

## عنوان مقاله:

The Effects of ZrO<sub>2</sub> or Tic on the Performance of the Alumina-Based Ceramic Cutting Tools

## محل انتشار:

ماهنامه بین المللی مهندسی، دوره 5، شماره 3 (سال: 1371)

تعداد صفحات اصل مقاله: 7

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## خلاصه مقاله:

Two types of alumina-based cutting tools with compositions of ۹۰ vol.% Al<sub>2</sub>O<sub>3</sub>+۱۰ vol.% ZrO<sub>2</sub> and ۸۰ vol.% Al<sub>2</sub>O<sub>3</sub>+۲۰ vol.% TiC are produced by isostatic pressing and sintering technique. The effects of these additives on the mechanical properties and cutting performance of these materials are investigated. The tool life in both materials is examined under identical conditions on cutting a grey cast Iron of grade ۱۴. At a cutting speed of ۵۵۰ m/min., a feed rate of ۰.۲۵ mm/rev., and a cutting depth of ۲ mm, the material containing TiC with an optimal tool life of ۲۷ minutes, is found to be superior to the ZrO<sub>2</sub> containing material which had an optimal tool life of ۲۵ minutes. The possible role of these additives on the performance of these materials are discussed.

## کلمات کلیدی:

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1414899>

