Abrasive Water Jet Cutting Depth Optimization by Taguchi Approach

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Existing models of predict the abrasive water jet cutting effects, does not give satisfactory results in a wide area of parameter changes, in particular for different, exotic materials. This implies the need to carry out extensive research in order to expand the empirical database. To optimize the process can be used modern methods referred to as Design of Experiment. One of the methods to determine the effect of parameters on the controlled different technological processes is the Taguchi approach. This method allows to limit the amount of research needed to achieve the desired test results, reducing the time required course for their performance and at the same time their costs. Characterized by Taguchi ratio signal / noise (S / N) enables the assessment of the significance of the impact of various parameters on the process, which is still not well enough understood. The article discusses one method for optimization of cutting tool steel, by high pressure abrasive water jet.

Keywords: abrasive water jet, cutting depth, Taguchi method, optimization, prediction

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