Guideline of the European Committee for Welding of Railway Vehicles - ECWRV -

Part 1

Procedure for the application of EN 15085 Online Registers and conformity of welding manufacturers for welding of rail vehicles and components by a recognized and independent certification body

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https://www.en15085.net or https://joincert.eu



Preface of ECWRV

This guideline has been prepared by the European Committee for Welding of Railway Vehicles (ECWRV).

The European Committee for Welding of Railway Vehicles (ECWRV) is a voluntary association.

The aim of the ECWRV is to promote cooperation between all parties involved in the manufacturing of welded rail vehicles.

Compliance with this Guideline is mandatory for all certification bodies that are members of the ECWRV Online Register.

National safety authorities and accreditation bodies may refer to this Guideline.

The application of EN 15085 part 1 to part 6 is based on the generally accepted rules of technology.

Welding manufactures that are listed in the Online Register for welding activities of new production or welding maintenance shall confirm their qualification and suitability in compliance with EN 15085.

The evidence by the manufacturer considered to have been provided when an ECWRV manufacturer certificate is issued by a recognized ECWRV manufacturer certification body and has been listed in the online register EN 15085.

The certificate is invalid if the conditions upon which was granted of the ECWRV certification does not longer exist.

References to related standards, regulations and guidelines are made in the entire series of EN 15085, information, leaflets and guidelines represent a national character to the general rules of technology and are voluntary in their application.

The guideline part 1 describes the ECWRV manufacturer certification procedure, schema, and the requirements for the ECWRV manufacturer certification body.

The guideline part 2 contains technical interpretation of the entire series of EN 15085 part 1 to part 6.

These guidelines are coordinated in the ECWRV committee.



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0 Definition and Abbreviations

Definition:

The term **"shall"** be used throughout this document to indicate those provisions which, reflecting the requirements, are mandatory.

The term **"should"** be used to indicate guidance which, although not mandatory, is provided as a recognised means of meeting the requirements.

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Abbreviations:

AT	Assessment Team of ECWRV Online-Register
AS	Assessment Team of Manufacturer Certification Body
МСВ	Manufacturer Certification Body
OR	Online Register EN 15085 of SLV Halle GmbH
М	Maintenance application
Р	Production application
D	Design, type of activity
S	Supply and Purchasing of welded components, type of activity
ECWRV	European committee for welding of railway vehicles
PWT	Production weld Test
WPS	Welding procedure specification according to EN ISO 15609
WPQR	Welding process qualification record according to EN ISO 15610- 15614
VT	Qualified visual testing inspector according to ISO 9712
FW	Filled weld
BW	Butt weld
CP	Weld performance class
CL	Classification level
СТ	Class of testing
FAI	First article inspection
NC	Non-Conformity
ICT	Information and communication technology
rWC	Responsible welding coordinator
WC	Welding coordinator
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ECWRV



1 Purpose

The purpose of this Guideline is to validate manufacturer conformity assessment procedure by an independent recognized ECWRV body with EN 15085-2.

An independent body within the meaning of this guideline is an ECWRV manufacturer certification body, which is recognized and published in the online register to verifies and certified the manufacturer requirements of EN 15085-2.

2 Scope

This Guideline applies the evidence of conformity as welding manufacturer according to EN 15085-2. The guideline describes the conformity assessment procedure to demonstrate the compliance with the manufacturer requirements of EN 15085-2 by a manufacturer certification body, based on the certification system Online Register EN 15085.

3 Procedure of the ECWRV manufacturer certification body approval

3.1 General

The procedure to be followed and the requirements for obtaining approval of a manufacturer certification body (MCB) to participate in the ECWRV EN 15085 Online Register as well as for maintaining such approval should help to achieve a uniform level of quality for welding work on railway vehicles throughout Europe and globally and to promote continuous improvement in these areas.

3.2 Agreement for period of transition

All previous transitional agreements between manufacturer certification bodies (MCB) and the ECWRV, which were applied and valid, are declared invalid with the entry into force of this Guideline.

3.3 Procedure of admission/Procedure for approval

The approval procedure will be started by a mutually signed agreement between the applicant manufacturer certification body (MCB) and the ECWRV, EN 15085 online register. The agreement refers to this Guideline and regulates all legal and financial matters of the approval procedure as well as all rights, duties and responsibilities of the manufacturer certification bodies (MCB) as well as of the ECWRV, EN 15085 online register.

3.3.1 Application form for admission/approval

The application by a manufacturer certification body (MCB) can be made in the electronic application form at www.en15085.en/application-mcb or alternatively the application form on the website at <u>www.en15085.en/application_MCB.pdf</u> is used.

The following documentation shall be attached to the application form (in electronic form only):

- General description of the organisation, including organisation chart
- Accreditation certificate according to EN ISO/IEC 17065 for certification according to EN 15085-2
- As additional document could be required an approval by the national safety authority if requested.
- List of auditors for EN 15085 and their curricula vitae and experience in accordance with subparagraph 5.

All the above documents shall be submitted in English.



3.3.2 Registration in the Online Register

When applying for approval as a manufacturer certification body (MCB) according to ECWRV, an agreement for registration as manufacturer certification body MCB in the online register www.en15085.net or www.joincert.eu is applied for same time.

The agreement regulates all admission procedures as well as all duties and responsibilities for the use of the EN 15085 Online Register by the MCB.

3.3.3 Documentation check for admission

The AT reviews the application form and attach documentation and evaluates them according to the requirements described in clause 5 of this guideline.

In case non-conformities are found, the AT will ask the MCB for corrective actions.

3.3.4 On-site audit for alternative approval

The MCB may chose the procedure for MCB recognition by paper assessment or by an onsite audit. If the MCB cannot be thoroughly evaluated during the documentation review by the AT, or in case a non-conformity corrective action cannot be evaluated and closed on a documental basis, an on-site audit at the MCB facilities may be requested by the AT.

This audit can be used for conducting professional interviews for MCB auditors as well.

3.3.5 Initial Member recognition as ECWRV Manufacturer certification body

The initial recognition covers the following procedure:

- Active participation of the MCB in the meetings of ECWRV as Member
- The MCB demonstrate his competence in a regular meeting of ECWRV to all the other members.
- Description of competence according to the application form
- Auditors have to be recognized by the assessment regulation of ECWRV
- Decision about status as applicant after paper assessment
- Free access to the EN15085 Online Register

The conditions for applicant MCBs are as following:

- Minimum numbers of auditors are two for initial application
- Nomination as MCB applicant is limited for two years

3.3.6 ECWRV full member status

- After closing all findings, the MCB can be granted the status of "Authorised ECWRV EN 15085 Manufacturer Certification Body" and can be registered on "The ECWRV EN15085 Online Register", under <u>http://www.joincert.eu</u>.
- Once authorized, the MCB is allowed to insert the previously certified companies into the online register
- After two years as an applicant MCB there will be an evaluation procedure including a screening and monitoring of all activities in the online register.
- In case of successful evaluation, the applicant will change to the status of full member MCB
- Additional auditors could recognized by the assessment regulation depending on the number of certificates.
- Recognition is valid up to 5 years



3.3.7 Prolongation of ECWRV full member status

The authorized MCB is responsible for maintaining compliance with the requirements described. Any important change in the MCB organization shall be communicated to the ECWRV. If the ECWRV becomes aware of any MCB behaviour which is in conflict with the requirements described in this guideline, the ECWRV EN 15085 Manufacturing Certification Body authorization will be revoked.

The authorization is valid for maximum 5 years. After 5 years the MCB shall apply at least for 3 months before the authorization expires for renewal. The MCB generally uses the same procedure to apply for an extension of approval, which is valid for a maximum of another 5 years.

4 Requirements for ECWRV manufacturer certification body

4.1 Cooperation within ECWRV

The MCB is requested to divulge and transparent ECWRV activity in its own country.

The MCB has to promote the ECWRV certification procedure of manufacturers in the national market.

The MCB shall participate actively in the ECWRV by attending meetings and joining of working groups.

The ECWRV recognized MCB is strongly recommended to transfer all national established EN 15085 Certification in the EN 15085 Online-Register.

The ECWRV agreed to use the Online Register EN 15085 for all required Document storage. For this management and administration is the owner of the EN 15085 Online Register SLV Halle responsible.

The ECWRV business and management language is English.

4.2 General national accreditation

Only a MCB which is accredited by the national accreditation body according to EN ISO/ IEC 17065, in the scope of EN 15085-2, can be authorized by ECWRV.

If do not exist any national accreditation it can be accepted to perform recognition procedure on European National Safety Authority, or an authority working on behalf of a European Safety Authority.

The MCB authorized the Online Register to publish the national accreditation certificate with its range of application in the <u>http://www.en15085.net</u> and <u>http://www.joincert.eu</u> online register.

4.3 General ECWRV EN 15085 Online Register requirements

The MCB shall has professional competence and experience at least of three years in welding of railway vehicles.

The MCB has to participate in the experience exchanges among national and ECWRV meeting. Evidence is required.

The MCB agree with a written undertaking letter to apply and comply with this Guideline.

ECWRV member ship will be charged according to the ECWRV contract regulations.



The MCB or lead industry member will be recognized based on the application form Appendix 3 according to the following sequence:

- 1. Applicant Status: time of duration for application procedure but maximum of two years
- 2. Member Status: for 2 years minimum, with Online Register access
- 3. Full Member Status: for 5 years maximum with further prolongation of 5 years maximum

The MCB is responsible to provide all required evidence annexes according to the application form Appendix 3 on the current and keep further update status.

For MCB is strongly recommended to publish all national and international executed manufacturer certificates in the ECWRV online register regardless of whether ECWRV member or before ECWRV membership.

The online register holder will appoint an AT team for all MCB recognition procedures.

For the initial MCB application are two assessors required. The online register owner provides an assessor list consists of the ECWRV confirmed examiners.

The MCB recognition process can be carried out with a written assessment or an on-site audit.

The MCB should have access to laboratories for destructive and non-destructive testing (EN ISO/IEC 17025).

The MCB shall has means minimum of two auditors as permanent employed and IWE/EWE educated. Further auditors can perform audits for more than one MCB within the ECWRV contractually with evidence. The MCB is responsible to provide required documents for recognition of auditors due to this guideline. The total numbers of auditors are in relation to the MCB executed audits per year.

The MCB has to provide proof documents to prevent conflicts of interests, impartiality, and independence of his recognized ECWRV auditors.

The MCB has to nominate one head and one deputy of the EN 15085 organisation within the recognised MCB with appropriate knowledge in the scope of welding of railway vehicles.

The MCB issued manufacturer certificate shall be always signed off according to the four eyes principle by the executed auditor and ECWRV recognized head of MCB or his deputy. Internal decision-making audit procedure according to EN ISO/IEC 17065 and EN 15085 shall be described in detail and will be only accepted for experts with welding knowledge of railway vehicles application. Evidence is required.

4.4 Auditor requirements and recognition

The Auditor is holder at minimum of mechanical engineer diploma or similar degree as such as prerequisite of IIW/EWF for IWE or IWT education.

The auditor shall have knowledge of audit practices (e.g., EN ISO 19011), assessed and confirmed by an internal or external organization.

Auditors have to in addition to the requirements of EN ISO/IEC 17065 be IWE/EWE education according to the guideline EWF 416/IAB 252 as prerequisite for a recognised ECWRV auditor.

The Auditor shall be recognised for ISO3834-2 as lead auditor already.



Exceptionally an IWT/EWT according to the guideline EWF 416/IAB 252 can be recognises by ECWRV with described in detail restricted execution competencies.

IWT/EWT recognized auditor can working as co-auditor.

In case of an initial or re-certification CL1 manufacturer certification at least one IWE/EWE shall be the part of the audit team.

The auditor shall have proven comprehensive technical knowledge and professional experience in the scope of manufacturing and maintenance and design and resells for the railway vehicle industry of three years minimum like a welding coordinator, -supervisor, -inspector, -technologist, -instructor, -designer or similar welding activities.

For welding maintenance application (M) it is required extraordinary particular knowledge and experiences.

The auditor should have sufficient inspection knowledge, experiences and or training/education to be qualified in visual testing level2 according to ISO 9712 to assess and evaluate for weld quality. An IWI inspector is accepted too.

The ECWRV recognised auditor has to attend a training course before he applies via to an already recognized MCB for ECWRV examination interview according to the ECWRV examination rules.

The ECWRV auditor course can be organized internal or external as face to face or web based with following content and minimum time of 16 hours. The course will be finish with a successful passed knowledge test.

The course subjects are shown in minutes:

1.	Tasks and responsibilities of the ECWRV and System Online Register	60 min
2.	EN 15085-1, General, Welding of railway vehicles and components	60 min
3.	EN ISO 9606 1, EN ISO 14732 Qualification of welders and welding operators	90 min
4.	EN ISO 9606 2, EN ISO 14732 Qualification of welders and welding operators	90 min
5.	Types of inspection documents according to EN 10204	45 min
6.	ISO 2553 Symbols and indications on welding drawings	45 min
7.	EN 15085-2 Welding of railway vehicles, manufacturer quality requirements	75 min
8.	EN 15085-3 Welding of railway vehicles, Design, calculation, fatigue strength of welded joints	90 min
9.	WPS EN ISO 15607 und WPQR EN ISO 15614	75 min
10.	Chances and limits of NDT & DT, Demonstration of DT and NDT	120 min
11.	EN 15085 4: Welding of railway vehicles and components, Production requirements	75 min
12.	EN 15085 5: Welding of railway vehicles and components, Inspection, testing and documentation	60 min
13.	ECWRV Guidelines, all parts	60 min
14.	EN 15085-6: Welding of railway vehicles and components, Maintenance welding requirements	60 min

Written knowledge test shall be organized according to the course topics above as follow:

- 1. 30 questions
- 2. 60 minutes time limed in general
- 3. Without any helping and those tools
- 4. In case of web based online course, 90 sec. time limit for each answer and upload respectively the answer sheet back to the examination board within 10 min. after examination finished officially.

The ECWRV examination interview will be organizes only by the Online Register owner.

The ECWRV examination interview according to the ECWRV examination rules is an indispensable successful prerequisite for an ECWRV auditor who wants to be entitled published in the ECWRV online Register under the recognised ECWRV MCB.



The Examination interview board consist of nominated ECWRV examiners based on the numbers of candidates (one at least in charge of the industry and one impartial chairperson for compliance, claims and complains).

In exceptional cases or under certain circumstances the ECWRV examination interview may be carried out web based or replaced by an onsite witness audit with a recognized auditor appointed by the ECWRV. In such case shall be requested and confirmed to ECWRV committee.

The topics for ECWRV examination interview as follow:

- 1. General verbal knowledge test about the EN 15085 application and relevant codes, standards, guidelines, and information letters.
- 2. Role play for the general audit procedure and possible problem solutions promptly.
- 3. Written tasks as such for filling of certificate requirements to the online register, drawing indication and interpretation of welding quality requirements with focus on: classification level, safety relevance of components, safety categories of a single weld, developing of welding performance class, and testing classes.

In case that the candidate of ECWRV examination interview has not pass, he may apply 6 months after for one re-examination free of fee. All further ECWRV examination interviews may apply one year after and will be charged like the first ECWRV examination interview.

The auditor shall take part in a minimum of 5 internal or external audits according to EN 15085 before they are authorized to conduct an audit as lead auditor.

The maintenance and further prolongation procedure of an already recognised ECWRV auditor qualification will be organizes as follow:

- 1. Proof of regularly participants of experience of exchanges, at least once per year
- 2. Auditor shall preform at least 5 audits per year to demonstrate the current state of technology.
- 3. Auditor qualification shall be prolonged every 3 years by one EN15085 CL 1 witness audit internally or externally by an ECWRV already recognized auditor.
- 4. Every five years with the procedure of MCB prolongation will be assess the auditor based on executed required numbers of audits within previous period of validation.

4.5 Conditions for prolongation of ECWRV manufacturer certification body approval

The MCB shall perform at least 10 audits, including 5 CL1 (P) audits and least one for (D) and one for (S) and one for (M) audits each year. Combination audits for activities are possible in one audit.

The MCB shall organize least every year an internal or external organized national exchange of experience meeting for auditors' participation.

The MCB shall only assign auditors who maintain their knowledge and competence up to date by carrying out at least 5 audits per year.

The MCB is responsible to update required documents according to the application form of each chapter.

The MCB has to fill out and provide required documents and signed off with the attached application form for ECWRV MCB recognition especially for initial or prolongation procedure.



5 ECWRV Audit Procedures and Description of Conformity

5.1 General Requirements

The purpose of this Guideline is to describe the conformity assessment of welding manufacturers for verification of implementation of the EN 15085 series of standards.

Activities of individual MCBs, members of the online register only apply to certification procedure in the EN 15085 Online-Register, therefore the next part of the guideline will only concern the conformity assessment by an independent third party.

The MCB shall have a written procedure that describes the way an EN15085 audit is performed. Said procedure shall include all relevant documents and forms used in the manufacturer assessment. Mandatory documents and/or forms shall be in the national language and in English. The English translation is necessary to facilitate ECWRV inspections and for audits in foreign workshops.

Audit details shall be described by the auditor in a language the manufacturer can understand.

It is recommended to carry out the audit documentations in bilingual, in native and in English.

If the audit is carried out in a foreign language, it is necessary to clarify the translation requirements. In case to use an interpreter, he shall be able to understand the technical terms and EN 15085 applications.

5.2 Audit documents

Optional document forms shall be in the national language and in English if they are essential for foreign workshop audits, or if the document needs to be checked by ECWRV.

5.2.1 Audit application form

The MCB shall require an authorized representative of the applicant organization to provide the necessary information to enable it to establish the following:

- the desired scope of the certification,
- relevant details of the applicant organization as required by the specific certification scheme, including its name and the address(es) of its site(s), its processes, and activities, human and technical resources, functions, relationships, and any relevant legal obligations,
- identification of outsourced processes used by the organization that will affect conformity
- the standards or other requirements for which the applicant organization is seeking certification,
- whether consultancy relating to the management system to be certified has been provided
- workshop address, telephone, fax, email, web, contact person
- welding coordinators including CV., diploma and IIW/EWF certificate
- further welding personal qualification and experience e.g., NDT personnel, welders, operators
- Classification level, CP, and CT level
- Design type of activities
- Sub-supplier types
- WPQRs and WPSs
- Welding equipment
- Non-destructive and destructive testing equipment
- Heat treatment equipment
- Welding operation equipment (jigs, furnaces, etc.)
- Evidence of ISO 3834 compliance



5.2.2 Audit plan

5.2.2.1 Audit plan for initial and renewal audit

- Members of audit team
- Audit date
- Introduction meeting with all participants
- Review of the application form
- Technical statements, e.g., facilities, equipment, ...
- Classification level, weld performance class, field of application, range of certification
- Organization chart, table of tasks and responsibilities acc. EN 15085-2:2020 annex A
- Proof of declarations, e.g., details of manufacturers documents
- Personnel conditions, qualifications
- Technical conditions (WPQR, WPS, welders and operators' approvals)
- Workshop inspection for P and M including storage of base, filler materials and equipment check
- PWT including documentation
- Production order management
- Evaluation and execution of parts in production
- Check of production documents including welding planning documents (drawings, part list, ...)
- Technical discussion (see report)
- Report preparation, evaluation, final discussion
- Handling of deviations, status of the certificate (renewal, certificate blocking until correction)

5.2.2.2 Audit plan for surveillance audit

- Members of audit team
- Audit date
- Introduction meeting with all participants
- Check field of application in the valid certificate
- Check of welder's approvals, procedures, and range of certification
- Check of execution of welded parts in production (if any) including workshop conditions
- Check of documentation
- Report preparation
- Evaluation, final discussion
- Handling of findings, status of the certificate (renewal, certificate blocking until correction)

5.2.3 Audit report

The MCB shall provide a written report for each audit to the client. The audit team may identify opportunities for improvement but shall not recommend specific solutions. Ownership of the audit report shall be maintained by the certification body.

The audit report shall provide an accurate, brief, and clear record of the audit to enable an informed certification decision to be made and shall include or refer to the following:

- a) identification of the certification body,
- b) the name and address of the client and the client's representative,
- c) the type of audit (e.g., initial, surveillance or re-certification audit or special audits),
- d) the audit criteria,
- e) the audit objectives,
- f) the audit scope, particularly identification of the organizational or functional units or processes audited and the time of the audit,
- g) any deviation from the audit plan and their reasons,
- h) any significant issues impacting on the audit programme,
- i) identification of the audit team leader, audit team members and any accompanying persons,



- j) the dates and places where the audit activities (on site or offsite, permanent, or temporary sites) were conducted,
- k) audit findings, reference to evidence and conclusions, consistent with the requirements of the type of audit,
- I) significant changes, if any, that affect the quality system of the client since the last audit took place,
- m) recommendation from the audit team.

The report needs to show the results of the items the application has been issued for. It can be done based on the application itself and can include all documents under 5. or it can be separated. Results in the report have to be shown:

- a) Result acceptable no findings
- b) Result acceptable findings with due date
- c) Result unacceptable NC, non-conformities

Finding sheets can be inserted in the report or additional audit document. The audit closure form can be in the report or separated.

5.2.4 Checklist for welding personnel qualification and welding coordinator assessment

Other documents documenting the company are implemented to the checklist, for example:

- Available personnel including evidence of valid qualification test certificates
- Equipment including production and production quality
- Welding procedure specifications, qualification of welding procedures
- Welding planning documents (drawings, welding plan, test plan)
- Evidence of the NDT equipment and the performance of NDT

The assessment of the welding coordinator shall be done on base of a table according to EN ISO 14731:2019, Annex A and EN 15085-2:2020, Annex D. Qualifications and examination of knowledge, professional experience and competences shall be documented.

6 Manufacturer audit and conformity assessment

6.1 General manufacturer audit information

At the manufacturer's request, MCB assesses compliance with the requirements of EN 15085. Audit objectives should be defined by the MCB. Audit scope and criteria, including changes, should be established by MCB after interviewing the manufacturer.

In the case of a multi-site manufacturer, the selection (sampling) of sites is not allowed. Planning of audits shall be performed by the provisions of 6.3 of EN ISO 19011.

The audit should be carried out through interviews, review, and analysis of documents, direct observation of activities in the manufacturer's company, and inspection of products and welded joints. Particular attention should be paid to the assessment of the competence of welding work coordinators.

Certification is granted for maximum of three years from the date of the certification or recertification decision. In the first certification cycle, the surveillance audit shall be performed within 12 calendar months (with 3-month tolerance) from the date of the certification audit. Surveillance audits are carried out once a year in the following years of the cycle.



6.2 Company tour and areas visit for production and storage

The initial certification audit shall be carried out in one step. The audit shall be following 6.4 of EN ISO 19011. MCB should have a procedure for conducting on-site audits. The process should include an opening meeting at the beginning of the audit and a closing meeting at the end of the audit.

On-site assessment of compliance with the requirements of EN 15085 includes:

- meeting the requirements of employees performing welding works (coordinators of welding works, welders, operators of welding equipment)
- assessment of technical knowledge concerning welding of welding work coordinators in accordance with EN ISO 14731 and the EN 15085 series of standards
- compliance with the requirements by inspection staff and NDT
- compliance with the requirements by subcontractors
- test certificates and reports of qualified WPQR and welding technologies
- welding technological instructions based on the qualified WPQR
- qualification tests of welders followed by the relevant part of the EN ISO 9606 standard
- qualification tests of welding equipment operators following the EN ISO 14732 standard
- working qualification tests following the EN ISO 15613 standard.
- additional tests following EN 15085-4.
- checking production equipment.
- checking the production and storage rooms.
- compatibility of basic materials and welding consumables.
- technical requirements and production of welded joints.
- quality requirements following the relevant part of EN ISO 3834 (see table B.1).

MCB shall conduct a full audit of the results of the controls and tests carried out by the manufacturer or subcontractors. The presented results of control and tests should be proved by the objective evidence confirming the accuracy of process navigation approved by the fulfilment of the requirements of the specification.

If welding operation in different rail vehicles workshops, it is required to visit the sub workshops for check the equipment and production of welded joints also in these at least once per time of certificate validation.

If any part of the audit is performed using information and communication technology (ICT), the MCB should ensure that these activities are performed by appropriately competent personnel. ICT includes software and hardware such as smartphones, portable devices, laptops, desktops, drones, video cameras, wearable devices, artificial intelligence, and more. The use of ICT may be appropriate for conducting audits/assessments, both on-site and remotely.

6.3 Work instructions and developing of WPS and WPQR applications

The manufacturer may use the Welding Procedure Specification (WPS) directly to undertake the activities and instruction. Alternative work instructions with appropriate content could apply. Such work instructions should be prepared based on WPQR and do not require separate qualifications.

WPS shall be developed and validated by the manufacturer in such a way that they will be properly used in the production process. The documents for which full compliance with the quality requirements is required are set out in EN ISO 3834-5, Table 4.

Welding technologies shall be reviewed by MCB as part of activities related to determining the scope of certification of welding processes and they include testing and inspection of samples of the resulting welds.



Qualification methods should be kept by EN 15085-4 or with findings of the specification. The documents for which full compliance with the quality requirements is required are set out in EN ISO 3834-5, Table 5.

6.4 Documentation for conformity assessment of manufacturer

The manufacturer's documentation for conformity assessment shall include the procedures required by the EN 15085 series of standards and the relevant part of EN ISO 3834, NDT procedures and instructions, as well as welding process instructions (WPS) and further additional welding instruction documents fi required.

Manufacturer shall preparer following quality documentation:

- review protocol or requirements/technical
- documents confirming the qualifications and competencies of the welding surveillance personnel, including clearly assigned tasks and responsibilities
- lists and certificates of welders, operators, and adjusters
- lists of qualified non-destructive testing personnel with test authorizations
- equipment maintenance lists, plans, and protocols
- inspection documents for basic and additional materials for welding
- WPS, WPQR, work instructions and inspection reports
- production plans
- FAI and previously reports and protocols
- measurement reports
- heat treatment protocols and specifications, if required
- welding improvement, welding repair non-compliance reports
- other documents, if required

7 ECWRV Online Register certificates of manufacturer conformity

The following various certification audits of welding manufacturer are applied:

- initial audit
- surveillance audit, within the period of validity or in case of changes (Special audit)
- re-certification

The scope of certification according to EN 15085-2 essentially depends on the allocation of railway vehicles and components.

For components and parts of railway vehicles in accordance with EN 15085-2, for the allocation to the classification levels, table 1 of EN 15085-2 shall be taken into consideration.

The selection of the classification level is to be carried out by the manufacturer in advance of the audit.

The valid certificates will be listed and published on the Online-Register on <u>https://en15085.joincert.eu/</u> operated by the ECWRV.

The certificate of manufacturer's conformity acc. to EN 15085-2 is no certification of the final product, and therefore use of a mark on the product is not permitted.

Following reference values of minimum audit hours on site shall apply for the audit in principle according to 9.4 Appendix.



In the case of surveillance audits carried out because of a change (e.g., a change of welding coordinator), the actual audit time may differ from the audit time for surveillance audits defined in the table above.

This and other deviations (e.g., reduced audit times based on single-purpose production, reduced audit times due to two auditors, etc.) that exceed -30 % of the audit time shall be explained in the audit report.

For the type of activities "D" (design) can be done online as a remote audit and for type of activities "P (production)", "M (maintenance)" and "S (supply)" audits have to be carried out always onside. ISO/IEC TS 17012 shall be considered for execution of remote audits.

7.1 Content of manufacturer's certificate

Manufacturer certification body information

- name and full address of manufacturer
- name of Lead Auditor
- name of manufacturer certification body
- name of head of the manufacturer certification body or alternative deputy
- name of national accreditation body
- registration number of accreditation certificate

Certificate date and periods

- Place and date of issue
- Last day of validity
- Certificate number
- Period of validation

_

Welding coordination personnel

For each relevant welding coordinator shall be indicated:

- 1) rWC responsible welding coordinator or
- 2) 1st deputy of the responsible welding coordinator or
- 3) other welding coordinator's
- First name
- Family name
- Date of birth
- Qualification level according to EN 15085-2, in addition is possible with e.g., IWE/EWE, IWT/EWT, IWS/EWS, IWP
- Subcontracted welding coordinators shall be marked as "external ".
- If welding coordinators authorised to qualified welders/operators internally in accordance with ISO 9606 or ISO 14732 shall be indicated in the certificate on page two under remarks.

Scope

- welding processes shall be indicated according to ISO 4063 nomenclature by the reference number
- certificates indicate under -Scope /Remarks- whether the welding procedure is specified for BW or FW joints separately. If no remark means it is applicable with both joint.
- WPQR ID, recommended to be indicated in -scope/remarks- as reference in the certificate if required.
- If no information is given, by default the degree of mechanization is understood to be manual
- Furter process degrees of mechanization, e.g., "robot" or "fully mechanized" partly mechanized, shall be inserted in the certificate under -scope/ remarks-.
- Special characteristics, e.g., overlay welding or finishing welding, can be indicate in the certificate



Groupe of Material

- material group mentioned in the WPQR qualification, groups indicated according to CEN ISO/TR 15608
- materials for groups 1 to 6 appropriate subgroup should be indicated
- for all further materials, the CEN ISO/TR 15608 main group indication is required
- materials are assigned to groups by Technical Report ISO/TR 20172 those assignments shall be used
- X120Mn12 should be indicated as "X120Mn12 " under "scope/remark" in the certificate
- Materials that cannot be assigned to a group according to CEN ISO/TR 15608, e.g., materials pursuant to CIS standards, the material designation or material no. should be indicated under scope: remarks-in the certificate
- Combinations of material groups shall be indicated in special cases (e.g., 72/X120Mn12)

Dimensions

- dimensions shall be stated separately for plates and pipes
- dimensions include the parent material thickness
 BW: t_{min} t_{max}, FW a_{min}-a_{max} and in addition D_{min} D_{max} for pipes
- parent material thickness below 3 mm shall be indicated with comma and one decimal
- thickness shall be rounded up to 0,5 or whole number (e.g., 1,4 mm to 1,5 mm, 1,6 mm to 2,0 mm)
- parent material above 3 mm shall be indicated with whole number e.g., 5,3 mm to 5 mm, 5,6 mm to 6 mm)
- weld deposit thickness s, single run (sl) and multi run (ml) shall not be indicated

Scope of application

- welded Components shall be indicated according to running projects
- Finishing welding of cast parts shall be indicated without P, M, S, D

Remarks

- If there are any restrictions, these shall be indicated.
- If activities are undertaken at different locations, these should be indicated.
- For type of activity M further welding site(s) for repair and site(s) for mobile repair shall be indicated.

7.2 Period of manufacturer certificate validity

The period of validity is defined as the period for which a manufacturer certificate is current, that lasts from the date on which it becomes effective ("effective date"), resulting from the decision of the manufacturer certification body (MCB) responsible for it, until it is expired, withdrawn, or replaced (renewed).

The manufacturer certificate has a validity of maximum three years beginning with date of the certification decision ("effective date").

- initial audit maximum three years
- surveillance audit maximum one year
- re-certification
 maximum further three years

Audits required in special cases cannot replace the regular audits except in the time tolerance of three month of regular audit.

The manufacturer certification body (MCB) verifies the compliance with the requirements of EN 15085-1 to -6 in the scope for which the certificate was granted during the period of the certificate's validity.



The manufacturer certification body (MCB) can restrict or suspend the validity of manufacturer certificate in case that the certified conditions neglected.

The verification is based on the annual verification on site by the manufacturer certification body.

The annual verification shall be carried out even if no components or subassemblies according to EN 15085-1 to -6 are available in the workshop at the time of the audit.

This means that the welding manufacturer shall demonstrate that it continues to satisfy the personnel and operational requirements of the standard for as long as its certificate is listed in the Online register. This ensures upcoming and possibly unforeseen works according to EN 15085 can be carried out without delay.

During the annual on-site verification, the results of internal audits by the Responsible welding coordinator may be considered additionally.

The due date for the next audit usually 12 months after last day of the most recent regular audit carried out.

In exceptional cases, if it is not possible to arrange an appointment in good time, this period can be extended by a maximum of 3 months.

If valid certificate to be renewed, the manufacturer shall apply for renewal to the MCB before the expiry date.

7.3 Initial certification procedure

The purpose of the initial audit is to verify the manufacturer's compliance for the first time.

Initial audit consists of systematic conformity assessment activities as a basis of the statement of conformity. Initial audits are on-site audits and full system audits.

The initial audit relates to scheduled production of components, designs, purchase of welded components or maintenance welding services.

For the preparation of the initial audit, the manufacturer shall finish a manufacturer internal audit for qualification to submit an initial audit by manufacturer certification body.

If no corresponding components are in use during the initial certification audit, the audit in special case can be takes place when production is started in additional.

7.4 Surveillance certification procedure

Surveillance is a systematic iteration of conformity assessment activities as a basis for maintaining the validity of the statement of conformity.

Surveillance audits are on-site audits but are not necessarily full system audits.

The surveillance audit shall be an auditing of the manufacturer's fulfilment of specified requirements with respect to the certification which was granted.

The purpose of the surveillance is to verify the compliance annually during the period of validity of the manufacturer's certificate.



The surveillance audit relates to current production (components, designs, purchase of welded components or maintenance welding services), quality records for current and completed projects as well as knowledge of new standards and regulations.

Surveillance manufacturer audit without any major changings within the period of validation is carried out annually, however in exceptional cases or under certain circumstances surveillance could be made as a remote-controlled video audit.

Exceptional cases or under certain circumstances are decided by the majority of ECWRW members for particular period.

Audits in a certain case on-site can be required if:

- a change in the types of activity
- a change of the responsible welding coordinator (rWC)
- a change of the 1st deputy or other deputies of the responsible welding without the appropriate
- essential modification of the scope of certification of process and/or material)
- production expansion if there are component restrictions
- a higher weld performance level CP or higher classification level CL.
- a change of location or relocation

7.5 Re-certification procedure

Re-certification audit is a full system audit before expiring of certificate maximum 3 years and conducted on-site. The audit shall be planned and conducted in due time to enable for timely renewal before the certification expiry date.

In preparation for the Re-certification audit, the manufacturer shall submit all significant changes to the manufacturer's certification body.

7.6 Changes of manufacturer certificate

If there are any changes that affect the information in the certificate, the manufacturer certification body shall be notified by the welding manufacturer without delay.

The manufacturer certification body shall assess the changes considering points and decides of continued validity of the certificate

- an additional surveillance audit or audit in certain case as onsite or remote-controlled video audit
- a modification of the certificate based on sufficient evidence, such as reports and documentation

7.7 Revocation, suspension, and withdrawal of the manufacturer certificate

The terms suspensions and withdrawal are specified EN ISO IEC 17000 chapter 8.3 and 8.4.

The suspension and withdrawal can only be carried out by the MCB that issued the certificate, if:

- the specified requirements are no longer fulfilled
- there are justified doubts as to proper execution of welding work according to state of regulation
- there are justified doubts as to the proper welding coordination or WC welding is available any longer
- welders or operators without valid qualifications have been entrusted with the execution of welding
- other conditions according to the stated standards are no longer satisfied
- the MCB was not able to perform the conformity assessment annual audits



7.8 Exchange of manufacturer certification body

The transfer of a valid certificate to a new MCB without a new certification audit is not permitted. The new MCB shall inform the former MCB about the current situation and reasons for exchange. It is not allowed to exchange the MCB within one year period.

The new MCB shall get the last report of the former MCB or from the manufacturer.

The new MCB gives an information to the former MCB that the certification process is closed. The old MCB deletes their certificate in the Online Register.

8 References of Literature

GUIDELINE of the European Committee for Welding of Railway Vehicles (ECWRV) (2018-02-11) PART 1

EN ISO/IEC 17065:2012 - Conformity assessment – Requirements for bodies certifying products, processes, and services

EN ISO/IEC 17021:2015 - Conformity assessment – Requirements for bodies providing audit and certification of management systems – Part 1: Requirements

EN 15085-2:2020 Railway applications – Welding of railway vehicles and components – Part 2: Requirements for welding manufacturer

ISO/IEC 17000:2020 - Conformity assessment – Vocabulary and general principles

EN 15085-1 Railway applications – Welding of railway vehicles and components – Part 1: General

EN 15085-2 Railway applications – Welding of railway vehicles and components – Part 2: Requirements for welding manufacturer

prEN 15085-3 *) Railway applications – Welding of railway vehicles and components – Part 3: Design requirements

prEN 15085-4 *) Railway applications – Welding of railway vehicles and components – Part 4: Production requirements

prEN 15085-5 *) Railway applications – Welding of railway vehicles and components – Part 5: Inspection, testing, and documentation

prEN 15085-6 *) Railway applications – Welding of railway vehicles and components – Part 6: Maintenance welding requirements

EN ISO 3834-2 Quality requirements for fusion welding of metallic materials – Part 2: Comprehensive quality requirements

EN ISO 3834-3 Quality requirements for fusion welding of metallic materials – Part 3: Standard quality requirements

EN ISO 4063 Welding and allied processes – Nomenclature of processes and reference Numbers

EN ISO 14555 Welding – Arc stud welding of metallic materials



EN ISO 15607 Specification and qualification of welding procedures for metallic materials – General rules

EN ISO 15609 ff Specification and qualification of welding procedures for metallic materials – Welding procedure specification

EN ISO 15613 Specification and qualification of welding procedures for metallic materials – Qualification based on pre-production welding test

EN ISO 15614 ff Specification and qualification of welding procedures for metallic materials – Welding procedure test

EN ISO 15620 Welding – Friction welding of metallic materials

EN ISO/IEC 17065 Conformity assessment – Requirements for bodies certifying products, processes and services

CEN ISO/TR 15608 – Guidelines for a metallic material grouping system



9 Appendixes

9.1 Manufacturer certificate template

CERTIFICATE

Welding of railway vehicles and components according to EN 15085-2

Certificate Number of MCB

MCB hereby certifies that the welding company

Company Name Street ZIP Code, City Country

fulfills the requirements for the scope according to

EN 15085-2 classification level CL1 in the type of activity M

in the range indicated in the annex.

validity: 2022-04-01 until 2025-04-05

City, 2022-04-01 Place and date of issue

Lead auditor: AUDITOR

NAME Head of certification body



Address of MCB



Scope of the certificate

Certificate Number of MCB

Scope:

Welding process according to EN ISO 4063	Material group according to CEN ISO/TR 15608	Dimensions	Remarks		
135	12 12	t = 1.5 - 24 mm t = 3 - 16 mm D ≥ 30 mm	FW, WPQR 411-7		

Area of Application:	Traction boxes, Containers, su brackets	ubassemblies, and
Responsible welding coordinator(s):	Max Muster, Level A IWE Franz Muster, Level A IWT	born, 1981 born, 1992
1st deputy(ies) of the responsible welding coordinator(s):	Jörg Muster, Level C	born, 1959
Others deputies:		
Remarks:	The welding coordinator John Doe is entitled t accordance with the relevant standards with certificate.	to test welders /operators in in the scope of this
Register no.:	MCB/15085/CL1/001/22/0	

General provisions: The General Terms and Conditions of the MCB apply in the currently valid version.



9.2 Manufacturer Certification Body application form

APPLICATION Form for recognition and/or prolongation as MCB (Manufacturer Certification Body) in the ECWRV/Online Register EN 15085

Antragsformular zur Anerkennung und/oder Verlängerung als HZS (Hersteller-Zertifizierungsstelle) im ECWRV/Online-Register EN 15085

- 1. Applicant: Antragsteller:
- Manufacture certification body: Hersteller-Zertifizierungsstelle:
- 3. Name of editor/originator with signature and MCB stamp: Herausgeber/Verfasser mit Unterschrift und HZS-Stempel:
- 4. Date of submission of the application: Datum der Antragstellung:
- 5. Queries (1 to 11) need to be answered by MCB for further assessment. Die Fragen (1 bis 11) sind von der HZS für die weitere Bewertung zu beantworten.
- All MCB requirements for approval of EN 15085 certification based on ISO/IEC 17065.

Alle HZS-Anforderungen zur Zulassung der EN-15085-Zertifizierung werden auf der Grundlage der ISO/IEC 17065 bewertet

Run Number	ECWRV Requirements	MCB Reply and Annex ID	ECWRV Comments Assessor	2
Lfd.Nr.	ECWRV-Anforderungen	HZS-Beantwortung und Anhang Nr.	ECWRV-Bemerkungen Bewerter	V F
1	Fulfilment of the general MCB requirements which assess and certify quality management systems according to the conditions of the series of standards EN 15085 based on the EN ISO/IEC 17065.	Text by MCB and Annex (_)	Text by Assessor	1/2
	Erfüllung der allgemeinen Anforderungen an HZS, die Qualitäts- managementsysteme begutachten und zertifizieren, entsprechend den Bedingungen der Normenreihe EN 15085 auf Grundlage der EN ISO/IEC 17065.		Result:	-
2	Manufacturer certification body description of the organizational structure and nomination of the head of EN15085 within the company structure	Text by MCB and Annex (_)	Text by Assessor	
	Beschreibung der Organisationsstruktur und die Benennung des Leiters der EN-15085-Aktivitäten innerhalb des Unternehmens.		Result:	
3	Procedural guidelines or Quality Documentation system to perform audits for certification accord- ing to EN 15085	Text by MCB and Annex (_)	Text by Assessor	
	Verfahrensrichtlinie oder Quality Dokumentation für die Ausfüh- rung von Audits zur Zertifizierung nach EN 15085.		Result:	

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APPLICATION Form for recognition and/or prolongation as MCB (Manufacturer Certification Body) in the ECWRV/Online Register EN 15085



ECWRV/Online Register EN 15085 Antragsformular zur Anerkennung und/oder Verlängerung als HZS (Hersteller-Zertifizierunasstelle) im ECWRV/Online-Register EN 15085

Run Number	ECWRV Requirements	MCB Reply and Annex ID	ECWRV Comments Assessor	
Lfd.Nr.	ECWRV-Anforderungen	HZS-Beantwortung und Anhang Nr.	ECWRV-Bemerkungen Bewerter	
				1
4	Application form for execution of a Certification procedure according to EN 15085-2	Text by MCB and Annex (_)	Text by Assessor	
	Formular Antrag zur Ausführung einer Zertifizierung nach EN 15085-2.		Result:	
5	Report template copy for certification and/or monitoring CL1, CL2, CL3 and CL4 according to EN 15085-2.	Text by MCB and Annex (_)	Text by Assessor	
	Kopie einer Berichtsvorlage zur Zertifizierung und/oder Überwa- chung CL1, CL2, CL3 und CL4 nach EN 15085-2.		Result:	
6	Certificates example of CL1, CL2, CL3 according to EN 15085 Online Register published issue with specific content and representation.	Text by MCB and Annex (_)	Text by Assessor	INNI
	Beispiel eines ausgestellten Zertifikates CL1, CL2, CL3 nach EN 15085-2, so wie die Zertifikate im Online Register veröffentlicht und abgebildet werden.		Result:	2
7	Proof of annual participation in the exchange of experience on certification according to EN 15085-2 and current rules, organized by na- tional MCB	Text by MCB and Annex (_)	Text by Assessor	V VC
	Nachweis der jährlichen Teilnahme am Erfahrungsaustausch über die Zertifizierung nach EN 15085-2 und aktuellen Regewerken, or- ganisiert von der nationalen HZS.		Result:	
8	MCB proof that no less than twenty (20) certifica- tion procedures according to EN 15085-2 are per- formed during the past five years. At least Five 5 x CL1 certificates	Text by MCB and Annex (_)	Text by Assessor	
	HZS Nachweis, dass während der letzten 5 Jahre Minimum 20 Zertifizierungen nach EN 15085-2 durchgeführt wurden (davon mindestens 5 CL1-Zertifikate).		Result:	

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APPLICATION Form for recognition and/or prolongation as MCB (Manufacturer Certification Body) in the ECWRV/Online Register EN 15085



Antragsformular zur Anerkennung und/oder Verlängerung als HZS (Hersteller-Zertifizierunasstelle) im ECWRV/Online-Reaister EN 15085

Run Number	ECWRV Requirements	MCB Reply and Annex ID	ECWRV Comments Assessor
Lfd.Nr.	ECWRV-Anforderungen	HZS-Beantwortung und Anhang Nr.	ECWRV-Bemerkungen Bewerter
9	Overview of approved auditors for EN 15085 certification based on the number of certificates. No less than two (2) permanent employed audi- tors per MCB based on the present certification turnovers, minimum five certification per auditor and year. Obersicht der zugelassenen Prüfer für die Zertifizierung nach EN 15085 (mindestens 2 festangestellte Prüfer pro HZS) auf der Grundlage der Umsätze von Zertifikaten. Minimum sind 5 Zertifi- zierungen pro Auditor und Jahr.	Text by MCB and Annex (_)	Text by Assessor
10	Procedure for EN 15085 online register recog- nized new auditors: New auditors in the scope of EN 15085 series	Text by MCB and Annex (_)	Text by Assessor
	need to attend five (5) certification procedures according to EN 15085-2 as an assistant. No less than two (2) of which must be audits of level CL1 certification.		
	Participation at the training course ECWRV Audi- tor qualification is a prerequisite for the ECWRV technical examination interview.		
	The successfully ECWRV examination interview is mandatory for auditor recognition and to enroll in the Online register.		
	Beschreibung Zulassung neuer Prüfer:		
	Neue Prüfer im Gültigkeitsbereich der Normenreihe EN 15085 müssen an mindestens 5 Zertifizierungen/Überwachungen nach EN 15085-2 als Assistenten teilnehmen, davon müssen mindes- tens 2 Zertifizierungen/Überwachungen der Zertifizierungsstufe CL1 sein.		
	Die Teilnahme am Kurs ECWRV Auditor Qualifikation ist Voraus- setzung zur Teilnahme am geforderten ECWR-Fachgespräch. Der erfolgreiche Abschluss des ECWRV-Fachgesprächs ist zur Anerkennung des neuen Auditors und zur Eintragung im Online- Register gefordert.		Result:
11	Prerequisite for the recognition as MCB is the participation in regular meetings of the ECWRV. An evidence document is required.	Text by MCB and Annex (_)	Text by Assessor
	Voraussetzung für die Anerkennung als HZS ist die Teilnahme an den Treffen des ECWRV. Ein Nachweis ist erforderlich.		Result:

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9.3 Manufacturer Certification Body certification template of ECWRV



Certificate about recognition

DVS ZERT GmbH Aachener Str. 172 40223 Düsseldorf GERMANY

as user Online Register Railway Vehicles EN 15085

Identification number: DVSZERT/OREN15085-6/2014

Period of validity: January 01, 2020 until December 31, 2024 Issued on: December 20, 2019

Assessment team member:

Assessors: Dipl.-Ing. Patric Arlt, SLV Halle GmbH Prof. Dr.-Ing. Steffen Keitel, SLV Halle GmbH

Based on successful assessment the ECWRV – European Committee for Welding of Railway Vehicles – as an independent voluntary organization recommended to admit the above mentioned institution/company as a full member MCB (Manufacturer Certification Body) of the Online-Register EN 15085.

The above mentioned period of validity will be shown in the list of recognized MCB of Online Register.

Prof. Dr.-Ing. Steffen Keitel Chairman of ECWRV





9.4 ECWRV audit hours for EN 15085-2:2020 certification

Type of audit	Initial audit			surveillance audit				recertification audit					
Classification level	CL 1	CL 1 small	CL 2, 3	CL 2, 3 small	CL 1	CL 1 small	CL 2, 3	CL 2, 3 small		CL 1	CL 1 small	CL 2, 3	CL 2, 3 small
Types of activity single													
Р	10		0		0		4			0		0	
М	12	0	0	0	ð	4	4	4		õ	0	0	4
D	*	0	*	0	*	4	*	4		*	0	*	4
S	-		-		1. 1.	1				-		-	
combinations													
P M D S	32	24	2	16	V	0	8	112			16	12	12
P M D		2		5			Y	11		-			
P M S	24	28	16	10		8				16			
P D S	24	8		12						Ο.,	0		
M D S	~	-									JX	1	
P M	2	10			8		4	4			12	8	0
P D		10					1	5			12	\sim	8
P S	16		12	0		4	0			12		1	
M D				8	20	4	1					0	
M S												Y	0
D S	*		*		*		*			*		*	1

Following reference values of minimum audit hours on site shall apply for the audit in principle.

*Audit hours for D and S will be calculated and assessed with result as small manufacturer side according to EN 15085-2:2020 Annex C.

In the case of surveillance audits carried out because of a change (e.g., a change of welding coordinator), the actual audit time may differ from the audit time for surveillance audits defined in the table above.

This and other deviations (e.g., reduced audit times based on single-purpose production, reduced audit times due to two auditors, etc.) that exceed -30% of the audit time shall be explained in the audit report.