

Effect of degassing addition on the solidification segregation of nickel aluminum bronze

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ABSTRACT

The effect of degassing agent addition on the solidification segregation of Nickel Aluminum Bronze was investigated. The complex relationship between the development of the solidification microstructures and buildup of microsegregation in Nickel Aluminum Bronze was obtained by using microstructure analysis and EDS analysis. This experiment describes the characterization of microsegregation in Nickel Aluminum Bronze which was made using point to count microanalysis along the microstructure. With this method, the differences of elements distribution in alloys solidified in the microstructure were clearly evidenced. The results show a microstructure directly affected by segregation of elements in Nickel Aluminum Bronze matrix. There is segregation of elements in the Late To Freeze (LTF) region after solidification from melting. As for degassing treatment, higher degassing addition on the Nickel Aluminum Bronze increased the elements segregation.

KEYWORDS

Nickel aluminum bronze; EDS analysis; Elements segregation

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