INTERNATIONAL STANDARD

ISO 22776

First edition
2004-12-15

Footwear — Test methods for accessories: Touch and close fasteners — Shear strength before and after repeated closing

Chaussures — Méthodes d'essai pour accessoires: fermetures auto-agrippantes — Résistance à la traction avant et après un usage répété

Reference number
ISO 22776:2004(E)

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
Web www.iso.org

Published in Switzerland

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 22776 was prepared by the European Committee for Standardization (CEN) in collaboration with Technical Committee ISO/TC 216, *Footwear*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

Throughout the text of this document, read "...this European Standard..." to mean "...this International Standard...".

Annex ZA provides a list of corresponding International and European Standards for which equivalents are not given in the text.

Contents

Foreword

This document (EN ISO 22776:2004) has been prepared by Technical Committee CEN/TC 309 "Footwear", the secretariat of which is held by AENOR, in collaboration with Technical Committee ISO/TC 216 "Footwear".

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 June 2005, and conflicting national standards shall be withdrawn at the latest by June 2005.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

1 Scope

This document specifies a test method for determining the longitudinal shear strength of touch and close fasteners before and after repeated use.

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.

EN 12222, *Footwear - Standard atmospheres for conditioning and testing of footwear and components for footwear*

EN 12240, *Touch and close fasteners — Determination of the overall and effective widths of tapes and the effective width of a closure*

EN 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 (ISO 7500-1:2004)*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
longitudinal shear strength
maximum force per unit effective area required to separate the two tapes forming the specified closure in a shearing action under the specified conditions of test

3.2
effective width
width of the pile at 90° to the length of the tape and which does not include the selvedge

3.3
effective area of a closure
product of the effective width of a closure and the length of a closure

4 Principle

4.1 Shear strength

Mated component tapes of a touch and close fastener are separated at a constant rate along the closure in a direction parallel to the length of the tapes forming the closure and in the plane of the closure.

4.2 Shear strength after repeated opening and closing

A touch and close fastener is repeatedly opened and closed a standard number of times by a machine. The shear strength is then measured by repeating the test described in 4.1.

5 Apparatus

5.1 A **tensile testing machine** complying with the requirements of EN ISO 7500-1 to an accuracy corresponding to class 2, and with the following:

5.1.1 A jaw separation rate of 100 mm/min ± 10 mm/min.

5.1.2 The means of producing a continuous record of force throughout the test.

5.2 A **roller device** with a roller (see Figure 1) of diameter 100 mm ± 5 mm capable of applying a force of 1,0 N ± 0,1 N per millimetre width of the test specimen. This is to close the fastener under a standard pressure.

5.3 **Fork** with a handle (see Figure 2) which engages the roller (5.2) and allows it to be moved without any extra down force being applied (see Figure 3).

Dimensions in mm

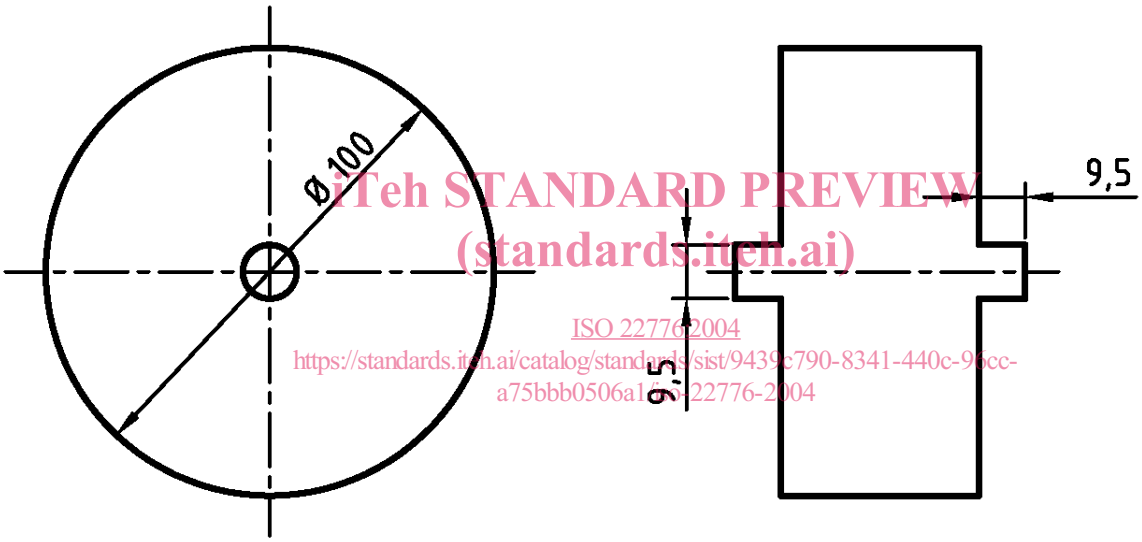
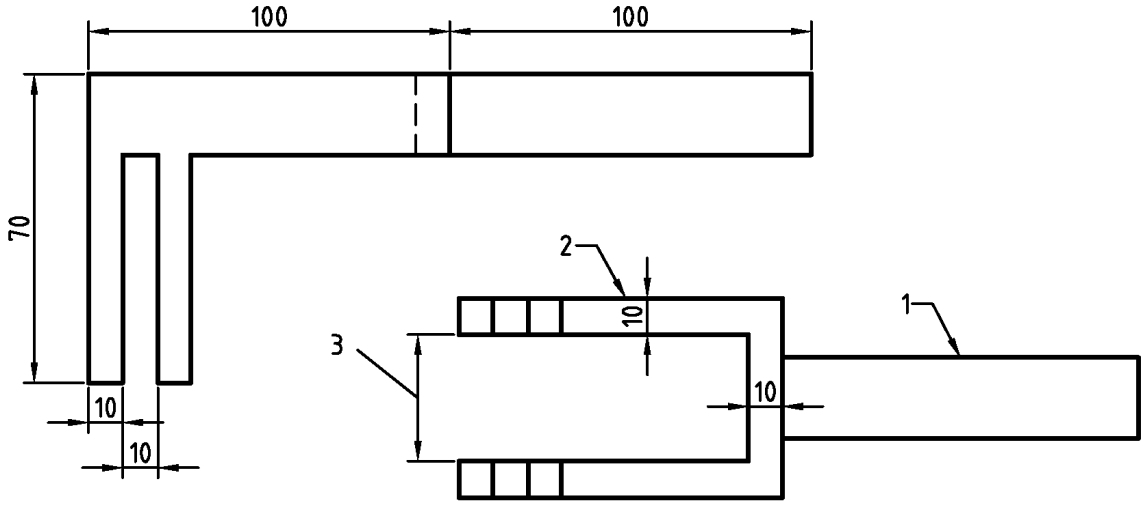


Figure 1 — Roller

Dimensions in mm



Key

1 Handle
2 Forks
3 Space between the forks to be 2 mm greater than the roller width

Figure 2 — Fork with a handle

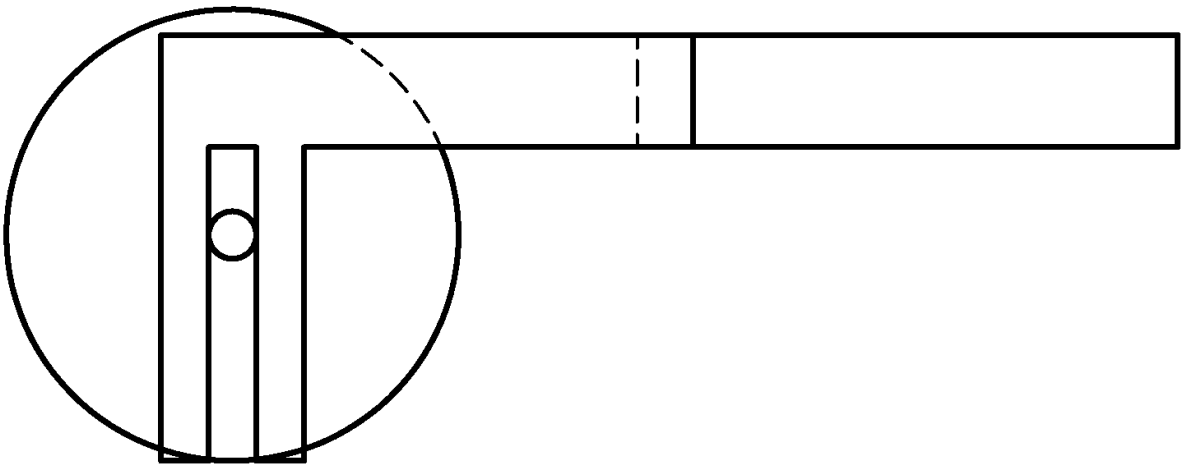


Figure 3 — Rolling mechanism for touch and close fasteners