

Railway applications — Track — Test methods for fastening systems —

Part 3: Determination of attenuation of impact loads

The European Standard EN 13146-3:2002 has the status of a
British Standard

ICS 93.100

National foreword

This British Standard is the official English language version of EN 13146-3:2002.

The UK participation in its preparation was entrusted to Technical Committee RAE/2, Railway track components, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

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

Cross-references

The British Standards which implement international or European publications referred to in this document may be found in the *BSI Catalogue* under the section entitled “International Standards Correspondence Index”, or by using the “Search” facility of the *BSI Electronic Catalogue* or of British Standards Online.

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

Compliance with a British Standard does not of itself confer immunity from legal obligations.

This British Standard, having been prepared under the direction of the Engineering Sector Policy and Strategy Committee, was published under the authority of the Standards Policy and Strategy Committee on 28 November 2002

Summary of pages

This document comprises a front cover, an inside front cover, the EN title page, pages 2 to 13 and a back cover.

The BSI copyright date displayed in this document indicates when the document was last issued.

Amendments issued since publication

Amd. No.	Date	Comments

© BSI 28 November 2002

ISBN 0 580 40858 2

English version

Railway applications - Track - Test methods for fastening systems - Part 3: Determination of attenuation of impact loads

Applications ferroviaires - Voie - Méthodes d'essai pour les systèmes de fixation - Partie 3: Détermination de l'atténuation des forces d'impact

Bahnanwendungen - Oberbau - Prüfverfahren für Schienenbefestigungssysteme - Teil 3: Bestimmung der Dämpfung von Stoßlasten

This European Standard was approved by CEN on 2 October 2002.

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 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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, 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
1 Scope	4
2 Normative references	4
3 Terms and definitions, symbols and abbreviations	4
3.1 Terms and definitions.....	4
3.2 Symbols and abbreviations	4
4 Principle	5
5 Apparatus	5
5.1 Concrete sleeper	5
5.2 Support	5
5.2.1 Reference method.....	5
5.2.2 Alternative method	6
5.3 Rail.....	6
5.4 Strain measuring and recording equipment	6
5.5 Drop mass.....	6
5.6 Preloading equipment	7
6 Test specimens	7
6.1 Concrete sleeper or bearer	7
6.2 Fastening	7
7 Procedure - reference method.....	8
7.1 Preparation	8
7.2 Testing	8
7.3 Check on sleeper condition	8
7.4 Calculation.....	9
8 Procedure - alternative method	9
8.1 Preparation	9
8.2 Testing and checking	9
8.3 Calculation.....	9
9 Test report	10
Annex A (informative) Sample calculation.....	11

Foreword

This document (EN 13146-3:2002) 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 May 2003, and conflicting national standards shall be withdrawn at the latest by May 2003.

This document has been prepared under mandates (M/024¹), M/275²) given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s). No existing European Standard is superseded.

In this European Standard the annex A is informative.

This series of European Standards EN 13146 "Railway applications — Track — Test methods for fastening systems" consists of the following Parts:

- $\frac{3}{4}$ *Part 1 : Determination of longitudinal rail restraint.*
- $\frac{3}{4}$ *Part 2 : Determination of torsional resistance.*
- $\frac{3}{4}$ *Part 3 : Determination of attenuation of impact loads.*
- $\frac{3}{4}$ *Part 4 : Effect of repeated loading.*
- $\frac{3}{4}$ *Part 5 : Determination of electrical resistance.*
- $\frac{3}{4}$ *Part 6 : Effect of severe environmental conditions.*
- $\frac{3}{4}$ *Part 7 : Determination of clamping force.*
- $\frac{3}{4}$ *Part 8 : In service testing.*

These support the requirements in the series EN 13481 Railway applications — Track — Performance requirements for fastening systems — Parts 1 to 7.

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

¹) Railway equipment.

²) Standardization in the field of Railway Equipment on the Interoperability of the Trans-European High-Speed Rail System.