



ACCREDITATION SCHEME FOR
PRODUCT CERTIFICATION BODIES

CT 20
SAC CRITERIA FOR CERTIFICATION
BODIES (STRUCTURAL STEELWORKS
FABRICATORS)

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1 Introduction

- 1.1 This document specifies the additional definitions and supplementary criteria for certification bodies (CBs) of structural steelworks fabricators and is to be used with ISO/IEC 17065 and the applicable IAF Mandatory Documents.

2 Abbreviations

The following abbreviations are used in this document:

AWS	American Welding Society
CB	Certification Body
CSWIP	Certification Scheme for Welding Inspection Personnel
CWI	Certified Welding Inspector
EXC	Execution Class
FPC	Factory Production Control
IIW	International Institute of Welding
ITC	Initial Type Calculation
ITT	Initial Type Testing
RWC	Responsible Welding Coordinator
WPS	Welding Procedure Specification
WPQS	Welding Procedure Qualification Record

3 Definitions

The following definitions apply:

- 3.1 **Minor non-conformity**
Failure to meet one requirement of SS EN 1090-1 or SS EN 1090-2, or any of their normative reference documents, and which is considered not to constitute a risk to the quality of structural steelworks that a fabricator is supplying.
- 3.2 **Major non-conformity**
Deviation of product from specified requirements or the absence of, or failure to implement and maintain one or more required factory production control system requirements, or a situation which would, on the basis of available objective evidence raise significant doubt as to the conformity of the structural steelworks that a fabricator is supplying.

4 Certification Criteria

- 4.1 Certification bodies shall assess and certify the FPC system of structural steelworks fabricators according the following standards:
- SS EN 1090-1 – *Execution of steel structures and aluminium structures – Part 1: Requirements for conformity assessment of structural components*
 - SS EN 1090-2 – *Execution of steel structures and aluminium structures – Part 2: Technical requirements for steel structures*
- 4.2 The FPC system shall cover a single fabrication plant for all related processes, production lines and/or departments, including those outsourced or operated by subcontractor. Therefore, the CB shall define the scope of certification of a fabrication plant in terms of processes, units, lines and/or departments.
- 4.3 If the FPC is part of a system that has been certified to ISO 9001 by a CB accredited by SAC or an IAF MLA partner, the CB may use the accredited certificate in support of the FPC certification.

5 Certification Body Auditors

- 5.1 A CB shall appoint qualified auditors to conduct FPC assessments. Auditors shall meet the criteria specified in **Annex 1A**.
- 5.2 In addition, if the scope of certification for the FPC system includes welding processes, the CB shall ensure that the audit team:
- i. Consists of personnel that meets the criteria specified in **Annex 1B**;
 - ii. Has at least one individual who is qualified and experienced in welding to a level that is sufficient to demonstrate competence to the requirements of Table 14 of SS EN 1090-2.

This is to ensure that all welding technical activities can be adequately covered as part of the FPC assessment.

- 5.3 If there is only one person conducting the assessment, this person shall fulfil the requirements for lead auditor defined in **Annex 1A**, and the criteria defined in **Annex 1B**.

6 Initial Inspection of the Fabricator and FPC

- 6.1 The fabricator shall demonstrate that the FPC fulfils the requirements given in clause 6.3 of SS EN 1090-1. The tasks for CB performing the initial inspection are given in Table B.1 of SS EN 1090-1.
- 6.2 During the initial inspection of the fabricator, all processes, units, lines and departments covered by a single FPC system shall be inspected individually. This shall include those activities outsourced or operated

by subcontractors, unless their FPC has been certified by another SAC accredited certification body for the scope of work being undertaken.

- 6.3 During the initial inspection, the CB shall check that the factory has the necessary resources (premises, personnel and equipment) to achieve conformity in the execution and fabrication of steel structures.
- 6.4 During the initial inspection of the factory and FPC, the CB shall take into account the initial type calculation (ITC) and/or the initial type testing (ITT) as applicable (see 6.2 of EN 1090-1). This also applies if ITC is outsourced or done by subcontractors.
- 6.5 The fabricator or its subcontractors shall make available the records of ITT and/or ITC if applicable. The CB shall check that the results of the ITT/ITC procedure are consistent with the scope of processes, product types, materials and production lines covered (see Annex B of SS EN 1090-1).
- 6.6 If the testing is conducted by the fabricator's own laboratory or a subcontracted laboratory, the laboratory shall be accredited to ISO/IEC 17025 by SAC or an equivalent ILAC MRA partner, and the accreditation has to be specific for the tests to be carried out.
- 6.7 After a new ITT task has been undertaken, the fabricator shall inform the CB. The CB shall review the FPC to ensure that it is capable of controlling the new product. The CB does not need to undertake a supplementary assessment visit if the method of production is covered by the existing certified FPC system.

7 Initial Inspection for Special Process "Welding"

- 7.1 The CB shall assess whether the qualifications of welding personnel, procedures and processes of the fabricator meet the requirements of SS EN 1090-2 as appropriate.
- 7.2 In addition, the CB shall assess that the fabricator meets the requirements of the relevant part of ISO 3834 based on the execution class, and the quality of welding works is being monitored in accordance with the specified requirements through interviews, examination and analysis of documents and records, and by direct observation of the welding activities.
- 7.3 The CB shall have procedures to verify that the RWC employed by the fabricator complies with ISO 14731, and he/she possess an appropriate IIW qualification as defined in Table 1.

Table 1 – Acceptable Qualifications for RWCs

Technical Knowledge	IIW Qualification
Basic (B)	International Welding Specialist (IWS)
Specific (S)	International Welding Technologist (IWT)
Comprehensive (C)	International Welding Engineer (IWE)

- 7.4 If the above IIW certifications or qualifications are not available and the fabricator is able to provide evidence that the RWC is in process of attaining IIW qualifications, the CB shall verify compliance by considering **AWS CWI or CSWIP qualifications** and conducting a **technical interview** covering knowledge, skills, experience and competence of the RWC with particular emphasis on welding technology, materials and their behavior during welding, design fundamentals of welded construction, as well as fabrication and inspection aspects (including knowledge of standards) in the products being manufactured. Such qualifications shall be provided at the next assessment.

The scope of technical interview shall include, but not limited to the following areas:

- i. selection/development of welding procedures
- ii. welding sequences
- iii. NDT and heat treatment
- iv. approval of personnel
- v. traceability
- vi. quality control and acceptance
- vii. sub-contracting

- 7.5 For the assessment of special process “welding”, the CB may take reference from the GNB-CPD position paper from SG17 - EN 1090-1:2009 (Guidance from the Group of Notified Bodies for the Construction Products Directive).

8 Continuous Surveillance

- 8.1 The tasks for a CB during the surveillance visits are given in Table B.2 of SS EN 1090-1.

- 8.2 The surveillance inspections of special process “welding” shall include the following checks in accordance with the requirements of SS EN 1090-2:

- i. Commissioning of new WPSs into production;
- ii. Plans for the control of production welding are properly implemented;

iii. Methods and frequency of inspection and testing being undertaken.

8.3 The frequency of surveillance visits shall be in accordance with Table B.3 of SS EN 1090-1. Every unit, line and department covered by a single FPC system shall be included in a surveillance visit at least once every 3 years.

8.4 The certification body may request for more frequent visits from that given in Table B.3 of SS EN 1090-1, subjected to non-conformities identified during the periodic FPC assessments.

8.5 If major non-conformities are found, the frequencies for surveillance audits shall revert to the regime following initial surveillance where the provisions given in Table B.3 of SS EN 1090-1 will apply. (Reference: SS EN 1090-1 Annex B4.4)

Examples of major non-conformities include:

- Deficiencies in the performance and evaluation of welder, welding operator or welding procedure qualification tests;
- Deficiencies in welding procedure specifications and production weld tests;
- Incomplete or incorrect material inspection documents;
- Lack of availability of necessary standards, specifications and regulations for the production;
- Incomplete technical knowledge of the welding coordinator;
- Significant defects in products.

8.6 An additional surveillance audit may be required for one of the following reasons:

- new production lines or considerable changes to the existing ones;
- change of welding coordinator;
- new welding processes, parent material and relative WPQR;
- important new equipment.

(Reference: SS EN 1090-1 Annex B4.1)

9 Duration of Audits

9.1 In determining the duration of an audit, a CB shall consider the effective number of personnel in the fabricator's factory (including outsourced personnel and subcontractors under their single FPC system), target execution class, number of location(s) and the complexity of the processes.

- 9.2 The effective number of personnel is defined as all personnel within the fabricator's FPC system (i.e. involved in activities influencing product conformity). Considerations for determining the effective number of employees include part-time personnel and employees partially in scope, those working on shifts, administrative and office staff, and employment of transient workers etc.
- 9.3 The minimum audit time for on-site assessment of the fabricator's factory and FPC shall be as defined in Table 2.

**Table 2 – Minimum On-Site Audit Time in Man-Days
(FPC Includes Welding Processes)**

Effective number of personnel	Initial Inspection	Surveillance
1 – 15	1.5	1
16 - 30	2	1
31 - 60	2.5	1
61 – 100	2.5	1.5
101 - 250	3.5	2
251 – 1000	4.5	3
> 1000	6.5	4

- 9.4 With reference to Table 2, the CB shall increase the on-site audit duration by 0.5 man-days for each of the following cases:
- If the fabricator produces components which belong entirely to the execution class EXC4.
 - If one or more of the following FPC processes is outsourced:
 - procurement of materials and basic components
 - prefabrication processes (cutting, hot and cold forming, drilling, etc.)
 - welding
 - mechanical connections (bolts, nails, screws, etc.)
 - assembly
 - surface treatments
- 9.5 With reference to Table 2, the CB can take into account the following factors to reduce the audit time:
- If the initial assessment for SS EN 1090-1 is carried out together with a certification audit for ISO 9001 (initial, surveillance or recertification), the initial assessment duration can be reduced by 0.5 man-day.
 - If the fabricator manufactures components which belong entirely to the execution class EXC1 (ISO 3834-4), the audit times given can be further reduced by 0.5 man-day.

- In any case, the initial assessment cannot be less than 1 man-day.

10. Certification Documents

- 10.1 A certification body shall issue a Certificate of Conformity (CoC) to the certified fabricator in accordance with SS EN 1090-1. The certificate shall include the scope, place of production, execution class of product types, and applicable standards.
- 10.2 If the product types produced by the fabricator includes welding, the certificate shall state the welding processes and parent materials used.
- 10.3 The original date of issue (i.e. start of validity) and due date of the next surveillance shall be indicated clearly on the certificate. The certificate shall only be valid subject to continuous surveillance visits by the CB.
- 10.4 A sample of the FPC and welding certificate is given in **Annex 2**.

11 Records

- 11.1 The records of the CB related to all tasks performed during the assessment of factory production control shall be retained for at least 2 preceding assessments unless legal obligations require a longer period.
- 11.2 The CB shall retain full records of the assessment of the fabricator's welding coordinator(s) such as the personnel qualifications and records of technical interviews.

Criteria for FPC Auditors

The summary of the criteria for auditors performing FPC assessments is tabulated below.

Criteria	Auditors
Personal Attributes	Demonstrate personal attributes for effective and efficient performance of audits
Formal Education	Relevant Degree in Engineering or equivalent field
Other Qualifications	Have knowledge of current regulatory requirements and applicable Codes of Practice
Work Experience	Minimum of 5 years relevant working experience which includes: <ul style="list-style-type: none"> at least 3 years work experience in fabrication of steel structures or related products in a technical, professional or supervision position OR <ul style="list-style-type: none"> minimum 3 years audit experience in fabrication of steel structures or related products
Training on SS EN 1090	Completed training on SS EN 1090-1 and SS EN 1090-2
Audit Experience	<p><u>Auditors</u> Minimum of 1 Product certification audit on site of a structural steelworks fabricator or steel manufacturer, or minimum of 3 structural steelwork inspections (ISO/IEC 17020)</p> <p><u>Lead Auditors</u> Minimum of 3 Product certification audits on site of a structural steelworks fabricator or steel manufacturer, with at least 1 audit performed in the capacity as a team leader, or minimum of 5 structural steelwork inspections (ISO/IEC 17020)</p> <p>The audit team should have at least one person with audit experience in product certification (ISO/IEC 17065)</p>
Maintenance of qualification (every 3 years)	<p><u>Auditors</u> Perform a minimum of 3 Product certification audits for structural steelworks fabricators or steel manufacturer</p> <p><u>Lead Auditors</u> Perform a minimum of 3 Product certification audits for structural steelworks fabricators or steel manufacturer, with at least 1 audit performed in the capacity as a team leader</p>

Note: Audits can be initial, surveillance (include critical processes) or recertification audits.

Additional Criteria for Auditors Covering Welding Processes

The summary of the *additional* criteria for auditors performing FPC assessments with welding processes is tabulated below.

Criteria	Auditors
Work Experience	At least 5 years' experience in relevant field of welding
Professional Qualifications	Trained and qualified to the level of International Welding Engineer (IWE) or equivalent, or to the level of International Welding Technologist (IWT) or equivalent
Knowledge on Standards	Familiar with ISO 3834 and ISO 14731

Note

A Technical Expert with the equivalent welding experience, professional qualifications and technical knowledge shall be used to support the audit team if the audit team does not have the required or necessary technical knowledge.

[Name and address of CB]

Certificate of Conformity

Factory Production Control

[Certificate Number]

Construction product	e.g. Structural components and kits for steel structures to EXC2 according to SS EN 1090-1 <i>produced by</i>
Fabricator	[Name of Fabricator Company] [Address of Fabricator Company] <i>in the plant</i>
Fabrication Plant (production facility of the fabricator)	[Address of Fabrication Plant]
Confirmation	This certificate attests that all provisions concerning the assessment and verification of constancy of performance described in Annex ZA of the standard SS EN 1090-1: yyyy under Type 3 certification scheme of ISO/IEC 17067, with the addition of management system auditing applied, and that the factory production control fulfils all the prescribed requirements stated therein.
Start of validity	[Original Issue Date]
Next surveillance date	[Date of Next Surveillance Audit]
Period of validity	The certificate will remain valid as long as the test methods and/or the factory production requirements included in the standard used to assess the performance of the declared characteristics do not change, and the product and the manufacturing conditions in the plant are not modified significantly.

[Signed by authorized CB person]

[Date of issue]

This Certificate remains the property of <name of CB> and shall be returned upon request. The fabricator is solely responsible for compliance of any product that has the same designation as the product type-tested. Persons relying on this Certificate should verify its validity by checking <name of CB>'s website at <CB website>.

[Name and address of CB]

Welding Certificate

Annex to Certificate: [FPC Certificate Number]

Fabricator	[Name of Fabricator Company] [Address of Fabricator Company]
Applicable standard	SS EN 1090-2: yyyy Execution of steel structures and aluminium structures – Part 2: Technical requirements for steel structures
Execution class	[EXC x] according to SS EN1090-2
Parent materials	e.g. till S355 (group 1.1 & 1.2) according to EN 10025-2
Welding processes according to EN ISO 4063	e.g. 111 – Manual metal arc welding
Responsible Welding Coordinator	[Full Name, Qualification, Date of Birth] e.g. Mr John Doe, IWE (IIW), born on 01.01.1970
Deputy Responsible Welding Coordinator	[if any]
Confirmation	All provisions concerning welding as described in the above mentioned standard(s) were applied.
Start of validity	[Original date of issue]
Next surveillance date	[Date of Next Surveillance Audit]
Remarks	[if any]

[Signed by authorized CB person]

[Date of issue]

This Certificate remains the property of <name of CB> and shall be returned upon request. The fabricator is solely responsible for compliance of any product that has the same designation as the product type-tested. Persons relying on this Certificate should verify its validity by checking <name of CB>'s website at <CB website>.