

WEDM Parameter Optimization on ASIS D2 Steel

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Abstract: In the present experiment, the effect of WEDM elements on pulse on and pulse off times, spark gap set voltage, peak current, and wire feed on cutting rate and surface roughness was observed. The DOE approach may be used to determine the machine's impact. The L27 orthogonal array is the best choice in this situation. ASIS D2 steel and brass wire are used in 27 tests on WEDM. Using this method, you may rapidly select the best settings and then test your conclusions. ASIS D2-grade steel is machined using brass wire. For this research, RSM modelling is being utilised to identify the most effective machine action within the limits of the experiments. The best way to get an acceptable surface quality and cutting rate with this ideal parameter is to validate the findings and choose the most effective choice available to you. ASIS D2 steel may be machined by future engineers and manufacturing units using this method to identify process parameters..

Keywords: ASIS D2 steel, RSM, Minitab, Taguchi method, Surface roughness (SR), Cutting rate (CR);

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