

<b>STN</b>	<b>Železničná infraštruktúra Systémy upevňovania koľajníc Časť 5: Skúšobná metóda na elektrický odpor (ISO 22074-5: 2021)</b>	<b>STN EN ISO 22074-5</b>  73 6331
------------	---	--

Railway infrastructure - Rail fastening systems - Part 5: Test method for electrical resistance (ISO 22074-5:2021)

Táto norma obsahuje anglickú verziu európskej normy.  
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 05/24

Obsahuje: EN ISO 22074-5:2024, ISO 22074-5:2021

**138685**

---

Úrad pre normalizáciu, metrológiu a skúšobníctvo Slovenskej republiky, 2024  
Slovenská technická norma a technická normalizačná informácia je chránená zákonom č. 60/2018 Z. z. o technickej normalizácii  
v znení neskorších predpisov.

EUROPEAN STANDARD

EN ISO 22074-5

NORME EUROPÉENNE

EUROPÄISCHE NORM

March 2024

ICS 45.080

English Version

## Railway infrastructure - Rail fastening systems - Part 5: Test method for electrical resistance (ISO 22074-5:2021)

Infrastructure ferroviaire - Systèmes de fixation du rail  
- Partie 5: Méthode d'essai pour la détermination de  
résistance électrique (ISO 22074-5:2021)

Bahninfrastruktur - Schienenbefestigungssysteme -  
Teil 5: Prüfverfahren zur Ermittlung des elektrischen  
Widerstands (ISO 22074-5:2021)

This European Standard was approved by CEN on 23 March 2024.

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 CEN-CENELEC 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 CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and United Kingdom.



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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

**EN ISO 22074-5:2024 (E)**

<b>Contents</b>	<b>Page</b>
<b>European foreword.....</b>	<b>3</b>

## **European foreword**

The text of ISO 22074-5:2021 has been prepared by Technical Committee ISO/TC 269 “Railway applications” of the International Organization for Standardization (ISO) and has been taken over as EN ISO 22074-5:2024 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 September 2024, and conflicting national standards shall be withdrawn at the latest by September 2024.

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

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

## **Endorsement notice**

The text of ISO 22074-5:2021 has been approved by CEN as EN ISO 22074-5:2024 without any modification.

# INTERNATIONAL STANDARD

# ISO 22074-5

First edition  
2021-05

---

---

## Railway infrastructure — Rail fastening systems —

### Part 5: Test method for electrical resistance

*Infrastructure ferroviaire — Systèmes de fixation du rail —*

*Partie 5: Méthode d'essai pour la détermination de résistance  
électrique*



Reference number  
ISO 22074-5:2021(E)

© ISO 2021

**ISO 22074-5:2021(E)****COPYRIGHT PROTECTED DOCUMENT**

© ISO 2021

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office  
CP 401 • Ch. de Blandonnet 8  
CH-1214 Vernier, Geneva  
Phone: +41 22 749 01 11  
Email: [copyright@iso.org](mailto:copyright@iso.org)  
Website: [www.iso.org](http://www.iso.org)

Published in Switzerland

# Contents

	Page
<b>Foreword</b> .....	<b>iv</b>
<b>Introduction</b> .....	<b>v</b>
<b>1 Scope</b> .....	<b>1</b>
<b>2 Normative references</b> .....	<b>1</b>
<b>3 Terms and definitions</b> .....	<b>1</b>
<b>4 Symbols and abbreviated terms</b> .....	<b>1</b>
<b>5 Principle</b> .....	<b>1</b>
<b>6 Apparatus</b> .....	<b>2</b>
6.1 Rail.....	2
6.2 Water.....	2
6.2.1 Standard "wet" conditions.....	2
6.2.2 Optional additional test conditions.....	2
6.3 Spray equipment.....	2
6.4 Electricity supply.....	2
6.5 Instruments.....	2
6.6 Water collection and re-cycling equipment.....	2
<b>7 Test specimens (reference method)</b> .....	<b>3</b>
<b>8 Procedure (reference method)</b> .....	<b>3</b>
<b>9 Test specimens (alternative method)</b> .....	<b>5</b>
<b>10 Procedure (alternative method)</b> .....	<b>5</b>
<b>11 Calculations</b> .....	<b>5</b>
<b>12 Test report</b> .....	<b>6</b>
<b>Bibliography</b> .....	<b>7</b>

## ISO 22074-5:2021(E)

### Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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](http://www.iso.org/directives)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

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](http://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](http://www.iso.org/members.html).



## **Introduction**

This test procedure is used to assess the rail-to-rail electrical resistance relevant to rail fastenings used in locations where track circuit signalling systems are used.

# Railway infrastructure — Rail fastening systems —

## Part 5: Test method for electrical resistance

### 1 Scope

This document specifies a laboratory test procedure for determining the electrical resistance, in wet conditions, between the running rails provided by a fastening system fitted to a steel or concrete sleeper, bearer or element of ballastless track.

It is also applicable to embedded rail.

This test procedure applies to a complete fastening assembly. It is relevant to signalling currents, not to traction currents.

A reference procedure and an alternative procedure are included.

### 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 7888, *Water quality — Determination of electrical conductivity*

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

**koniec náhľadu – text ďalej pokračuje v platenej verzii STN**