

## Machining with Plastic Cutting Wedge

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**The paper analyses the possibilities of modification of cutting tool geometry in order to preserve a protective plastic zone of material at a cutting tool. Based on the results of model experiment as well as practical verification, a rapid increase in tool life has been achieved. The tool life is dependent on the size of the shortened rake face. Optimization of the tool face size enables to achieve multiplied tool life when comparing with a classical cutting tool. A uniqueness of this processes is the formation of the two chips, one of which is a created plastic layer along the edge of the cutting tool. The application of the tool is possible only with the plastic material cutting. Experimental tests were realized with usually used steels.**

**Keywords:** machining, cutting tool, plastic deformation, tool wear

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