

## Study of Behavior Tribological Cutting Tools Based on Coating

**Authors :** A. Achour L. Chekour, A. Mekroud

**Abstract :** Tribology, the science of lubrication, friction and wear, plays an important role in science "crossroads" initiated by the recent developments in the industry. Its multidisciplinary nature reinforces its scientific interest. It covers all the sciences that deal with the contact between two solids loaded and relative motion. It is thus one of the many intersections more clearly established disciplines such as solid mechanics and the fluids, rheological, thermal, materials science and chemistry. As for his experimental approach, it is based on the physical and processing signals and images. The optimization of operating conditions by cutting tool must contribute significantly to the development and productivity of advanced automation of machining techniques because their implementation requires sufficient knowledge of how the process and in particular the evolution of tool wear. In addition, technological advances have developed the use of very hard materials, refractory difficult machinability, requiring highly resistant materials tools. In this study, we present the behavior wear a machining tool during the roughing operation according to the cutting parameters. The interpretation of the experimental results is based mainly on observations and analyzes of sharp edges e tool using the latest techniques: scanning electron microscopy (SEM) and optical rugosimetry laser beam.

**Keywords :** friction, wear, tool, cutting

**Conference Title :** ICTIE 2015 : International Conference on Tribology and Interface Engineering

**Conference Location :** Istanbul, Türkiye

**Conference Dates :** July 29-30, 2015