CALCULATION OF A NEW REGRESSION RELATION OF THE CUTTING FORCE WHEN ENLARGING THE HOLES IN STEEL OLC45

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Abstract: Due to their exceptional characteristics of durability, hygienic, recyclable and low percent of toxicity characteristics, the steels remain one of the most used groups of materials around the world.
In order to ease the researches carried out and the decisions making process when selecting the optimum material within a technological process, it is crucial to understand the mathematical functions of cutting process during various operations.
The present paper wishes to bring a significant contribution in studies related to processing the steel OLC45, for the particular operation of enlarging the holes, defining in the same time a new regression relation of the cutting force by introducing a new parameter.
The content presents the laboratory experimental researches, cutting conditions, detailed characteristics of the steel OLC45, results obtained, mathematical data and main conclusions.
Key words: force, cutting, enlarging, holes, regression.