

ILNAS

Institut luxembourgeois de la normalisation
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ILNAS-EN 13481-5:2002

Railway applications - Track - Performance requirements for fastening systems - Part 5: Fastening systems for slab track

Applications ferroviaires - Voie -
Prescriptions de performance pour les
systèmes de fixation - Partie 5: Systèmes
de fixation des voies sur dalle

Bahnanwendungen - Oberbau -
Leistungsanforderungen für
Schienenbefestigungssysteme - Teil 5:
Befestigungssysteme für feste

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A decorative graphic in the bottom right corner featuring several interlocking gears in shades of blue and yellow. Overlaid on the gears is a vertical column of binary code (0s and 1s) and various mathematical symbols like plus, minus, and multiplication signs.

National Foreword

This European Standard EN 13481-5:2002 was adopted as Luxembourgish Standard ILNAS-EN 13481-5:2002.

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**Railway applications - Track - Performance requirements for
fastening systems - Part 5: Fastening systems for slab track**

Applications ferroviaires - Voie - Prescriptions de
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Schienenbefestigungssysteme - Teil 5:
Befestigungssysteme für feste Fahrbahnen

This European Standard was approved by CEN on 6 March 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.



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Foreword

This document EN 13481-2:2002 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 December 2002, and conflicting national standards shall be withdrawn at the latest by December 2002.

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 Directives.

For relationship with EU Directive(s), see informative annex ZA, which is an integral part of this document.

No existing European Standard is superseded.

This European Standard is one of the series EN 13481 "Railway applications — Track — Performance requirements for fastening systems" which consists of the following parts.

- Part 1: Definitions;
- Part 2: Fastening systems for concrete sleepers;
- Part 3: Fastening systems for wood sleepers;
- Part 4: Fastening systems for steel sleepers;
- Part 5: Fastening systems for slab track;
- Part 6: Special fastening systems for attenuation of vibration;
- Part 7: Special fastening systems for switches and crossings and check rails.

These are supported by the test methods in the series EN 13146 "Railway applications — Track — Test methods for fastening systems".

The annexes A and B are normative.

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

Introduction

A requirement for longitudinal rail restraint is included to control rail creep and pull apart in the event of a broken rail. The relationship between longitudinal rail restraint and the overall design of the track slab requires consideration.

No satisfactory test is available to determine the attenuation of impact loads on slab track. The relative performance can be assessed by the procedure in prEN 13146-3 with the fastening system on a concrete sleeper.

The laboratory test for the effect of repeated loading is the means of assessing potential long-term performance of the fastening in track.

For systems in which the rail is continuously supported, test procedures are modified to take account of the change from discrete support.

1 Scope

This European Standard is applicable to fastening systems for use in attaching rails to the uppermost surface of concrete or asphalt slabs in non-ballasted track construction as follows:

- main lines having radius of curvature greater than 150 m and subject to maximum design axle load of 260 kN;
- light rail systems having a radius of curvature greater than 40 m and subject to a maximum design axle load of 130 kN.

This includes fastening systems for floating slabs but does not include fastening systems for embedded rails.

The requirements apply to the following:

- a) direct fastening systems;
- b) indirect fastening systems;
- c) fastening systems for the rail sections in prEN 13674-1 and prEN 13674-4;
- d) fastening systems which incorporate concrete elements which each have not more than one supporting element per rail.

In the case of (d) the concrete element is considered to be part of the fastening system. If the system includes concrete elements which each have more than one supporting location per rail, those concrete elements are considered to be part of the slab and not part of the fastening system.

This standard is not applicable to special fastening systems used at bolted joints.

This standard is for type approval of a complete fastening assembly only.