SLOVENSKI STANDARD
SIST EN 17394-2:2021

01-februar-2021

Tekstilije in tekstilni izdelki - 2. del: Varnost otroških oblačil - Varnost pritrditve gumbov - Preskusna metoda

Textiles and textile products - Part 2: Safety of children's clothing - Security of attachment of buttons - Test method

Textilien und textile Produkte - Teil 2: Sicherheit von Kinderbekleidung - Sicherheit der Befestigung von Knöpfen - Prüfverfahren

Textiles et produits textiles - Partie 2 : Sécurité des vêtements d'enfants — Sécurité d'attache des boutons - Méthode d'essai

Ta slovenski standard je istoveten z: **EN 17394-2:2020**

ICS:

61.020	Oblačila	Clothes
97.190	Otroška oprema	Equipment for children

SIST EN 17394-2:2021 **en,fr,de**

EUROPEAN STANDARD

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English Version

Textiles and textile products - Part 2: Safety of children's clothing - Security of attachment of buttons - Test method

Textiles et produits textiles - Partie 2 : Sécurité des vêtements d'enfants - Sécurité d'attache des boutons - Méthode d'essai

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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European foreword

This document (EN 17394-2:2020) 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of an identical text or by endorsement, at the latest by April 2021, and conflicting national standards shall be withdrawn at the latest by April 2021.

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

This is Part 2 of a series of four documents:

— CEN/TS 17394-1,[1] *Textiles and textile products — Part 1: Safety of children's clothing — Security of attachment of attached components to infants' clothing — Specification*

— CEN/TS 17394-3,[2] *Textiles and textile products — Part 3: Safety of children's clothing — Security of attachment of metal mechanically applied press fasteners — Test method*

— CEN/TS 17394-4,[3] *Textiles and textile products — Part 4: Safety of children's clothing — Security of attachment of components except buttons and metal mechanically applied press fasteners — Test method*

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[1] Under preparation. Stage at the time of publication: FprCEN/TS 17394-1.

[2] Under preparation. Stage at the time of publication: FprCEN/TS 17394-3.

[3] Under preparation. Stage at the time of publication: FprCEN/TS 17394-4.

Introduction

The aim of this document is to assess the attachment strength of buttons.

This document provides a reference method of test for compliance assessment. A document providing performance specification for infants' clothing is under development.

For the convenience of the clothing industry, a simplified method is provided in Annex B for routine in-house process control, however this does not replace the reference method.

This document has been developed from Annex B of CEN/TR 16792:2014.

1 Scope

This document defines a test method for security of attachment of functional and decorative buttons to clothing including garments such as gloves, hats, scarves, hosiery, ties, and textile belts.

This document does not apply to:

a) child care articles;

b) shoes, boots and similar footwear;

c) toys (see NOTE 2);

d) other articles sold with clothing.

NOTE 1 The above items are covered by other CEN Technical Committees and as such are out of scope of this document.

NOTE 2 Disguise costumes including carnival costumes are examples of clothing which are also toys and fall within the scope of the Toy Safety Directive.

The scope of this document is limited to sewn-on buttons, toggle buttons and tack buttons.

Assessment of other garment components are considered in:

— CEN/TS 17394-3, or

— CEN/TS 17394-4.

Performance requirements are provided in CEN/TS 17394-1.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 ISO 139, *Textiles - Standard atmospheres for conditioning and testing (ISO 139)*

3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— IEC Electropedia: available at http://www.electropedia.org/

— ISO Online browsing platform: available at https://www.iso.org/obp

3.1
child or young person
person aged from birth up to age 14 years (that is up to and including 13 years and 11 months) which includes all boys of height up to 182 cm and all girls of height up to 176 cm

[SOURCE: EN 14682:2014, merged subclauses 2.1 and 2.2]

3.2
children's clothing
all garments intended by design, production route or selling route to be worn by children up to the age of 14 years

[SOURCE: EN 14682:2014, 2.3]

3.3
sewn-on button
knob or disc which can be attached to the garment by means of, for example, a sewing thread

Note 1 to entry: The sewn-on button may be a means of fastening or decoration.

3.4
toggle button
cylindrical, elliptical or similar shaped button, made from hard material often wood, plastic or horn, often attached to the garment by means of passing a cord or sewing thread through one or more holes in the toggle button

Note 1 to entry: Toggle button may be a means of fastening or decoration.

3.5
tack button
fastening or decorative device comprising a button with a hollow shank on the back and a separate sharp tack, which is attached to a garment by pushing the sharp end of the tack through the fabric from the reverse side into the shank of the button

Note 1 to entry: Tack buttons are also known as stud buttons.

3.6
garment assembly
section of a garment, made under production conditions, using the production equipment and the components that will be used in production

[SOURCE: CEN/TR 16792:2014, 3.10]

4 Method for determination of removal force of buttons

4.1 General

This is a laboratory-based method designed for testing of the security of attachments of buttons of all kinds, both functional and decorative. It can be used to test finished garments or garment assemblies at the relevant stages of garment design and production.

4.2 Principle

An attached button is held in the upper grip of a constant rate of extension (CRE) tensile testing machine and the garment or garment panel to which it is attached is held in the lower grip. The grips are separated at a constant rate until the component is removed from the garment. The removal force and the mode of detachment are recorded.

4.3 Apparatus

4.3.1 Constant rate of extension (CRE) tensile-testing machine

The machine shall be provided with means for indicating and recording the force applied to the test specimen in stretching it to rupture. The metrological confirmation system for the tensile testing machine should be in accordance with EN ISO 10012. Under conditions of use, the accuracy of the machine should be Class 1 in accordance with EN ISO 7500-1. The error of the indicated or recorded maximum force at any point in the range in which the machine is used should not exceed 1 %. The machine should be capable of maintaining a constant rate of extension of (100 ± 10) mm/min.

The machine should be such that it is possible to set the gauge length to any value between 1,0 mm and 75 mm, to an accuracy of 0,5 mm.

4.3.2 Upper button box

Button box with a slotted plate is the upper grip used for the testing of buttons. Example of a button box is shown in Figure 1. The box should be of sufficient size to accommodate the attachment to be tested but the shape and dimensions of the box are not critical.

The slotted plate shall be as shown in Figures 2 and 3 made from steel of thickness between 1,50 mm to 1,75 mm. This can be an integral part of the button box or be interchangeable to allow for the testing of buttons of different sizes or types. The slot width, W, is critical and shall be such that the button being tested can slide onto the plate without damaging the means of attachment (e.g. sewing thread or shank). Slot widths of (3,0 ± 0,2) mm, (5,0 ± 0,2)mm and (7,0 ± 0,2)mm have been found most suitable for most sizes and types of buttons.

For tack buttons, the steel plate used should have a thickness between 1,80 mm and 2,10 mm.

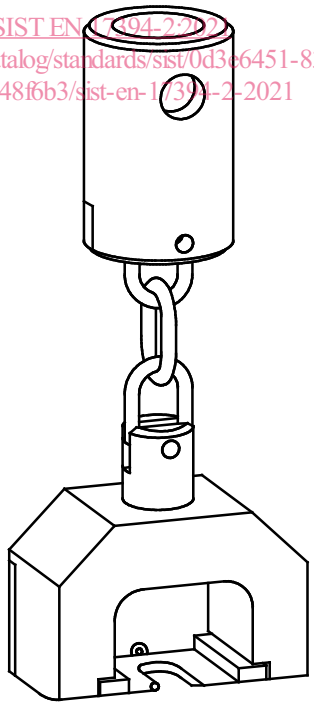
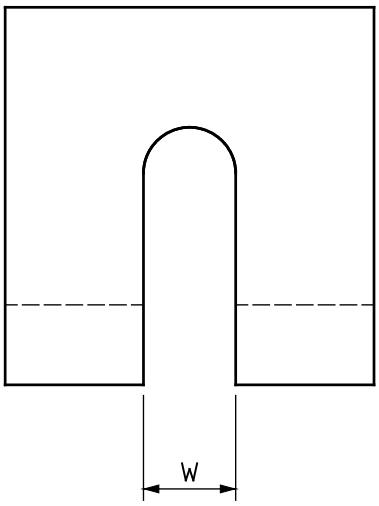


Figure 1 — Example of button box grip

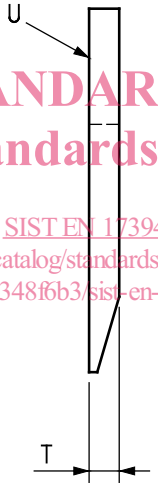
It is recommended that the button box attachment to the load cell be articulated to make it easier to slide in the button under test.



Key

W slot width

Figure 2 — Slotted plate for use in button box -plan view



Key

U upper side of slotted plate to support button

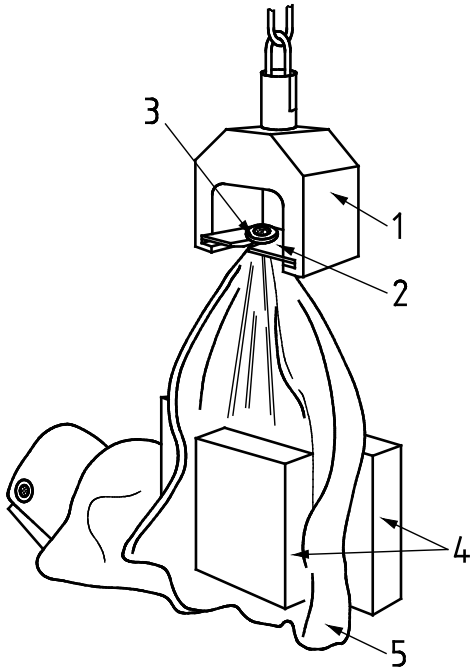
T thickness of plate

Figure 3 — Slotted plate for use in button box -side view

4.3.3 Lower base clamp

Flat-faced clamping device, for use as the lower grip comprising a clamping device fitted with a front jaw face (25,0 ± 1,0) mm x (25,0 ± 1,0) mm, and a back-jaw face not less than 25,0mm x 25,0mm

The Figures 4 and 5 show the arrangement to illustrate how the button should be supported during testing.



Key

1 button box
2 slotted plate
3 button under test
4 flat faced clamping device
5 garment fabric

Figure 4 — Example of sewn-on button under test