

**Railway applications - Track - Flash butt welding of rails - Part 1: New R220, R260, R260Mn and R350HT grade rails in a fixed plant**

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## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 14587-1:2007 sisaldab Euroopa standardi EN 14587-1:2007 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 21.08.2007 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 14587-1:2007 consists of the English text of the European standard EN 14587-1:2007.</p> <p>This document is endorsed on 21.08.2007 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p><b>Käsitlusala:</b> This European Standard specifies requirements for the approval of a welding process in a fixed plant, together with the requirements for subsequent welding production. It applies to new Vignole 220 and 260 grade rails of 46 kg/m and above, as contained in pr EN 13674-1, welded by a flash butt welding process in a fixed plant and intended for use on railway infrastructures. This European Standard applies to the welding of rails into welded strings</p>	<p><b>Scope:</b> This European Standard specifies requirements for the approval of a welding process in a fixed plant, together with the requirements for subsequent welding production. It applies to new Vignole 220 and 260 grade rails of 46 kg/m and above, as contained in pr EN 13674-1, welded by a flash butt welding process in a fixed plant and intended for use on railway infrastructures. This European Standard applies to the welding of rails into welded strings</p>
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ICS 25.160.10, 93.100

Võtmesõnad:

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ICS 25.160.10; 93.100

English Version

**Railway applications - Track - Flash butt welding of rails - Part 1:  
New R220, R260, R260Mn and R350HT grade rails in a fixed  
plant**

Applications ferroviaires - Voie - Soudage des rails par  
étincelage - Partie 1: Rails neufs de nuances R220, R260,  
R260Mn et R350HT dans une installation fixe

Bahnanwendungen - Oberbau - Abbrennstumpfschweißen  
von Schienen - Teil 1: Abbrennstumpfschweißen neuer  
Schienen der Güte R220, R260, R260Mn und R350HT in  
einem Schweißwerk

This European Standard was approved by CEN on 3 May 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.



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## Foreword

This document (EN 14587-1:2007) 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 December 2007, and conflicting national standards shall be withdrawn at the latest by December 2007.

This document is one of a series of three parts of the EN 14587 *Railway applications – Track – Flash butt welding of rails*. The list of parts is as follows:

- Part 1: New R220, R260, R260Mn and R350HT grade rails in a fixed plant
- Part 2: New R220, R260, R260Mn and R350HT grade rails by mobile welding machines at sites other than a fixed plant
- Part 3: Welding in association with crossing construction

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 United Kingdom.

## Introduction

This part of EN 14587 has five main topics:

- a) requirements of a welding process;
- b) procedure approval for a fixed plant;
- c) approval of other rail profiles or grade;
- d) approval of the welding contractor;
- e) weld production following approval.

This part of EN 14587 has been occasioned by a European Directive that will permit the freedom of an open European market. To enable this perception to become a reality, it is essential a standard is in place that satisfies the needs of the infrastructure owners or custodians and reflects the production capabilities of the manufacturers in technical and quality terms.

## 1 Scope

This European Standard specifies requirements for the approval of a welding process in a fixed plant, together with the requirements for subsequent welding production.

It applies to new Vignole railway rails R220, R260, R260Mn and R350HT grade rails of 46 kg/m and above, as contained in EN 13674-1, welded by flash butt welding in a fixed plant and intended for use on railway infrastructure.

This European Standard applies to the welding of rails into welded strings.

## 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 571-1, *Non destructive testing — Penetrant testing — Part 1: General principles*

EN 1290, *Non-destructive examination of welds — Magnetic particle examination of welds*

EN 13674-1, *Railway applications — Track — Rail — Part 1: Vignole railway rails 46 kg/m and above*

EN ISO 6507-1, *Metallic materials — Vickers hardness test — Part 1: Test method (ISO 6507-1:2005)*

EN ISO 7500-1:2004, *Metallic materials — Verification of static uniaxial testing machines — Part 1: Tension/compression testing machines — Verification and calibration of the force-measuring system (ISO 7500-1:2004)*

## 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

### 3.1

#### **as welded condition**

rails that have been welded and trimmed only

### 3.2

#### **contractor**

company approved by a railway authority to provide staff and machinery to execute the production of FB weld in a fixed plant

NOTE This may include staff and machinery from within the railway authority

### 3.3

#### **die burn**

damage caused by localised overheating on the surface of the rail caused by poor contact between the rail and the electrode during welding

### 3.4

#### **dressing**

removing trimmed upset by grinding or other similar process

### 3.5

#### **finished condition**

welded, trimmed, dressed and profile finished