



*Publication
Reference*

EA-6/02 M: 2013

EA Guidelines on the Use of EN 45 011 and ISO/IEC 17021

PURPOSE

The purpose of this document is to provide the basis for the harmonisation of the audit of welding fabricators under accreditation by members of the European co-operation for Accreditation (EA).

Authorship

This publication has been written by the Joint Working Group of EA and the European Federation for Welding, Joining and Cutting (EWF).

Official language

The text may be translated into other languages as required. The English language version remains the definitive version.

Copyright

The copyright of this text is held by EA. The text may not be copied for resale.

Further information

For further information about this publication, contact your national member of EA. Please check our website for up-to-date information <http://european-accreditation.org>

Category: **Application documents and Technical/Advisory documents
for Conformity Assessments Bodies**

EA-6/02 is a mandatory document.

Date of Approval: **18 June 2013**

Date of implementation: **Immediate**

Transition period: **None**

CONTENTS

1.	INTRODUCTION	6
1.1	Definitions	6
2.	QUALIFICATION OF EN ISO 3834 AUDITORS AND EN ISO 3834 TECHNICAL EXPERTS TO BE USED BY THE CERTIFICATION BODY	7
2.1	Scope	7
2.2	Qualification and experience requirements	7
2.3	Competence evaluation of applicant EN ISO 3834 auditors and technical experts	9
2.4	Orientation meetings	9
2.5	Interview	9
2.6	Maintenance of proficiency	9
2.7	Lead auditor requirements	9
2.8	Documentation	10
3.	AUDIT OF MANUFACTURERS IN ACCORDANCE WITH EN ISO 3834 PARTS 2, 3 AND 4	10
3.1	Scope	10
3.2	Procedure	10
3.3	Validity and renewal	12
3.4	Surveillance	12
3.5	Recertification	14
4.	REFERENCES	14
5.	LIST OF ITEMS ATTACHED	14
5.1	APPENDICES	14
5.2	EXEMPLAR FORMS	14
	APPENDIX 1 ORIENTATION MEETINGS	15
	APPENDIX 2 QUESTIONNAIRES ON QUALITY REQUIREMENTS FOR WELDING	16
6.	REVIEW OF REQUIREMENTS AND TECHNICAL REVIEW	17
7.	SUB-CONTRACTING	17
8.	WELDING PERSONNEL	17
9.	INSPECTION AND TESTING PERSONNEL	17
10.	EQUIPMENT	18
11.	WELDING AND RELATED ACTIVITIES	18
12.	WELDING CONSUMABLES	18

13.	STORAGE OF PARENT MATERIALS	18
14.	POST-WELD HEAT TREATMENTS	18
15.	INSPECTION AND TESTING	19
16.	NON-CONFORMANCE AND CORRECTIVE ACTION	19
17.	CALIBRATION AND VALIDATION OF MEASURING, INSPECTION AND TESTING EQUIPMENT	19
18.	IDENTIFICATION AND TRACEABILITY	19
19.	QUALITY RECORDS	19
	EXEMPLAR 1: REGISTER OF EN ISO 3834 AUDITORS AND EN ISO 3834 TECHNICAL EXPERTS	19
	EXEMPLAR 2: PRELIMINARY INFORMATIVE ENQUIRY	20
	EXEMPLAR 3: SCOPE OF ACTIVITY	23
	EXEMPLAR 4: QUESTIONNAIRE	24
	Recommendation of the Lead Auditor	26

1. INTRODUCTION

EN ISO 3834 defines quality requirements for welding both in workshops and on site, and is appropriate when demonstration of a manufacturer's capability to produce welded construction in accordance with specified criteria is required; it can also be used as the basis for assessing a manufacturer's welding quality arrangements.

The properties of welded products cannot be confirmed by testing alone, assurance is gained by controlling the production process. If the welding production processes are controlled in accordance with EN ISO 3834 it is recognised that the quality of the welds in the final product will meet the specified criteria.

EN ISO 3834 'Quality requirements for fusion welding of metallic materials' (reference 3) is in six parts:

- Part 1 Criteria for the selection of the appropriate level of quality requirements
- Part 2 Comprehensive quality requirements
- Part 3 Standard quality requirements
- Part 4 Elementary quality requirements
- Part 5 Documents with which it is necessary to conform to claim conformity to the quality requirements of EN ISO 3834-2, EN ISO 3834-3 or EN ISO 3834-4
- Part 6 Guidelines on Implementing ISO 3834

The General Assembly of EA has confirmed that the audit and certification of the welding capability of a manufacturer in accordance with the requirements of EN ISO 3834 Part 2, 3, or 4, can be provided as an integral part of ISO 9001 audit and certification, (ISO/IEC 17021,), or as a stand-alone audit and certification of the welding operations and associated activities which influence the integrity of welds (EN 45011, References 1 and 2). In both cases, meaningful certification should provide the purchaser (and manufacturer) with a clear statement of the manufacturer's capability to produce welded construction.

EA guidance on EN ISO 3834 audit and certification is required because welding is a special process and the evaluation of all the welding related activities and welding process operations implemented by the manufacturer to achieve the required welding quality, requires particular competences of the audit team. Since both audit routes require the rigorous evaluation of welding controls and associated activities, the auditor qualifications and requirements for audit in these guidelines apply to both routes.

In conjunction with ISO 9001 standard the audit should be of sufficient depth and rigour to evaluate and confirm that the required EN ISO 3834 controls are exercised over all aspects of the welding operations appropriate to the manufacturer's range of activities covered by the scope of QMS certification.

A similar rigorous audit of the welding controls and activities in accordance with EN ISO 3834– Part 2, 3, or 4 as a stand-alone audit should confirm the adequacy of welding controls to achieve the specified welded product quality requirements.

The applicable part of EN ISO 3834 (Part 2, 3, or 4) for stand-alone audit and certification of the welding operations and activities (EN 45011) will depend on the nature of the welding activities required to meet the agreed specifications and influenced by how critical the welding operations are to the quality and fitness of the final product.

EN ISO 3834 is not certification of the final product, and therefore use of marks on the product is not permitted. Any certification/declaration issued by the manufacturer must confirm which part of EN ISO 3834 has been applied. Please note that this does not prevent the certified company making a statement as being certified to EN ISO 3834 in accordance with EA/EFW guidelines.

If a manufacturer is seeking to comply with ISO 3834 Part 2 or Part 3, he would need to implement the elements of a QMS as listed in Section 6 of ISO 3834 Part 1.

This document may not on its own constitute a complete set of requirements needed for certification. Scheme Owners, e.g. Certification Bodies, may need to specify further details on how evaluation/auditing will be performed in their respective certification. Manufacturers, their clients and other interested parties need to inform themselves about the differences between different Certification Bodies and their approach and requirements for certification.

Where related activities are covered by accredited schemes and standards, for example certified welders; welding engineers and weld inspectors under ISO 17024, these should also be utilised wherever possible.

The term 'audit' is used extensively through this document, this should be read as referring to all evaluation techniques used for the evaluation of conformity for the requirement in question for conformity, (reference ISO 17000:2004 clause 4.3 and 4.4).

The Guidelines have been drawn up with the assistance of EWF. No accreditation body, certification body or certified company applying these guidelines may claim any recognition or authority from EWF nor may they use the EWF logo without the permission of EWF.

Note: at the time of drafting this version ISO/IEC 17065: 2012 has been issued, once Accreditation Bodies and Certification Bodies have become familiar with all of the requirements of this new standard, this document will be further updated to reflect any necessary changes. In the meantime where EN 45011 is referred to, this should also be read as covering ISO/IEC 17065.

1.1 Definitions

The following terms are used throughout this document and definitions are given here for clarity. Alternative relevant terms are acceptable providing they are also clearly defined.

EN ISO 3834 Certification Scheme: The Scheme operated by the Certification Body for the certification of a company's welding activities in accordance with EN ISO 3834.

EN ISO 3834 Audit Team: The group of EN ISO 3834 auditors (including the EN ISO 3834 Lead Auditor), appointed by the Certification Body, which assesses the manufacturer for compliance with the ISO 3834 Certification Scheme. Depending on the specific circumstances of the audit (e.g. size of the company, complexity of its processes, etc) an EN ISO 3834 Lead Auditor may conduct an EN ISO 3834 audit alone.

EN ISO 3834 Auditor: A person who satisfies the criteria given in Part 1 for registration by the Certification Body to perform EN ISO 3834 Certification Scheme audits.

EN ISO 3834 Lead Auditor: The auditor who is responsible for directing the EN ISO 3834 Audit Team.

EN ISO 3834 Technical Experts: Person recognized by the Certification Body as an experienced specialist in a specific welding field or trained and qualified to the level of I/EWE or equivalent, or to the level of I/EWT or equivalent to provide specialist welding technical support within the EN ISO 3834 Audit Team.

Competence Evaluation System: A system involving competent person(s) for the evaluation of applicant EN ISO 3834 Auditors and Technical Experts. Such competent persons should be qualified to the level of International/European Welding Engineer or equivalent, and have a minimum of seven years' immediate past experience in welding at the level of professional engineer in one or more of the following environments: university, industry or national welding body.

International/European Welding Engineer (I/EWE) and International/European Welding Technologist (I/EWT): The qualifications defined in references section.

The term "shall" is used throughout this document to indicate those provisions which, reflecting the requirements of ISO/IEC Guides, are mandatory.

The term "should" is used to indicate guidance which, although not mandatory, is provided as a recognised means of meeting the requirements. Certification bodies are expected to adopt the requirements of this document, whilst any certification body whose system do not follow this guidance in any respect will only be eligible for accreditation if it can demonstrate to the accreditation body that their solutions satisfy the relevant clause of ISO/IEC Guides and the intent of this Guidance in an equivalent way.

2. QUALIFICATION OF EN ISO 3834 AUDITORS AND EN ISO 3834 TECHNICAL EXPERTS TO BE USED BY THE CERTIFICATION BODY

2.1 Scope

This section provides guidelines on the requirements to be met by EN ISO 3834 Auditors and Technical Experts and on the procedure leading to their registration by the Certification Body.

The criteria to achieve registration cover: qualifications and experience, attendance at orientation meetings, and professional interview. There are also criteria covering the maintenance of registration.

2.2 Qualification and experience requirements

EN ISO 3834 Auditors:

- a) shall be competent in quality management system auditing (for example in accordance with ISO 19011), and
- b) should have a minimum of three years' experience in the field of welding within the last five years.

Applicant EN ISO 3834 Technical Experts should:

- a) be recognised by the Certification Body as experienced specialists in a specific welding field, or trained and qualified to the level of I/EWE or equivalent, or to the level of I/EWT or equivalent, and
- b) *be able to demonstrate* current work experience spanning at least three years in fabrication by welding, and

- c) familiarity with quality management systems would be beneficial but not essential.

2.3 Competence Evaluation of applicant EN ISO 3834 Auditors and Technical Experts

Applicants should provide the following documentation, as applicable, to the Certification Body:

- i) curriculum vitae including details of training and qualifications
- ii) experience in the field of welding (including a brief description of each major employment, preferably supported by relevant documentation from the employer)
- iii) experience in quality management systems (including a brief description of each major employment, preferably supported by relevant documentation from the employer or other body(ies)).

The Evaluation System should be used to evaluate compliance of the applicants' professional profile with the qualification and experience requirements, by examination of the above documentation.

2.4 Orientation meetings

In order to provide the applicant EN ISO 3834 Auditors and Technical Experts with exhaustive information on the EN ISO 3834 Certification Scheme, the Certification Body should organise a specific orientation meeting that all applicant EN ISO 3834 Auditors and Technical Experts are required to attend (see Appendix 1).

2.5 Interview

Applicant EN ISO 3834 Auditors and Technical Experts who have satisfactorily completed steps 2.3 and 2.4 above should undergo a Professional Interview covering the subjects related to the qualification and experience requirements and the EN ISO 3834 Certification Scheme. The Professional Interview should be conducted by one or more competent person(s) as defined under 'Evaluation System' see Definitions.

In the case of a positive result, the approved EN ISO 3834 Auditors and EN ISO 3834 Technical Experts should be registered in a manner that indicates their specific experience of different welded products, processes and materials (for example see Exemplar 1).

2.6 Maintenance of proficiency

The EN ISO 3834 Auditors and Technical Experts shall maintain their proficiency through:

- active participation in relevant audit activities
- sufficient updating and/or refreshing of knowledge and understanding of the relevant standards and scheme procedures

2.7 Lead Auditor requirements

The EN ISO 3834 Lead Auditor shall be an EN ISO 3834 Auditor with authenticated experience in the EN ISO 3834 Certification Scheme. The Certification Body should be able to demonstrate that appointed EN ISO 3834 Lead auditors are competent to lead EN ISO 3834 audits.

Lead Auditors should possess an E/IWE or E/IWT diploma or equivalent.

2.8 Documentation

All the documentation provided and produced as per these guidelines, shall be retained by the Certification Body. The documentation shall be retained for a period of not less than three years after the performance of the last audit conducted by the registered individual.

3. AUDIT OF MANUFACTURERS IN ACCORDANCE WITH EN ISO 3834 PARTS 2, 3 AND 4

3.1 Scope

These guidelines define the criteria and methods to be used by Certification Bodies to evaluate a manufacturer in accordance with the EN ISO 3834 Certification Scheme.

3.2 Procedure

3.2.1 Information phases and audit preparation

It is important for the Certification Body to acquire sufficient initial information from the manufacturer so that it can:

- Accurately estimate the scope and cost of the task
- Ensure that appropriate EN ISO 3834 Auditors and/or Technical Experts are appointed

Exemplar 2, 'Preliminary Informative Enquiry' includes questions on all the important aspects of a manufacturer's activities that relate to EN ISO 3834. This Exemplar may be used as a guide.

The EN ISO 3834 Audit Team shall:

- i) contain persons with direct product/process/materials competence in the products/processes/materials being audited, and
- ii) contain at least one individual who is qualified and experienced in welding to a level that is sufficient to demonstrate that he/she is competent to Audit the company's Authorised Welding Co-ordinator(s) in accordance with EN ISO 14731, 'Welding co-ordination – tasks and responsibilities' (reference 6).

The number of auditors constituting the EN ISO 3834 Audit Team (one or more persons) depends on the specific circumstances of the audit (e.g. the size of the company, the complexity of its processes, etc). The EN ISO 3834 Audit Team should comprise EN ISO 3834 auditors (including the EN ISO 3834 Lead Auditor) and EN ISO 3834 Technical Experts such that the aggregate of their detailed qualifications, knowledge and experience is adequate and relevant for the tasks involved in the proposed audit.

If it is proposed/decided to use only one person to conduct the audit, this person shall fulfil the requirements for both the EN ISO 3834 Lead Auditor and the EN ISO 3834 Technical Expert. (to also be considered under 2.7)

3.2.2 Audit phase

The correct implementation of, and compliance with, the chosen part of the EN ISO 3834 Certification Scheme should be audited by the EN ISO 3834 Audit Team through interviews, examination and analysis of documents, by direct observation of the activities in the manufacturer's plant, and by inspection of the welded product and weldments.

The Audit Team shall ensure that all the requirements of the chosen part of EN ISO 3834 are audited. Records of the whole process should be maintained. Appendix 2 contains guidance on the preparation of questionnaires.

Special care shall be taken by the EN ISO 3834 Audit Team in evaluating the competence of the manufacturer's welding co-ordinators in accordance with EN ISO 14731 (reference 6). The manufacturer shall be required to comply with ISO 14731. The Certification Body shall have procedures, which demonstrate that this important aspect of ISO 3834 is properly evaluated. Such procedures shall take into consideration of the following criteria:

- a) If an EWF/IIW qualification is available (E/IWE, E/IWT, E/IWS) the welding co-ordinator(s) could be accepted provided there is an adequate experience and competence in the products being manufactured to be verified by means of a professional interview* with manufacturer's welding co-ordinators and examination of the welding coordinator's curriculum vitae
- b) Welding coordinators with EWF/IIW Personnel Certification (CE/IWE, CE/IWT, CE/IWS) with a schedule supporting the scope of work allocated to the welding coordinator, may also be accepted provided adequate experience and competence in the products being manufactured is verified by means of a professional interview*.
- c) If none of the above EWF/IIW certifications or qualifications are available, the Certification Body shall verify compliance by means of a professional interview* covering knowledge, skills, experience and competence of the welding co-ordinators with particular emphasis on welding technology, materials and their behaviour during welding, design fundamentals of welded construction, as well as fabrication and inspection aspects (including knowledge of standards) in the products being manufactured. If such a professional interview* is satisfactory, competence of the welding coordinator(s) can be accepted by Certification Body for this role and for the products and processes consistent with the current production.

The professional interview* process shall involve the examination of specific contract(s) to Audit compliance with the customer's specification in, for example, 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

* *This means that technical discussions must take place between each responsible Welding Co-ordinator and the relevant Auditor (see section 3.2.1 point (ii)) regarding the detailed technical scope of the Welding Co-ordinator's responsibilities and the interview should take the form of a peer review and challenge process. This process will require the Auditor to examine evidence of completed work done by each Welding Co-ordinator and to investigate his/her knowledge and understanding of it. The certification body shall maintain full records of the process of evaluation of the manufacturer's welding co-ordinators.*

In order to achieve full conformity to EN ISO 3834 Part 2, 3, or 4, a manufacturer is required to conform either to the ISO documents listed in Section 2.2 of Part 5 of the standard, to other documents that can be demonstrated to provide technically equivalent conditions, or to other documents that are referenced in the product standards for the products being made by the manufacturer. Certification Bodies shall ensure that any certificates of conformance to EN ISO 3834 that they issue clearly identify the documents used by the manufacturer. Exemplar 3 indicates a way of doing this.

Although EN ISO 3834 makes reference to 'inspection' and 'testing', it does not specify criteria for organisations performing these activities. The results of inspections and tests carried out by the manufacturer, or by sub-contractors, and presented as objective evidence to confirm satisfactory process controls and/or achievement of specification requirements should be fully audited by the Certification Body.

The EN ISO 3834 Audit Team shall confirm that the manufacturer's and/or sub-contractor's facilities and personnel providing inspection and testing services are conducted and controlled in a technically competent manner which provides confidence in the results obtained, and can therefore support the conclusions made, regarding process control adequacy and specification compliance. Compliance with ISO/IEC 17020 or ISO/IEC 17025, as appropriate, including the correct scope of competence and methods in relation to the requirements for inspection and testing, would provide such confidence..

Guidance on dealing with any non-conformity found during the audit is given in references 1, 2, 4 and 5.

In case of combined certification ISO 9001 and EN ISO 3834 the audit of both standards shall be conducted as combined or integrated audit (see ISO/IEC 17021:2011 cl.3.4).

3.2.3 Certification phase

The Report of the Audit Team shall be submitted to the Certification Body. If certification is recommended, a competent, independent, decision-maker appointed by the Certification Body has the responsibility to decide on the issue of a certificate and on the scope of certification (for example, see Exemplar 3). Such a person undertaking the technical aspects of the decision process should have at least three years of experience in welding technology.

3.3 Validity and renewal

EN ISO 3834 certificates issued in combination with ISO 9001 under ISO 17021 accreditation have a validity of three years beginning with the certification or recertification decision.

EN ISO 3834 certificates issued under EN 45011/ISO 17065 accreditation have a validity of no more than five years from the date of issue, subject to satisfactory surveillance. Re-certification is required accordingly, at which time the manufacturer must follow the same procedure as for initial application and certification.

3.4 Surveillance

Periodic surveillance of certified activities shall be implemented in accordance with the requirements of ISO 17021 or the respective Certification Body's scheme (which shall meet the minimum requirements below), as appropriate, in order to verify continuing conformity with the EN ISO 3834 Certification.. Frequency of visits shall be determined at contract review and must meet the minimum requirements of the accreditation standard concerned together with any related guidance. Surveillance activities, including those for combined ISO

9001 and EN ISO 3834 certificates, must take into account all relevant requirements of EN ISO 3834.

For stand-alone EN ISO 3834 certificates issued under EN 45011, periodic audit is required to confirm continuing compliance with the specified part of EN ISO 3834. For the first certification period a surveillance visit must be carried out within 12 calendar months (with a tolerance of 3 months) of the initial audit. This frequency must be maintained when non conformities are identified which raise doubt on the clients' ability to comply with all the requirements. Thereafter, the on-site surveillance frequency may be extended to a maximum of 36 months.

Such an extension shall not be applied where there have been nonconformities¹ (1) raised during the previous surveillance visit that raise doubt about the clients ability to continue to comply with requirements, and , in addition ,where an appraisal of the following factors would suggest a significant risk that the manufacturer's control system would deteriorate over the extended period:

- the maturity of the organisation and its management to control welding activities,
- how robust the organisation is in the operation of its welding control system,
- the level of confidence in the ability of the organisation to control its welding activities,
- the complexity and range of welded components produced taking account of materials, failure risk, manufacturing processes and product application.

In support of the above requirement, the certification body shall request completion of a questionnaire on an annual basis to identify whether there have been any critical changes to the manufacturer's products, structure and organisation and to establish that its performance remains satisfactory. Particular aspects to be considered would include (a typical questionnaire is shown in the exemplar 4):

- changes in the scope and/or design of products manufactured,
- changes in the application of or range of welding processes used,
- changes in the grades of materials welded or notable increases in existing material thicknesses,
- changes in welding coordinators or their authority,
- performance in relation to achievement of delivery schedules,
- performance in relation to extent and type of nonconformity
- changes in regulatory requirements

Any extension in surveillance frequency must be fully justified with evidence to support the justification. Note: It is recognised that regulatory requirements may have an effect on surveillance frequency.

For EN 45011, If the certification body and/or national regulatory requirements specify a shorter re-certification period (e.g. 3 years) this may be taken into consideration when the certification body considers the risks of any potential deterioration of the manufacturers control systems and implementation of the questionnaire. In such a regime and, if sufficient justification is present, this includes the right to waive the first 12 month surveillance site visit and to fully rely on the annual questionnaire between re-certification audits.

Extension of the surveillance shall not be granted where the certification is (also) used for the welding of products under the PED (97/23) and/or the CPR (305/2011)

¹ (1) Nonconformity as defined in EA-6/01

Note: surveillance frequencies under ISO 17021 are defined within the standard

3.5 Recertification

3.5.1 ISO 3834 in combination with ISO 9001

The requirements of ISO 17021 have to be followed. All relevant requirements of ISO 3834 have to be taken into account.

3.5.2 ISO 3834 (stand alone)

A re-certification audit to an extent of an initial audit has to be performed if the last periodic surveillance audit within the relevant certification cycle will take place after expiring of the validity of the relevant certificate.

4. REFERENCES

1. EN 45 011; General requirements for bodies operating product certification systems (ISO/IEC Guide 65:1996)
2. IAF GD5; IAF Guidelines on the Application of ISO/IEC guide 65
3. EN ISO 3834; Quality requirements for fusion welding of metallic materials, Parts 1, 2, 3, 4, 5 and 6
4. ISO 17021; Conformity assessment – Requirements for bodies providing audit and certification of management systems EA's Guidelines on the Application of ISO/IEC 17021
5. IAB 252 IIW Guideline for International Welding Engineers, Technologists, Specialists and Practitioners – Personnel with Qualification for Welding Coordination – Minimum Requirements for the Education, Examination, and Qualification
6. EN ISO 14731; Welding coordination - Tasks and responsibilities
7. EN-ISO/IEC 17065; Conformity assessment – Requirements for bodies certifying products, processes and services.

5. LIST OF ITEMS ATTACHED

5.1 Appendices

1. Orientation Meetings
2. Questionnaires on Quality Requirements for Welding

5.2 Exemplar Forms

1. Register of Auditors
2. Preliminary Informative Enquiry
3. Proposed Schedule (to accompany the certificate)
4. Annual Questionnaire to certified manufacturer

APPENDIX 1 ORIENTATION MEETINGS

1 Introduction

The Orientation Meetings are designed to provide the applicant auditors with adequate information on the EN ISO 3834 Certification Scheme.

The following Orientation Meeting Syllabus is intended as a “minimum”; each Certification Body may give more extensive information as it sees fit.

2 Orientation Meeting Syllabus

Items

- Certification Body: general organisation and procedures
- Comparison between EN ISO 3834 and ISO 9001
- Review of EN ISO 3834, Parts 1, 2, 3, 4, 5 and 6
- Relationship to EN 45 011 and ISO/IEC 17021
- EA and Certification Body’s interpretation of EN ISO 3834
- Procedures for Manufacturer audit and certification according to EN ISO 3834
- Procedures for the evaluation and registration of Auditors and Technical Experts
- Questionnaires for audit
- Procedures for evaluation of welding co-ordinators according to EN ISO 14731

APPENDIX 2 QUESTIONNAIRES ON QUALITY REQUIREMENTS FOR WELDING

The list of questions given below is not a complete list of the requirements of EN ISO 3834, but is designed to present the overview of the requirements of EN ISO 3834 Part 2. Certification Bodies are required to develop their own questionnaires based on this document which covers Parts 2, 3 and 4, to make use of the EWF Questionnaire continued in EWF-6389 latest revision². The guidance below may be used as a basis for, but will not in themselves provide a complete, questionnaire.

The Questionnaires should be formulated in such a way that the manufacturer, as part of the Information Phase, can provide answers to the questions, which can then be evaluated by the EN ISO 3834 Audit Team.

6. REVIEW OF REQUIREMENTS AND TECHNICAL REVIEW

Does the manufacturer consider the following aspects for the review of requirements?

- a) the product standard to be used, together with any supplementary requirements;
- b) statutory and regulatory requirements;
- c) any additional requirement determined by the manufacturer;
- d) the capability of the manufacturer to meet the prescribed requirements.

Is there any documented evidence of the above?

Does the manufacturer consider the following technical review? E.g.

- a) parent material(s) specification and welded joint properties;
- b) quality and acceptance requirements for welds;
- c) location, accessibility and sequence of welds, including accessibility for inspection and for non-destructive testing;
- d) the specification of welding procedures, non-destructive testing procedures and heat-treatment procedures;

Is there any documented evidence of the above?

7. SUB-CONTRACTING

- a) Does the manufacturer give the sub-contractor of service or activities (e.g. welding, inspection, non-destructive testing, heat treatment) The necessary information to meet the applicable requirement?
- b) Does the manufacturer ensure that the sub-contractor can comply with the quality requirements as specified?
- c) Is there any documented evidence of the above?

8. WELDING PERSONNEL

- a) Are welders and welding operators duly qualified according to the relevant standards?
- b) Are welding coordinator(s) duly qualified?
- c) Is there any documented evidence about task and responsibilities assigned to welding coordinator(s)?

9. INSPECTION AND TESTING PERSONNEL

- a) Has the manufacturer at his disposal sufficient and competent personnel for planning and performing and supervising the inspection and testing of the welding production according to the specified requirements?
- b) Are NDT operators duly qualified?

10. EQUIPMENT

- a) Does the manufacturer maintain a list of essential equipment, used for production?
- b) Does this list identify items of major equipment, essential for an evaluation of workshop capacity and capability?
- c) Does the manufacturer maintain documented equipment maintenance plan?
- d) Is there any documented evidence of execution of maintenance?

11. WELDING AND RELATED ACTIVITIES

- a) Does the manufacturer carry out an adequate production planning (e.g. specification of the sequences by which the construction shall be manufactured, work instructions, drawings, etc.)?
- b) Does the manufacturer prepare and quality the welding procedure specification(s) according to the relevant standards and ensure that these are used correctly in production?
- c) Are tasks and responsibilities to prepare and control production planning documentation and other quality documents assigned?

12. WELDING CONSUMABLES

- a) Are tasks and responsibilities for control of welding consumables specified and implemented in production (identification, storage and handling)?
- b) Is storage such that the consumables will not be adversely affected?

13. STORAGE OF PARENT MATERIALS

- a) Are tasks and responsibilities for control of parent materials specified and implemented in production (identification, storage and handling)?
- b) Is storage such that the material, including material supplied by the client will not be adversely affected?

14. POST-WELD HEAT TREATMENTS

- a) Are records of heat treatment maintained? Does the manufacturer issue adequate records, made during the process, of the post weld heat treatment?
- b) Do records demonstrate that the specification has been followed and are traceable to the particular product?

15. INSPECTION AND TESTING

- a) Are inspections and tests planned and carried out at appropriate points in the manufacturing process to assure conformity with contract requirements?
- b) Does location and frequency of such inspections and/or tests comply with the contract and/or product standard?
- c) Are records maintained?
- d) Are measures taken, as appropriate, to indicate, e.g. by marking of the item or a routing card, the status of inspection and test of the welded construction?

16. NON-CONFORMANCE AND CORRECTIVE ACTION

- a) Are non conformance records maintained?
- b) Are measures implemented to avoid recurrence of non conformances?
- c) When repair and/or rectification is undertaken by the manufacturer, are descriptions of appropriate procedures available at all workstations where repair or recetification is performed?

17. CALIBRATION AND VALIDATION OF MEASURING, INSPECTION AND TESTING EQUIPMENT

Is all equipment used to Audit the required quality of the welded construction suitable, controlled and calibrated or validated at specified intervals?

18. IDENTIFICATION AND TRACEABILITY

- a) Where appropriate, is identification maintained throughout the manufacturing process?
- b) Where appropriate, is traceability maintained throughout the manufacturing process?

19. QUALITY RECORDS

- a) Does the manufacturer prepare and maintain a list of required quality records?
- b) Are quality records retained for a minimum period of five years in the absence of any other specified requirements?
- c) If use of standards not in ISO 3834-5: Does the Manufacturer specify the use of standards different than those referred to in ISO 3834-5?
- d) For use of the certificate: Does the use of the certification by the manufacturer give a true and accurate image of the manufacturer's capability covered by the certification?

**EXEMPLAR 1
REGISTER OF EN ISO
3834 AUDITORS
AND EN ISO 3834
TECHNICAL EXPERTS**

Auditor Number	Auditor Name	Registration Date	Engineering Profile (1)	Quality Profile (2)	Type of Product	Process experience	Materials experience	Confirmation Date		

Note 1: Insert A, B or C according to the following:
 A for an I/EWE* with at least three years of work experience in the field of welded fabrication
 B for an I/EWT* with at least three years of work experience in the field of welded fabrication
 C for a person experienced in the field of welding (three years minimum)
 To be an EN ISO 3834 Technical Expert requires A or B in this column

Note 2: Insert D or EC according to the following:
 D for a person competent in quality system auditing
 E for a person familiar with quality management systems.
 A person with a D in this column can be an EN ISO 3834 Auditor , in other cases he/she is an EN ISO 3834-2 EN EI Expert
 Refer to Part 1 of the Guideline for further explanation of the above

* or equivalent qualification

EXEMPLAR 2

PRELIMINARY INFORMATIVE ENQUIRY

1 GENERAL INFORMATION

Name of the Unit to be audited

Address of the Unit to be audited

Telephone Fax

E-mail

2 CERTIFICATION ISSUED BY OTHER ORGANISATIONS/BODIES

If yes specify the following:

Type of Certification	Certifying Body	Date of issue	Date of expiry

3 INFORMATION TO SUPPORT APPLICATION FOR CERTIFICATION

3.1 The basic standard for which the certification is requested.

3.2 Description of the manufacturer’s organisation structure, with details of the part of the organisation involved in the welding related activities. Functions and number of person shall be indicated.

Function	Total number of persons	Number of persons involved in welding activities

Please provide an organisation chart for the Unit including welding co-ordination (EN ISO 14731) and a description of the job responsibilities of the authorised welding co-ordinator(s).

3.3 Type of manufactured product(s)

.....

3.4 Type of production

- By product
- By mass

3.5 Standards and/or specifications applied

- List of product standards and/or other specifications used
- Standards used for welder approval

.....

- Standards used for welding procedure approval

.....

3.6 Maximum weight and size of product the manufacturer is able to handle

Maximum weight

Maximum size

3.7 Parent materials welded (reference to the relevant groups of CEN ISO/TR 15608 should be made) and related thickness ranges

Parent material	Range		Parent material	Range

3.8 Welding and allied processes

Welding Processes

Allied Processes

.....

.....

.....
3.9 Use of Post Weld Heat Treatment

Yes No

3.10 Activities generally subcontracted

.....
.....
.....

3.11 Organisation and index of welding co-ordination procedures

.....
.....
.....

4 FORMAL INTERFACES WITH THE CERTIFICATION BODY

Manufacturer Unit reference person and function

.....

Address

.....

Telephone.....

Fax.....

E-mail

Date

Manufacturer Manager

.....

.....

Signed

.....

General Note:

If for any of the above items more space is required, please issue, with the reference to the correct item number, an attached sheet.

EXEMPLAR 3

SCOPE OF ACTIVITY

(to be included with the Certificate)

- 1 Type of product(s)
.....
- 2 Product standards(s) or alternative standard(s) (see EN ISO 3834-5)
.....
- 3 Parent materials group(s) (according CEN ISO/TR 15608)
.....
- 4 Welding and allied processes

Welding processes (according to ISO 4063)	Parent material groups (according to CEN ISO/TR 15608)

5 Responsible Coordination Personnel

NAME	QUALIFICATION	JOB FUNCTION & LEVEL*

*The level must be stated in order to comply with ISO 14731

Authorised Signature: _____

EXEMPLAR 4

Questionnaire

Company

Contact

Road

Place

Questionnaire for the Monitoring of Your Company According to EN ISO 3834 Registration Number:

Dear _____,

We have enclosed the questionnaire and are asking you to fill it in and to send it directly to our lead auditor. Please indicate only **those changes with regard to the last monitoring.** On the basis of the results, we will stipulate whether a monitoring audit is necessary at your plant. Please understand that any incomplete information will necessitate a monitoring audit in situ.

Note: Pages 3 and 4 are intended to be filled in by our lead auditor. You can send the questionnaire to our lead auditor using the address printed on Page 3.

Thank you very much for your cooperation.

Date of the last monitoring:

1. Changes in the company organisation
 Yes (please enclose a new organisation chart or explain)
 No
2. Change with regard to the welding co-ordinator (WC)
 Yes (please enclose qualification documents)
 No. Name of the supervisor:
3. Change in the responsibilities of the WC (in relation to EN ISO 14731)
 Yes (please explain)
 No
4. Changes with regard to the testing personnel
 Yes (please explain who has left or joined the company when and please enclose the qualification documents of the new people)
 No(Please provide the list (names) of testing personnel.)
5. Change in the number of welders
 Yes (please specify the current number and enclose a list of welders with the valid qualification tests)
 No Number of welders:(Please provide the list (names) of qualified welders.)
6. Current certificates for welders' qualification tests, e.g. according to EN 287; or for operators, e.g. according to EN 1418 (please enclose examples)
7. Change in welding processes
 Yes (enclose procedure qualification tests and WPS)
 No

8. Change in the range of materials
 Yes (please explain)
 No
9. Change with regard to heat treatments
 Yes (please explain)
 No
10. Range of products changed
 Yes (please explain)
 No
11. Objections and complaints
 Yes (internal (in the case of in-house testing) and external (by customers), please explain)
 No
12. Change with regard to suppliers of welded components
 Yes (please enclose the supplier assessment)
 No

I confirm the truthfulness of the above information

Date

Management, Signature

Company

Lead Auditor

Road
Place

Recommendation of the Lead Auditor

Criteria to be audited:

1. Changes in the company organisation
In the case of fundamental changes (e.g. setting-up of new fields of fabrication by means of welding technology), monitoring audit in situ necessary.
 Yes
 No
Remarks:
2. Change with regard to the welding co-ordinator (WC)
If the WC is changed in relation to the name on the certificate, monitoring audit in situ necessary.
 Yes
 No
Remarks:
3. Change in the responsibilities of the WC
In the case of a fundamental extension to the activities (performance of the tasks according to EN ISO 14731 questionable), monitoring audit in situ necessary.
 Yes
 No
Remarks:
4. Changes with regard to the testing personnel
In the case of fundamental changes, monitoring audit in situ necessary.
 Yes
 No
Remarks:
5. Change in the number of welders
In the case of a fundamental extension to the welding technology activities (increase greater than 25% or 5 welders), monitoring audit in situ necessary.
 Yes
 No
Remarks:
6. Current certificates for welders' qualification tests, e.g. according to EN 287; or for operators, e.g. according to EN 1418
If there are no certificates about current welders' qualification tests, monitoring audit in situ necessary.
 Yes
 No
Remarks:
7. Change in welding processes
If new welding technologies are used, monitoring audit in situ necessary.
 Yes
 No
Remarks:

- 8. Change in the range of materials
If new groups of materials are used, monitoring audit in situ necessary.
 Yes
 No
Remarks:
- 9. Change with regard to heat treatments
If heat treatments are now carried out in house or in the case of fundamental changes in the technology, monitoring audit in situ necessary.
 Yes
 No
Remarks:
- 10. Range of products changed
In the case of fundamental changes with regard to the use of fabrication processes by means of welding technology, monitoring audit in situ necessary.
 Yes
 No
Remarks:
- 11. Objections and complaints
In the case of fundamental customer complaints, monitoring audit in situ necessary.
 Yes
 No
Remarks:
- 12. Change with regard to suppliers of welded components
If fundamental suppliers are changed, monitoring audit in situ necessary unless an adequate supplier assessment is proven.
 Yes
 No
Remarks:

Date

Name, Signature

Note: Please return the complete questionnaire including the annexes to