
**Railway infrastructure — Rail
fastening systems —**

**Part 3:
Proof load test method for pull-out
resistance**

Infrastructure ferroviaire — Systèmes de fixation du rail —

*Partie 3: Méthode d'essai de charge d'épreuve pour la résistance à
l'arrachement*



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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 269, *Railway applications*, Subcommittee SC 1, *Infrastructure*.

A list of all parts in the ISO 22074 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Railway infrastructure — Rail fastening systems —

Part 3:

Proof load test method for pull-out resistance

1 Scope

This document 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, polymeric composite or steel sleepers or other supporting elements.

This test is not applicable to embedded rails.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 22074-1, *Railway infrastructure — Rail fastening systems — Part 1: Vocabulary*

ISO 7500-1:2018, *Metallic materials — Calibration and verification of static uniaxial testing machines — Part 1: Tension/compression testing machines — Calibration and verification of the force-measuring system*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 22074-1 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

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component of a fastening system which is embedded in the sleeper or other supporting element of track

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