The Influence of Laser Beam on the Surface Integrity of Cutting Edge

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The presented scientific article deals with cutting edges after cutting by laser beam. The article describes the characteristics of the laser beam the factors entering into the process of cutting by CO_2 laser, and their interaction on the integrity of the cutting edge of selected technical materials - steel S23JR. The article includes experimental evaluation of the interaction of input factors and parameters on experimental samples with thickness t= 2 mm which were cut by applying different parameters for the accurate assessment of the impact for each selected technological parameters. The experimental part of this article deals with changes of speed laser cutting and cutting speed influence on HAZ width and hardness of cutting edges. The outcomes of this article may be the prediction and parameters settings recommended for laser cutting as regards of HAZ width and hardness of cutting edge.

Keywords: laser cutting, cutting parameters, cutting edge

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