

Aerospace Metallography & Coating Evaluation Training Program

Session 1: Feb 17-21, 2025

or

Session 2: Feb 24-28, 2025

The aerospace industry consists of several engine manufacturers, supported by a far greater number of suppliers. Each manufacturer often has their own specifications relating to coating evaluation and disposition. For that reason, IMR Test Labs has developed a training course to meet the training needs of the entire industry. Certificate provided upon successful completion of the course materials.

INSTRUCTORS

Shawn Levey
Metallurgy Department
IMR Test Labs, NY, USA

Chew Suyin
Lead Metallurgical Engineer
IMR Test Labs – Singapore Pte Ltd

VENUE

IMR Test Labs – Singapore Pte Ltd
30 Loyang Way, #03-16
Singapore 508769
Tel: +65 6592 5325

1. COURSE REGISTRATION & FEES

	US\$	S\$
Course Fee (per student)	5,925.00	7,900

Note(s):

- a. The cost per student is given in the table above. The cost excludes 9% GST which is only applicable to participants from Singapore registered companies. It is not applicable to participants from companies registered outside of Singapore.
- b. Participants are invited to register for any one of the two sessions of the course by submitting the registration form in Annex 1. Please state which session you would like to attend.
- c. We would like to keep the class size to about 6 participants. Registrants beyond 6 will be placed on a Stand-by list. All registrants are on the Stand-by list until payment is received. IMR reserves the right to replace registrants that have not paid by 30 days prior to the course with another Stand-by registrant. Late registrations or replacements from the Stand-by list, if accepted, require payment in full immediately.
- d. A confirmation email and invoice will be sent to participants for the assigned course dates upon successful allocation of the training place.
- e. Payment is due in full no later than 30 days prior to the course date.
- f. Confirmed registrations cancelled more than 30 days prior to the course date are eligible for a full refund minus S\$140 (US\$100) processing charge.

- g. Confirmed registrations cancelled less than 30 days prior to the course date are liable for the full course charge with the option to apply the payment to a future course or transfer the registration to another student of the same company, less a 25% penalty to cover incurred course costs.
- h. Course no-shows are responsible for the full course charge without the option to apply the fee to a future course.
- i. In case of a replacement participant, IMR must be notified immediately via email to sudheer.prabhakaran@imrtest.com, along with submission of the registration form in Annex 1. The above notes are also applicable.
- j. If we do not get at least 4 participants for the course, the class may be cancelled. This cancellation and notification will be no later than 2 weeks before the start of the class. Please keep this in mind when making travel reservations.
- k. Participants who registered for a cancelled course will be notified via email and alternate course dates will be proposed for selection. Those who have paid may request for a full refund or choose to apply the fee for a future course.

2. PAYMENT

Please note on the payment the course date you are attending and send payment to:

Via Wire Transfer

Beneficiary Bank Name:	HSBC Singapore
Beneficiary Bank Address:	21 Collyer Quay #01-01, HSBC Building Singapore 049320
Beneficiary Account Name:	IMR TEST LABS - SINGAPORE PTE. LTD.
Account Number	
Paying in US\$	260-751334-178
Paying in S\$	047-209648-001
Swift Code	HSBC SGSG

Via Check

Make Check Payable To:	IMR Test Labs – Singapore Pte Ltd
Mail to:	IMR Test Labs – Singapore Pte Ltd 30 Loyang Way #03-16 Singapore 508769

3. ACCOMODATION (FOR OVERSEAS PARTICIPANTS)

If you require accommodation, you may choose to stay at Grand Mercure Singapore Roxy hotel. Accommodation costs are not included in the course fees and will be at the participant's cost. You may contact Shana, Sales Manager for reservations and mention that you are taking a course at IMR Test Labs – Singapore Pte Ltd.

Tel: +65 6340 5608
 Fax: +65 6440 1487
 Mobile: + 65 98509494
 Email: H3610-SL3@accor.com
www.grandmercuroxy.com.sg

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or

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Registration Form

Requested Course Date: _____ **(please choose one session)**

Last Name: _____ First Name: _____ Middle Initial: _____

Job Title: _____

Company Name: _____

Street Address 1: _____

Street Address 2: _____

City: _____ State: _____ Zip: _____

Phone: _____ Alt Phone: _____ Fax: _____

E-mail: _____

Please rate your metallographic laboratory experience on a scale from 1 (no experience) to 10 (great deal of experience).

1 2 3 4 5 6 7 8 9 10

Please rate your technical knowledge of the processing of aerospace coatings on the same scale.

1 2 3 4 5 6 7 8 9 10

Please list any specific issues or topics you are hoping to cover during this course:

Please identify the primary coatings and/or families of coating you deal with on a regular basis:

There will be one-on-one sessions available on Friday afternoon. Please "X" one of the lines below as to whether you are interested in attending.

_____ Yes _____ No

NOTE: If you want to have your sample mounted for evaluation, bring it to class on Monday.

Return this form via email to Lisa Wackowicz (lisa.wackowicz@imrtest.com), Sudheer Prabhakaran (sudheer.prabhakaran@imrtest.com) and Chew Suyin (suyin.chew@imrtest.com) at IMR Test Labs.

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Course Outline

C – Classroom L – Laboratory

Monday (9.00 – 5:30)

Welcome and Introduction – C
Fundamental Principles of Metallography (Sectioning and Mounting) – C
Lunch
Sectioning and Mounting Lab – L
Fundamental Principles of Metallography (Grinding and Polishing) – C

Tuesday (9.00 – 5:30)

Grinding and Polishing Lab – L
Lunch
Grinding and Polishing Lab (continued) – L
Thermal Spray Process Lecture – C

Wednesday (9.00 – 5:30)

Thermal Spray Coatings Definitions – C
Thermal Spray Coatings Definitions Lab – L
Lunch
Thermal Spray Coatings Evaluation Lab – L
Hardness & Tensile Bond Strength Testing – C

Thursday (9.00 – 5:30)

Thermal Spray Coatings Evaluation – C
Thermal Spray Coatings Definitions and Evaluation Lab – L
Lunch
Thermal Spray Coatings Definitions and Evaluation Lab (continued) – L
Diffusion Coatings Process, Definitions and Evaluation – C
Macro/Microhardness, Tensile Bond Strength Lab – L

Friday (9.00 – 5:30)

Diffusion Coatings Evaluation – C
Diffusion Coatings Definitions and Evaluation Lab – L
Lunch
Presentation for Metallographic Preparation Old & New Lessons
Hands-on Group Work

Notes:

STUDENT SAMPLES

Students are encouraged to either bring their own samples of interest to class or provide the samples prior to class for either review by IMR personnel or preparation prior to class.

If samples are provided by the students, individual time can be scheduled for the student to evaluate and review one of their "problem mounts" outside of class hours for individual instruction. This CANNOT be accomplished during class due to proprietary and ITAR restrictions.

LUNCH

Lunch will be provided daily. Any special dietary considerations should be brought to the attention of Sudheer Prabhakaran (sudheer.prabhakaran@imrtest.com) and Chew Suyin (suyin.chew@imrtest.com)