INSTITUTE OF MATERIAL, MALAYSIA

IMM Coating Fingerprint Training Course

Coating Fingerprint Foundation Course

Code: FPF *HRDF claimable*

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 Infra-Red (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):

- MS 2736 (previously known as IMM FP01), Coating Fingerprinting Overall Procedures for Paints Using FTIR and Other Related Methods
- IMM FP02, Paint Raw Material Overall Procedures Using FTIR and Other Related Methods
- 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 (virtual) classroom.

Course topics

- Premature coating failure
- Coating fingerprint certification
- Basic components of paints
- Infrared spectroscopy
- Sampling standards of materials
- FTIR analysis standard for protective coatings
- Basic introduction to FTIR hardware
- Basic application of FTIR software
- Generation of Reference FTIR spectrum
- Estimation of degree of similarity for samples
- Normal sensitivity compare vs high sensitivity compare functions
- Setting the threshold to reject or accept samples
- Macros basic workflow for FTIR software

Course duration

1 day

Examination format

Quiz of 20 multiple choice questions

Examination duration
20 minutes or less

Candidate's criteria
No previous working experience required.
Minimum academic qualification: SPM, SKM, SVM or equivalent.

Certificate awarded
Certificate of attendance

Validity period of certificate
5 years for eligibility to sit for IMM Certified Coating Fingerprint Quality Controller Level 1 certification examination.