



SLOVENSKI STANDARD

oSIST prEN ISO 4210-9:2022

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Kolesa - Varnostne zahteve za kolesa - 9. del: Preskusne metode za sedeže in nosilce sedežev (ISO/DIS 4210-9:2021)

Cycles - Safety requirements for bicycles - Part 9: Saddles and seat-post test methods (ISO/DIS 4210-9:2021)

Fahrräder - Sicherheitstechnische Anforderungen an Fahrräder - Teil 9: Prüfverfahren für Sättel und Sattelstütze (ISO/DIS 4210-9:2021)

Cycles - Exigences de sécurité des bicyclettes - Partie 9 : Méthodes d'essai de la selle et du poste d'assise (ISO/DIS 4210-9:2021)

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ICS:

43.150 Kolesa Cycles

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DRAFT INTERNATIONAL STANDARD

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Cycles — Safety requirements for bicycles —

Part 9: Saddles and seat-post test methods

*Cycles — Exigences de sécurité des bicyclettes —**Partie 9: Méthodes d'essai de la selle et du poste d'assise*

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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).

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).

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.
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This document was prepared by Technical Committee ISO/TC 149, *Cycles*, Subcommittee SC 1, *Cycles and major sub-assemblies*.
oSIST prEN ISO 4210-9:2022

This **second** edition cancels and replaces the **first** edition (ISO 4210-9:2014), which has been technically revised.
<https://standards.iteh.ai/catalog/standards/sist/6520c216-c4ba-484e-9fa4->

The main changes compared to the previous edition are as follows:

— xxx xxxxxxxx xxx xxxx

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 International Standard has been developed in response to demand throughout the world, and the aim has been to ensure that bicycles manufactured in compliance with this International Standard will be as safe as is practically possible. The tests have been 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 has been limited to safety considerations and has specifically avoided standardization of components.

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

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1 Cycles — Safety requirements for bicycles — Part 9: Saddle and 2 seat-post test methods

3 1 Scope

4 This part of ISO 4210 specifies saddle and seat-post test methods for ISO 4210-2.

5 2 Normative references

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

9 ISO 4210-1, *Cycles — Safety requirements for bicycles — Part 1: Terms and definitions*

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

12 ISO 4210-3, *Cycles — Safety requirements for bicycles — Part 3: Common test methods*

13 3 Terms and definitions

14 For the purposes of this document, the terms and definitions given in ISO 4210-1 apply.

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

16 — ISO Online browsing platform: available at <https://www.iso.org/obp>

17 — IEC Electropedia: available at <http://www.electropedia.org/>
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18 4 Test methods

19 4.1 General

20 If a suspension seat-post is involved, the test may be conducted with the suspension system either free
21 to operate or locked. If it is locked, the pillar shall be at its maximum length.

22 4.2 Saddle/seat-post — Security test

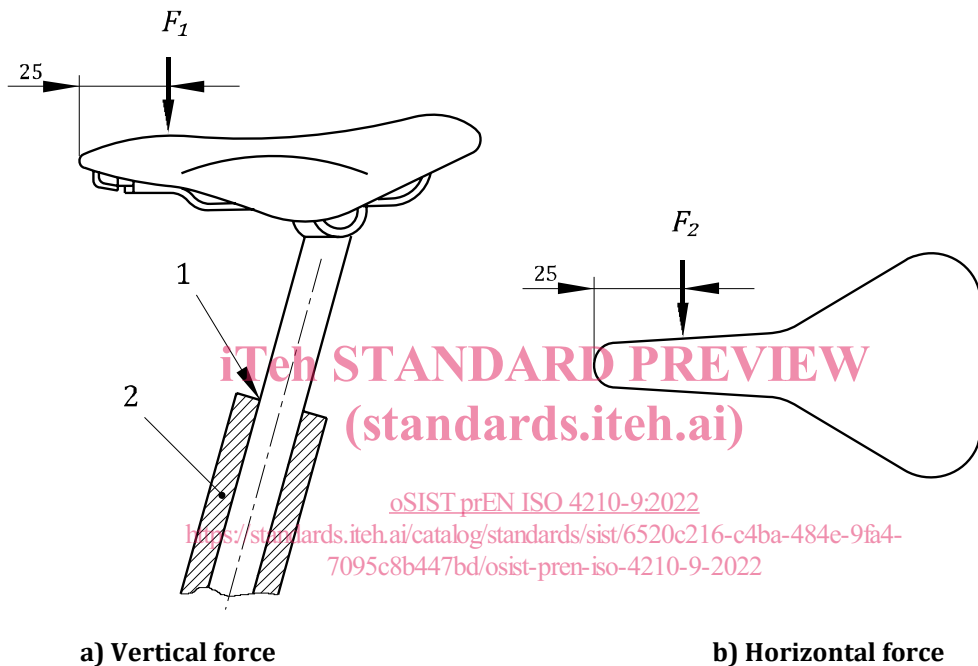
23 With the seat-post correctly assembled to the bicycle frame at minimum insertion depth of the seat-post
24 (as specified in ISO 4210-2, 4.16.2), and the clamps tightened to the torque recommended by the bicycle
25 manufacturer, apply a force of F_1 vertically downwards at a point 25 mm from either the front or rear of
26 the saddle, whichever produces the greater torque on the saddle clamp. The saddle shall be positioned in
27 the seat-post clamp assembly as defined by the saddle manufacturer's rail markings or instructions.
28 Maintain this force for 1 min. Remove this force and apply a lateral force of F_2 horizontally at a point
29 25 mm from either the front or rear of the saddle and maintain this force for 1 min, whichever produces
30 the greater torque on the clamp (see Figure 1). The forces are given in Table 1. The fixture shall be such
31 that it does not damage the surface of the saddle.

Table 1 — Forces on saddle

Forces in newtons

| Bicycle type | City and trekking bicycles | Young adult bicycles | Mountain bicycles | Racing bicycles |
|-------------------------|----------------------------|----------------------|-------------------|-----------------|
| Vertical force, F_1 | 650 | 650 | 650 | 650 |
| Horizontal force, F_2 | 250 | 250 | 250 | 250 |

Dimensions in millimetres



a) Vertical force

b) Horizontal force

Key

- 1 minimum insertion-depth mark
- 2 bicycle frame

Figure 1 — Saddle/seat-post — Security test

4.3 Saddle and saddle rail — Static strength test

4.3.1 Saddle — Static strength test

Position the saddle in its maximum rearward direction as defined by the saddle manufacturer's rail markings or instructions, into a suitable fixture representative of a seat-post clamp assembly. Tighten the clamps to the torque recommended by the bicycle manufacturer, and apply forces of 400 N in turn under the rear and nose of the saddle cover, as shown in Figure 2, ensuring that the force is not applied to any part of the chassis of the saddle. The load application point is on the longitudinal plane of the saddle at 25 mm from the back (front) of the saddle. If the saddle design is such that it cannot accept a centreline load application, the load shall be symmetrically applied at two points of the saddle. Loading on the rear of the saddle shall be symmetrical about its longitudinal axis, as shown in Figure 3.