

论文

预热对K360耐磨钢堆焊层组织与性能的影响

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摘要:

利用药芯焊丝对已磨损的K360 耐磨钢板进行CO₂ 气体保护堆焊修复, 在焊前进行不同温度的预热处理, 并对不同预热处理的堆焊层进行了显微组织、XRD、硬度、冲击韧度及抗磨料磨损性能试验。结果表明, 不同预热温度处理的堆焊层的组织均为马氏体+碳化物+少量残余奥氏体; 经150, 200 ℃预热处理, 堆焊层硬度较高, 韧性较高, 耐磨性也较好, 耐磨性分别可达到母材的1.583倍和1.494倍; 预热温度250 ℃时, 堆焊层的韧性较低, 耐磨性也出现大幅下降, 仅为母材耐磨性的1.148倍。

关键词: K360耐磨钢; 堆焊; 冲击韧度; 耐磨性

Effect of preheating on microstructures and mechanical properties of K360 steel hardfacing layer

Abstract:

This authors restored wear resistant steel K360 by using flux cored wire hardfacing welding with CO₂ as shielding gas, and base metal was preheated at different temperature before welding. Then, we carried out the test of microstructure, X ray diffraction analysis for measuring hardness, impact toughness and wear resistance. The results show that the microstructure of different temperature preheating hardfacing layer is martensite, carbide, and a small amount of residual austenite. When the pre heating temperature is about 150 ℃ and 200 ℃, the hardfacing layer has high hardness, impact toughness, wear resistance, and its wear resistance is up to 1.583 times and 1.494 times respectively. When the pre heating temperature is about 250 ℃, the hardfacing layer is in lower impact toughness, meanwhile, the wear resistance is degressive compared with that at 150 ℃ and 200 ℃. Compared to based metal, its wear resistance is only 1.148 times of that.

Keywords: wear resistance

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