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论文

超声化学镀对烧结钕铁硼磁体抗腐蚀性能的影响

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摘要：

采用超声波化学镀方法，研究了在频率为40 kHz超声波条件下化学镀Ni-P合 金对烧结NdFeB磁体抗腐蚀性能的影响，测定了超声功率对沉积速度和镀层磷含量的影响， 观察了超声场对镀层表面形貌和Ni-P镀层耐腐蚀性的影响. 结果表明 ，随着超声功率的增大，沉积速度增加，而镀层磷含量略有降低。与无超声场下的Ni-P化学 镀层相比，超声条件下化学镀Ni-P合金组织更加细小，排列更加紧密，有更加优良的耐腐蚀 性，能有效的保护NdFeB磁体.

关键词： 超声波 化学镀 耐腐蚀性 NdFeB

Effects of Ultrasonic Electroless Ni-P Plating on corrosion resistance of Sintered NdFeB Permanent magnets

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Abstract:

The effects of Ni-P electroless plating on the corrosion resistance of sintered NdFeB magnets in 40 kHz frequency ultrasonic field were investigated. In the ultrasonic field,the deposition rate and the phosphorus content of plati ng layers were measured,the surface morphology were observed,and the corrosion resistance of Ni-P layers were studied.It was shown that with the increase of ultrasonic power,the deposition rate was increased,and the phosphorus content in plating layers was decreased.Subjected to the ultrasonic field,the electrol ess Ni-P layer got finer and more compact.With the ultrasonic field,the corros ion resistance of electroless Ni-P layers was improved effectively.

Keywords: ultrasonic electroless plating corrosion resistance NdFeB

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