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Järnvägar – Spår – Provningsmetoder för befästningssystem – Del 10: Bestämning av lossdragningskraft

Railway applications – Track – Test methods for fastening systems – Part 10: Proof load test for pull-out resistance

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Europastandarden EN 13146-10:2017 gäller som svensk standard. Detta dokument innehåller den officiella engelska versionen av EN 13146-10:2017.

The European Standard EN 13146-10:2017 has the status of a Swedish Standard. This document contains the official English version of EN 13146-10:2017.

Upplysningar om sakinnehållet i standarden lämnas av SIS, Swedish Standards Institute, telefon 08-555 520 00. Standarder kan beställas hos SIS Förlag AB som även lämnar allmänna upplysningar om svensk och utländsk standard.

Information about the content of the standard is available from the Swedish Standards Institute (SIS), telephone +46 8 555 520 00. Standards may be ordered from SIS Förlag AB, who can also provide general information about Swedish and foreign standards.

Denna standard är framtagen av kommittén för Järnvägar, SIS/TK 254.

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 13146-10

January 2017

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English Version

Railway applications - Track - Test methods for fastening systems - Part 10: Proof load test for pull-out resistance

Applications ferroviaires - Voie - Méthodes d'essai pour les systèmes de fixation - Partie 10 : Essai de charge d'épreuve pour la résistance à l'arrachement

Bahnanwendungen - Oberbau - Prüfverfahren für Schienenbefestigungssysteme - Teil 10: Belastungsprüfung für den Auszugswiderstand

This European Standard was approved by CEN on 19 November 2016.

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

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European foreword

This document (EN 13146-10:2017) 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of an identical text or by endorsement, at the latest by July 2017 and conflicting national standards shall be withdrawn at the latest by July 2017.

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

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

This European Standard is one of the series EN 13146 "*Railway applications — Track — Test methods for fastening systems"* which consists of the following parts:

— *Part 1: Determination of longitudinal rail restraint*

— *Part 2: Determination of torsional resistance*

— *Part 3: Determination of attenuation of impact loads*

— *Part 4: Effect of repeated loading*

— *Part 5: Determination of electrical resistance*

— *Part 6: Effect of severe environmental conditions*

— *Part 7: Determination of clamping force*

— *Part 8: In-service testing*

— *Part 9: Determination of stiffness*

— *Part 10: Proof load test for pull-out resistance*

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, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Scope

This European Standard specifies a test procedure to confirm that the force necessary to pull the anchorage of a rail fastening assembly out of the sleeper or other supporting element is greater than a prescribed value (i.e. it is a 'proof load' test).

This test is for components of the fastening system which are:

a) cast into concrete during the manufacture of sleepers or other supporting elements;

b) glued into the cast or drilled holes in concrete; or

c) screwed or otherwise attached to wood, plastic or steel sleepers or other supporting elements.

This test is not applicable to embedded rails.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 13481-1, *Railway applications — Track — Performance requirements for fastening systems — Part 1: Definitions*

EN ISO 7500-1, *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)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 13481-1 apply.

4 Principle

A vertical upward force is applied to the anchored fastening element, directly above the point at which it is cast, glued or screwed into its support. The load is increased until the prescribed 'proof load' is reached. There should be no evidence of any damage which might reduce the strength or durability of the fastening system.

NOTE For general applications, values of proof load are given in EN 13481–2 (for concrete sleepers) and EN 13481–5 (for slab tracks).

5 Apparatus

5.1 Actuator

An actuator capable of applying an upward force of at least 75 kN to the component of the fastening system which is attached to the sleeper or supporting element. A linkage shall be provided between the actuator and the fastening component which ensures that the vertical force is applied directly above the part of the component which is anchored to the sleeper or support without applying unrepresentative flexural or torsional moments to any component.

5.2 Force measuring instruments

Force measuring instruments conforming to EN ISO 7500-1 class 2 over the required range of force.