

## **RESEARCH ON THE EFFECTS OF THE NUMBER OF CIRCULAR SAW BLADES ON THE CUTTING FORCE AND THE CUTTING POWER**

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### **ABSTRACT**

*Wood processing with a circular saw is a complex process that involves several factors which affect product quality, tools performance and process safety. It also affects productivity of the machine and the economics of the overall production process. These are the main reasons why optimal determination of the woodcutting process nowadays bears great significance in wood processing industry. The research was focused on creating a mathematical model of the interaction mechanism between tool and wood as a workpiece. Analytical tool was designed for determining some important factors in 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 was supported by an appropriate software.*

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