

عنوان مقاله:

The Effect of Precipitation Hardening on Room Temperature tensile properties of Cu-2%Be-0.20 % Co

محل انتشار:

سیزدهمین همایش علمی دانشجویی مهندسی مواد و متالورژی ایران (سال: 1395)

تعداد صفحات اصل مقاله: 8

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خلاصه مقاله:

Copper and its alloys are one of the most important industrial alloys. Among the copper alloys, Cu-Be binary alloys are aged hardenable and exhibit high age-hardening response during isothermal aging treatment. Cu-2%Be was chosen to study the effect of aging time and temperature on the microstructure and room temperature tensile properties. Sheet specimens were aged up to 2 hours at selected temperatures between 260 and 400 °C. The results of room temperature uniaxial tensile test showed that the YS and UTS were enhanced about 46% and 64% and decreasing elongation about 35% with increasing of aging time and temperature up to the 350 °C and 120 min. The improvement in tensile properties was attributed to the precipitation that formed during the isothermal aging. However, in the sample aged at 400 °C, the YS and UTS increased rapidly after 30 min and decreased thereafter due to over aging. In all condition the value of elongation decreased during the aging treatment

کلمات کلیدی:

Cu-Be alloys, Precipitation Hardening, Mechanical properties, Tensile test

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