

论文摘要

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常用牺牲阳极合金在NaCl溶液中的接触腐蚀行为

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摘要: 研究了作为牺牲阳极材料的Mg-Al-Zn-Mn、Al-Zn-In-Si-Mg和Zn-Al-Cd合金与A3钢偶接时,溶液中Cl⁻浓度和电偶对中阴阳极面积比变化对三种合金接触腐蚀行为的影响。偶对阳极电偶电流密度 j_g 随Cl⁻浓度增大而增大, j_g 与面积比成正比关系。偶对电偶电势 E_g 随Cl⁻浓度增大和面积比减小向负向变化。当偶对中阴极金属材料为302不锈钢和紫铜时, j_g 随Cl⁻浓度增大有不同的变化趋势。

关键字: 牺牲阳极 合金 接触腐蚀 氯离子 浓度

GALVANIC CORROSION BEHAVIOR OF ALLOYS GENERALLY USED FOR SACRIFICIAL ANODE IN NaCl SOLUTION

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Abstract: The effects of Cl⁻ concentration and area ratio A_c/A_a have been studied on galvanic corrosion behavior of Mg-Al-Zn-Mn, Al-Zn-In-Si-Mg and Zn-Al-Cd alloys coupled to A3. Results showed that the galvanic current density j_g increases with increasing Cl⁻ concentration, and j_g is directly proportional to A_c/A_a . The galvanic potential E_g changes in the negative direction with increasing Cl⁻ concentration and decreasing A_c/A_a . The change of j_g varies with increasing Cl⁻ concentration for anode alloys coupled to 302 stainless steel and copper.

Key words: sacrificial anode alloy galvanic corrosion chlorion concentration

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