

# EXPERIMENTAL INVESTIGATION OF MACHINING PARAMETERS FOR NEAR DRY EDM USING OXYGEN BLENDED NITROGEN GAS WITH MINERAL OIL OF AISI H13 STEEL

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## ABSTRACT

The correct selection of manufacturing conditions is one of the most important aspects to take into consideration in the majority of manufacturing processes particularly, in processes related to Near dry Electrical Discharge Machining (EDM). It is a 'green' environment friendly EDM technique and was identified as stable machining process at low discharge energy finish machining. In addition, good machined surface integrity without debris reattachment that occurred in EDM was attained since the gas enhances the debris flushing. AISI H13 Hot die steel that is normally supplied in a solidified and tempered condition. Great machinability, better polishability, it has a scoring range of utilization in moulds, outlines for weight bites the dust, hydro framing apparatuses, these steel are arranged as hard to machine materials, gangs more noteworthy quality and strength are normally known not significant difficulties amid traditional and non-ordinary machining. The Near dry electric release machining procedure is discovering the impact of machining parameter, for example, release current, Pressure and flow rate of gasses of AISI H13 instrument steel material. Utilizing oxygen blended nitrogen with refined soya bean oil as with inward flushing. A very much outlined trial plan was utilized to lessen the aggregate number of tests. Parts of the analysis were led with the L9 orthogonal exhibit in view of the Taguchi strategy. Moreover, the signal-to-noise ratios associated with the observed values in the experiments were determined by which factor is most affected by the Responses of Material Removal Rate (MRR), Tool Wear Rate (TWR) and Surface Roughness (SR). Finding the outcomes for MRR, TWR and SR, discharge current was most influencing factor and then pressure of gases and the last was flow rate of gases.