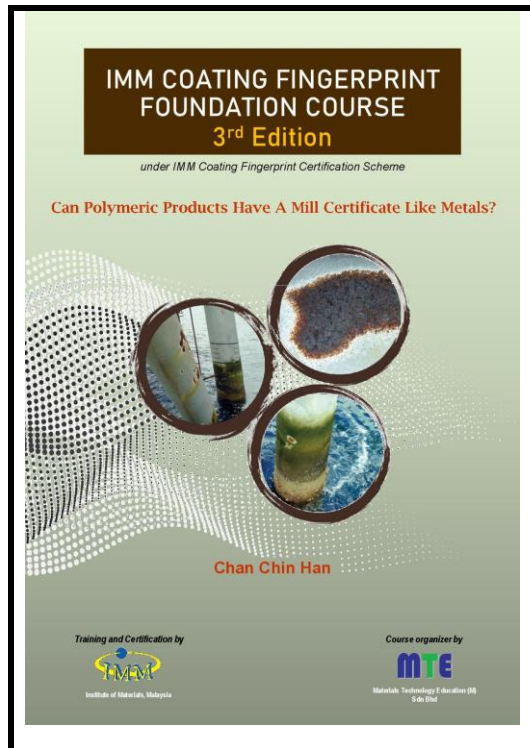


## IMM Coating Fingerprint Foundation Course



The paint & coatings and oil & gas industries have initiated the requirement for a polymeric **Coating Fingerprint Certificate** (similar to a Mill Certificate for metals) to improve quality assurance and quality control. The authentication Fourier-transform infrared (FTIR) analysis has been selected as the appropriate method to provide the requirement, in addition to other physical tests which are regularly conducted by the paint & coating manufacturers, for fingerprinting.

**Reference standards** (reference used shall refer to the latest published document):

- (1) **IMM FP01**, *Coating fingerprinting overall procedures for paints using FTIR and other related methods*
- (2) **IMM FP02**, *Paint raw material overall procedures using FTIR and other related methods*
- (3) **IMM FP03**, *Dried coating fingerprinting overall procedures using FTIR and other related methods*

### **Who should apply**

Anyone interested in the topic and their applications including graduates with bachelor degree through PhD level, researchers, chemists, engineers, physicists, or technicians from academia and industry who work in or are beginning to work in the field. Managers in this industry will greatly benefit from this overview lecture course.

### **Objectives**

This course will equip the trainee with the knowledge and skills in FTIR analysis for authentication of coating fingerprinting, equipment, mechanics of the FTIR testing, appreciation of the strengths and limitations of FTIR method, interpretation & analysis of FTIR results, and exposure to FTIR sample analysis in the classroom.

### **Course topics**

- **Coating Fingerprint Certificate**
- Sampling standards of materials
- IMM FTIR Analysis Standards for protective coatings
- Basic introduction to FTIR
- Basic application of a FTIR software
- Generation of Reference FTIR spectrum



- Estimation of degree of similarity for samples
- Rejection and acceptance of samples
- Dos and Don'ts in FTIR analysis
- Running samples using ATR accessories
- Interpretation of FTIR test results
- Quality control tools in a FTIR software
- Data analysis using a commercial FTIR software

**Course duration**

One (1) day

**Exam format**

Test of 20 multiple-choice questions

**Exam duration**

≤20 minutes

**Candidate's criteria**

No previous working experience required

Minimum academic qualification: SPM, SKM, SVM or equivalent

**Certificate awarded**

Certificate of attendance for IMM Coating Fingerprint Foundation Course

**Validity period of certificate**

5 years for eligibility to sit for IMM Certified Coating Fingerprint Quality Controller Level 1 certification examination

**Training and examination program**

*Conventional classroom format*

<u>Time</u>	<u>Activities</u>
9.00 am – 9.15 am	Opening speech and IMM Montage
9.15 am – 10.30 am	<b>Lecture 1 and Q&amp;A</b>
10.30 am – 10.45 am	Tea break
10.45 am – 12.00 pm	<b>Lecture 2 and Q&amp;A</b>
12.00 pm – 1.00 pm	<b>Demo 1 and Hands-on 1</b>
1.00 pm – 2.30 pm	Lunch
2.30 pm – 3.00 pm	<b>Hands-on 2</b> (part 1)
3.00 pm – 3.20 pm	Examination
3.20 pm – 3.45 pm	Tea break
3.45 pm – 4.15 pm	<b>Hands-on 2</b> (part 2)
4.15 pm – 4.30 pm	Examination results
4.30 pm – 4.45 pm	Closing speech and adjourn

*Virtual classroom format*



<u>Time</u>	<u>Activities</u>
9.00 am – 9.15 am	Opening speech and IMM Montage
9.15 am – 9.45 am	<b>Lecture 1</b> (part 1) and Q&A
9.45 am – 10.00 am	Break
10.00 am – 10.30 am	<b>Lecture 1</b> (part 2) and Q&A
10.30 am – 11.00 am	Self-learning and break
11.00 am – 11.30 am	<b>Lecture 2</b> (part 1) and Q&A
11.30 am – 11.45 am	Break
11.45 am – 12.15 pm	<b>Lecture 2</b> (part 2) and Q&A
12.15 pm – 12.30 pm	Self-learning
12.30 pm – 1.00 pm	<b>Demo 1 and guided Hands-on 1</b>
1.00 pm – 2.00 pm	Lunch
2.00 pm – 2.30 pm	<b>Guided Hands-on 2</b>
2.30 pm – 3.00 pm	Exercise for <b>Hands-on 2</b>
3.00 pm – 3.30 pm	<b>Discussion on Hands-on 2</b>
3.30 pm – 3.45 pm	Wrap-up and closing
4.00 pm – 4.20 pm	Examination

*Note:* Max 4 hours **online classes** in addition of extra hours of self-learning and private interaction with the course instructor per day.

## Synopsis of the book

This book serves as one of the course materials for the IMM Coating Fingerprint Certification Scheme: the first-of-its-kind courses on “**Coating Fingerprint Certificate**” in the world. This is the first source to consolidate the information on the practical guide on execution of **Coating Fingerprint Certificate** for protective coatings. It provides a one-stop reference for the QA/QC personnel of paint manufacturers, QA/QC coating inspectors, coating supervisors, clients’ site QA/QC representatives, 3<sup>rd</sup>-party QA/QC authorities’ representatives, 3<sup>rd</sup>-party laboratories’ chemists/technicians and management personnel who have experience in QA/QC procedures for polymeric coatings.