Short Communication

Preparation and Corrosion Property of $(\text{Cu}_{50}\text{Zr}_{50})_{(100-x)}\text{Nd}_x$ Amorphous Alloy

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Cu-Zr bulk metallic glasses (BMGs) have unique mechanical properties and developed rapidly in recent years. In this paper, a series of $(\text{Cu}_{50}\text{Zr}_{50})_{(100-x)}\text{Nd}_x$ ($0 \leq x \leq 5 \text{ at. \%}$) alloys were prepared by using copper mold suction method. Their microstructure and properties were investigated by x-ray diffraction, differential scanning calorimetry, microhardness tester and electrochemical workstation. It was found that $\text{Cu}_{49.5}\text{Zr}_{49.5}\text{Nd}_1$ alloy possesses the best glass forming ability. The addition of Nd element can effectively promote the glass forming ability (GFA) and microhardness of Cu-Zr-Nd alloys. The influence of Nd element on the corrosion resistance of Cu-Zr-Nd alloys was systematically discussed.

Keywords: Cu-Zr bulk metallic glasses, Glass forming ability, Corrosion resistance

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