## ISO 15257:2017 LEVEL 3 APPLICATION FORM, REINFORCED CONCRETE APPLICATION SECTOR

This form is available in e-format from [www.icorr.org](http://www.icorr.org). Tables may be expanded as necessary.

It is strongly advised that you review the guidance notes which accompany this form before and during completion. Failure to do so may result in your submission being returned as incomplete.

## PART 1 - PERSONAL INFORMATION AND APPLICATION DETAILS (if not relevant, insert N/A)

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| --- | --- | --- | --- | --- | --- |
| Title |  | Surname |  | Forenames |  |
| Post-nominals |  |
| ICorr membership No. [if applicable] |  |
| Telephone Mobile  |  |
|  Business  |  |
|  Home |  |
| E-mail Business |  |
|  Home |  |
| Private Address (Including Postcode) |
|  |
| Business Address (Including Postcode) |
|  |
| Which address for communications? | Business / Home (delete as required) |
| **Please indicate if this application if for: (you may only select one)** |
| Initial Certification |  | 5-Year Renewal |  | 10-Year Renewal |  |
| **If applying for Initial Certification, please complete the following information** |
| Ref No. of Certification to ISO 15257:2017, Level 2 |  |
| Dispensation Reference, if Applicable. |  |
| ISO 15257:2017, Level 3 Examination Pass Ref. |  |

**PART 2 - EDUCATION AND EXPERIENCE [Initial Certifications Only]**

Please provide details of any post-graduate, under-graduate, higher national training and certification or equivalent technical training programmes. This information will be used to determine the length of “additional experience” required when assessing your application. See guidance notes for further details on education and additional experience.

If your education does not include qualifications beyond secondary education, please indicate this by stating “Other” in the table below. Note this will not invalidate your application but you will be asked to complete a longer duration of industrial experience. The requirements for industrial experience are discussed in the accompanying guidance notes.

Vocational education should be included within your CPD report in Part 4 of this document.

All qualifications are to be supported by photocopies of original certificates verified and initialled by at least one of your referees.

|  |  |  |  |
| --- | --- | --- | --- |
| **College/Institution** | **Subject / Course Studied****[Course Title and Modules]** | **Qualification****[ONC/HND/BEng Etc]** | **Year Awarded** |
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**PART 3 - EMPLOYMENT HISTORY [Initial and 10-year Re-Certifications Only]**

You are asked to provide details of your present and previous employment and positions held in order that assessors can verify that you hold a position likely to reflect the duties required of a Senior Cathodic Protection Technician

|  |  |
| --- | --- |
| **Employer**  | **Address** |
|  |  |
| **Telephone number:**  |  | **Date joined** |  |
| **Job Title** |  | **Grade (if applicable)** |  |
| **Responsibilities:** |
|  |
| Please include an organisation chart with your submission.The organisation chart should show the chain of command in your present post and indicate your position in relation to your immediate supervisor, equivalents, and immediate subordinate staff. Your own position should be clearly marked. You may provide, if you wish, not more than two organisation charts covering previous positions you have held which you consider are relevant to this application. |

As a Senior Cathodic Protection Technician, you are expected to have undertaken and been responsible for all the duties of a Level 1 and 2 Technician and Tester. We therefore ask for brief details of previous positions held to help support this claim.

Please give, in reverse chronological order, relevant dates and the titles of all relevant posts you have held, the names of your employer(s), a description of your personal duties and responsibilities, plus details of any structured training undertaken (including apprenticeships).

If you are presently certificated to ISO 15257:2017 Level 2 or seeking 10-year recertification you only need to provide details covering the period since your most recent assessment.

|  |
| --- |
| **Previous Employer/s**Please specify your duties and responsibilities, e.g. by indicating to whom you were responsible, and the number and type of persons for whose work you were responsible.  |
| **From***(Month**& Year)* | **To***(Month**& Year)* | **Name and address of employer, position held and nature of work**  | Responsibilities |
|  |  |  |  |

**PART 4 - CPD REPORT [All Applicants to Complete]**

Continuing Professional Development (CPD) comprises learning activities that you undertake to gain knowledge and experience in order to help you in your professional career as a Senior Cathodic Protection Technician. Thus, CPD is ADDITIONAL to the normal duties of your day-to-day employment. For example, training days, professional mentoring of colleagues or others, attendance at conferences, etc. are all CPD activities.

CPD submitted by applicants should be a mixture of learning activities relevant to current or future practice and should include activities in at least three (exceptionally two) of the following classes:

1. Work based learning (e.g. supervising staff / students, reflective practice)
2. Professional activity (e.g. involvement in a professional body, attendance at committee meetings, mentoring)
3. Formal Training (e.g. attendance at formal vocational training, or seminars)
4. Self-directed learning (e.g. reading journals, reviewing books / articles)

The duration covered should be commensurate with the appropriate period of “additional experience” and education if seeking initial certification, or the period since you were last assessed if seeking re-certification.

| **Dates** | **Class of activity** | **Brief description** | **Benefits: skills learnt, learning outcomes, etc.** | **Time spent****[Hours / Days]** | **How verified:****by Certificate, Manager, Self or Referee\*.**  |
| --- | --- | --- | --- | --- | --- |
| *10 to 14/2/2019**[Example Only]* | *Formal Training* | *Attendance at Cathodic Protection Reinforced Concrete ISO Level 3 Senior Technician Course*  | *Understanding gained of:** *CP general principles;*
* *CP measurement techniques;*
* *specific applications of steel in concrete;*
* *other electrochemical techniques that are also aimed at mitigating corrosion of steel embedded in concrete, such as electrochemical re-alkalization and chloride extraction treatments for reinforced concrete.*
 | *5-days* | *Manager* |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| **Total Time Accumulated** |  | **Days** |

\*If Referee Please indicate Ref 1 or Ref 2.

Applicants may add or extend rows as necessary or supply their own format of the records above provided that this offers the same level of information.

**PART 5 - KNOWLEDGE, COMPETENCE AND EXPERIENCE**

It is essential that you provide full details of your knowledge, competence and experience as a Senior Cathodic Protection Technician. Your application will be assessed in three parts:

1. Confirmation from the applicant and their referees that they, are competent to undertake the majority of the core knowledge and application sector specific activities detailed in Tables 1 to 3 below.
2. Provision of an *Industrial Experience* report demonstrating a minimum 48 days per year fully dedicated to the *Professional Competencies* for the Reinforced Concrete structures application sector.
3. Provision of written evidence of method statements, work instructions or technical reports prepared by the applicant for use by Level 1 and 2 CP Personnel or other untrained persons.

The applicant shall attest that the evidence provided is of their own work and shall be verified by a referee with direct knowledge of the work undertaken.

**PART 5.1 - KNOWLEDGE AND COMPETENCE REQUIRMENTS FOR LEVEL 3 PERSONNEL [Initial and 10-year Re-Certifications Only]**

It is expected that during their time of experience, before and after initial certification, the Applicant will have gained knowledge and experience in the majority of tasks listed in Tables 1 through 3 below. We rely on the Applicant and their Referees to be honest and rigorous in the assessment below of whether the Applicant is competent in their understanding and execution of the specific tasks below.

Please complete the “Insert R, C, U or N” column:

R = Tasks you are deemed competent to carry out and have regularly carried out in your normal job activities.

C = Those tasks you are deemed competent to carry out although your present duties may not require them to be used regularly.

U = Tasks for which you have general understanding of the concepts involved but have limited or no direct experience.

N = Tasks with which you are not familiar and are not deemed competent.

No applicant is expected to be competent in every task but applicants indicating a lack of understanding or competence may be requested to carry out additional training and assessment prior to being awarding Certification by the Institute of Corrosion.

*Table 1: Knowledge required by Level 3 Applicants*

| **Knowledge number** | **Description of knowledge** | **Insert****R,C,U or N** |
| --- | --- | --- |
| 1 | Electricity relevant to CP application and measurements |  |
| 2 | Corrosion, electrochemistry and coatings relevant to CP |  |
| 3 | Theory, principles and criteria of CP |  |
| 4 | Requirements related to application of CP |  |
| 5 | Application methods of CP, galvanic anodes, impressed current |  |
| 6 | CP measurements and test procedures |  |
| 7 | Relevance of voltage gradient errors and influence on structure to electrolyte potential measurement |  |
| 8 | Factors influencing the correct selection of reference electrodes for potential measurements |  |
| 9 | Effects of excessive CP on coatings, high-yield strength steels and corrosion-resistant alloys |  |
| 10 | Diagnostics of CP systems |  |
| 11 | Interference conditions (alternating current and direct current) |  |
| 12 | Standards and codes of practice in the relevant application sector |  |

*Table 2: Specific tasks to be fulfilled by Level 3 Senior Cathodic Protection Technician in all application sectors*

| **Task number** | **Description of task** | **Insert****R,C,U or N** |
| --- | --- | --- |
| 1 | Prepare technical instructions |  |
| 2 | Collect general information for design purposes based on technical instructions for simple CP systems (as in Annex A Definitions) |  |
| 3 | Collect detailed information and data for design purposes |  |
| 4 | Check calibration validity of CP measuring and testing equipment based on documentation |  |
| 5 | Measure structure to electrolyte potential |  |
| 6 | Perform verification test of working portable reference electrode against master electrode of the same type based on measurement |  |
| 7 | Perform verification test of working portable reference electrode against another type of reference electrode |  |
| 8 | Perform verification test of stationary reference electrode against a portable reference electrode |  |
| 9 | Perform pre-commission testing |  |
| 10 | Check whether the positive output of the rectifier is connected to the anode and the negative output is connected to the structure |  |
| 11 | Identify a wrong polarity of the CP system by structure to electrolyte potential measurement |  |
| 12 | Perform start-up and commissioning |  |
| 13 | Record and report results of the measurements in a comprehensible format |  |
| 14 | Classify the results of the measurements |  |
| 15 | Define the limitations of application of the testing method according to established procedures |  |
| 16 | Interpret commissioning or performance verification data and prepare commissioning report, performance verification report or system review report for simple CP systems (as defined below) |  |
| 17 | Measure current and voltage in the CP circuit |  |
| 19 | Carry out basic maintenance work on CP systems |  |
| 20 | Inspect and measure of DC power supply output current and voltage |  |
| 21 | Inspect and verify DC power supply overall operations |  |
| 22 | Inspect and maintain DC power supply output terminations if accessible without exposing persons to live AC equipment |  |
| 23 | Inspect and maintain DC power supply components |  |
| 24 | Verify DC power supply voltage and current outputs with portable calibrated meter |  |
| 25 | Routine and expected adjustment of current output to maintain pre-determined performance |  |
| 26 | Determine the validity of the data and analyse anomalies detected |  |
| 27 | Determine increase/decrease in current output to maintain optimum performance including remedial actions to correct anomalies and interferences |  |
| 28 | Ensure compliance with safety requirements related to application of CP in the application sector, task and competence level |  |
| 29 | Perform risk assessment of safety requirements related to application of CP in the application sector, task and competence level |  |
| 30 | Translate CP measuring and testing standards and specifications into technical instructions for CP measuring and testing, routine maintenance, and installations procedures |  |
| 31 | Investigate material weight loss corrosion when application of CP may be involved |  |
| 32 | Set up measuring and testing equipment and verify equipment settings |  |
| 33 | Write technical instructions for lower-level persons, supervise and train them in the practice of their tasks |  |
| 37 | Interpret and evaluate results in accordance with established standards, codes and specifications |  |
| 38 | Undertake, without supervision, simple CP system (as defined in 3.10) design works according to established procedures in a known environment  |  |
| 39 | Establish technical instructions including definition of CP test procedure and equipment to be used and the format for reporting data for tasks covered in standards, codes and specifications |  |

*Table 3: Specific tasks to be fulfilled by Level 3 Cathodic Senior Protection Engineer for reinforced concrete structures application sector*

| **Task number** | **Description of task** | **Insert****R,C,U or N** |
| --- | --- | --- |
| 1 | Test electrical continuity of reinforcement to allow accurate potential measurements |  |
| 2 | Measure steel to concrete natural potential in concrete |  |
| 3 | Measure “Half Cell Potential Survey” (close interval survey natural potential) |  |
| 4 | Process potential data for mapping |  |
| 5 | Locate reinforcement with cover meter |  |
| 6 | Measure cover to reinforcement with cover meter |  |
| 7 | Supervise or undertake the collection of concrete drilling dust or core samples for chloride testing |  |
| 8 | Interpret chloride analysis results |  |
| 9 | Test carbonation to broken or cored concrete |  |
| 10 | Measure concrete resistivity (two pin or four pin) |  |
| 11 | Inspect surface of reinforcement when exposed for corrosion or physical damage |  |
| 12 | Measure pit depth with suitable gauge |  |
| 13 | Inspect surface of pre-stressing steel when exposed for corrosion or physical damage |  |
| 15 | Measure reinforcement electrical continuity (resistance and potential techniques) |  |
| 16 | Supervise reinforcement electrical continuity bonding and retest |  |
| 17 | Supervise installation of cable connection to reinforcement or embedded/surface mounted metallic items: mechanical |  |
| 18 | Supervise installation of cable connection to reinforcement or embedded/surface mounted metallic items: exothermic/welded/pin brazed |  |
| 20 | Supervise installation of anode systems: galvanic and impressed current |  |
| 21 | Supervise connections of cables to anodes and (if applicable to anode system) primary anode system installation into secondary anode system |  |
| 22 | Supervise installation of reference electrodes, sensors and coupons |  |
| 23 | Supervise installation of DC power supplies and monitoring system **(electrical input AC excluded due to regulations/safety)** |  |
| 24 | Measure anode to reinforcement isolation (resistance and potential techniques) |  |
| 25 | Measure anode circuit continuity or resistance |  |
| 26 | Measure cathode and test circuit continuity or resistance |  |
| 27 | Correct or remove anode to reinforcement short circuit |  |
| 28 | Set up synchronized current interruptions for instant OFF potential measurements |  |
| 29 | Measure ON and instant OFF potential and current at permanently installed reference electrodes and coupons |  |
| 30 | Measure ON and instant OFF potential and potential decay from instant OFF at permanently installed reference electrodes |  |
| 31 | Survey/measure potential decay from instant OFF over concrete surface using portable reference electrodes |  |
| 32 | Perform interference testing |  |

**PART 5.2 - INDUSTRIAL EXPERIENCE [All Applicants to Complete]**

As a Senior Cathodic Protection Technician, it is required that you spend no less than 20% [approximately 48 days per year] of your professional activities on Cathodic Protection duties at Level 3 or higher.

If applying for initial certification complete the table below for the period of additional experience commensurate of your education or for 10 year re-certification the 5-years since you were last assessed.

The total time listed should amount to 48-days per year relating to the Reinforced Concrete structures application sector. Where applicable each work item should include reference to the task descriptions in Tables 2 and 3.

|  |  |  |  |
| --- | --- | --- | --- |
| **Dates** | **Works undertaken** | **Duration****[Hours / Days]** | **How verified: Manager, Self or Referee** |
| *10/1/2020 to 14/2/2020**[Example Only]* | *Supervision and testing of RC CP system to bridge structure.**Table 2: 1-19, 29 and 33.**Table 3: 1, 8-10, 18-28.* | 14 days | Manager |
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\*If Referee Please indicate Ref 1 or Ref 2

You may add or extend rows as necessary.

Applicants may attach their own format of the records above provided that this offers the same level of information and confirmation of the overall time allocated.

**PART 5.3 - EVIDENCE [Initial and 10-year Re-Certifications Only]**

You are required to send, along with your completed application, a minimum of one piece of evidence prepared by you and verified as such by one of your referees.

The purpose of the case study is to demonstrate that you are actively undertaking and are responsible for the duties of a Senior Cathodic Protection Technician. As such the simplest way of achieving this is provide evidence comprising completed work for which the you were responsible.

Evidence may take the form of:

* Method statements or work instruction suitable for a Level 1 or 2 technician.
* Technical, commissioning or simple design reports.

Evidence should be from last 5-years and as recent as possible.

If documentation has been prepared in a language other than English a certified translation is required.

All documentation should be provided in electronic format where possible.

All case studies and information provided in your application will be treated in strictest confidence and will only be reviewed by members of ICorr Professional Assessment Committee, Cathodic Protection Sub-Committee and processed by ICorr office staff for administration purposes.

**APPLICANT’S UNDERTAKINGS**

I wish to apply for registration as a Certificated Level 3 Senior Cathodic Protection Technician Reinforced Concrete Structures (Concrete bridges, car parks, buildings, RC structural elements such as beams, columns, piers, abutments, decks etc.).

**ATTESTATION**

In signing and completing this form I confirm that the information given above, and attached, is truthful and accurate. I acknowledge that my Certification can be withdrawn by the Institute of Corrosion if any element of the above information is shown to be false and that such withdrawal can be published by the Institute.

I also accept that the Institute of Corrosion will maintain records of my Certification and may disclose them at any time to any enquirer seeking personnel Certificated in Cathodic Protection. The Institute of Corrosion is authorised to make contact with me by the details that I have provided above.

I am also accepting and agreeing to work within the Code of Ethics for the Institute of Corrosion Scheme for Certification of Inspection and Cathodic Protection Personnel as detailed below:

**Code of Ethics for ICorr Certification of Cathodic Protection Personnel**

This code must be upheld by all personnel Certificated to Levels 1- 5 under the Institute of Corrosion’s *ICorr Certification Scheme* for Inspection and Cathodic Protection personnel engaged in painting and coating inspection, cathodic protection, and in inspection of pipe coating, insulation, fire proofing and metallic coatings.

Before ICorr Certification or Re-certification can be issued, participants in the scheme shall sign this Code of Ethics and undertake to comply with the following:

1. I undertake to uphold the dignity and good standing of my profession and the Institute of Corrosion and its Certification Scheme; I will observe the highest standards of ethical behaviour and obey local laws.
2. I will exercise due skill, care and diligence in all of my professional activities.
3. I acknowledge that my activities may impact on the health and safety of individuals, of the public at large, on the safety of plant and facilities on which I work and on the environment; I will be rigorous in the execution of my professional activities.
4. I shall not use ICorr Certification to mislead any individual, employer or authority by presenting it as testimony that applies to any task outside the scope of the Certification as declared on the ICorr Certificate. I shall not permit my ICorr Certification to be used by any other party nor shall I knowingly permit my Employer or others to misuse the Certification documents issued to me.
5. I shall always endeavour to become fully familiar with my duties and understand the scope of my authority prior to performing work. I shall not accept duties for which I am not trained and proficient; if I am requested to do so I will request – (in writing) – to receive additional training and mentored experience.
6. I recognise that it is my duty to perform tasks as I have been contracted to do and I shall not allow deviations from specified requirements unless given permission – (in writing) – to do so by a higher authority.
7. I will report – (preferably in writing) – to a higher authority if I am aware of any specified requirements which may lead to adverse work or conditions which were not intended.
8. I will endeavour to perform inspections, tests, measurements and any other work for which I have been contracted to the best of my ability and will inform my superior(s) – (in writing) – if I am unable to do so.
9. I will not accept gratuities of any kind which may affect my judgement in the work that I am performing as an ICorr Certificated individual.
10. I will endeavour to be fair, reasonable and objective towards the requirements for which I perform at all times.
11. I will not allow my work to be influenced by personalities or other individual considerations.

I hereby agree to uphold and abide by this code and I acknowledge that I may be subject to a disciplinary procedure which could result in loss of Certification if it can be proven that I have failed to comply or have provided false information associated with my participation in the scheme.

|  |  |  |
| --- | --- | --- |
| Name (Print) | Signature of Applicant: | Date |

**OPTIONAL**

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| --- |
|  |

As a Level 3 Certificated Cathodic Protection person you may be eligible to apply for Professional Membership, Technician Grade [TICorr] with the Institute of Corrosion. If you would like to receive information on how to apply to become TICorr and thus a full member of ICorr and gain all the associated benefits, please tick the box:

**Data Protection:** If your application is successful, details will be held on the Institute of Corrosion’s Certification Register database. This publicly available register will include your name, the Institute of Corrosion, and your Level 3 Certification Number. ICorr may wish to use the information you supply in order to be able to communicate with individuals effectively. Level 3 Certified Cathodic Protection Senior Technicians have the right of access to their personal data held by ICorr and the right to prevent its use for direct marketing services.

|  |  |
| --- | --- |
| **If you wish to receive this information, please tick the box**  |  |

**REFEREES**

Two Referees are required, one of whom has direct knowledge of the applicant’s employment and day-to-day work and one whom is certificated to ISO 15257:2017 at Level 4 or above in the same application sector, has a general knowledge of the applicants capabilities and experience and is able to demonstrate a suitable level of independence from the applicant and their employer. The referees should have known the applicant for a minimum of 3-years. The two referees should not be from the same company/organisation. Applicant and referee should not be related in any way.

I confirm that I have read the Criteria for Level 3 Certification and confirm that the applicant is competent to carry out the tasks listed above. I recommend that the applicant, to the best of my knowledge and belief, is a fit person to be registered as a Certificated Level 3 Senior Cathodic Protection Technician through the Institute of Corrosion. I agree, on request of the Institute of Corrosion, to provide a confidential written reference.

**Referee 1**

|  |  |  |  |
| --- | --- | --- | --- |
| Name |  | Qualification |  |
| Address |  |
| Tel No |  |
| Email |  |
| Signature  |  | Date |  |

Please also initial at the bottom of each page where indicated to confirm that the information is to the best your knowledge true and correct.

**Referee 2**

|  |  |  |  |
| --- | --- | --- | --- |
| Name |  | Qualification |  |
| Address |  |
| Tel No |  |
| Email |  |
| Signature  |  | Date |  |

Please also initial at the bottom of each page where indicated to confirm that the information is to the best your knowledge true and correct.

If a referee is unable to verify significant portions of the content on a given page we ask that they strike-through their verification box and initial only the content they can verify.

**PAYMENT**

Please enclose the required registration and administration fee of **£100 plus VAT** – applications will only be fully processed if registration and administration fees are paid in advance and in full.

**Payment by cheque**

|  |  |
| --- | --- |
| **I enclose a cheque made payable to The Institute of Corrosion**  |  |

**Payment by credit/debit card**

(American Express not accepted)

**Please telephone the ICorr Office on 01604 438222 to make payment**

**SENDING YOUR APPLICATION**

Please send this signed and completed application along with supporting documentation to:

**INSTITUTE OF CORROSION**

**Corrosion House**

**5 St Peters Gardens, Marefair**

**Northampton, NN1 1SX**

**United Kingdom**

**FAO Professional Assessment Committee, CP Sub-Committee Chair**

**or by e-mail to** **admin@icorr.org****. If your submission exceeds 10Mb in size please contact ICorr as alternative means of submission may be required.**

Please check before sending that you have completed this form correctly and included the appropriate documents and payment with your application:

|  |  |  |  |
| --- | --- | --- | --- |
| Documentation | Initial Certification | 5-Year Recertification | 10-Year Recertification |
| Application Form, Completed Signed and Verified By Referees | ✓ | ✓ | ✓ |
| * Part 1 - Personal Information
 | ✓ | ✓ | ✓ |
| * Part 2 – Education
 | ✓ | 🗶 | 🗶 |
| * Part 3 – Employment History
 | ✓ | 🗶 | ✓ |
| * Part 4 – CPD Report
 | ✓ | ✓ | ✓ |
| * Part 5 - Industrial Experience, Knowledge And Competence
 | ✓ | Part 5.2 Only | ✓ |
| * Attestation, Signed by the Applicant
 | ✓ | ✓ | ✓ |
| * Referees, Signed by both referees
 | ✓ | 🗶 | ✓ |
| * Payment Form & Payment
 | ✓ | ✓ | ✓ |
| Verified Copies of Relevant Certification [Part 2] | ✓ | 🗶 | 🗶 |
| Company Organisation Chart[s] [Part 3] | ✓ | 🗶 | ✓ |
| 1x Supporting Evidence [Part 5.3] | ✓ | 🗶 | ✓ |

ICorr endeavours to process applications within 28-days of receipt of a complete and valid application. Under no circumstances shall ICorr be liable for loss of work or contracts which may be conditional upon certification.