



SLOVENSKI STANDARD SIST EN 12242:2000

01-julij-2000

Gdf]Ya bUnUd]fUU!i [cHj `UbYcXdcfbcgh]dfch`i y Yb1

Touch and close fasteners - Determination of peel strength

Haftverschlüsse - Bestimmung der Abschälfestigkeit

Fermetures auto-agrippantes - Détermination de la résistance au pelage

ITEH STANDARD PREVIEW
(standards.iteh.ai)

Ta slovenski standard je istoveten z: EN 12242:1999

SIST EN 12242:2000

<https://standards.iteh.ai/catalog/standards/sist/6849e508-989d-40b8-865f-4c7bf16e14a4/sist-en-12242-2000>

ICS:

61.040	Ú[\ ä ç a z Ö [å æ å [à æ å { É U } ^ } b é b Á à æ å	Headgear. Clothing accessories. Fastening of clothing
--------	---	---

SIST EN 12242:2000

en

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 12242:2000

<https://standards.iteh.ai/catalog/standards/sist/6849e508-989d-40b8-865f-4c7bfl6e14a4/sist-en-12242-2000>

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 12242

October 1999

ICS 61.040

English version

Touch and close fasteners - Determination of peel strength

Fermetures auto-agrippantes - Détermination de la
résistance au pelage

Haftverschlüsse - Bestimmung der Abschälfestigkeit

This European Standard was approved by CEN on 5 September 1999.

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, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 12242:2000
<https://standards.iteh.ai/catalog/standards/sist/6849e508-989d-40b8-865f-4c7bf16e14a4/sist-en-12242-2000>



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

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

Foreword

This European Standard has been prepared by Technical Committee CEN/TC 248 "Textiles and textile products", the secretariat of which is held by BSI.

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 April 2000, and conflicting national standards shall be withdrawn at the latest by April 2000.

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

It is one of a series of standards for touch and close fasteners. Other standards in the series are as follows:

EN 1414 Touch and close fasteners - Cycling procedures for subsequent testing

EN 1415 Touch and close fasteners - Behaviour of slit selvages

EN 1416 Touch and close fasteners - Determination of curvature

EN 12240 Touch and close fasteners - Determination of the overall and effective width of tapes and the effective width of a closure.

EN 12241:1999 Touch and close fasteners - Method for closure prior to washing or dry cleaning

EN 12243:1999 Touch and close fasteners - Determination of dimensional change in washing and drying and dry cleaning.

EN XXXX ¹⁾ Touch and close fasteners - Determination of longitudinal shear strength.

EN XXXX ¹⁾ Touch and close fasteners - Determination of vertical tension strength.

EN XXXX ¹⁾ Touch and close fasteners - Resistance to fraying of tapes after cutting.

EN XXXX ¹⁾ Touch and close fasteners - Specification.

The Annex A of this European Standard is informative.

¹⁾ In preparation



1 Scope

This European Standard specifies a method for determining the peel strength of a touch and close fastener.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

- EN 20139 Textiles - Standard atmospheres for conditioning and testing (ISO 139:1973)
- EN 10002 Metallic materials — Tensile testing
- EN 12240 Touch and close fasteners - Determination of the overall and effective widths of tapes and the effective width of a closure

3 Principle

Mated component tapes of a touch and close fastener are separated at a constant rate in a peeling action from an open edge of a prepared closure. This is carried out such that the separation occurs progressively along the closure in a direction parallel to the length of the tapes forming the closure.

4 Definitions

For the purposes of this European Standard, the following definition applies:

4.1 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.

5 Apparatus

5.1 Constant rate of extension tensile testing machine as specified in EN 10002, connected to a computer, via a suitable interface, capable of recording data at a rate of at least 20 points per second.

NOTE: Graphical interpretation has proved to be unreliable.

5.2 Metal roller, made of phosphor-bronze with a diameter of (100 ± 2) mm (see figure 2) which shall be selected in accordance with table 1:

Table 1 Selection of metal roller	
Effective width of closure W as determined by EN 12240 mm	Metal roller mass kg
$W \leq 12,0$	$1,0 \pm 0,1$
12,0 $W \leq 25,0$	$2,5 \pm 0,1$
25,0 $W \leq 52,0$	$5,0 \pm 0,1$
$W > 52,0$	$10,0 \pm 0,1$

Note. The most important parameters for the roller are its diameter and mass. Its width should be chosen in accordance with the specific density of the phosphor-bronze used in its manufacture.

5.3 Set of forks with a handle (see figure 3) which engages the metal roller (5.2) and allows the roller to be moved without any extra down force being applied (see figure 4).

6 Test specimens

Cut 12 test specimens of both male and female components at least 100 mm long and mark each with an 'X' at one end and 'Y' at the other end, such that each test specimen of like tape is marked identically.

7 Conditioning

Condition the test specimens for a minimum of 24h in accordance with the standard temperate atmosphere for testing as specified in EN 20139. The closing of the test specimens and the testing of the touch and close fasteners shall also take place under these conditions.

8 Procedure

8.1 Combinations of closure

Twelve closures in total shall be made, three closures being made for each of the four combinations shown in figure 1.

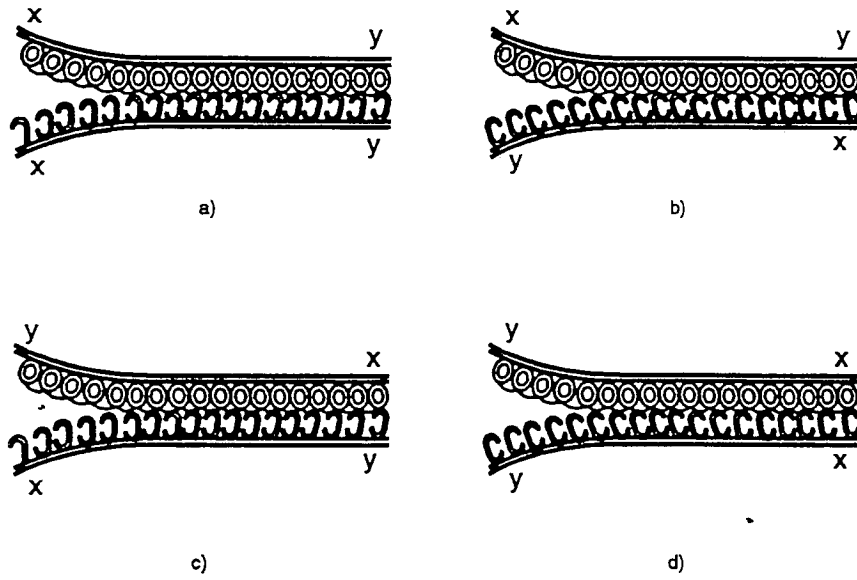
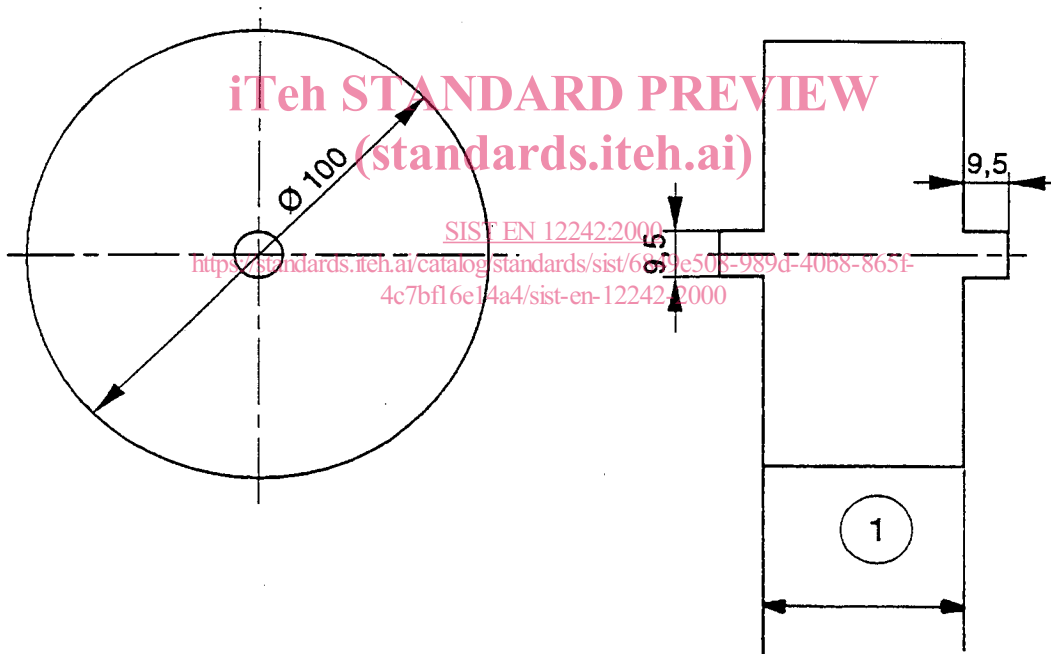


Figure 1 Peel strength combinations of closure

Dimensions in millimetres

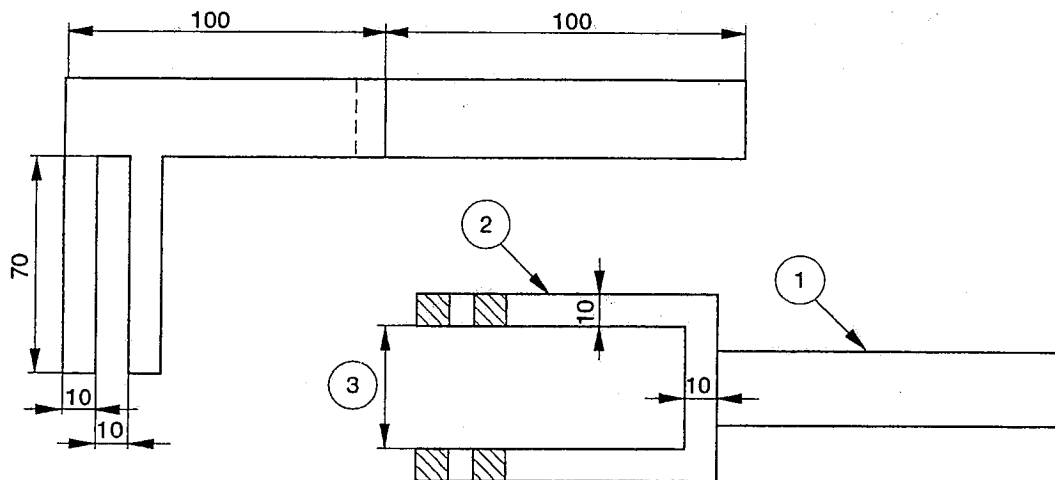


Key:

1 Choose roller width to meet specified mass

Figure 2 Metal roller

Dimensions in millimetres



Key:

1 Handle

2 Forks

3 Space between the forks to be 2 mm greater than the roller width.

Figure 3 Set of forks with a handle
(standards.iteh.ai)

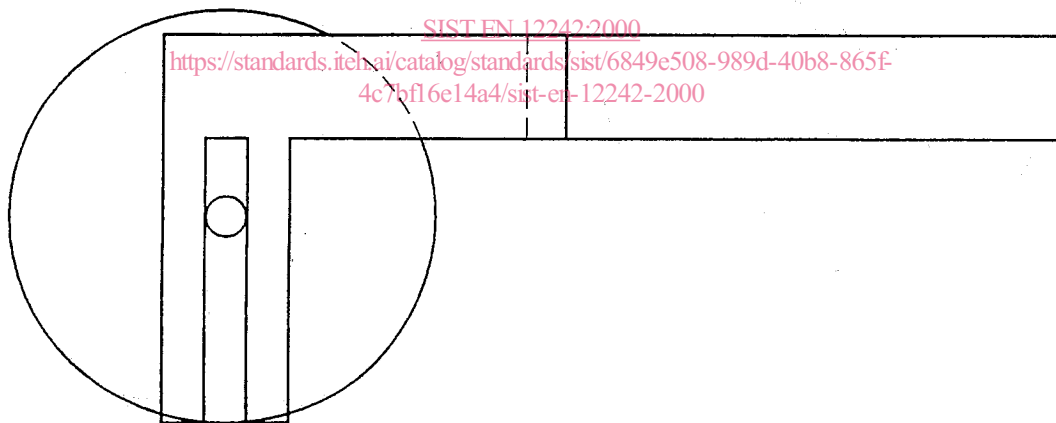


Figure 4 Rolling mechanism for touch and close fasteners

8.2 Method of closure

Make each closure as follows:

Place the male tape on a flat surface with the pile uppermost and then place the female tape on top with the pile facing downwards so that the full length and width of the tapes make a closure, using minimal hand pressure.

Traverse the metal roller (5.2), at a rate of approximately 200 mm/s along the tapes in one direction then immediately reverse and traverse in the other direction then turn the mating tapes over. Repeat the procedure until the roller has traversed the mating tapes five times in each direction i.e. a total of ten times.

Take care that the centre of gravity of the roller does not deviate from the centre line of the tapes during this operation. Take care that the roller covers the entire width of the mating tapes

NOTE. The tapes are turned over to minimize curvature.

8.3 Conducting the test

For each closure:

Partly peel open the closure by hand, taking care to leave at least 50 mm of closure.

Set up the tensile testing machine (5.1) such that the jaws are 50 mm apart.

Mount the combined test specimen into the jaws of the tensile testing machine (5.1) such that the free end of the female tape is in the upper jaw and the free end of the male tape is in the lower jaw, taking care to align the test specimen in order that the force applied is uniformly distributed across the width of the closure.

Set the tensile machine in motion at a constant rate of jaw separation of (100 mm \pm 10 mm)/min.

Record force against jaw separation at a rate of at least 20 points per second with the computer, until at least 50 mm of the closure has been separated.

9 Calculation and expression of results

9.1 Calculation of the arithmetic means of the separation force

For each closure:

From the curve of load versus jaw separation calculate the arithmetic mean of the separation force for all the points between 25 mm and 75 mm jaw separation, and express this as the average peeling force, in newtons. (See annex A).