



# INSTITUTE OF CORROSION

## ICORR REQ DOC

### Requirements for the Certification of Personnel Engaged in Painting and Coating Inspection and Related Fields undertaken in Onshore, Offshore and the Marine Industries

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The ICorr certification scheme is administered by the Institute of Corrosion (UK)

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## 1. Scope

- 1.1 The ICorr certification scheme is an international scheme for the qualification and certification of industrial painting inspectors, and personnel performing inspection or testing in related fields. The scheme is administered by a Certification Body on behalf of ICorr and is in line with the requirements of BS EN ISO IEL 17024 - *Criteria for certification bodies*, and is designed to recognise the developing specific international standards. Details of the Institute's Cathodic Protection Scheme to comply with BS EN 15257 can be found in the separate ICORR REQ DOC (CP).
- 1.2 This document establishes a system for the qualification and certification of personnel who perform industrial painting inspection, and related activities and sets out the requirements common to all parts of the scheme.
- 1.3 The following certification is available and applicable to the subject areas identified in syllabuses which form appendices to this document:
  - a. Painting Inspector - Levels 1, 2 and 3 - Appendix A
  - b. Pipeline Coatings Inspector - Level 2 - Appendix B
  - c. Hot Dip Galvanizing Inspector - Level 2 - Appendix C
  - d. Insulation Inspector - Level 2 - Appendix D
  - e. Fire Proofing Inspector - Level 2 - Appendix E
- 1.4 The syllabuses identify subject areas which are applicable to both training and examination.

## 2. Definitions

See Annex A.

## 3. Levels of Certification

There are three levels of ICorr certification:

### 3.1 Level 1

Level 1 personnel are qualified to carry out operations according to written instructions. ICorr Level 1 certified personnel have demonstrated the competence to:

- a. set up and calibrate specific inspection or test equipment;
- b. carry out tests and perform inspections against written criteria;
- c. record and classify the results of tests and inspections against written criteria;
- d. report the results.

Level 1 personnel have **not** demonstrated competence in selecting the extent of inspection or testing required, appropriate inspection or test methods to be used, nor for the interpretation of specification requirements.

### 3.2 Level 2

Level 2 personnel are qualified to perform and direct inspection or testing operations according to established or recognised procedures including IMO PSPC MSC.215 (82 requirements) and they have demonstrated competence to:

- a. choose the extent of inspection or testing to be used (where agreed procedures allow);

- b. choose the inspection and test methods to be used (where agreed procedures allow);
- c. set up and calibrate inspection or test equipment;
- d. perform and supervise inspection or testing tasks;
- e. interpret and evaluate results according to applicable normative documents;
- f. define the limitations of application for common test methods;
- g. understand and transform normative document requirements into practical instructions adapted to the actual working conditions;
- h. prepare written test instructions (this is specific to Painting Inspection)
- i. organise and report the results of inspections or tests.

### 3.3 Level 3

Level 3 personnel are qualified to:

- a. direct any inspection or test operation for which they are certified;
- b. assume full responsibility for an inspection or test facility and staff;
- c. establish and/or validate work instructions or procedures;
- d. interpret normative documents;
- e. designate the extent of inspection and the particular test methods and procedures to be used.

Level 3 personnel have demonstrated:

- f. competence to interpret and evaluate inspection or test results in terms of existing normative documents;
- g. possession of a scope and level of knowledge sufficient to enable the individual to select inspection methods and tests, and to assist in the establishment of inspection and test criteria where none are otherwise available;
- h. a general familiarity with coating materials, fabrics and structures protected by painting and coating, application methods and associated areas;
- i. the ability to guide personnel below Level 3.

Where Level 3 duties regularly require the individual to apply inspection or testing to any of the modular areas identified in the scope to this document that are not encompassed in any depth in the Painting Inspection syllabus shown in Appendix A, ICorr recommends that this person should hold and maintain Level 2 certification in the relevant *modules*.

## 4. Eligibility for Examination

### 4.1 4.1 Training Requirements

- 4.1.1 To be eligible for certification, unless there are any mitigating circumstances, candidates must have successfully completed the relevant initial examination and any necessary re-sit examinations, within 90 days of the end of the ICorr recognised course of structured training to the appropriate ICorr syllabus.

Table 1 - Minimum training hours			
Method	Training hours		
	Level 1	Level 2	Level 3
Painting Inspector	40	40	32
Painting Inspection IMO Compliant Module for holders of existing Painting Inspection ICorr Level 2 Certification	N/A	8	
Pipeline Coatings Inspector	N/A	40 (24)*	N/A
Hot Dip Galvanizing Inspector	N/A	16	N/A
Insulation Inspector	N/A	24 (16)*	NA
Fire Proofing Inspector	N/A	16 (8)*	N/A

4.1.2 The minimum duration of any training in order to satisfy the ICorr rules for examination eligibility is shown in *Table 1*, which includes both theoretical and practical training.

\* These qualifications may be taken either as an addition to ICorr Painting Inspector (any level) or on a stand-alone basis. Personnel who are certificated to ICorr Painting Inspector (any level) may elect to receive training over the reduced periods shown in parentheses, instead of the longer training which is compulsory for personnel who do not hold ICorr Painting Inspector certification.

4.1.3 Direct access to Level 2 requires the total number of hours shown in *Table 1* for Level 1 and Level 2.

4.1.4 There is no direct access to Level 3. Candidates must hold Level 2 in the same method at the time of examination application and must provide evidence of Level 3 training to meet the above requirements.

4.1.5 Certain concessions are available to experienced inspectors and those who already hold painting/coating inspector certification under the rules of other schemes; see Section 8.

## 4.2 Industrial Experience Requirements

Due to the difficulty in policing experience claims and the requirement to attend recognised courses, there is no minimum experience requirement which must be met. However, all Level 2 and Level 3 candidates will find difficulty in understanding course material and achieving acceptable examination results unless they have had related experience. It is therefore strongly recommended that Level 2 candidates have at least 1 year of related experience and Level 3 candidates have at least 3 years. There is no minimum experience recommendation for Level 1.

**Note:** The *related experience* for all subjects should include inspection or supervision.

## 5. Procedure for Examination Application

5.1 Initial application enquiries may be made by any means to the appropriate ICorr Test Centre. Formal applications must be made on a standard application form available from the ICorr Test Centre. No examination appointment can be considered confirmed until a

correctly completed application form has been received and acknowledged by the ICorr Test Centre.

- 5.2 Application forms ask for specific details on experience and training to the published syllabus and must be signed to the effect that these details are correct. In the event of a false statement being discovered, any certification awarded as a result of the examination will be made invalid.
- 5.3 Applications dependent upon the individual holding appropriate certification must be supported by acceptable evidence of such certification; see also Section 8.
- 5.4 The application form will request two recent passport sized photographs of the examination applicant to be enclosed with the application form.
- 5.5 ICorr give additional consideration to candidates who suffer from disabilities. Candidates with disabilities that may affect their performance under examination conditions should make this known to the Test Centre when booking examination arrangements. The facts should be entered in the appropriate space on the application form.

## **6. Equipment and Documentation**

- 6.1 All necessary equipment and reference standards, where applicable, will be provided by the ICorr Test Centre. No reference documentation other than that provided by the ICorr Test Centre will be allowed; see also Section 12.
- 6.2 The use of a pocket calculator is permissible provided that it is of a type which does not permanently store programs, formulae or data relevant to the examination.

## **7. Qualification Examination**

- 7.1 All qualification examinations conducted to these requirements shall consist of a *General*, *Specific* and *Practical* examination.
- 7.2 The General and Specific examinations consist of both multi-choice and essay type questions all of which are validated by ICorr.
- 7.3 The maximum time duration for attempting the General or Specific parts of the examination shall be identified on the question papers issued but shall be calculated at average times of 1.5 minutes per multi-choice question and 15 minutes per essay question.
- 7.4 Level 1 and Level 2 examinations must each be completed within one working day, save for candidates entering the Scheme under dispensation at level 2 who will be allowed the option of extending into the next working day (see 8.1.1 why this may be necessary). Level 3 examinations must be completed within one working day.
- 7.5 General Examination

The General part of the examination deals with the theoretical aspects of the subject and will include technology, principles, physics, chemistry and mathematics which is associated with the subject as listed in the relevant syllabus. The required number of questions shall be as defined in Table 2.

<b>Table 2 - Number of General questions</b>			
<b>Method</b>	<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>
Painting Inspector	40 (5)	40 (5)	40 (10)
Pipeline Coatings Inspector	N/A	40 (5)	N/A
Hot Dip Galvanizing Inspector	N/A	20 (3)	N/A
Insulation Inspector	N/A	20 (3)	N/A
Fire Proofing Inspector	N/A	20 (3)	N/A
<i>Note: The number in parentheses are the number of essay type questions additional to the identified number of multi-choice questions.</i>			

## 7.6 Specific Examination

The Specific part of the examination deals with the application of inspection in the relevant subject area and deals with procedures applicable and the interpretation and understanding of normative documents. The specific examination also covers the equipment, operating procedures and test techniques that the candidate may encounter on specific assignments. The required number of questions shall be as defined in Table 3.

<b>Table 3 - Number of Specific questions</b>			
<b>Method</b>	<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>
Painting Inspector	30 (4)	30 (4)	30 (5)
Pipeline Coatings Inspector	N/A	30 (4)	N/A
Hot Dip Galvanizing Inspector	N/A	15 (2)	N/A
Insulation Inspector	N/A	15 (2)	N/A
Fire Proofing Inspector	N/A	15 (2)	N/A
<i>Note: The number in parentheses are the number of essay type questions additional to the identified number of multi-choice questions.</i>			

## 7.7 Practical Examination

7.7.1 The practical examination shall be of sufficient duration, complexity and scope to verify the candidate's ability to use test instruments correctly, inspect surface preparations (where applicable) and inspect coatings in real work situations.

7.7.2 The practical examination consists of two parts (Part 1 and Part 2) if attempting Level 2 or Level 3 in Painting Inspection. There is no Part 2 Practical for other Level 2 *modular examinations*. Only Part 1 of the Practical applies at Level 1.

7.7.3 Part 1 of the practical examination shall consist of tasks to verify each candidate's ability to carry out the following:

- i. Identify types of inspection or test equipment and application related equipment.

- ii. Identify application materials used.
- iii. Set up test equipment.
- iv. Operate test equipment properly.
- v. Perform inspection and testing on prescribed samples relating to the subject concerned.
- vi. Record and analyse the information from inspections to the degree required according to written instructions for Level 1 or specifications for Level 2 and Level 3.
- vii. Report on inspections performed.

There is no single specified time limit for Part 1 of the Practical examination, the time is dependent on which tests or exercises are issued. The Examiner shall allocate the time allowed for each aspect of the examination but the total time will not exceed 3 hours.

#### 7.7.4 Level 2 Painting Inspector candidates - Practical Part 2:

Candidates shall demonstrate ability to prepare written instructions for Level 1 personnel. Time allowed: 1 hour.

#### 7.7.5 Level 3 Painting Inspector candidates - Practical Part 2:

Candidates shall demonstrate ability to prepare a procedure involving inspection and testing for a work situation which will be described in the examination (Time allowed: 1 hour).

### 7.8 Conduct of Examinations

#### 7.8.1 Examinations Levels 1 and 2

The written and practical examinations shall be prepared, issued, supervised and graded by at least one Examiner. The Examiner may be assisted by one or more invigilators placed under his or her responsibility. The Examiner shall mark examinations using formal procedures which identify the methods for allocating marks.

#### 7.8.2 Examination Level 3

Level 3 examinations shall be prepared, issued and supervised by at least one Examiner whereas the grading of the examination if the markings are borderline shall be carried out by at least two Examiners. The Examiners may be assisted by one or more invigilators.

### 7.9 Grading of Examinations

To be certificated, a candidate shall obtain at least 70% in both the General and Specific parts of the examination and shall achieve at least 80% in Part 1 of the Practical and, where applicable, 70% in Part 2 of the Practical. There is no composite grading.

### 7.10 Re-examination

7.10.1 A candidate who fails an examination part shall wait at least 10 days or provide evidence of further training in the areas of weakness before reapplying.

**Note:** Part 1 and Part 2 of the Practical examination for Painting Inspectors are graded separately and constitute separate examination parts, i.e. if a candidate fails only Part 2 then only this part will be issued in a re-examination.



- 7.10.2 A candidate whose examination results have not been accepted because of cheating or fraud shall wait 12 calendar months before re-applying, in accordance with section 12.
- 7.10.3 Any failed examination part must be successfully completed by a candidate within 90 days of the end of the training course otherwise, unless the specific circumstances justify a dispensation being granted, the candidate will be required to attempt the full examination again.
- 7.10.4 Any candidate who fails the same examination part a total of three times shall be required to take the full examination again according to the procedure for new candidates.

## **8. Concessions**

- 8.1 Experienced Painting Inspection Personnel and Cathodic Protection Technicians
  - 8.1.1 The ICorr Professional Development & Training Committee (PDTC) have recognised that, in certain circumstances, it would be fair and reasonable to allow personnel who are very experienced in painting inspection to bypass the requirement for Level 1 training and examination in the corresponding subject. This concession does not lead directly to certification, but it does enable individuals to attend a Level 2 course and attempt the Level 2 examination without having to first take and pass the Level 1 examination. Candidates taking this route will sit an augmented Level 2 practical paper as in addition to the Level 2 practical tests, the candidate will be tested in relation to all the practical tests performed by Level 1 candidates.
  - 8.1.2 An individual may apply for such a concession by sending their resume covering at least five years' experience related to painting inspection as appropriate. The names and contact details of at least two referees who can verify at least two years of the related experience must be provided with the resume. Applicants will be contacted when the ICorr PDTC decision regarding the concession has been made. Applications should be addressed to the ICorr Scheme Manager.
- 8.2 Unless Section 8.1 applies, personnel wishing to be examined at Level 2 or Level 3 must always comply with the minimum training requirements of this document.

## **9. Certificates of Achievement, Wallet Cards and Failure Notices**

- 9.1 All examination candidates will be issued either with a standard Certificate of Achievement and Wallet Card or a Failure Notice by the ICorr Test Centre, normally within 21 days of completion of examination, providing that all examination fees have been paid or credit terms have been agreed. A copy of the Certificate of Achievement or Failure Notice will also be sent to the sponsor.
- 9.2 Failure Notices include test results and brief reasons for failure.
- 9.3 Certificates of Achievement shall bear at least the following information:
  - a. the full name of the certified individual;
  - b. the date of certification;
  - c. the date upon which certification expires;

- d. the title of the subject;
- e. the level of certification;
- f. a unique identification number for the candidate;
- g. a unique certificate number;
- h. reference to the certification body (ICorr);
- i. A space for the signature of the certified individual;
- j. The cold seal of the certification body (ICorr).;
- k. examination results;
- l. the signature of the issuing officer on behalf of the certification body (ICorr).

**Note:** By issuing a Certificate of Achievement, the certification body (ICorr) verifies the qualification of the individual based on the requirements of this document. The Certificate of Achievement does not give any authority for the certified individual to operate. It is the responsibility of the employer to determine whether the certified individual is qualified to carry out the duties the employer wishes the certified individual to perform.

- 9.4 Candidates who receive Certificates of Achievement will also receive Wallet Cards. Wallet cards shall contain the following information:
- a. the full name of the certified individual;
  - b. the date upon which certification expires;
  - c. the title of the subject;
  - d. the level of certification;
  - e. a unique identification number for the candidate;
  - f. reference to the certification body (ICorr);
  - g. the signature of the issuing officer on behalf of the certification body (ICorr);
  - h. a photograph of the certified individual;
  - i. the cold seal of the certification body (ICorr), impinging onto the photograph to avoid falsification.
- 9.5 The period of validity of the certification is five years from the date of successful completion of an examination.
- 9.6 Certification may be made invalid at the option of the certification body (ICorr) if solid evidence is produced of unethical behaviour.

## 10. Recertification

- 10.1 Holders of certification which expires at the end of each five year period of validity may apply for recertification for a further five years using one of three methods:
- a. by full examination in accordance with the requirements of this document as applicable to an initial candidate, or;
  - b. without examination by attending a *review and update course* recognised by ICorr within 180 days preceding the certification expiry date. Candidates applying for recertification by this method must complete a standard ICorr Test Centre form and return it to the ICorr Test Centre with two recent passport sized photographs, evidence of course attendance and successful completion of a vision test to the requirements of Section 4.1.2. Recertification will commence from the date of expiry on the original certification. An administration charge will apply for recertification.
  - c. as an alternative to method b, and subject to the same requirements, personnel based overseas or unable to attend the ICorr Test Centre may take the Distant Recertification option by taking an 'open book' examination by correspondence.

**Note:** Personnel applying for recertification after their certification has expired can only be recertified by full examination unless there are exceptional mitigating circumstances.

- 10.2 Personnel seeking recertification after each five years for a *modular* qualification need either attend a *review and update* course for the module applicable or complete the Distant Recertification option to extend the Painting Inspector certification held and the modular certification for a further five years. The extensions will apply from the expiry date of each certificate.
- 10.3 It is strongly recommended that the certificate holder maintains a satisfactory *log of work* activity appropriate to the scope of the certification. This may be required by employers or third parties in determining overall satisfactory qualification for the work to be performed; see also the note in Section 9.3.

## 11. Transition Arrangement

- 11.1 Personnel certificated under another scheme's requirements to Painting/coating Inspector or Pipeline Coating Inspector may gain qualification under the ICorr Scheme by either electing to attend a combined 1-day course and assessment at the ICorr Test Centre, or, if based overseas or otherwise unable to attend the ICorr Test Centre may take the Distant Transition option by taking an 'open book' examination by correspondence.

## 12. Ethical Conduct

- 12.1 Each candidate attempting an ICorr examination will be required, on the day of the examination, to sign the Code of Ethics for personnel certificated under the ICorr Certification Scheme. The signature is to confirm the Code will be upheld. A copy of the Code of Ethics is available from ICorr approved training organisations and the ICorr Test Centre.
- 12.2 Once an examination has commenced, candidates found in possession of materials or documents which, if used during an ICorr examination, would be deemed to constitute cheating, must be considered to have cheated and the examination will be terminated.
- 12.3 Candidates proved to have cheated in an ICorr examination will not be considered as a candidate for any ICorr examination for a period of 12 calendar months from the date of the examination in which cheating was established to have taken place. A letter will be sent to the candidate concerned and to the sponsor, if applicable, explaining why the examination was terminated. Applications for re-examination in such circumstances will be subject to approval by ICorr PDTC.

## 13. Complaints and Appeals

- 13.1 Complaints relating to the conduct of examinations or appeals against examination failure, certificate cancellation or failure to recertify may be made by the candidate or the sponsor upon application in writing to the ICorr Test Centre. If the matter is not resolved to the satisfaction of the candidate or sponsor, the ICorr Test Centre will make available to the ICorr PDTC all related correspondence and facts. The decision of the ICorr PDTC will be deemed final.
- 13.2 An aggrieved party which considers itself to have reasonable grounds for questioning the competency of an ICorr certified individual may petition the ICorr PDTC for cancellation of certification. Such a petition must be accompanied by all relevant facts. If the petition is substantiated to the satisfaction of the ICorr PDTC, the certification may be cancelled, or an attempt at recertification may be refused, for such period as the ICorr PDTC may decide.

- 13.3 The ICorr PDTC may delegate the process of dealing with complaints and appeals to a properly constituted sub-committee.

#### **14. Certification and Examination Records**

- 14.1 ICorr will retain records of certification for each certified individual for a minimum period of 11 years following the last certification issued.
- 14.2 An updated list of certificated personnel, which includes the name, ICorr identification number and certification held by each individual, is maintained by ICorr to enable specific verification enquiries to be confirmed.
- 14.3 ICorr Test Centres will retain examination records of successful and unsuccessful candidates for a period of 11 years from the date of the examination. Access to these records is only available to the ICorr Test Centre Staff and ICorr.

#### **15. Use and Misuse of Certificates**

- 15.1 The issue of an ICorr Certificate of Achievement indicates that the holder has demonstrated an acceptable level of competence in accordance with the prescribed requirements on the date indicated. Holders or employers are not permitted to imply any further degree of competence on the basis of the certificate.
- 15.2 ICorr certificate holders or their employers must not use certificates, nor allow others to use certificates, in a manner which may be considered fraudulent.
- 15.3 The Institute of Corrosion (ICorr) logo may not be used in advertising, correspondence or reproduced in any form without the written approval of the Institute of Corrosion.
- 15.4 The misuse of ICorr certification will result in making the certification invalid. Any misuse of certification which is interpreted as being an infringement of the law will result in the matter being reported to the police.

## **ANNEX A - Definitions**

For the purposes of this document, the following definitions apply:

### **Certification**

Procedure used by ICorr which gives written assurance that personnel issued with a Certificate of Achievement to the requirements of this document are adequately qualified to perform the specified duties within the scope of certification.

### **Certification Body**

The body that administers procedures for certification of personnel and fulfils the requirements of BS EN ISO IEL 17024. Within the scope of this document the certification body is the Institute of Corrosion (ICorr).

### **Examiner**

An individual authorised by ICorr to conduct, supervise and grade examinations to the requirements of this document.

### **ICorr PDTC**

The Professional Development, Training and Certification Committee of ICorr. A body appointed by the Certification Body that controls all certification processes within the scope of this document and whose terms of reference are documented in BS EN ISO IEL 17024. The ICorr PDTC consists of members who are independent of the ICorr Test Centre and ICorr recognised training establishments.

### **ICorr Test Centre**

An organisation approved by ICorr to conduct and administer examinations strictly in accordance with published requirements.

### **Inspection**

Systematic examination of the extent to which a product, process or service fulfils specified requirements by measuring, observing, testing or gauging the relevant characteristics.

### **Modular Examination or Module**

An examination which may be attempted under the scope of this document for which certification is available but does not include Painting Inspector, Pipeline Coating Inspector or Hot Dip Galvanizing Inspector.

### **Normative Document**

Document that provides rules, guidelines or characteristics for activities or their results. The term is a generic term that covers documents such as standards, technical specifications, codes of practice, regulations and procedures.

### **Procedure**

A written description of all essential parameters and precautions to be observed when applying inspection or a test method to a specific item or quantity of items, following an established standard, code or specification.

**Qualification**

Evidence of training, professional knowledge, skill and experience as well as physical capabilities to enable personnel to properly perform tasks.

**Qualification Examination**

An examination administered by an approved ICorr Test Centre which demonstrates the general, specific and practical knowledge and skill of the candidate.

**Recertification**

The procedure for renewing certification prior to the expiry date of existing certification.

**Sponsor**

The person or organisation paying for certification if not paid by the candidate.

**Test Method**

Specified technical procedure for performing a technical operation that consists of the determination of one or more characteristics of a given product, process or service according to a specified procedure.

**Written Instruction**

A detailed written description of the inspection(s) or test(s) to be performed.