



**CERTIFICATION SCHEME FOR PERSONNEL**

**DOCUMENT No. CSWIP- QCC-20-08**

## **Requirements for the Certification of a Welding Quality Control Co-ordinator**

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Issued under the authority of the Governing Board for Certification  
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CSWIP is administered by TWI Certification Ltd

## **FOREWORD**

The Certification Scheme for Personnel (CSWIP) is a comprehensive scheme that provides for the examination and certification of individuals seeking to demonstrate their knowledge and/or competence in their field of operation. The scope of CSWIP includes Welding Inspectors, Welding Supervisors, Welding Instructors, Plant Inspectors, Underwater Inspection personnel, General Inspector of Offshore Structures, NDT personnel.

CSWIP is managed by the Certification Management Board, which acts as the Governing Board for Certification, in keeping with the requirements of the industries served by the scheme. The Certification Management Board, in turn, appoints specialist Management Committees to oversee specific parts of the scheme. All CSWIP Boards and Committees comprise member representatives of relevant industrial and other interests.

## **ACCESS TO CERTIFICATION**

Access to certification is not improperly restricted. The sole criterion for certification is given in this document (and any subsequent amendments) and no other criteria will be applied. Certification is not conditional on the candidate applying for other services or membership from TWI Certification Ltd, its parent, or any other groups or associations.

### **1 GENERAL**

#### **1.1 Scope**

The certification scheme is regulated by the Certification Management Board of TWI Certification Ltd. This document describes the procedures by which personnel may be examined, and, if successful, certificated for the duties of a Welding Quality Control Co-ordinator. Given the increasing demands of material, equipment, fabrication and workmanship control within modern construction and manufacturing industries, and with increasing changes in legislation and application standards in the EU and overseas, it is recognised that a need exists for a formal Welding Quality Control certification scheme. To be effective, a certification scheme needs to ensure that a QC co-ordinator has sufficient training and practical assessment before being adjudged to be certified as competent for the performance of their duties.

#### **1.2 Responsibilities of personnel**

Typical areas of knowledge and work activity of personnel for whom CSWIP certification covered by this document, would be suitable, are given below.

- a) Understanding and application of code and standard requirements.
- b) Parent material verification, control and traceability.
- c) Welding consumables identity. Verification against documentation, and correctness of welding consumables (electrodes, filler wires, consumable inserts, gases, fluxes etc).
- d) Post-weld visual inspection. Visual inspection and dimensional check of completed weldment against specification requirements and drawings.
- e) Welding procedures. Establishing that a procedure is available, has been approved as required by the appropriate authority and covers the scope of materials used in production.
- f) Review of welder qualification tests. Review of test pieces and destructive tests, and verifying compliance with appropriate standards and specifications.
- g) Verification that all valid welder approvals are available, and cover the scope of materials used in production.
- h) Verification that post weld heat treatment has been conducted in accordance with specification requirements.
- i) NDT reports. Assessment of NDT reports on welding, or fabrication work, for which a Welding Inspector may be/is typically responsible.
- j) Preparation, review, maintenance and archiving of comprehensive inspection reports.
- k) Interpretation of weld drawings and weld symbols.

- l) Appreciation of the factors influencing the formation of weld defects and their acceptability in relation to the written specification.
- m) Verification of NDT reports on welding work for which the Senior Welding Inspector is responsible. (This may include radiographic interpretation).
- n) Ensuring that the required quality assurance standards and procedures are maintained.
- o) Understanding of the Pressure Equipment Regulations and Pressure Equipment Directive.
- p) Understanding of conducting hardness, ferrite and Pressure testing.
- q) Certification of compliance. Final acceptance and certification that all quality related requirements of the specification have been met.

### **1.3 Requirements prior to taking a certification test**

Job responsibilities and experience criteria for examination eligibility as given below are strictly adhered to and enforced.

Candidates must have the following as a minimum:

- a) A current valid CSWIP 3.2 Senior Welding Inspector certification plus three years documented experience related to the duties and responsibilities or an International equivalent

or

- b) A current valid CSWIP 3.1 Welding Inspector with 10 year's documented experience related to the duties and responsibilities or an International equivalent.

or

- c) Have a minimum five years documented experience working at a position with full responsibility for all welding related quality control functions, including supervision of the welding inspection staff.

#### **1.3.1 Prior knowledge requirements**

- a) Application of the requirements of codes and standards (although the document refers to UK regulations and / or European harmonised standards, relevant equivalent international and/or recognised regional standards will be adopted where practically applicable.)
- b) Identification of relevant material and components
- c) Knowledge of Heat Treatment procedures and recording systems
- d) Knowledge of Hydrostatic Test methods, safety and best practice and pneumatic testing.
- e) Awareness of destructive mechanical testing
- f) Knowledge of quality related procedures and practices,
- g) Health and safety requirements and practices
- h) Knowledge of associated manufacturing processes and operations
- i) Use and application of Inspection Quality Test Plans / Written Schemes of Examination.

#### **1.3.2 Training**

All candidates must attend a CSWIP approved course of training prior to examination.

#### **1.3.3 Health/Eyesight**

Candidates need to be in satisfactory physical condition and the person completing the application form will be required to signify that the candidate's health and eyesight are adequate to enable him/her to carry out his/her duties. An eyesight test certificate must be submitted with the application form. The candidate shall provide documented evidence of satisfactory vision, in accordance with the following requirements:

- a) Near vision shall permit reading a minimum of Jaeger number 1 or equivalent type and size letters (e.g. Times Roman N4.5), at not less than 30cm on a standard Jaeger test chart for near vision, in at least one eye, corrected or uncorrected;

The evidence must be in the form of a certificate issued by a medically recognised person within the previous 24 months, covering all of the above points. With all of the above eligibility requirements the onus is on the candidate to provide the necessary evidence prior to the examination. An examination appointment will not be confirmed until the evidence has been received. Subsequent to certification, tests of visual acuity shall be carried out annually.

## **2 Examination Procedure**

### **2.1 Written Examination**

The written examination consists of multiple choice questions, designed to test the candidate's knowledge of the subject matter, engineering principles, and syllabus.

### **2.2 Practical Examination**

The practical examination consists of a relevant case study, inclusive of review of a documentation package and an oral examination.

### **2.3 Application for Examination and Fees**

Candidates will be required to submit an application form. All the information requested must be on these forms. No applications can be considered confirmed until receipt of correctly completed documents. Application forms ask for specific details of experience and training and must be signed to the effect that these details are correct.

In the event of a false statement being discovered on forms, any examination undertaken will be declared null and void. A certificate is automatically invalidated if there are any outstanding examination fees in respect of that certificate.

Examinations may be taken at any one of a number of Test Centres in the UK and overseas. Lists are available on request.

## **3 CERTIFICATION**

### **3.1 Results notices**

All candidates will be sent a results notice. This notice will also be sent to the organisation paying the examination fee, if not paid by the candidate.

### **3.2 Successful candidates**

Two copies of a certificate of proficiency will be issued to the sponsoring organisation. Duplicate certificates to replace those lost or destroyed will be issued only after extensive enquiries.

### **3.3 Unsuccessful candidates**

Candidates who fail to obtain a certificate may attempt one retest on those parts of the examination in which success was not achieved. The retest must be completed within one year of the initial examination; otherwise candidates will have to repeat the complete examination.

The retest (or complete re-examination) may not be taken within 30 days of the previous examination.

Failure of the retest (or complete re-examination) will result in the candidate having to re-take the full approved course followed by the full examination.

### **3.4 Period of validity**

The certificate is valid for five years from the date of completion of the initial test and may be renewed for a further five years on application, provided evidence is produced in accordance with clause 3.5.1. Certificates are only valid provided:

- a) they are within date.
- b) they are on standard cream CSWIP paper bearing the CSWIP logo in black on gold signed by an officer of CSWIP and embossed with the CSWIP stamp.
- c) they have been signed by the individual to whom the certificate is awarded.
- d) they are accompanied by a valid official CSWIP identity card.

Photocopies are unauthorised by CSWIP and should only be used for internal administrative purposes.

### **3.5 Renewal**

#### **3.5.1 Five year renewal**

In order for the certification to be renewed after five years, the holder must demonstrate that he/she has maintained his/her competence by providing suitable documentary evidence related to the duties and responsibilities, verified by the current employer (or previous employer where applicable), or third party organisation.

The certificate will not be renewed without further test if a substantiated complaint is notified by the Governing Board during the period of its validity. Further instruction and retest may then be required.

Renewal must take place not later than 21 days after the date of expiry. It is the certificate holder's responsibility to ensure that renewal takes place at the appropriate time. Only under extreme circumstances will certificates be renewed up to a maximum of six calendar months from the date of expiry shown on the certificate and late renewal will be subject to a special fee.

#### **3.5.2 Ten year renewal**

Certificates are renewed beyond ten years from the initial examination (or from a previous ten year renewal) by the holder successfully completing a renewal examination prior to the expiry of the certificate in addition to the renewal procedure given in Clause 3.5.1. Requests for the appropriate documentation should be sent to TWI Certification Ltd.

The 10 year examination will consist of 50 multiple choice questions, to include assessment of any revisions or amendments to any standards, codes, legislation or regulations relevant to the level of certification held.

One retest, within six months of the 10 year renewal examination, will be allowed.

Failure at the retest point will mean that the candidate must take the full course and be successful in the full initial examination to regain the qualification.

### **3.6 Complaints and appeals**

An aggrieved party in a dispute which considers itself to have reasonable grounds for questioning the competency of a CSWIP qualified person may petition the Governing Board for non-renewal of the certificate. Such a petition must be accompanied by all relevant facts, and if in the opinion of the Board an adequate case has been presented, a full investigation of the circumstances under dispute will be initiated. If the petition is substantiated to the satisfaction of the Board, the certificate will not be renewed without further test.

Appeals against failure to certify or against non-renewal of the certificate may be made by the inspector or the employer upon application in writing to the Governing Board.

#### **4 RECORDS**

TWI Certification Ltd maintains records of successful and unsuccessful candidates. These records are accessible to the Governing Board or its nominees at all reasonable times.

#### **5 ADDRESSES**

***For further general information contact:***

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For specific information on examinations and tests and arranging for them to be carried out, contact the approved Examining Body:

TWI Training and Examinations  
Granta Park  
Great Abington  
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Phone:	+44 (0) 1223 899000	Fax:	+44 (0) 1223 891630
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## 1. Appendix A – Examination Syllabus

Certification Scheme for Personnel: Welding Quality Control Co-ordinator

APPENDIX 1 TO DOCUMENT NO CSWIP-QCC 20-08: Examination Syllabus

APPENDIX 1: EXAMINATION STRUCTURE AND SYLLABUS

Theory: 50 Multiple Choice questions covering the range of topics detailed below (a to i).  
Time allowed 75 minutes

Practical: The review of a documentation package containing a fabrication drawing, Inspection test plan, various associated reports e.g., material certification, heat treatment chart, NDT reports, welding procedure, welder qualification and weld history sheet for compliance with a TWI fabrication specification. Time allowed 3 hours

**Pass mark for all parts is 70%**

The candidate must show competence and knowledge of subjects covered in 1.3.1, as detailed below:

- a) Application of the requirements of codes and standards (although the document refers to UK regulations and / or European harmonised standards, relevant equivalent international and/or recognised regional standards will be adopted where practically applicable.)
- b) Identification of relevant material and components
- c) Knowledge of Heat Treatment procedures and recording systems
- d) Knowledge of Hydrostatic Testing methods, safety and best practice, pneumatic testing.
- e) Awareness of destructive mechanical testing
- f) Knowledge of quality related procedures and practices,
- g) Health and safety requirements and practices
- h) Knowledge of associated manufacturing processes and operations
- i) Use and application of Inspection Quality Test Plans / Written Schemes of Examination