms machining characteristics.

Theywere found out copper tungsten tool use for better surface finishing of thework piece. They were using fullfactorial DOE for optimization and found out with greater pulse off time lessertool wear of tungsten carbide and with

current, voltage and pulse on timeincrement tool wear increased. B. Bhattacharyya et al.

16 Experimented on EDM using the development of amathematical model based on RSM for correlating the interactive and higherorder effect on machining parameter such as peak current and pulse on time ofsurface integrity of M2 Die steel machined through analysis of EDM parameterson surface roughness, white layer thickness and surface crack density. With thedeveloped model the optimal combination evaluated for minimizing the surfaceintegrity. Puertas et al. 17 Investigated the attentionon the die-sinking EDM with an adequate selection of machining condition is themost important aspects of the machine. They were found that the impact of thefeatures of intensity, pulse on period and duty cycle over cemented carbide orhard material such as 94WC-6Co. They determine characteristics: TWR, MRR and Raby mathematical simulations will be achieved with the DOE method combined withmultiple regressions has been effectively applied to modelling for optimalmachining condition. When intensity or pulse times were increased, theroughness value also increased.

With tungsten carbide low values should be usedfor both intensity and pulse time. J. Simao et al 18 investigated work on the surface alloying of the differentwork piece on machining over EDM. In experiments powder metallurgy made toolsand use of powders suspended in dielectric liquid.

Based on experimentalresults the use of primary sintered electrodes made from tungsten carbide resulted in theformation of a uniform modified surface layer with some micro cracks and an average thickness of up to 30 µm. T.

M. ChenthilJegan et al 19 determines the assortment of machining settingslike peak Current, Pulse on time, Pulse off time in EDM intended for themachining of AISI202 stainless steel metal. They were using of grey relationalanalysis technique to optimizing the machining parameters MRR and SR isintroduced. The greatest nominal influence in addition to the order ofsignificance of the manageable influences to the multi performance physical characteristicson EDM machining procedure stayed determined. The results show that Dischargecurrent was the main parameter affecting the MRR.

T. Rajmohan et al 21 experimented using design of experiment technique under L9 orthogonalarray design and considering the effect of machining parameters of EDM such as pulseon time, pulse off time , current and voltage on MRR in machining of AISI304stainless steel. For optimization they had been used signal to noise ratio andanalysis of variance to analyze the effect of the parameters on MRR and alsooptimize the cutting parameters. M. Kiyak and O. Cak? r 22 did study of effect of EDM parameterson surface roughness for machining of AISI P20 steel. The selected EDMparameters were pulse current, pulse time and pulse pause time.

It was observedthat surface roughness of workpiece and electrode were influenced by pulsedcurrent and pulse time. With increasing values of these parameters surfaceroughness increased. Lower current, lower pulse time and relatively higherpulse pause time resulted in a better surface finish.

M. S. Reza et al 23 determine thecontrolled parameters of EDM using injection flushing type machining on multiperformance characteristics using

GRA method. Parameters are optimized ondifferent Response such as MRR, TWR and SR.

For this experiment copper tool andAISI 304 stainless steel is used. L18 Taguchi’s orthogonal array design plannedfor experiments. Selected machine settings are Ip, Ton, polarity, voltage, dielectricliquid pressure and machining depth have been taken.

AshokKumar et al 24 investigated machining of EN-19 tool steel using U-shapedtubular copper tool with internal flushing by EDM. Taguchi’s L18 OA designutilized for all runs. They found that MRR increases when current increaseswith reduction on pulse on time, TWR increases with pulse on time increment andovercut is increases with current increment.

P. Srinivasa Rao et al 25 has been developed the mathematical model forpredicting die sinking EDM of AISI 304 stainless steel work piece on responsesuch as TWR, MRR HRB and SR by the use of fuzzy logic modeling. A regressionanalysis of experimental and predicted output was performed to investigate themodel. With fuzzy rule relationship was establish through experimentation to reducethe no. of runs.