



## DRAFT INTERNATIONAL STANDARD ISO/DIS 10734

ISO/TC 216

Secretariat: AENOR

Voting begins on:  
2008-04-24

Voting terminates on:  
2008-09-24

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

# Footwear — Test method for slide fasteners — Strength of slide fastener pullers

*Chaussures — Méthode d'essai pour les fermetures éclair — Résistance des entraînements auxiliaires des fermetures éclair*

ICS 61.060

## iTeh STANDARD PREVIEW (standards.iteh.ai)

<https://standards.iteh.ai/en/standards/iso/iso-dis-10734-016-49c8-ab16>

### ISO/CEN PARALLEL ENQUIRY

This draft International Standard is a draft standard developed within the European Committee for Standardization (CEN) and processed under the CEN-lead mode of collaboration as defined in the Vienna Agreement. The document has been transmitted by CEN to ISO for circulation for ISO member body voting in parallel with CEN enquiry. Comments received from ISO member bodies, including those from non-CEN members, will be considered by the appropriate CEN technical body. Should this DIS be accepted, a final draft, established on the basis of comments received, will be submitted to a parallel two-month FDIS vote in ISO and formal vote in CEN.

**To expedite distribution, this document is circulated as received from the committee secretariat. ISO Central Secretariat work of editing and text composition will be undertaken at publication stage.**

**Pour accélérer la distribution, le présent document est distribué tel qu'il est parvenu du secrétariat du comité. Le travail de rédaction et de composition de texte sera effectué au Secrétariat central de l'ISO au stade de publication.**

THIS DOCUMENT IS A DRAFT CIRCULATED FOR COMMENT AND APPROVAL. IT IS THEREFORE SUBJECT TO CHANGE AND MAY NOT BE REFERRED TO AS AN INTERNATIONAL STANDARD UNTIL PUBLISHED AS SUCH.

IN ADDITION TO THEIR EVALUATION AS BEING ACCEPTABLE FOR INDUSTRIAL, TECHNOLOGICAL, COMMERCIAL AND USER PURPOSES, DRAFT INTERNATIONAL STANDARDS MAY ON OCCASION HAVE TO BE CONSIDERED IN THE LIGHT OF THEIR POTENTIAL TO BECOME STANDARDS TO WHICH REFERENCE MAY BE MADE IN NATIONAL REGULATIONS.

RECIPIENTS OF THIS DRAFT ARE INVITED TO SUBMIT, WITH THEIR COMMENTS, NOTIFICATION OF ANY RELEVANT PATENT RIGHTS OF WHICH THEY ARE AWARE AND TO PROVIDE SUPPORTING DOCUMENTATION.

**PDF disclaimer**

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

[ISO/DIS 10734](https://standards.iteh.ai/catalog/standards/sist/eae7b13d-ebfe-49e8-abf8-4df6667cecb6/iso-dis-10734)

<https://standards.iteh.ai/catalog/standards/sist/eae7b13d-ebfe-49e8-abf8-4df6667cecb6/iso-dis-10734>

**Copyright notice**

This ISO document is a Draft International Standard and is copyright-protected by ISO. Except as permitted under the applicable laws of the user's country, neither this ISO draft nor any extract from it may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, photocopying, recording or otherwise, without prior written permission being secured.

Requests for permission to reproduce should be addressed to either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office  
Case postale 56 • CH-1211 Geneva 20  
Tel. + 41 22 749 01 11  
Fax + 41 22 749 09 47  
E-mail [copyright@iso.org](mailto:copyright@iso.org)  
Web [www.iso.org](http://www.iso.org)

Reproduction may be subject to royalty payments or a licensing agreement.

Violators may be prosecuted.

# Contents

	Page
Foreword .....	iv
1 Scope .....	1
2 Normative references .....	1
3 Terms and definitions .....	1
4 Principle.....	1
5 Apparatus and materials.....	2
5.1 Method 1 Tension .....	2
5.2 Method 2 Torsion.....	2
6 Procedure .....	2
6.1 Method 1 – Tension .....	2
6.2 Method 2 – Torsion.....	4
7 Test report.....	4

**iTeh STANDARD PREVIEW**  
(standards.iteh.ai)

ISO/DIS 10734

<https://standards.iteh.ai/catalog/standards/sist/eae7b13d-ebfe-49e8-abf8-4df6667cecb6/iso-dis-10734>

DRAFT

## 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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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.

ISO 10734 was prepared by Technical Com, Subcommittee SC , ttee ISO/TC 216, *Footwear*, and by Technical Committee CEN/TC 309, *Footwear* in collaboration.

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

ISO/DIS 10734

<https://standards.iteh.ai/catalog/standards/sist/eae7b13d-ebfe-49e8-abf8-4df6667cecb6/iso-dis-10734>

D  
R  
A  
F  
T

# Footwear — Test method for slide fasteners — Strength of slide fastener pullers

## 1 Scope

This standard specifies a test method method intended to assess the burst strength of a closed slide fastener for footwear. The method is applicable to all types of slide fastener.

## 2 Normative references

The following referenced documents are indispensable for the application 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 7500-1 *Metallic materials -- Verification of static uniaxial testing machines -- Part 1: Tension/compression testing machines -- Verification and calibration of the force-measuring system*

<https://standards.iteh.ai/catalog/standards/sist/eae7b13d-ebfe-49e8-abf8-4df667cecb6/iso-dis-10734>

ISO 17709 *Footwear – Sampling location, preparation and duration of conditioning of samples and test pieces.*

ISO 18454 *Footwear – Standard atmospheres for conditioning and testing of footwear and ISO 19952 Footwear - Vocabulary*

9952 *Footwear - Vocabulary*

## 3 Terms and definitions

For the purposes of this standard, the terms and definitions included in ISO 19952 apply.

## 4 Principle

The slider and puller of a test fastener are clamped so that the puller is perpendicular to the slider body. This standard describes the following methods:

Method 1: Tension – The force required to pull the puller from the slider in a direction parallel to the longitudinal centre line of the puller is measured.

Method 2: Torsion – The torque required to twist the puller from the slider about the longitudinal centre line of the puller is measured.

## 5 Apparatus and materials

### 5.1 Method 1 Tension

A tensile testing machine with the following characteristics shall be used:

5.1.1 A jaw separation rate of  $(100 \pm 10)$  mm/min.

5.1.2 The capability of measuring forces up to 1 kN to an accuracy of 2% as specified by class 2 in ISO 7500-1

5.1.3 A means of recording either the force at all times during the test or the maximum force.

5.1.4 A jig, in one jaw, for holding the test fastener slider. A flat plate of thickness at least 1 mm, which fits between the faces of the slider and has a tapered slot to engage the slider body, is suitable. An arm attached to the plate is clamped into the jaw, see figure 1a.

5.1.5 A device, fixed in the other jaw, for clamping the puller of the test fastener. A small rigid hook is suitable for pullers with a hole.

### 5.2 Method 2 Torsion

A test device (see Figure 1b) with the following characteristics shall be used:

<https://standards.iteh.ai/catalog/standards/sist/eae7b13d-ebfe-49e8-abf8-4df6667cecb6/iso-dis-10734>

5.2.1 A pair of clamps, one capable of holding the test fastener slider and the other capable of gripping the puller so that it is perpendicular to the slider.

5.2.2 A method of rotating the two clamps (5.2.1) relative to one another at a rate of  $(9 \pm 3)$  degree per second.

5.2.3 The capability of measuring the torque between the two clamps to the nearest 0,5 N.m.

### 5.3 Minimum number of fasteners required

The minimum number of fasteners required for each version of the test is:

— Method 1 – Three

— Method 2 – Six

## 6 Procedure

### 6.1 Method 1 – Tension

6.1.1 Remove the slider from the stringers of the test fastener. Clamp the main body of the slider in the jig (5.1.4) so that it is at  $90^\circ$  to the axis of the tensile testing machine (5.1).

**6.1.2** Attach the puller of the test fastener to the device (5.1.5) so that it is parallel to the axis of the tensile testing machine (5.1). Try to grip the puller in such a way that the device (5.1.5) will not cause an unnatural failure of the puller during the test. For example, if using a hook with a two hole puller which looks weak around its top hole, insert the hook through the bottom hole in the puller where it is fixed to the slider body.

**6.1.3** Operate the tensile testing machine with a jaw separation rate of  $(100 \pm 10)$  mm/min until either the puller breaks, or pulls off the slider.

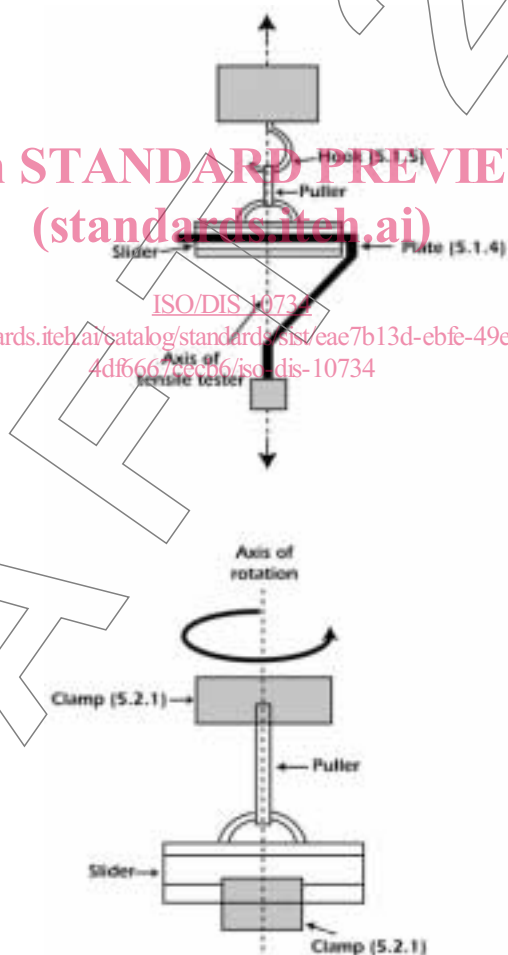
**6.1.4** Record the maximum force obtained in newtons to the nearest 5N and the type of failure such as:

- Slider broke at the point of attachment to the puller.
- Puller broke at the point of attachment to the slider.
- Slider broke at a point away from the attachment to the puller.
- Puller broke at a point away from the attachment to the slider.

iTeh STANDARD PREVIEW  
(standards.iteh.ai)

ISO/DIS 10734

<https://standards.iteh.ai/catalog/standards/sist/eae7b13d-ebfe-49e8-abf8-4df6667c3316/iso-dis-10734>



**Figure 1 — 1a Tension; Fig 1b Torsion**

**6.1.5** If the puller failed at the point of contact with the device (5.1.5) or it appears that the device contributed to the failure, then ignore this result and repeat the test with a fresh fastener.

**6.1.6** Repeat the procedure in sections 6.1.1 to 6.1.5 with the other two test fasteners.

6.1.7 Calculate the arithmetic mean of the three maximum forces (6.1.4).

## 6.2 Method 2 – Torsion

6.2.1 Remove the slider from the stringers of the test fastener. Clamp the slider in one of the clamps (5.2.1) and the puller in the other, so that the puller is perpendicular to the slider and the longitudinal centre line of the puller is aligned with the axis of rotation between the two clamps, see Figure 1b.

6.2.2 Operate the testing device (5.2) so that the two jaws rotate relative to each other in a clockwise direction, when looking from the puller side of the slider, at a rate of  $(9 \pm 3)$  degree per second ( $^{\circ}/s$ ) until either:

- The puller breaks or twists off the slider.
- The jaws have rotated through a total of  $180^{\circ}$ .

6.2.3 Record the maximum torque in N.m to the nearest 0,5 N.m and the type of failure such as:

- Slider broke at the point of attachment to the puller.
- Puller broke at the point of attachment to the slider.
- Slider broke at a point away from the attachment to the puller.
- Puller broke at a point away from the attachment to the slider.
- Puller twisted but did not break.

6.2.4 If the puller is permanently twisted, estimate the amount of twist to the nearest  $5^{\circ}$ .

6.2.5 Repeat the procedure in sections 6.2.1 to 6.2.4 for another two test fasteners.

6.2.6 Calculate the arithmetic mean of the three maximum torques (6.2.3).

6.2.7 Repeat the procedure in sections 6.2.1 to 6.2.6 for another three test fasteners, this time rotating the clamps (5.2.1) in an anticlockwise direction.

## 7 Test report

The test report shall include the following information:

- 7.1 Reference to this test method.
- 7.2 Full description of the samples tested.
- 7.3 Date of testing.
- 7.4 The version of the test used: either method 1 or method 2.
- 7.5 Method 1 – the arithmetic mean maximum force as calculated in 6.1.7.
- 7.6 Method 2 – the arithmetic mean maximum torque for each direction of rotation as calculated in 6.2.6.
- 7.7 A description of the type(s) of failure.
- 7.8 Any deviat