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Evaluation of Process Parameter Variations in Wire Electric Discharge Machining

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Abstract: *The incorporation of non-traditional machining techniques has become a benchmark in contemporary manufacturing processes. WEDM, or wire electrical discharge machining, is among the most sophisticated non-conventional manufacturing techniques used to machine materials that are notoriously difficult to machine. Critical components of precision manufacturing sectors including aerospace, automotive, and sheet metal are machined using non-traditional machining techniques like wire electric discharge machining (WEDM) and electro discharge machining (EDM). The majority of the time, machine tool tables supplied by the manufacturer fail to satisfy the machining specifications of a given material. The objective of this manuscript is to provide a comprehensive synthesis of the contributions made by numerous researchers to the WEDM process. This literature review elucidates the WEDM process by analyzing the correlation between various input process parameters and output metrics, including wire attrition ratio, material removal rate, surface roughness, and kerf width. The conclusion of this paper describes the function of various wire materials and diameters in the WEDM process.*

Keywords: Wire Electric Discharge Machining (WEDM), Process Parameters, Cutting Speed.

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