

عنوان مقاله:

Effect OF SI and AL on the Microstructure, Mechanical Properties and Machinability of ۶۵Cu-۳۵Zn Brass

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خلاصه مقاله:

Relations between the microstructure, mechanical properties and machinability of as-cast ۶۵Cu-۳۵Zn brass with various amounts of Al from ۰ to ۴.۷۲ and Si from ۰ to ۳.۶۲ wt% were investigated. Both Si and Al initially enhanced the UTS and toughness of the brass samples, which led to improvement in machinability due to a reduction in the main cutting force. A duplex brass with random oriented α plates in β' matrix was found to have the best machinability among the other microstructures. It was found that beside the presence of brittle phases, such as β' phase in the microstructure, the morphology and hardness of the phases involved had significant influence on machinability.

کلمات کلیدی:

Brass, Silicon, Aluminum, microstructure, machinability

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