THERMAL SPRAY:

COATINGS TECHNOLOGY FOR PROTECTING AND ENHANCING PRODUCT SURFACES

24 August 2007

Course Leader

Professor Christopher C Berndt is the *founding* professor of surface and interface engineering at James Cook University, Townsville, Queensland, Australia. Prof Berndt has over twenty-seven years' experience in the area of thermal spray coatings (TSCs) produced by plasma spraying. He has authored more than 300 publications in international journals focusing on processing, characterization and applications of TSCs. His research work has solved many industrial problems related to corrosion, wear and friction, thermal flux control, electrical construction and insulation, and rebuilding of worn-out components. Prof Berndt is the Editor Emeritus for the Journal of Thermal Spray Technology, American Society of Materials (ASM) International as well as a fellow of the ASM International. He has also been appointed a Trustee (the Board of Directors) of the ASM for 2005-2008 period.

Course Objective

The objective of this course is to introduce the recipe of the emerging thermal spray coatings (TSCs) technology for protecting and enhancing surfaces of industrial products. The principal attribute of this novel technique lies in its capability of producing tailor-made properties of coatings by optimising the nature of the substrate, the material to be deposited and the process design parameters for diverse applications. An interactive session based on real-life case studies will illustrate the potential of Thermal Spray (TS) processes and TSCs and focus on the problems and future challenges of the TS technology in today's competitive world.

Course Outline

Introduction

Evolution of TSC Technology
Key Definitions

TS Processes and Equipment

HVOF Process and Equipment
Plasma Process and Equipment
Flame Spray, D-Gun Spray, and Wire Arc Spray
Low Pressure Plasma Spray, and Cold Spray
Process Selection Criteria for ASEAN Countries

TS Feedstocks/Materials and Quality Control

Classification of TS Feedstocks/ Materials
Microstructural Aspects of TSCs
Feedstock Attributes
Selection of Feedstocks/Materials for TS Processes

Testing and Quality Control for TSCs

Mechanical Tests
Corrosion Tests
Metallographic Preparation and Analysis
International Standards for Testing
Significance of Testing Standards

Applications of TS Processes and TSCs: Case Histories and Process Economics

Case Histories
HVOF for Corrosion and Wear Control
Plasma Spray for Ceramics
Flame Spray and Wire Arc Spray for Corrosion Control
Cost Assessment of TS Processes and TSCs

Who Should Attend?

Managers, technopreneurs, product development and design engineers, product marketers, scientists, lecturers and students who are interested to know the recipe of TSCs for protecting and enhancing product surfaces for diverse applications.

Registration

Two Easy Ways to Register!

Mail or Fax

The Institute of Materials (East Asia)
c/o School of Materials Science and Engineering
Nanyang Technological University
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50 Nanyang Avenue
Singapore 639798

Enquiries
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Course Fee: S$ 420.00

Payment of Course Fee: Payment is required prior to the course. Crossed cheques should be payable to "**Institute of Materials (East Asia)**" and mailed together with the registration form to the above address.

Refunds and Cancellation: A 50% refund will be made for withdrawals received in writing ten working days before the commencement of the course. No refunds will be made thereafter. However, a replacement will be accepted upon prior intimation by fax or otherwise at no extra cost.

Closing Date: 21 August 2007

REGISTRATION FORM

Thermal Spray:
Coatings Technology For Protecting And Enhancing Product Surfaces

24 August 2007

Course Fee: S$420.00 payable by crossed cheque in favour of "**Institute of Materials (East Asia)**".
**This fee covers lunch, refreshments and a copy of the course notes.*

Name of Participant: Dr/Mr/Ms

Designation:

Name of Organisation:

Address:

Contact Person:

Tel No: **Fax No:**

Email:

Closing Date: Please send your registration form together with your payment of course fee by **21 August 2007**.

The Institute of Materials (East Asia)

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BY

Professor Christopher C Berndt
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Trustee of ASM

Professor of Surface and Interface Engineering
School of Engineering
James Cook University
Townsville, Queensland, Australia

24 August 2007 (Friday)

9.00 AM – 5.00 PM

Orchard Parade Hotel
1 Tanglin Road
Singapore 247905