

PARAMETRIC OPTIMIZATION OF WEDM USING GREY RELATIONAL ANALYSIS WITH TAGUCHI METHOD

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ABSTRACT

Wire EDM is one of the latest advanced micro-machining techniques, where a thin wire ($\phi = 0.25$ mm) of tool electrode is fed on the work piece which gradually shears off the material during the machining process. This micro-machining process may help overcome the limitations and restriction faced during conventional mechanical machining process. This paper is based on wire-EDM machining of a particular ISO standard Aluminium material. The varying input parameters are identified as Servo Voltage (V), Pulse on Time (T_{on}), Pulse off Time (T_{off}) and wire tension and the outputs response is measured and analyzed in terms of Surface Roughness (R_a). Taguchi's method has been utilized for design of experiment followed by parametric optimization of wire EDM using GRA.

KEYWORDS: Wire-EDM, TAGUCHI'S Method, GRA