

## عنوان مقاله:

MICROSTRUCTURES AND PROPERTIES OF PURE COPPER PROCESSED BY EQUAL CHANNEL ANGULAR ROLLING PROCESS

## محل انتشار:

سومین کنفرانس بین المللی مواد فوق ریزدانه و نانوساختار (سال: 1390)

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## خلاصه مقاله:

Equal channel angular rolling, based on the equal channel angular pressing, is a severe plastic deformation process which can develop the grains below  $1\ \mu\text{m}$  in diameter. Effect of pass number and routes of process on microstructure, mechanical properties and electrical conductivity of commercial pure copper strips processed by equal channel angular rolling were investigated. Scanning electron and atomic force microscopic micrographs of the strips produced by ten passes of equal channel angular rolling process showed nano-grains  $40\text{-}200\ \text{nm}$  in size. Also yield and tensile strengths of samples increased with increasing the number of passes, whereas their ductility significantly decreased. The electrical conductivity varied slightly. So, equal channel angular rolling process causes high strength and high conductivity copper by producing nanostructured pure copper. Comparing between two routes properties showed non-uniform behavior in route A.

## کلمات کلیدی:

Sever Plastic Deformation; Equal Channel Angular Rolling; Nanostructured Copper

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/613065>

