



INSTITUTE OF MATERIAL, MALAYSIA

IMM Coating Fingerprint Certification Scheme

Certified Coating Fingerprint Quality Controller Level 1

Code: FP1

HRDF claimable

The oil & gas and petrochemical industries have implemented the requirements for Coating Fingerprint Certificate (equivalent to the Mill Certificate for Metals) for all the protective coatings and paints supplied to the industry operators. As such, paint manufacturers will be required to engage an IMM Certified Coating Fingerprint Quality Controller Level 2 (FP2) to conduct FTIR analysis and associated physical tests [i.e. the quality control tests (QC)] on paints to produce a Coating Fingerprint Certificate that ensures the batch-to-batch consistency of the paints supplied. An FP2 or higher will be engaged by the (sub-)contractors/auditors/owners to review the Coating Fingerprint Certificate submitted to the job site. Whereas, an IMM Certified Coating Fingerprint Quality Controller Level 1 (FP1) can be employed to carry out on-site authentication FTIR analysis on paints using mobile or handheld equipment for quality assurance (QA) purpose or an FP2 or higher to perform QA FTIR analysis in a 3rd-party laboratory.

NOTE:

Code: FP1 – inspector level

Code: FP2 – laboratory analyst and auditor level

Code: FP3 – professional technologist level (to be launched)

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

This certification program (FP1) is for those who will be involved in conducting quality control and quality assurance on paints and coating systems such as quality assurance managers and supervisors for coating contractors, representatives of coating suppliers, end-client project supervisors and QA/QC personnel, analysts at testing laboratories, coating inspectors, paint factory chemists and assistant chemists, paint QC technicians etc. It will also be of interest to estimators, steel fabricators and structural engineers involved in designing or maintaining steel structures.

Objectives

The objective of this certification scheme (FP1 or higher) is to assess and certify personnel on the knowledge and skills required in conducting quality control and quality assurance on coating/paint systems. As a result, the Coating fingerprint (scheduled / random) monitoring report issued by the persons certified as IMM Coating Fingerprint Quality Controller Level 1 (FP1) will be recognized by both client and contractor. The coating Fingerprint Certificate shall be issued by the persons certified as IMM Coating Fingerprint Quality Controller Level 2 (FP2) or higher.

Examination topics

- Why do we need to fingerprint paints?
- IMM Coating Fingerprint Certification Scheme and the execution of Coating Fingerprint Certificate by coating manufacturer/supplier, 3rd-party testing laboratory, fabricator / (sub-)contractor, external auditor and end-user

- Preparation, review and validation of the Coating Fingerprint Certificate and the compulsory & optional appendices
- Basic components of protective coatings (*e.g.* solvent, resin, filler, pigments, additives *etc.*) for epoxy coatings, inorganic zinc coatings, organic-zinc coatings, polyurethane coatings *etc.*)
- Related physical analyses associated with protective coatings (*e.g.* viscosity, density, color code, non-volatile matter, weight solids for organic/inorganic-zinc coatings *etc.*)
- In-house and on-site / audit sampling standards for paints
- Standards for examine and prepare each sample for testing that can be adopted
- IMM Standards using the FTIR method for coating fingerprinting
- Basic introduction to FTIR hardware: desktop, mobile and handheld
- Attenuated total reflectance (ATR) principle
- Basic application of a FTIR software: desktop, mobile and handheld
- Generation of Reference FTIR spectrum before the qualification for new maintenance painting system and products for offshore application
- Estimation of degree of similarity for in-house/on-site sample FTIR spectrum with Reference FTIR spectrum
- Analyzing FTIR spectra using high sensitivity compare function of FTIR software for 2-pack epoxy paints

Examination format

Examination consists of 110 multiple choice questions

Examination duration

100 min or less

Examination fee

As specified on the IMM website.

Candidate's criteria

Candidate should have

- Attended the IMM Coating Fingerprint Foundation Course AND with a minimum 6-month related working experience* OR
- Certified as IMM Coating Inspector Level 2 or equivalent [*e.g.* Society for Protective Coatings (SSPC) Coating Inspector Level 2, NACE International Coating Inspector Level 2, the British Gas Approved Scheme (BGAS) Coating Inspector Level 2, the Norwegian Professional Council for Education and Certification of Inspectors for Surface Treatment (FROSIO) Coating Inspector Level 2, Institute of Corrosion (ICorr) Coating Inspector Level 2, Association for Certification and Qualification of Anticorrosive Paintwork (ACQPA) Coating Inspector Level 2 *etc.*]

*The related work experience can be before or after the IMM Coating Fingerprint Foundation Course.

Pre-requisite training

A candidate without experience is required to attend IMM approved/recognized training course which prepares and provides comprehensive guidance and practice aligned to the topics covered in the examination.

A candidate with experience is encouraged to attend IMM approved/recognized training course.

Criteria for certification

The candidate must pass the examination with a minimum total mark of 70%.

Certificate awarded

IMM Certified Coating Fingerprint Quality Controller Level 1 (FP1)

Candidate (FP1) will also be authorized to use the Coating Fingerprint Quality Controller Rubber Stamp (Figure 1) to issue an on-site Coating fingerprint (scheduled/random) monitoring report and; to receive & check the Coating Fingerprint Certificate.

Whereas, candidate (FP2 or higher) will also be authorized to use the Coating Fingerprint Quality Controller Rubber Stamp (Figure 1) in all documents and reports, including the Coating Fingerprint Certificate, in relation to coating fingerprinting to any person, company or authority in Malaysia.



Figure 1

Validity period of certificate

5 years

Re-sit of examination

A candidate who had failed in one or more of the examination parts can apply to re-sit for the failed component(s) of the examination within a year from the date of the first examination. The candidate shall have to pay the full examination fee for the re-sit and without the need to attend any pre-requisite training course.

Information on re-certification

6 months prior to the expiry of certification (at the end of the 5th year of certification), the candidate can apply for re-certification for another 5 years by

- providing proof to IMM that he/she has been employed in a related profession; and
- attending the relevant Refresher Course for certification (if any).

Prior to the expiry of the 5-year re-certification (at the end of the 10th year of certification), the candidate can continue to be certified for a further 5-year period by

- providing proof to IMM that he/she has been employed in a related profession; and
- attending the relevant Refresher Course for certification (if any).

The candidate must re-sit the certification examination if he/she has been out of the profession for more than 18 months continuously during the 5-year certification or re-certification period.