

AN EXPERIMENTAL ANALYSIS OF PROCESS PARAMETER ON CNC PLASMA ARC CUTTING MACHINE

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ABSTRACT

Plasma arc cutting (PAC) is a widely used industrial process for the cutting of different types of metals in several operating conditions. Since last many years, the precise and accurate machining technology of hard metals (ferrous, nonferrous and glass) is gaining so much importance in the modern industry. Now a day, non –conventional machining technology has become the first choice for the engineers and technicians. In this advanced technological process, the CNC plasma arc machining is gaining terrible background in industry. CNC Plasma arc machining is capable of producing more accurate and more finished machining of complicated non-symmetrical. The main objective and targets of this practical experiment are based to achieve the optimal value of MRR & surface Roughness of EN31 materials widely used in Plasma Arc cutting machine. Taguchi method is used for design of experimental approach to optimize the process. Various input parameters like the selection of cutting parameters, gas pressure, current flow rate, cutting speed and Arc gap are taken for the experimental investigation

KEYWORDS: Introduction, CNC Plasma Arc Cutting Machine, DOE, Taguchi Method, ANOVA, Regression Analysis, Minitab