

**Skodon – Provningsmetoder för tillbehör:  
Kardborrband – Vidhäftningsegenskaper före  
och efter upprepad stängning (ISO 22777:2004)**

**Footwear – Test methods for accessories: touch  
and close fasteners – Peel strength before and  
after repeated closing (ISO 22777:2004)**

Europastandarden EN ISO 22777:2004 gäller som svensk standard. Detta dokument innehåller den officiella engelska versionen av EN ISO 22777:2004.

The European Standard EN ISO 22777:2004 has the status of a Swedish Standard. This document contains the official English version of EN ISO 22777:2004.

---

Uppllysningar om **sakinnehållet** i standarden lämnas av SIS, Swedish Standards Institute, telefon 08 - 555 520 00.

Standarder kan beställas hos SIS Förlag AB som även lämnar **allmänna upplysningar** om svensk och utländsk standard.

*Postadress:* SIS Förlag AB, 118 80 STOCKHOLM  
*Telefon:* 08 - 555 523 10. *Telefax:* 08 - 555 523 11  
*E-post:* [sis.sales@sis.se](mailto:sis.sales@sis.se). *Internet:* [www.sis.se](http://www.sis.se)

EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN ISO 22777**

December 2004

ICS 61.060

English version

**Footwear - Test methods for accessories: touch and close fasteners - Peel strength before and after repeated closing (ISO 22777:2004)**

Chaussures - Méthodes d'essai pour accessoires :  
fermetures auto-agrippantes - Résistance au pelage avant  
et après un usage répété (ISO 22777:2004)

Schuhe - Prüfverfahren für Zubehör: Haftverschlüsse -  
Abziehfestigkeit vor und nach wiederholtem Schließen (ISO  
22777:2004)

This European Standard was approved by CEN on 23 August 2004.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of 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.



EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

**Management Centre: rue de Stassart, 36 B-1050 Brussels**

**EN ISO 22777:2004 (E)**

**Contents**

	<b>Page</b>
Foreword.....	3
1 Scope .....	4
2 Normative references .....	4
3 Terms and definitions .....	4
4 Principle .....	4
4.1 Peel strength .....	4
4.2 Peel strength after repeated opening and closing .....	4
5 Apparatus .....	5
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
6 Test specimens .....	7
7 Conditioning.....	8
8 Procedure .....	9
9 Calculation and expression of results.....	10
10 Test report .....	11
Annex ZA (normative) Normative references to International publications with their corresponding European publications.....	12

## **Foreword**

This document (EN ISO 22777:2004) 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.

## EN ISO 22777:2004 (E)

### 1 Scope

This document specifies a test method for determining the peel 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 peel strength**  
force per unit effective width required to separate the two tapes forming the specified closure from an open edge 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 selvage

### 4 Principle

#### 4.1 Peel strength

Both parts of a touch and close fastener are pressed together under controlled conditions, and the average force required to peel them apart along their length from either end is measured with a tensile testing machine. This procedure is then repeated with one of the parts of the fastener turned through 180°.

#### 4.2 Peel 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 peel 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  $\pm$  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  $\pm$  5 mm capable of applying a force of 1,0 N  $\pm$  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

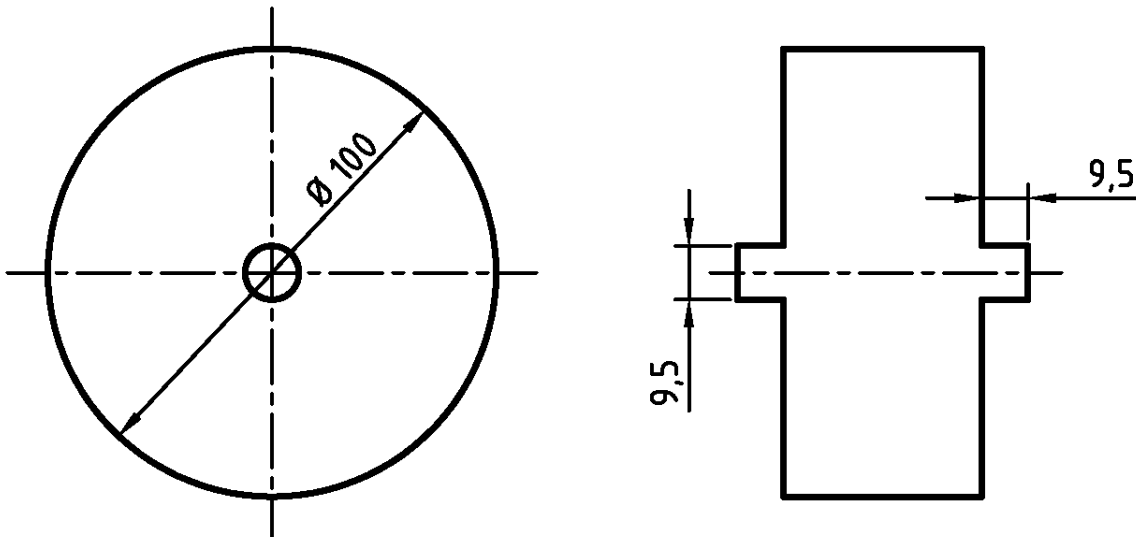
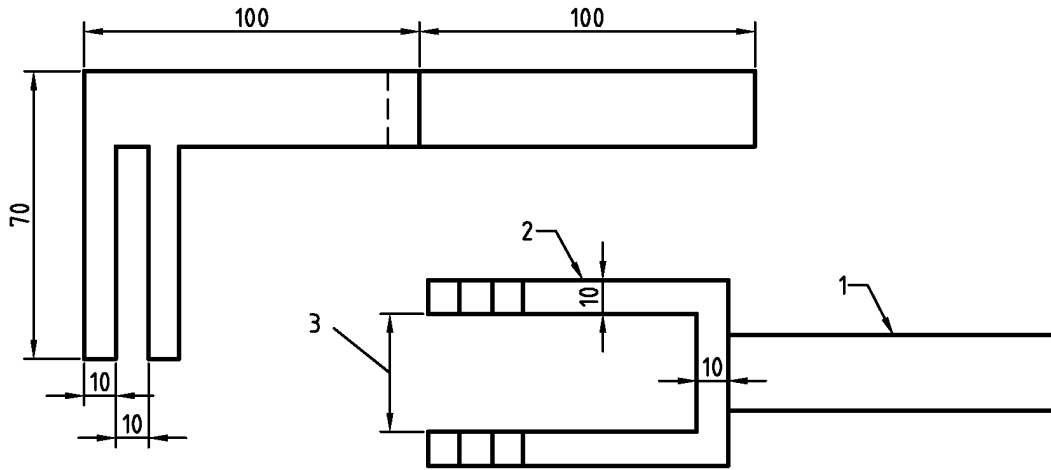


Figure 1 — Roller

EN ISO 22777:2004 (E)

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

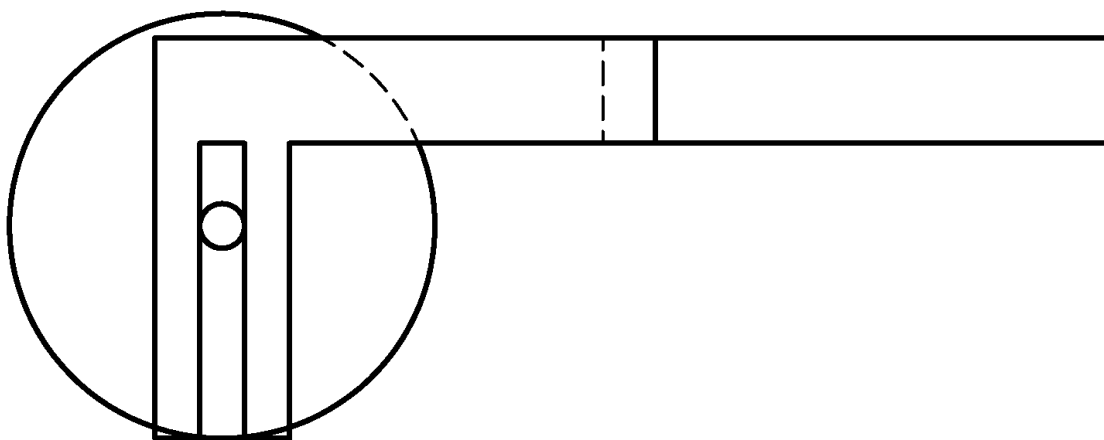


Figure 3 — Rolling mechanism for touch and close fasteners