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**PAPER - OPEN ACCESS**  
**Tool life investigation of carbide cutting tools in the turning of cast iron material.**  
 M. Sobron Y. Lubis<sup>1</sup>, Sofyan Djamil<sup>1</sup>, D Steven<sup>1</sup> and Andri<sup>1</sup>  
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**Abstract**  
 Tool life is an important thing to consider in the process of metal cutting. Before the machining process is done, it is necessary to know how long a cutting tool is capable of cutting before wear occurs. However, it is difficult to predict the life of the cutting tool, because each cutting tool has different characteristics in cutting metal. The research was conducted aimed at predicting the life of cutting tool using the Taylor equation, but the n and C constants contained in the equation vary for each type of cutting tool used in cutting workpieces. Through the experiment of cutting metal using a lathe, the cutting tool was observed and measured for wear, so that there was a limit to the value of the wear edge of the V<sub>6</sub> tool by 0.4 mm. The three cutting speed variants used in the cast iron machining are 180, 210 and 249 m / min. Observations were made every 10 minutes machining was stopped to be measured using a Digital Microscope if the wear value of the cutting tool has not been achieved, then

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