



## INSTITUTE OF MATERIAL, MALAYSIA

### IMM Corrosion Certification Scheme

## Certified Corrosion Monitoring Practitioner Level 2

Code: CMP2

*HRDF claimable*

IMM Certified Corrosion Monitoring Practitioner Level 2 program will assess candidates who have passed IMM Corrosion Monitoring Practitioner Level 1 certification and have acquired at least 1 year of post-certification experience in corrosion inhibition monitoring and cathodic protection monitoring including coating defect surveys.

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

- ASTM E-797 Standard Practice for Measuring Thickness by Manual Ultrasonic Pulse-Echo Contact Method
- ASTM G96-90 Standard Guide for Online Monitoring of Corrosion in Plant Equipment (Electrical and Electrochemical Methods)
- IMM CM01: Corrosion Monitoring, Competency Levels of Corrosion Monitoring Persons: Basis for Certification Scheme
- ISO 15589-1: Petroleum, Petrochemical and Natural Gas Industries - Cathodic Protection of Pipeline Systems - Part 1: On-land Pipelines
- ISO 15589-2: Petroleum, Petrochemical and Natural Gas Industries - Cathodic Protection of Pipeline Transportation Systems - Part 2: Offshore Pipelines
- NACE 3T199 Techniques for Monitoring Corrosion and Related Parameters in Field Applications
- NACE SP0775 Preparation, Installation, Analysis and Interpretation of Corrosion Coupons in Oilfield Operations

### Who should apply

Holders of the IMM Certified Corrosion Monitoring Practitioner Level 1 Certification or those who meet the pre-requisites recognized by IMM in Tables A.1 & A.2 of Annex A in the IMM CM01 Standard.

### Objectives

This program will enable candidates to be assessed on more advanced corrosion reactions in various environments, corrosion management database and how these are related to Asset Integrity and life extension of facilities as well as the utilization of corrosion inhibitor monitoring, cathodic protection monitoring.

### Examination topics

- Corrosion mechanism and behavior in various environments.
- Site issues during offshore/onshore Ultrasonic Testing (UT) key point and process monitoring surveys.
- Laboratory tests (coupon weight loss measurement) related to corrosion monitoring.
- Pressurized retrieval and installation of probes and coupons.
- Understand the online non-intrusive corrosion monitoring equipment and setup
- Site issues relating to cathodic protection (CP) inspection and survey techniques.
- Interpretation of CP/process/key-point corrosion monitoring results.
- Standards and Codes of Practice.
- Health, Safety & Environment considerations in corrosion monitoring activities.
- Ethics and Professional Conduct.
- Interpersonal skills.

**Examination format**

Theory: 50 multiple choice questions (open-book examination)

Practical Assessment:

1. Hands-on handling of corrosion monitoring equipment (probes and coupons)
2. Handling of pressurized retrieval tool
3. Handling of CP monitoring equipment
4. Ultrasonic Testing Thickness Gauge (UTTg) calibration and measurement

**Examination duration**

Theory examination: 1 hour 30 minutes

Practical assessment: 4 hours

**Examination fee**

As specified on the IMM website.

**Candidate's criteria**

Candidate should have

- Passed IMM Certified Corrosion Monitoring Practitioner Level 1 with a minimum of 1 year field experience in corrosion inhibition monitoring, cathodic protection monitoring and coating defect surveys or meet the pre-requisites recognized by IMM in Tables A.1 & A.2 of Annex A in the IMM CM01 Standard AND
- The applicant must pass the Eye Acuity Examination, with or without corrective lenses, to prove near vision acuity on Jaeger J2 at 12" or greater ( $\geq 30.5$  cm). All applicants shall take a colour perception test.

**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**

Pass the examination with a minimum total mark of 70% for each assessment.

**Certificate awarded**

IMM Certified Corrosion Monitoring Practitioner Level 2

**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 5<sup>th</sup> 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 10<sup>th</sup> 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.