

综述评论

涂层/基体材料界面结合强度测量方法的现状与展望

杨班权¹;陈光南²;张坤²;罗耕星²

中国科学院力学研究所表面改性实验室¹

中国科学院力学研究所LSM²

收稿日期 2005-12-6 修回日期 2006-5-25 网络版发布日期 2007-2-25 接受日期

摘要 界面结合强度是涂层/基体材料体系中的一项重要力学性能指标. 而表征与评价涂层/基体材料的界面结合强度又得依靠实验方法的测定. 由于涂层/基体材料体系的多样性与复杂性, 至今还没有形成适合于测量这类材料的界面结合强度的标准方法. 目前, 常用来测量涂层/基体材料的界面结合强度的方法有: 拉伸法、剪切法、弯曲法、划痕法、压入法等. 本文就目前表征与评价涂层/基体材料界面结合强度的测量方法做了综述, 讨论了它们的适用范围, 比较了它们的优势与不足.

关键词 [涂层/基体材料](#), [界面结合强度](#), [测量方法](#)

分类号

A REVIEW ON MEASUREMENT METHODS FOR INTERFACIAL BONDING STRENGTH BETWEEN COATING AND SUBSTRATE

Abstract

The interfacial bonding strength is a crucial factor in determining ultimate mechanical properties and performances of coatings and thin films, and the life of a specimen or workpiece, apart from the external factors, such as loading conditions. So the evaluation of the interfacial bond strength for a coating is an important task. However, it is difficult due to the variety of coating/substrate systems. As a result, a test that works with one film system may not necessarily work with another. In this paper, the measurement methods for interfacial bonding strength between a coating and a substrate are reviewed. The tensile test, shear test, bending test, scratch test, indentation test and dynamic test are discussed, and comparisons are made.

Key words [coating/substrate material](#) [interfacial bonding strength](#) [measurement methods](#)

DOI:

通讯作者 杨班权 yangbq1022@tom.com

扩展功能

本文信息

- ▶ [Supporting info](#)
- ▶ [PDF\(2955KB\)](#)
- ▶ [\[HTML全文\]\(0KB\)](#)
- ▶ [参考文献](#)

服务与反馈

- ▶ [把本文推荐给朋友](#)
- ▶ [加入我的书架](#)
- ▶ [加入引用管理器](#)
- ▶ [复制索引](#)
- ▶ [Email Alert](#)
- ▶ [文章反馈](#)
- ▶ [浏览反馈信息](#)

相关信息

- ▶ [本刊中 包含“涂层/基体材料, 界面结合强度, 测量方法 ” 的相关文章](#)
- ▶ [本文作者相关文章](#)

- [杨班权](#)
- [陈光南](#)
- [张坤](#)
- [罗耕星](#)