

论文

激光熔覆Ni-WC金属陶瓷层的耐磨性分析

曾晓雁;吴新伟;陶曾毅;朱蓓蒂;崔崑

华中理工大学;武汉,430074;华中理工大学;武汉,430074;华中理工大学;武汉,430074;华中理工大学;武汉,430074;华中理工大学;武汉,430074

摘要: 本文以单晶碳化钨、铸造碳化钨和烧结碳化钨颗粒为陶瓷相,镍基自熔合金为粘结金属,研究了不同种类(万分与结构)、粒度和含量的碳化钨颗粒对激光熔覆金属陶瓷层的磨粒磨损性能的影响,结果表明碳化钨颗粒的种类、粒度与含量对金属陶瓷激光熔覆层的耐磨性能影响明显,熔覆层耐磨性能随碳化钨含量的变化趋势取决于碳化钨颗粒的种类。

关键词: 激光熔覆 金属陶瓷层 磨粒磨损

ABRASIVE WEAR RESISTANCE ANALYSES OF LASER CLAD Ni-WC CERAMIC-METAL COMPOSITE COATINGS

ZEN Xiaoyan, WU Xinwei, TAO Zengyi, ZHU Beidi, CUI Kun (Huazhong University of Science and Technology, Wuhan 430074) (Manuscript received 1996-07-12, in revised form 1997-03-14)

Abstract: The abrasive wear resistance of laser clad ceramic-metal composite coatings composed of different kinds, size and weight percent of WC particles has been investigated systematically, in which the single crystal WC, cast WC and cemented WC particles are used as the ceramic phases and Ni-base self-flux alloy as the matrix. The experimental results show that the abrasive wear resistance of the composite coatings is determined by the kinds, sizes, weight fractions of WC particles, and the changing tendency of the abrasive wear resistance of the weight fraction of the coatings depends on the type of WC particles.

Keywords: laser cladding ceramic-metal abrasive wear

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通讯作者:

作者简介:

作者Email:

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