

BSI Standards Publication

Railway applications - Track - Rail

Part 4: Vignole railway rails from 27 kg/m to, but excluding 46 kg/m



This is a preview. Click here to purchase the full publication.

BS EN 13674-4:2019 BRITISH STANDARD

National foreword

This British Standard is the UK implementation of EN 13674-4:2019. It supersedes BS EN 13674-4:2006+A1:2009, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee RAE/2, Railway Applications - Track.

A list of organizations represented on this committee can be obtained on request to its secretary.

The UK committee draws users' attention to the distinction between normative and informative elements, as defined in Clause 3 of the CEN/CENELEC Internal Regulations, Part 3.

Normative: Requirements conveying criteria to be fulfilled if compliance with the document is to be claimed and from which no deviation is permitted.

Informative: Information intended to assist the understanding or use of the document. Informative annexes do not contain requirements, except as optional requirements, and are not mandatory. For example, a test method may contain requirements, but there is no need to comply with these requirements to claim compliance with the standard.

When speeds in km/h require unit conversion for use in the UK, users are advised to use equivalent values rounded to the nearest whole number. The use of absolute values for converted units should be avoided in these cases. Please refer to the table below for agreed conversion figures:

INS, RST and ENE	speed conversions
km/h	mph
5	3
10	5
20	10
30	20
80	50
160	100
190	120

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

© The British Standards Institution 2019 Published by BSI Standards Limited 2019

ISBN 978 0 580 77861 2

ICS 45.080; 93.100

Compliance with a British Standard cannot confer immunity from legal obligations.

This is a preview. Click here to purchase the full publication.

BRITISH STANDARD BS EN 13674-4:2019

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 30 April 2019.

Amendments/corrigenda issued since publication

Date Text affected



EUROPEAN STANDARD NORME EUROPÉENNE EUROPÄISCHE NORM

EN 13674-4

April 2019

ICS 93.100

Supersedes EN 13674-4:2006+A1:2009

English Version

Railway applications - Track - Rail - Part 4: Vignole railway rails from 27 kg/m to, but excluding 46 kg/m

Applications ferroviaires - Voie - Rails - Partie 4 : Rails Vignole de masse comprise entre 27 kg/m et 46 kg/m, 46 kg/m non compris

Bahnanwendungen - Oberbau - Schienen - Teil 4: Vignolschienen mit einer längenbezogenen Masse zwischen 27 kg/m und unter 46 kg/m

This European Standard was approved by CEN on 14 December 2018.

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-CENELEC 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-CENELEC Management Centre has the same status as the official versions.

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



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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

© 2019 CEN All rights of exploitation in any form and by any means reserved worldwide for CEN national Members.

Ref. No. EN 13674-4:2019 E

EN 13674-4:2019 (E)

Con	tents	Page
Europ	pean foreword	4
Intro	duction	6
1	Scope	8
2	Normative references	
3	Terms and definitions	
4	Information to be supplied by the purchaser	
5	Steel grades	
6	Dimensions, static properties, linear mass and tolerances	
7	Manufacture	11
7.1	Product integrity	11
7.1.1	Factory production control	11
7.1.2	Best practice manufacture	11
7.2	Blooms	11
7.3	Rails	11
7.4	Identification	11
7.4.1	Branding	11
7.4.2	Hot stamping	12
7.4.3	Cold stamping	12
7.4.4	Other identification	12
8	Qualification of the manufacturer	12
9	Acceptance tests	13
9.1	Laboratory tests	13
9.1.1	General	13
9.1.2	Chemical composition	13
9.1.3	Microstructure	17
9.1.4	Decarburization	17
9.1.5	Hardness	17
9.1.6	Tensile tests	18
9.1.7	Retest procedures	19
9.2	Dimension tolerances	19
9.2.1	Profile	19
9.2.2	Straightness and twist	20
9.2.3	Cutting and drilling	20
9.3	Gauges	
9.4	Inspection for internal quality and surface quality	
9.4.1	Internal quality	21
9.4.2	Surface quality	23
9.4.3	Checking of automated testing equipment	
Anne	x A (normative) Rail profiles	34

EN 13674-4:2019 (E)

Annex B (informative) Comparison of steel designations referred to in this European	
Standard compared to those in EN 10027-2	66
Bibliography	67

European foreword

This document (EN 13674-4:2019) 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 October 2019, and conflicting national standards shall be withdrawn at the latest by October 2019.

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

This document supersedes EN 13674-4:2006+A1:2009.

This part of EN 13674 is the fourth one of the series EN 13674, *Railway applications* — *Track* — *Rail*, which consists of the following parts:

- Part 1: Vignole railway rails 46 kg/m and above;
- Part 2: Switch and crossing rails used in conjunction with Vignole railway rails 46 kg/m and above;
- Part 3: Check rails;
- Part 4: Vignole railway rails from 27 kg/m to, but excluding 46 kg/m.

Other published standards include the following:

- EN 14587-1, Railway applications Infrastructure Flash butt welding of new rails Part 1: R220, R260, R260Mn, R320Cr, R350HT, R350LHT, R370CrHT and R400HT grade rails in a fixed plant;
- EN 14587-2, Railway applications Track Flash butt welding of rails Part 2: New R220, R260, R260Mn and R350HT grade rails by mobile welding machines at sites other than a fixed plant;
- EN 14587-3, Railway applications Track Flash butt welding of rails Part 3: Welding in association with crossing construction;
- EN 14730-1, Railway applications Track Aluminothermic welding of rails Part 1: Approval of welding processes;
- EN 14730-2, Railway applications Track Aluminothermic welding of rails Part 2: Qualification of aluminothermic welders, approval of contractors and acceptance of welds;
- EN 14811, Railway applications Track Special purpose rail Grooved rails and associated construction profiles;
- EN 15594, Railway applications Track Restoration of rails by electric arc welding;
- EN 16273, Railway applications Track Forged rail transitions.

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, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta,