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CERTIFIED COATING FINGERPRINT QUALITY CONTROLLER LEVEL 1


supported by




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 (FPQC) 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 FPQC will be engaged by the (sub-)contractors / auditors / owners to review the Coating Fingerprint Certificate submitted to the job site. An FPQC can be employed to carry out on-site authentication FTIR analysis on paints using mobile or handheld equipment for quality assurance (QA) purpose or in a 3rd-party laboratory to perform QA FTIR analysis.

OBJECTIVES

The objective of this certification scheme 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 Certificate issued by the persons certified as IMM Coating Fingerprint Quality Controller Level 1 will be recognized by both client and contractor.

 23 - 24 July 2020

 9.00 am - 4.30 pm

(Theory + Demo + Guided Hands-on
+ Discussion + Assessment)

WHY IMM COATING FINGERPRINT QUALITY CONTROLLER ?

Formalize / Improve the skills of carrying out basic quality control test using Fourier Transform Infra-Red (FTIR) method for structural analysis & other related physical analyses associated with protective coatings.

This certification will equip personnel with knowledge & skills to demand sufficient authority for their decisions to be recognized by both client & contractor, in the preparation of COATING FINGERPRINT CERTIFICATE for third party / in-house laboratories.

The requirement of IMM FPQC Level 1 is now stated in Petronas Technical Standard (PTS) & Design and Engineering Practice (DEP).



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COURSE CONTENT

- (1) Why do we need to FINGERPRINT coatings?
- (2) IMM Coating Fingerprint Certification Scheme & the execution of Coating Fingerprint Certificate by coating manufacturer/supplier, fabricator/contractor/sub-contractor, external auditor, end-user and 3rd-party testing laboratory.
- (3) Preparation, review and validation of the Coating Fingerprint Certificate and the compulsory & optional appendices.
- (4) Basic components of protective coatings (e.g. epoxy coatings, inorganic zinc coatings, organic-zinc coatings, polyurethane coatings, acrylic coatings, polyester coatings etc).
- (5) Related physical analyses associated with protective coatings (e.g. viscosity, density, color code, non-volatile matter, weight solids for organic- and inorganic-zinc coatings etc).
- (6) ISO and ASTM standards on Attenuated Total Reflection-Fourier Transform Infra-Red (ATR-FTIR) testings and the fingerprinting regions for different types of protective coatings.
- (7) Users' technical specification on FTIR fingerprinting on coatings
- (8) Sampling standards of materials for in-house and on-site
- (9) In-house and on-site FTIR testings for protective coatings
- (10) Basic introduction to FTIR hardware: desktop, mobile and handheld
- (11) Basic application of a FTIR software: desktop, mobile and handheld
- (12) Generation of reference FTIR spectrum before the qualification for new maintenance painting system and products for offshore application.
- (13) Estimation of degree of similarity for in-house / on-site sample FTIR spectrum with reference FTIR spectrum.
- (14) Rejection and acceptance of samples based on threshold set using different Compare
- (15) Dos and Don'ts in FTIR analysis: desktop, mobile and handheld.
- (16) Running samples using ATR accessories for desktop & mobile; and running samples using handheld device.
- (17) Interpretation of FTIR test results: in-house, 3rd-party laboratory and on-site.
- (18) Common quality control tools in a FTIR software.
- (19) Data analysis using a commercial FTIR software algorithms.

WHO SHOULD ATTEND?

This certification scheme is for those who Will be involved in conducting quality control and quality assurance on coating/paint 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.

REFERENCES STANDARD

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

- (1) IMM FP01, Coating Fingerprinting Overall Procedures for Paint Systems 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



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