

## Physical and Metallurgical Views on the Process of Chip Creation

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**To understand the process of chip creation during machining requires knowing the behaviour of metal at high degrees of mechanical and thermal stress which occurs in microvolumes of machined material. During machining the chip is characterized by unique deformation structure which does not occur with other methods of mechanical metal machining. This is the reason why its explanation is rather complex. The implementation of the knowledge of metal physics in confrontation with the experiment can finally contribute to the optimization of the process of metal machining and the selection of optimal cutting conditions.**

**Keywords:** cutting, chip formation, cutting forces, stress

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