

English Version

**Railway applications - Infrastructure - Flash butt welding  
of new rails - Part 2: R200, R220, R260, R260Mn, R320Cr,  
R350HT, R350LHT, R370CrHT and R400HT grade rails by  
mobile welding machines at sites other than a fixed plant**

Applications ferroviaires - Infrastructure - Soudage des  
rails neufs par étincelage - Partie 2 : Rails de nuances  
R200, R220, R260, R260Mn, R320Cr, R350HT, R350  
LHT, R370CrHT et R400HT par des soudeuses mobiles  
dans des sites autres qu'une installation fixe

Bahnanwendungen - Infrastruktur -  
Abbrennstumpfschweißen von Schienen - Teil 2:  
Abbrennstumpfschweißen neuer Schienen der  
Stahlsorten R200, R220, R260, R260Mn, R320Cr,  
R350HT, R350LHT, R370CrHT und R400HT durch  
mobile Schweißmaschinen an Orten außerhalb eines  
Schweißwerkes

This draft European Standard is submitted to CEN members for formal vote. It has been drawn up by the Technical Committee CEN/TC 256.

If this draft becomes a European Standard, 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.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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

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## European foreword

This document (FprEN 14587-2:2024) has been prepared by Technical Committee CEN/TC 256 “Railway applications”, the secretariat of which is held by DIN.

This document is currently submitted to the Formal Vote.

This document will supersede EN 14587-2:2009.

The main changes compared to the previous edition are listed below:

- introduction of new rail steel grades (R200, R350LHT, R370CrHT and R400HT);
- modification of the macro examination criteria;
- editorial changes concerning the text and drawings have been made to improve consistency and understanding of the requirements and information used throughout the document.

This document has been prepared under a standardization request addressed to CEN by the European Commission. The Standing Committee of the EFTA States subsequently approves these requests for its Member States.

For the relationship with EU Legislation, see informative Annex ZA, which is an integral part of this document.

This document is one of three parts of the EN 14587 series, under the general title “*Railway applications — Infrastructure — Flash butt welding of new rails*”. The list of parts is as follows:

- *Part 1: R220, R260, R260Mn, R320Cr, R350HT, R350LHT, R370CrHT and R400HT grade rails in a fixed plant*
- *Part 2: R200, R220, R260, R260Mn, R320Cr, R350HT, R350LHT, R370CrHT and R400HT grade rails by mobile welding machines at sites other than a fixed plant*
- *Part 3: Welding in association with crossing construction.*

## Introduction

This part of the EN 14587 series has five main topics:

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

This part of the EN 14587 series supports a European Directive that will permit the freedom of an open European market. To enable this, it is essential that 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 document specifies requirements for the approval of a welding process by mobile plant, together with the requirements for subsequent welding production.

It applies to new Vignole railway rails R200, R220, R260, R260Mn, R320Cr, R350HT, R350LHT, R370CrHT and R400HT grade rails of 46 kg/m and above, as contained in EN 13674-1:2011+A1:2017, welded by a flash butt welding process by mobile plant and intended for use on railway infrastructure.

This document applies to the welding of rails into welded strings.

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 13674-1:2011+A1:2017, *Railway applications — Track — Rail — Part 1: Vignole railway rails 46 kg/m and above*

EN ISO 3452-1:2021, *Non-destructive testing — Penetrant testing — Part 1: General principles (ISO 3452-1:2021)*

EN ISO 6507-1:2023, *Metallic materials — Vickers hardness test — Part 1: Test method (ISO 6507-1:2023)*

EN ISO 7500-1:2018, *Metallic materials — Calibration and verification of static uniaxial testing machines — Part 1: Tension/compression testing machines — Calibration and verification of the force-measuring system (ISO 7500-1:2018)*

EN ISO 17638:2016, *Non-destructive testing of welds — Magnetic particle testing (ISO 17638:2016)*

ISO 2768-1:1989, *General tolerances — Part 1: Tolerances for linear and angular dimensions without individual tolerance indications*

## 3 Terms and definitions

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

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

### 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 flash butt welds by mobile plant. This may include staff and machinery from within the railway authority