

عنوان مقاله:

Effect of Solution Treatment on the Rollability of a Cu-Ni-Mn-Sn Alloy

محل انتشار:

مجله علم مواد و مهندسی ایران، دوره 19، شماره 1 (سال: 1400)

تعداد صفحات اصل مقاله: 11

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خلاصه مقاله:

In this research, the effect of initial microstructure and solution treatment on rollability and crystallographic texture of a Cu-Mn-Ni-Sn alloy has been investigated. The initial tests indicated that the rolling of the alloy at different temperature conditions is not possible due to formation of second phases. Herein to eliminate the segregated phases, according to DTA analysis, proper temperature for solution treatment was selected as ۷۵°C applied at different periods of time. The obtained results showed that after ۱۵-hour solution treatment, the complete elimination of Sn, Mn, Ni, and Fe-rich phases can be achieved. Also, the peaks of XRD shifted to the higher angles indicating that the alloying elements are dissolved. Meanwhile, the intensity of the texture reduced and the dominant texture changed from Goss and Brass-texture to Copper-texture. Accordingly, the amount of maximum total reduction at the rolling process increased from ۱۶.۳۷ to ۱۰۹.۴۶ after solution treatment

کلمات کلیدی:

Microstructure, Texture, X-ray diffraction (XRD), rollability, Solution treatment

لینک ثابت مقاله در پایگاه سیویلیکا:

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