

The Heat Treatment of Aluminium Bronzes

Jiří Hájek, Antonín Kříž, Václav Hrdlička

Západočeská Univerzita v Plzni, Univerzitní 22, 306 14 Plzeň, Czech Republic. E-mail: hajek@kmm.zcu.cz, kriz@kmm.zcu.cz, hrdlicka@kmm.zcu.cz.

Aluminium bronzes can find use in many engineering applications thanks to their excellent properties, predominantly high corrosion resistance, good ultimate tensile strength, fatigue strength and creep strength. Yet, their mechanical properties can still be improved, most importantly by appropriate heat treatment. The type of heat treatment is typically chosen with regard to the desired properties of the product and its service conditions.

This paper attempts to summarise the microstructural changes which take place in aluminium bronzes during heat treatment. Another objective of this study was to map the potential of a certain type of aluminium bronzes for undergoing martensitic transformation. The methods, which were chosen for assessing the results of heat treatment with regard to their availability, included measurement of hardness and observation of microstructure using light and scanning electron microscopy. Additional tools for evaluation of microstructure comprised measurement of microhardness and chemical analysis by EDS.

Keywords: Aluminium bronzes, Heat treatment, microstructure, EDS

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