

SVENSK STANDARD

SS-EN 15085-2:2007

Fastställt/Approved: 2007-11-05

Publicerad/Published: 2007-12-03

Utgåva/Edition: 1

Språk/Language: engelska/English

ICS: 25.160.10; 45.060.01

Järnvägar – Svetsning av järnvägsfordon och -komponenter – Del 2: Kvalitetskrav och certifiering av svetsande tillverkare

**Railway applications – Welding of railway vehicles and
components –
Part 2: Quality requirements and certification of welding
manufacturer**



SWEDISH
STANDARDS
INSTITUTE

Hitta rätt produkt och ett leveranssätt som passar dig

Standarder

Genom att följa gällande standard både effektiviserar och säkrar du ditt arbete. Många standarder ingår dessutom ofta i paket.

Tjänster

Abonnemang är tjänsten där vi uppdaterar dig med aktuella standarder när förändringar sker på dem du valt att abonnera på. På så sätt är du säker på att du alltid arbetar efter rätt utgåva.

e-nav är vår online-tjänst som ger dig och dina kollegor tillgång till standarder ni valt att abonnera på dygnet runt. Med e-nav kan samma standard användas av flera personer samtidigt.

Leveranssätt

Du väljer hur du vill ha dina standarder levererade. Vi kan erbjuda dig dem på papper och som pdf.

Andra produkter

Vi har böcker som underlättar arbetet att följa en standard. Med våra böcker får du ökad förståelse för hur standarder ska följas och vilka fördelar den ger dig i ditt arbete. Vi tar fram många egna publikationer och fungerar även som återförsäljare. Det gör att du hos oss kan hitta över 500 unika titlar. Vi har även tekniska rapporter, specifikationer och "workshop agreement".

Matriser är en översikt på standarder och handböcker som bör läsas tillsammans. De finns på sis.se och ger dig en bra bild över hur olika produkter hör ihop.

Standardiseringsprojekt

Du kan påverka innehållet i framtida standarder genom att delta i någon av SIS ca 400 Tekniska Kommittéer.

Find the right product and the type of delivery that suits you

Standards

By complying with current standards, you can make your work more efficient and ensure reliability. Also, several of the standards are often supplied in packages.

Services

Subscription is the service that keeps you up to date with current standards when changes occur in the ones you have chosen to subscribe to. This ensures that you are always working with the right edition.

e-nav is our online service that gives you and your colleagues access to the standards you subscribe to 24 hours a day. With e-nav, the same standards can be used by several people at once.

Type of delivery

You choose how you want your standards delivered. We can supply them both on paper and as PDF files.

Other products

We have books that facilitate standards compliance. They make it easier to understand how compliance works and how this benefits you in your operation. We produce many publications of our own, and also act as retailers. This means that we have more than 500 unique titles for you to choose from. We also have technical reports, specifications and workshop agreements.

Matrices, listed at sis.se, provide an overview of which publications belong together.

Standardisation project

You can influence the content of future standards by taking part in one or other of SIS's 400 or so Technical Committees.

Europastandarden EN 15085-2:2007 gäller som svensk standard. Detta dokument innehåller den officiella engelska versionen av EN 15085-2:2007.

The European Standard EN 15085-2:2007 has the status of a Swedish Standard. This document contains the official English version of EN 15085-2:2007.

© Copyright/Upphovsrätten till denna produkt tillhör SIS, Swedish Standards Institute, Stockholm, Sverige. Användningen av denna produkt regleras av slutanvändarlicensen som återfinns i denna produkt, se standardens sista sidor.

© Copyright SIS, Swedish Standards Institute, Stockholm, Sweden. All rights reserved. The use of this product is governed by the end-user licence for this product. You will find the licence in the end of this document.

Upplysningar om sakinnehållet i standarden lämnas av SIS, Swedish Standards Institute, telefon 08-555 520 00.

Standarder kan beställas hos SIS Förlag AB som även lämnar allmänna upplysningar om svensk och utländsk standard.

Information about the content of the standard is available from the Swedish Standards Institute (SIS), tel +46 8 555 520 00.

Standards may be ordered from SIS Förlag AB, who can also provide general information about Swedish and foreign standards.

SIS Förlag AB, SE 118 80 Stockholm, Sweden. Tel: +46 8 555 523 10. Fax: +46 8 555 523 11.

E-mail: sis.sales@sis.se Internet: www.sis.se

EUROPEAN STANDARD

EN 15085-2

NORME EUROPÉENNE

EUROPÄISCHE NORM

October 2007

ICS 25.160.10; 45.060.01

English Version

Railway applications - Welding of railway vehicles and components - Part 2: Quality requirements and certification of welding manufacturer

Applications ferroviaires - Soudage des véhicules et des composants ferroviaires - Partie 2: Exigences de qualité et certification du constructeur

Bahnanwendungen - Schweißen von Schienenfahrzeugen und -fahrzeugteilen - Teil 2: Qualitätsanforderungen und Zertifizierung von Schweißbetrieben

This European Standard was approved by CEN on 18 August 2007.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: rue de Stassart, 36 B-1050 Brussels

Contents

Page

Foreword.....3

Introduction4

1 Scope5

2 Normative references5

3 Terms and definitions6

4 Certification of welding manufacturers6

5 Quality requirements for the welding manufacturer8

5.1 Staff requirements8

5.2 Technical requirements10

5.3 Welding coordination organization.....11

5.4 Welding procedure specification11

5.5 Assignment of the requirements to certification level.....11

6 Certification procedure11

6.1 Audit for the certification11

6.2 Certificate12

7 Validity12

Annex A (informative) Possible allocation of parts and subassemblies of rail vehicles to the certification levels.....14

Annex B (normative) Tasks and areas of competence of the welding coordinator16

Annex C (normative) Requirements for the welding manufacturer19

Annex D (informative) Welding of railway vehicles and components according to EN 15085-221

Bibliography.....22

Foreword

This document (EN 15085-2:2007) has been prepared by Technical Committee CEN/TC 256 "Railway applications", the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by April 2008, and conflicting national standards shall be withdrawn at the latest by April 2008.

This series of European Standards EN 15085 "Railway applications – Welding of railway vehicles and components" consists of the following parts:

- Part 1: General
- Part 2: Quality requirements and certification of welding manufacturer
- Part 3: Design requirements
- Part 4: Production requirements
- Part 5: Inspection, testing and documentation

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

Introduction

Welding is a special process in the manufacture of railway vehicles and their parts. The required provisions for this process are laid down in the standards series EN ISO 3834. The basis of these provisions are the basic technical welding standards in respect of the special requirements for the construction of railway vehicles.

This standard is aimed at defining the terms of enforcement applicable to European Standards, it should not be construed as a substitute to these standards.

This standard can also be used by internal and external parties, including certification bodies, to assess the organisation's ability to meet customer, regulatory and the organisation's own requirements.

1 Scope

This series of standards applies to welding of metallic materials in the manufacture and maintenance of railway vehicles and their parts.

This part of the series defines the certification levels as well as the requirements for welding manufacturers and describes the procedure for the recognition of welding manufacturers.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 287-1, *Qualification test of welders – Fusion welding – Part 1: Steels*

EN 473, *Non destructive testing – Qualification and certification of NDT personnel – General principles*

EN 1418, *Welding personnel – Approval testing of welding operators for fusion welding and resistance weld setters for fully mechanized and automatic welding of metallic materials*

EN 15085-1:2007, *Railway applications - Welding of railway vehicles and components - Part 1: General*

EN 15085-3:2007, *Railway applications – Welding of railway vehicles and components – Part 3: Design requirements*

EN 15085-4:2007, *Railway applications – Welding of railway vehicles and components – Part 4: Production requirements*

EN ISO 3834 (all parts), *Quality requirements for fusion welding of metallic materials*

EN ISO 9606-2, *Qualification test of welders - Fusion welding - Part 2: Aluminium and aluminium alloys (ISO 9606-2:2004)*

EN ISO 14555, *Welding - Arc stud welding of metallic materials (ISO 14555:2006)*

EN ISO 14731:2006, *Welding coordination - Tasks and responsibilities (ISO 14731:2006)*

EN ISO 15607, *Specification and qualification of welding procedures for metallic materials - General rules (ISO 15607:2003)*

EN ISO 15609 (all parts), *Specification and qualification of welding procedures for metallic materials – Welding procedure specification*

EN ISO 15610 *Specification and qualification of welding procedures for metallic materials - Qualification based on tested welding consumables (ISO 15610:2003)*

EN ISO 15611, *Specification and qualification of welding procedures for metallic materials - Qualification based on previous welding experience (ISO 15611:2003)*

EN ISO 15612, *Specification and qualification of welding procedures for metallic materials - Qualification by adoption of a standard welding procedure (ISO 15612:2004)*

EN ISO 15613, *Specification and qualification of welding procedures for metallic materials - Qualification based on pre-production welding test (ISO 15613:2004)*

EN 15085-2:2007 (E)

EN ISO 15614 (all parts)¹⁾ *Specification and qualification of welding procedures for metallic materials – Welding procedure test*

EN ISO 15620, *Welding - Friction welding of metallic materials (ISO 15620:2000)*

EN ISO/IEC 17025, *General requirements for the competence of testing and calibration laboratories (ISO/IEC 17025:2005)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 15085-1:2007 apply.

4 Certification of welding manufacturers

The quality requirements for welding manufacturers, which carry out welding work on rail vehicles, components and sub-assemblies, are specified by the standard series EN ISO 3834. Dependant on the certification level, the requirements of EN ISO 3834-2, EN ISO 3834-3 or EN ISO 3834-4 shall be fulfilled in principle (see Annex A).

Welding manufacturers, which carry out welding work on railway vehicles, components and sub-assemblies, shall be certified according to this standard, if specified.

Compliance with the requirements shall be checked and certified by a recognised manufacturer certification body (see Clause 6).

Four certification levels (CL) are laid down for the certification of welding manufacturers (Level 1 to Level 4). Level 1 to Level 3 depends on the weld performance classes CP A to CP D of the welded joints specified in EN 15085-3:2007, Table 2.

Table 1 contains a description of the certification level and the allocation in the weld performance classes.

The required certification level depends on the following two items:

- 1) Table 1;
- 2) safety relevance of the components or sub-assemblies where the welded part is integral (see list beneath Table 1).

1) For railway applications, only EN ISO 15614-1, EN ISO 15614-2, prEN ISO 15614-3, EN ISO 15614-4, EN ISO 15614-7, EN ISO 15614-11, EN ISO 15614-12 and EN ISO 15614-13 are relevant.

Table 1 — Certification level

Description	Certification level (CL)
This level applies to welding manufacturers which manufacture welded railway vehicles or their welded parts with welded joints classified in weld performance classes CP A to CP D. Certification level CL 2 to CL 4 is included.	CL 1
This level applies to welding manufacturers which manufacture welded parts of railway vehicles with welded joints classified in weld performance classes CP C2 to CP D. Welded joints classified in weld performance class CP C1 are included if these welds are checked according to weld inspection class CT 1 according to EN 15085-5:2007, Table 1. Certification level CL 4 is only included according to welded joints of certification level CL 2 or CL 3.	CL 2
This level applies to welding manufacturers which manufacture welded parts of railway vehicles with welded joints classified in weld performance class CP D.	CL 3
This level applies to manufacturers which do not weld but design railway vehicles and parts of rail vehicles or buy and assemble or sell them. Certification not required for welding works of certification level CL 3.	CL 4

Because of their safety relevance the following components and sub-assemblies shall be welded by welding manufacturers with a certification level CL 1.

- bogie frames and bolsters;
- body shell components (e.g. under frames, structures);
- buffers and draw gear;
- wheel set components (e.g. wheel set mountings, axle boxes, spring supports);
- brake equipment (e.g. magnetic track brake, brake rods, brake triangles, brake cylinders, brake cross beams);
- supporting frames for heavy components (e.g. traction units, pantographs);
- welded components for drag transmission from bogie to vehicle;
- vibration dampers and their link between bogie and vehicle or between vehicles;
- finishing welding of castings within components indicated above;
- external fuel tanks.

Annex A contains information about possible classifications of the certification levels for further components and sub-assemblies of railway vehicles.