



CERTIFICATION SCHEME FOR PERSONNEL

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Requirements for the Certification of Brazing Examiners

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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

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Accreditation Certificate No 25

FOREWORD

The Certification Scheme for Personnel (CSWIP) is a comprehensive scheme which 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 Welders, all levels of Welding Inspectors, Welding Supervisors, Welding Instructors, Plant Inspectors, Plastics Welders and Underwater Inspection 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 schemes is not improperly restricted. The sole criteria for certification are given in the 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. Objectives

The integrity and performance of brazed joints is critically dependent on the skill of individual brazers. In order to ensure that brazers are working at the required level, a scheme for qualifying the brazing examiners is essential. As well as bringing benefits to the trainee, it also provides nationally recognised status for the examiner and the organisation employing him/her in the role of examiner or appropriate person as required by ISO 13585 (EN 13133) and EN 14276.

2. Scope

The scheme identifies personnel who have relevant experience in brazing, a high level of brazing skill and who have attained a minimum level of knowledge. This document sets out the minimum responsibilities of a brazing examiner, the procedures by which certification is sought, and the method by which competence is assessed. Certification in accordance with this scheme does not confer authority to issue brazer approvals, which may require independent third-party action. In the case of equipment subject to the EC Pressure Equipment Directive (97/23/EC), brazer approval and brazing procedure approval will require the involvement of a Recognised Third Party Organisation (RTPO), such as TWI CL, or a Notified Body.

3. Skill Requirements

Examiners are required have at least two year proven industry experience in the application of manual flame brazing.

And hold a current certificate (issued within the last 24 months) in accordance with:

- EN 13133: Brazing – Brazer approval, or
- ISO 13585: Brazing – Qualification test of brazers and brazing operators, or
- EN 14276: Pressure equipment for refrigerating systems and heat pumps.

Examiners are required to have knowledge about the brazing processes to be used, the brazing imperfections that may be encountered, the applicable NDT techniques when these are used and the mechanical and other destructive testing employed.

4. The Examination

4.1. WRITTEN PART

Candidates will be required to take a multiple-choice question paper designed to test the candidate's knowledge of brazing technology.

4.2. PRACTICAL PART

Candidates are required to demonstrate their competence as shown in Section 6.

5. Required Experience

Candidates applying to be a Brazing Examiner must have a practical brazing background as listed in Section 3 or hold a valid CSWIP Brazing Instructor certification. Relevant experience or a recognised course of training covering all of the skills and knowledge required for the full range of brazing examiner duties as listed in Section 6 is also acceptable.

6. Brazing Examiner Duties

The conduct and witnessing of qualification tests by an Examiner shall be in accordance with the requirements of the relevant standard, client or nominated third party authority. The examiner shall ensure that current issues of relevant standards, client specifications and third party authority regulations used in the conduct of brazing qualification tests are used.

It is the responsibility of the examiner to:

- a) Ensure the base and filler materials, material dimensions, joint type and clearances, flow position and any other criteria required by the test are in accordance with the requirements before the test commences.
- b) Verify the name and any other means of identification of the person and record these details.
- c) Establish that the person carrying out the test understands the test requirements and is familiar with what he/she has to do.
- d) Record all necessary data relating to the test and prepare and issue a test record detailing all relevant information required by the standard, specification or regulation.
- e) Ensure that the brazed joint is made by the nominated person.
- f) Ensure that the completed test piece is adequately identified and the positions where test pieces are to be extracted are properly marked and, where appropriate, identified.
- g) Arrange for all required inspections and tests. Mechanical tests and NDT should be carried out by accredited laboratories.
- h) Assess the results of inspections and tests and establish if the candidate has been successful.
- i) Where the candidate fails, arrange a re-test if this required, following the procedure as detailed above.
- j) Generate all necessary records and issue or authorise the issue of certificates.

7. Application for Examination and Fees

Candidates will be required to submit an application form and a CV. 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.

Candidates proved to have cheated, or found to have attempted to remove or found to have removed examination material in a CSWIP examination will not be accepted as a candidate for any CSWIP examination for a minimum period of five years from the date of the examination where cheating, attempt to remove or removal of examination material, was established to have taken place.

8. Certification

8.1. 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.

8.2. SUCCESSFUL CANDIDATES

Two copies of a certificate of proficiency will be issued to the organisation or person that pays the examination fees. A Duplicate certificate to replace those lost or destroyed will be issued only after extensive enquiries.

8.3. UNSUCCESSFUL CANDIDATES

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

8.4. 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 8.5.1. 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.

8.5. RENEWAL

8.5.1. Five year renewal

In order for the certificate to be renewed after five years, the holder has to demonstrate that he/she has maintained his/her competence by:

- i) providing evidence of continuous work activity in brazing examination
- ii) providing evidence that the holder has kept up to date in brazing technology including 30 hours of classroom based/practical learning per year.

Renewal must take place not later than 21 days after the date of expiry of the certificate. 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.

8.5.2. 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 8.5.1.

The 10 year examination will consist of the following:

Multi choice written paper.

The initial practical examination.

One retest, within six months of the 10 year renewal examination, will be allowed. Candidates who fail the retest will be required to undertake formal training before attempting the initial examination.

8.6. 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 instructor or the employer upon application in writing to the Governing Board.

9. 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.

ADDRESSES

For further general information about the approval schemes covered in this document contact:

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