JTTEE5 17:435–436
DOI: 10.1007/s11666-008-9215-z

Commentary

TSS Accepted Practices Committees—Metallography and Mechanical Testing

Douglas G. Puerta

The Accepted Practices Committees operate under the general goal of collecting and presenting recommendations for the evaluation of thermal spray coatings. With the vast number of OEM and repair facilities applying thermal spray coatings, the importance of accepted practices across this industry is quickly evident. Furthermore, by its recommendations this committee can help to keep the industry abreast of new developments and techniques as they apply to coating evaluation.

The collection of industry trends and practices is being accomplished by several methods. The Metallography committee performs it work through round-robin testing across the numerous coating families. These round-robins enable the member laboratories to collectively generate a pool of data relating to the effect of metallography on coating structure. From these data, best practices are identified. To date, round-robins have been completed on coatings from most of the families including ceramics, abradables, hard coats, and metallic coatings. The first Accepted Practice document (NiCrAl Abradable Coatings) was issued last year. This document is available on the Thermal Spray Society website (http://asmcommunity.asminternational.org/portal/site/tss/). Future round-robins will focus on other coating families that present unique metallographic challenges. The current round-robin nearing completion is another metallic coating, molybdenum. This coating has been chosen because of the ease with which the coating structure can be modified based on polishing recipe used. The mechanical testing side is currently focused on the standardization of definitions and test methods for coatings.

The product of the Accepted Practice Committees will generally take the form of journal articles, web postings, or other short articles. Current work in process includes a metallography Accepted Practice on thermal barrier and molybdenum coatings. The mechanical testing side is looking to summarize its collection on test methods and find a suitable avenue for distribution.

The success of the projects undertaken by this committee is highly dependent on support from the aerospace industry. Successfully identifying positive trends and procedures within this industry is contingent upon strong industry involvement. Please contact Douglas G. Puerta (DPuerta@IMRtest.com) if you would like to be involved in current or future round-robin programs.

Current members of the Metallography committee are:

- Mr. Fred Anderson, IMR Test Labs (Co-Chair)
- Mr. Will Glesener, IMR Test Labs (Co-Chair)
- Mr. Raymond Sinatra, Rolls Royce (Mentor)
- Mr. Rick Bajan, BASF (Mentor)
- Mr. Carl Adams, Sulzer Metco
- Ms. Judy Arner, Struers, Inc.
- Mr. Bill Heady, Chromalloy New York
- Mr. David Lee, Stellite Coatings
- Mr. Gabe Lucas, Buehler Ltd.
- Ms. Elaine Motyka, Praxair TAFA
- Mr. Zbigniew Zurecki, Air Products & Chemicals

Current members of the Mechanical Testing committee are:

- Dr. Andrew Gouldstone (Co-Chair)
- Dr. Arvind Agarwal, Florida International University
- Dr. Christopher Berndt, Swinburne University of Technology

- Mr. Wanhuk Choi, CTSR Stony Brook University
- Mr. Jeff Haynes, Pratt & Whitney Rocketdyne
- Mr. Jae Hun Kim, Stony Brook University
- Dr. Edmund Rybicki, University of Tulsa
- Dr. Roland Seals, Oak Ridge National Laboratories
- Dr. Makoto Watanabe, Japan National Institute for Materials Science
- Mr. Jan Wigren Sr., Volvo Aero Corporation
- Ms. Yuhong Wu, Solvay Advanced Polymers

Douglas G. Puerta
VP-Technical Director
KHA Metallurgical
5687-A SE International Way
Portland, OR