

عنوان مقاله:

The Effects of Aging Treatment Parameters on Microstructure and Hardness of Aluminium Bronze Alloy

محل انتشار:

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خلاصه مقاله:

In the present study, the effects of aging treatment parameters on microstructure and hardness of aluminium bronze C95500 was investigated. Different parameters in aging treatment were aging temperature, aging time and quenching environment. Microstructure and hardness were examined by optical microscopy, scanning electron microscopy (SEM) and Vickers hardness tester respectively. Different phases were detected. The experimental results demonstrated that after quenching, all β phase transforms to martensite phase β and after aging, α and κ phase were precipitated from matrix (β), moreover, the dispersed κ phase are the dominant factor that improves the hardness of alloy after a solution at 1000 °C for 1 h followed by quenching at saltwater and aging at 300 °C for 2 h. With regard to quenching environment, saltwater leads to highest hardness both in as-quenched and aged samples

کلمات کلیدی:

nickel-aluminum bronze, aging heat treatment, precipitation, hardness

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