

Effect of rake angle and feed rate on wear and roughness in machining carbon steel 1045

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ABSTRACT

In metal industry, the optimum usage of insert in turning process is a common practice to reduce the machining cost. Hence, the endurance limit for the insert will be low and will affect the quality of the surface finish. Several studies have discovered the tool wear and surface roughness when machining parameter of the process is properly considered. This study present analysis of tool wear of carbide inserts in finish turning of carbon steel 1045. This paper contribution concerns the experimental occurrence of tool wear and roughness for a continuous cutting condition of tool holder that has a variable rake angle and variable of feed rate. So, these parameters become critical to minimize the tool life and roughness of the work part.

KEYWORDS

Turning process; Rake angle; Wear; Roughness; Flood machining

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