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**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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# Contents

Page

Foreword.....	iv
Introduction.....	v
<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 Test methods.....</b>	<b>1</b>
4.1 Brake lever grip dimensions.....	1
4.1.1 Test method for the brake lever similar to type A or type B.....	1
4.1.2 Test method for the brake lever similar to type C.....	3
4.2 Brake levers — Position of applied force.....	5
4.2.1 Type A and B brake levers.....	5
4.2.2 Type C brake levers.....	5
4.3 Brake-block and brake-pad assemblies — Security test.....	6
4.4 Hand-operated braking-system — Strength test.....	6
4.5 Back-pedal braking system — Strength test.....	7
4.6 Braking performance.....	7
4.6.1 Test bicycle.....	7
4.6.2 Secondary brake levers.....	7
4.6.3 Track test method.....	8
4.6.4 Back-pedal brake linearity test.....	17
4.6.5 Machine test method.....	17
4.7 Brakes — Heat-resistance test.....	23
4.7.1 Drag test.....	23
4.7.2 Brake performance measurement after drag test.....	24
<b>Annex A (informative) Explanation of the method of least squares for obtaining the line of best fit and <math>\pm 20</math> % limit lines for braking performance linearity.....</b>	<b>26</b>
<b>Annex B (informative) Method of measuring braking distance with different lever forces.....</b>	<b>29</b>
<b>Annex C (informative) How to derive the total braking energy for brake heat resistance test.....</b>	<b>31</b>

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

This corrected version of ISO 4210-4:2023 incorporates the following correction:

- In [Formula \(4\)](#), the denominator and numerator have been reversed;

## 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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