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Kolesa - Varnostne zahteve za kolesa - 4. del: Preskusne metode za zavore (ISO 4210-4:2023)

Cycles - Safety requirements for bicycles - Part 4: Braking test methods (ISO 4210-4:2023)

Fahrräder - Sicherheitstechnische Anforderungen an Fahrräder - Teil 4: Prüfverfahren für Bremsen (ISO 4210-4:2023)

Cycles - Exigences de sécurité pour les bicyclettes - Partie 4: Méthodes d'essai de freinage (ISO 4210-4:2023)

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Cycles - Safety requirements for bicycles - Part 4: Braking
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Cycles - Exigences de sécurité pour les bicyclettes -
Partie 4: Méthodes d'essai de freinage (ISO 4210-
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Fahrräder - Sicherheitstechnische Anforderungen an
Fahrräder - Teil 4: Prüfverfahren für Bremsen (ISO
4210-4:2023)

This European Standard was approved by CEN on 13 January 2023.

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COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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

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European foreword

This document (EN ISO 4210-4:2023) has been prepared by Technical Committee ISO/TC 149 "Cycles" in collaboration with Technical Committee CEN/TC 333 "Cycles" the secretariat of which is held by UNI.

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of an identical text or by endorsement, at the latest by July 2023, and conflicting national standards shall be withdrawn at the latest by July 2023.

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.

This document supersedes EN ISO 4210-4:2014.

Any feedback and questions on this document should be directed to the users' national standards body/national committee. 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 4210-4:2023 has been approved by CEN as EN ISO 4210-4:2023 without any modification.

INTERNATIONAL STANDARD

ISO
4210-4

Second edition
2023-01

Cycles — Safety requirements for bicycles —

Part 4: Braking test methods

Cycles — Exigences de sécurité pour les bicyclettes —

Partie 4: Méthodes d'essai de freinage

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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).

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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.

This document was prepared by Technical Committee ISO/TC 149, *Cycles*, Subcommittee SC 1, *Cycles and major sub-assemblies*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 333, *Cycles*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 4210-4:2014), which has been technically revised.

The main changes are as follows:

- improvement of [4.1.2](#);
- addition of test temperature requirement in [4.6.3](#) and [4.6.5](#);
- change in the method of calculating the braking distance in [4.6.3](#);
- addition of rolling resistance requirement and cooling requirement in [4.6.5.7](#);
- change in the test method to no cooling air of [4.7](#);
- addition of [Annex B](#) and [Annex C](#).

A list of all parts in the ISO 4210 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.

Introduction

This document has been developed in response to the demand throughout the world. The aim is to ensure that bicycles manufactured in conformity with this document will be as safe as is practically possible. The tests are designed to ensure the strength and durability of individual parts as well as of the bicycle as a whole, demanding high quality throughout and consideration of safety aspects from the design stage onwards.

The scope is limited to safety considerations and has specifically avoided standardization of components.

If the bicycle should be used on public roads, national regulations apply.

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Cycles — Safety requirements for bicycles —

Part 4: Braking test methods

1 Scope

This document specifies the braking test methods for ISO 4210-2.

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 4210-1, *Cycles — Safety requirements for bicycles — Part 1: Vocabulary*

ISO 4210-2:2023, *Cycles — Safety requirements for bicycles — Part 2: Requirements for city and trekking, young adult, mountain and racing bicycles*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 4210-1 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 <https://www.electropedia.org/>

4 Test methods

4.1 Brake lever grip dimensions

4.1.1 Test method for the brake lever similar to type A or type B

Fit the gauge illustrated in [Figure 1](#) over the handlebar grip or the handlebar (when the manufacturer does not fit a grip) and the brake lever as shown in [Figure 2](#) so that face A is in contact with the handlebar or grip and the side of the brake lever. Ensure that face B spans an area of that part of the brake lever which is intended for contact with the rider's fingers without the gauge causing any movement of the brake lever towards the handlebar or grip. Measure the distance, a , the distance between the last part of the lever intended for contact with the rider's fingers and the end of the lever. The measurement should be conducted only on a fully assembled bicycle.