

BS EN 13146-6:2012



BSI Standards Publication

Railway applications — Track — Test methods for fastening systems

Part 6: Effect of severe environmental
conditions

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National foreword

This British Standard is the UK implementation of EN 13146-6:2012. It supersedes BS EN 13146-6:2002 which is withdrawn.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.

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English Version

Railway applications - Track - Test methods for fastening systems - Part 6: Effect of severe environmental conditions

Applications ferroviaires - Voie - Méthodes d'essai pour les systèmes de fixation - Partie 6: Effet résultant de conditions environnantes rigoureuses

Bahnanwendungen - Oberbau - Prüfverfahren für Schienenbefestigungssysteme - Teil 6: Auswirkung von extremen Umwelteinflüssen

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Foreword

This document (EN 13146-6:2012) 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of an identical text or by endorsement, at the latest by October 2012, and conflicting national standards shall be withdrawn at the latest by October 2012.

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 supersedes EN 13146-6:2002.

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

In this revision of EN 13146-6:2002 the scope has been enlarged to include embedded rail with mechanical fastenings.

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.

These support the requirements in the series EN 13481 "*Railway applications — Track — Performance requirements for fastening systems*".

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Introduction

This part of EN 13146 includes the only test procedure to find the effect of severe environmental conditions which is generally available at present.

1 Scope

This European Standard specifies a laboratory test procedure for finding the effect of exposure to severe environmental conditions on the fastening system.

This test procedure applies to a complete fastening assembly including embedded rail with mechanical fastenings. It is not applicable to embedded rail systems relying on adhesive components to secure the rail.

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 13481-1:2012, *Railway applications — Track — Performance requirements for fastening systems — Part 1: Definitions*

EN ISO 9227, *Corrosion tests in artificial atmospheres — Salt spray tests (ISO 9227)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 13481-1:2012 apply.

4 Principle

The complete fastening assembly is exposed to a salt spray and the effect on ease of dismantling, and reassembly, and condition of individual components is recorded.

5 Apparatus

5.1 Salt spray equipment

This shall conform with EN ISO 9227 for the NSS (neutral salt spray) test.

5.2 Tools

Manually operated tools normally used for installing and removing the clamping device from the fastening assembly.

6 Test specimens

Each specimen shall consist of a complete fastening assembly with a baseplate or a section of sleeper, bearer or element of slab track where no baseplate is used. This shall include a short length of rail of the section for which the fastening is designed. For fastening assemblies for embedded rail, the length of the test specimen shall be equal to the nominal sleeper spacing in EN 13481-1:2012, 3.1.

7 Procedure

Visually examine and record the condition of each component. Then fit the rail to the section of sleeper or baseplate using the fastening components as they are to be assembled in track.

Subject to the neutral salt spray in accordance with EN ISO 9227 for 300 h. Remove the clamping device using the tools provided; visually examine all the components and record their condition. Then reassemble the fastening system using the tools provided.

Record any failure to dismantle or reassemble the fastening with the tools provided.

8 Test report

The test report shall include at least the following information:

- a) number, date of issue and title of this European Standard;
- b) name and address of laboratory performing the test;
- c) date test performed;
- d) name, designation and description of fastening assembly, including individual components, tested;
- e) origin of test specimens;
- f) support used for assembly;
- g) rail section used in test;
- h) tools provided to assemble and dismantle the assembly;
- i) change in appearance (if any) of each component during test;
- j) any failure to dismantle or re-assemble the fastening assembly with the tools provided.

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