THE EFFECT OF WHEEL SPEED ON CUTTING FORCE AND CUTTING POWER DURING BANDSAW OPERATION

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ABSTRACT

Identifying and defining the mechanism of influence between the tool and the workpiece when processing with bandsaws is an extremely important process for achieving product quality, tool efficiency and process safety. This mechanism affects the productivity of the machine and the economics of the overall production process.

These are the main reasons why optimal determining of the woodcutting process today attains greater importance in wood processing industry.

The research was focused on creating a mathematical model of the interaction mechanism between the tool and the wood as a work piece. An analytical tool was designed for determining some important factors in the wood cutting process – cutting force, cutting power, etc.

All of these factors were calculated as a function of exactly defined input parameters, grouped in several categories.

The mathematical model is supported with appropriate software.

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