SLOVENSKI STANDARD
SIST EN 16732:2016

01-marec-2016

Patentne zadrge - Specifikacija

Slide (zip) fasteners - Specification

Reissverschlüsse - Spezifikation

Fermetures à glissière - Spécifications

Ta slovenski standard je istoveten z: **EN 16732:2015**

ICS:

61.040	Pokrivala. Dodatki k oblačilom. Spenjanje oblačil	Headgear. Clothing accessories. Fastening of clothing

SIST EN 16732:2016 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 16732

December 2015

ICS 61.040

English Version

Slide fasteners (zips) - Specification

Fermetures à glissière - Spécifications

Reißverschlüsse - Spezifikation

This European Standard was approved by CEN on 7 November 2015.

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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Ref. No. EN 16732:2015 E

Contents

Page

European foreword

This document (EN 16732:2015) 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of an identical text or by endorsement, at the latest by June 2016, and conflicting national standards shall be withdrawn at the latest by June 2016.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

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

Introduction

The different types of slide fasteners are defined by the material of the elements (teeth), which form their slide fastener chains. They can be of metallic, moulded plastic or monofilament plastic construction.

Metallic elements can be produced from flat or profiled wire and are usually clamped around the edge of a beaded tape. An alternative approach is to cast metallic elements directly onto such a tape. Similarly, plastic elements can be moulded onto a beaded tape. Such cast or moulded elements might have projections on which the slider operates to reduce abrasion of the tape.

Plastic coil slide fasteners have polyamide or polyester monofilaments that are wound into coils to form engaging elements. The coils can be attached to the face of flat tapes by sewing. Alternatively, the coils can be woven or knitted into the tapes as they are constructed. Monofilament plastic elements can also be of the meander type, which straddle the tape edge.

Typical slide fastener chain types are shown in Figure 1.

1 Scope

This European Standard specifies performance levels and test methods for the following characteristics of slide fasteners made from interlocking components mounted on tapes: strengths of puller attachment, closed-end, top stop, open-end slide fastener box, reciprocating mechanism, closed slide fastener when extended laterally, open-end attachment when extended laterally, slider locking device, and open-end slide fastener single stringer slider retention and slider resistance to torque.

NOTE The tests specified in Annexes B to K have been specifically devised to permit their direct application to finished slide fasteners with a view to giving the user reasonable assurance that a slide fastener conforming to the requirements of this standard can satisfactorily fulfil its intended purpose. Annex L gives information about sampling procedures for bulk quantities of slide fasteners.

In addition, performance levels are also specified for colour fastness to washing, dry cleaning and water, and for dimensional stability to washing and dry cleaning.

This European Standard is applicable to slide fasteners for general use and is not applicable to slide fasteners for specialist purposes (for example: pressure sealed slide fasteners for diving suits).

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 20105-A02, *Textiles - Tests for colour fastness - Part A02: Grey scale for assessing change in colour (ISO 105-A02)*

EN 20105-A03, *Textiles - Tests for colour fastness - Part A03: Grey scale for assessing staining (ISO 105-A03)*

EN ISO 105-C06, *Textiles - Tests for colour fastness - Part C06: Colour fastness to domestic and commercial laundering (ISO 105-C06)*

EN ISO 105-D01, *Textiles - Tests for colour fastness - Part D01: Colour fastness to dry cleaning using perchloroethylene solvent (ISO 105-D01)*

EN ISO 105-E01, *Textiles - Tests for colour fastness - Part E01: Colour fastness to water (ISO 105-E01)*

EN ISO 139, *Textiles - Standard atmospheres for conditioning and testing (ISO 139)*

EN ISO 3175-2, *Textiles - Professional care, drycleaning and wetcleaning of fabrics and garments - Part 2: Procedure for testing performance when cleaning and finishing using tetrachloroethene (ISO 3175-2)*

EN ISO 5077, *Textiles - Determination of dimensional change in washing and drying (ISO 5077)*

EN ISO 6330, *Textiles - Domestic washing and drying procedures for textile testing (ISO 6330)*

3 Terms and definitions

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

3.1
slide fastener (zip)
fastening device consisting of two flexible, interlocking stringers, with or without end stops, and one or more sliders so arranged that by moving the slider along the stringers in one direction an opening is formed, and by moving it in the other direction the opening is closed

3.2
stringer
tape with an attached row of elements designed to interlock with a row similarly attached to another tape

3.3
tape
narrow fabric to which elements are fitted

3.4
element (tooth)
engaging component fixed to the edge of the tape (see Figure 2)

3.5
slider
moving component consisting essentially of a slider body and, normally, a puller which opens or closes the slide fastener by separating or engaging the single elements of the stringer

Note 1 to entry: The slider might incorporate a locking device. Alternative slider types are available with a flip-over puller or double pullers, to facilitate operation from both front and back sides.

3.6
slider body
component that joins or separates the elements when sliding along the two stringers of slide fastener

3.7
puller
fitting attached to the slider body to facilitate manipulation

3.8
locking device
device incorporated in the slider unit restricting its free movement along the slide fastener length in an opening direction

Note 1 to entry: The locking device might operate either automatically on release of the puller or by manual pressure on the puller.

3.9
slide fastener length
distance from the top of the slider to the bottom of the bottom stop, or box in the case of an open-end slide fastener, measured with the slider in the top position and with the puller in the downward position (see Figure 2)

Note 1 to entry: Some suppliers measure the effective length of slide fasteners from the top of the slider to the bottom edge of the tape, especially in the case of two way open-end slide fasteners.

3.10
bottom stop
stop at the bottom end of the chain that checks the opening movement of the slider

Note 1 to entry: See Figure 2a), (Key n. 5).

3.11
top stop
stop(s) at the top end of the chain that check(s) the closing movement of the slider

3.12
chain
continuous closure formed by two interlocking compatible stringers

Note 1 to entry: See Figure 2a), (Key n.8).

3.13
chain width
width across the interlocked elements or shoulder on which the slider runs, whichever is the greater

Note 1 to entry: See Figure 2b), (Key n.6).

3.14
bottom end
end which is adjacent to the slider when the device is fully open

3.15
top end
end which is adjacent to the slider when the device is fully closed

3.16
open-end slide fastener
slide fastener having a special fitment at the bottom end of each stringer in place of the bottom stop, so as to permit the two stringers to be completely separated and re-assembled at will when the slider is in the fully open position

Note 1 to entry: The special fitment normally consists of a pin permanently fixed to the bottom end of one stringer, which fits into a box permanently fixed to the bottom end of the other stringer.

Note 2 to entry: See Figure 3c) and 4a).

3.17
closed-end slide fastener
slide fastener which does not permit the complete separation of the two stringers

Note 1 to entry: Normally the top end of the slide fastener separates as the slider is lowered, although there is one type whose top ends are permanently joined together by means of a bridge stop [see Figure 3a) and Figure 3b), 4b), 4c), 4d)].

3.18
concealed slide fastener
slide fastener with the tapes folded so that on closure neither the slider body nor the slide fastener are visible from the outside of the article

Note 1 to entry: See Figure 1g).

3.19
two-way slide fastener
slide fastener fitted with two sliders that operate with equal facility in either direction

Note 1 to entry: This type is available in a variety of forms, as illustrated in Figure 4.

3.20
batch
quantity of slide fasteners having a specific design, performance code and chain size

4 Requirements

When subjected to the tests specified in Clause 5 (as applicable to the features of the slide fastener design to be tested), other than the slide fastener length measurements (see 5.2), samples of new slide fasteners shall conform to Table 1 and to Table 2 if applicable (children items).

The overall performance for the slide fastener, as determined by the minimum test results, shall be that of the lowest performance grade achieved by any test specimen for any applicable test.

Attention shall be given to the use of the sampling procedures given in Annex L with regard to the interpretation of potential outlier results.

It is permissible to perform more than one test on the same slide fastener but care should be taken to ensure that damage sustained in testing does not compromise subsequent test results.

A minimum of 3 specimens shall be tested in respect of each applicable test. Failure of any part of a slide fastener before the specified force or number of cycles is reached in any of these tests shall be deemed a failure of the sample. For the acceptance criteria for larger batches the sampling scheme in Annex L shall be used and the number of specimens for each test increased accordingly.

Annex L gives information about an appropriate sampling procedure for bulk quantities of slide fasteners.

Annex M gives information about end-use and performance codes.

Table 1 — Performance requirements of slide fasteners according to end use

Annex	Test description	Units	Performance code [a]				
			A	B	C	D	E
B	Strength of puller attachment (min.)	N	70	80	200	250	300
C	Strength of closed-end (min.)	N	35	60	80	100	140
D	Strength of top stop (min.)	N	50	70	90	110	130
E	Strength of open-end slide fastener box (min.)	N	40	70	90	120	150
F	Resistance to reciprocation:						
	Minimum cycles without failure	Cycles	500	500	500	500	500
G	Lateral strength of slide fastener (min.)	N	150	200	250	370	470
H	Lateral strength of open-end attachment (min.)	N	40	70	90	120	160
I	Strength of slider locking device (min.)	N	10	15	25	40	60

[a] These performance codes correspond to the description of slide fastener type as follows: A (ultra-light), B (light), C (medium), D (medium-heavy) and E (heavy).

Table 2 — Additional performance requirements of slide fasteners for children's items

Annex	Test description	Units	Minimum requirement
J	Open-end slide fastener single stringer slider retention	N	70
K	Torque strength	N.m	0,34

In addition, to the requirements of Table 1 and Table 2, slide fasteners shall conform to the colour fastness and dimensional stability requirements of Table 3.