

**THE WEAR OF CUTTING TOOL ON NUMIRICAL COMMAND MACHINE;
APPLIED TO A LATHE EMCO COMPACT 5 CNC**

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ABSTRACT

In machining, the cutting tool penetrates into the workpiece applying a big effort with the aim to remove the metal. One can say that the lifetime of the cutting tool depends on several parameters such as cutting speed, in feed depth and the feed speed. The careful choice of cutting parameters requires preliminary tests, especially when the machine is didactic with low power. In this context, the employed technique consists in measuring the cutting force, by varying the cutting conditions. A method for evaluating wear of the tool is used together with a camera and Toupview software. Curves have been plotted in order to choose the necessary cutting parameters during machining of two different materials (cast iron and bronze). The obtained results are significant and coherent with theory.

KEYWORDS: Cutting Speed, Flank Wear V_B , Feed Speed F, Lifetime T, Model Taylor Gilbert