BS EN 71-2:2020

BSI Standards Publication

Safety of toys

Part 2: Flammability

bsi.

National foreword

This British Standard is the UK implementation of EN 71-2:2020. It supersedes BS EN 71-2:2011+A1:2014, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee CW/15, Safety of toys.

A list of organizations represented on this committee can be obtained on request to its committee manager.

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ISBN 978 0 539 01300 9

ICS 13.220.40; 97.200.50

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 December 2020.

Amendments/corrigenda issued since publication

Date	Text affected

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 71-2

December 2020

ICS 13.220.40; 97.200.50

Supersedes EN 71-2:2011+A1:2014

English Version

Safety of toys - Part 2: Flammability

Sécurité des jouets - Partie 2: Inflammabilité

Sicherheit von Spielzeug - Teil 2: Entflammbarkeit

This European Standard was approved by CEN on 28 September 2020.

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Ref. No. EN 71-2:2020 E

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European foreword

This document (EN 71-2:2020) has been prepared by Technical Committee CEN/TC 52 “Safety of toys”, the secretariat of which is held by DS.

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of an identical text or by endorsement, at the latest by June 2021, and conflicting national standards shall be withdrawn at the latest by December 2021.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 document supersedes EN 71-2:2011+A1:2014.

Additional information on the background and rationale for various requirements are given in Annex A.

Annex B provides details of significant technical changes between this document and the previous edition.

This document has been prepared under mandate M/445 given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive 2009/48/EC.

For relationship with EU Directive 2009/48/EC, see informative Annex ZA, which is an integral part of this document.

This document constitutes the second part of the EN 71 series of standards on safety of toys.

EN 71, *Safety of toys*, consists of the following parts:

— *Part 1: Mechanical and physical properties*

— *Part 2: Flammability*

— *Part 3: Migration of certain elements*

— *Part 4: Experimental sets for chemistry and related activities*

— *Part 5: Chemical toys (sets) other than experimental sets*

— *Part 7: Finger paints — Requirements and test methods*

— *Part 8: Activity toys for domestic use*

— *Part 9: Organic chemical compounds — Requirements*

— *Part 10: Organic chemical compounds — Sample preparation and extraction*

— *Part 11: Organic chemical compounds — Methods of analysis*

— *Part 12: N-Nitrosamines and N-nitrosatable substances*

— *Part 13: Olfactory board games, cosmetic kits and gustative games*

— *Part 14: Trampolines for domestic use*

NOTE 1 In addition to the above parts of EN 71, the following guidance documents have been published:

— CEN/TR 15071, Safety of toys — National translations of warnings and instructions for use in *EN 71*, and

— CEN/TR 15371 (all parts), *Safety of toys — Interpretations*

— CEN/TR 16918, *Safety of toys - Children's mouthing behaviour in contact with toys*

— CEN ISO/TR 8124-8, *Safety of toys — Age determination guidelines*

NOTE 2 Words in italics are defined in Clause 3 (Terms and definitions).

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

This document aims at reducing, as far as possible, those hazards which are not evident to users; it does not cover inherent hazards that are obvious to children or the persons in charge of them. Assuming that the toys are used in the intended manner, they should not present any further hazard to children for whom they are intended (according to the Directive 2009/48/EC "intended for use by" means that a parent or supervisor shall reasonably be able to assume by virtue of the functions, dimensions and characteristics of a toy that it is intended for use by children of the stated age group). Allowance should also be made for foreseeable use, bearing in mind the behaviour of children who do not generally share the same degree of care as the average adult user.

As a general rule, toys are designed and manufactured for particular ages of children. Their characteristics are related to the age and stage of development of the children, and their use presupposes certain aptitudes.

Accidents are frequently due to a toy either being given to a child for whom it is not intended or being used for a purpose other than that for which it was designed. Great care should therefore be taken when choosing a toy; account should be taken of the mental and physical development of the child who will be using it.

The requirements of this document do not release parents or carers from their responsibility of supervising the child while he or she is playing.

1 Scope

This document specifies the categories of flammable materials which are prohibited in all toys, and requirements concerning *flammability* of certain toys when they are subjected to a small source of ignition.

The test methods described in Clause 5 are used for the purposes of determining the *flammability* of toys under the particular test conditions specified. The test results thus obtained are not considered as providing an overall indication of the potential fire hazard of toys or materials when subjected to other sources of ignition.

This document includes general requirements relating to all toys and specific requirements and methods of test relating to the following toys, which are considered as being those presenting the greatest hazard:

— toys to be worn on the head: beards, moustaches, wigs, etc. made from pile or *flowing elements*; masks; hoods, headdresses, etc.; However, paper and paperboard hats without embellishments or attachments are excluded;

— toy *disguise costumes* and toys intended to be worn by a child in play;

— *toys intended to be entered by a child* and constructed from textiles and/or polymer sheets and films;

— *soft-filled toys.*

NOTE Additional requirements for *flammability* of electric toys are specified in EN 62115[2]

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 2431:2019, *Paints and varnishes - Determination of flow time by use of flow cups (ISO 2431:2019)*

EN ISO 6941:2003, *Textile fabrics - Burning behaviour - Measurement of flame spread properties of vertically oriented specimens (ISO 6941:2003)*

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 http://www.iso.org/obp

3.1
chemical toy
toy intended for the direct handling of chemical substances and mixtures and which is used in a manner appropriate to a given age-group and under the supervision of an adult

[SOURCE EN 71-4:2013[3]]

3.2
cleansing
wipe with dry or damp cloth to remove surface soiling

3.3
extremely flammable liquid
liquid having a flash point < 23 °C and initial boiling point ≤35 °C

[SOURCE REGULATION (EC) No 1272/2008[4]]

3.4
flaming debris
material that becomes detached from the specimen during the test procedure and continues to flame as it falls

3.5
flammability
ability of a material or a product to burn with a flame under specified test conditions

3.6
flammable gas
gas or gas mixture having a flammable range with air at 20 °C and a standard pressure of 101,3 kPa

[SOURCE REGULATION (EC) No 1272/2008[4]]

3.7
flammable liquid
liquid having a flash point ≥ 23 °C and ≤ 60 °C

[SOURCE REGULATION (EC) No 1272/2008[4]]

3.8
flowing elements
loosely hanging elements having the ability to flow like hair, to hang closely to the shape of the head and continue to move on their own after the head is rotated then stopped

Note 1 to entry: Imitation hair, free hanging ribbons, paper or cloth strands are examples of flowing elements.

3.9
highly flammable liquid
liquid having a flash point < 23 °C and initial boiling point ≤ 35 °C

[SOURCE REGULATION (EC) No 1272/2008[4]]

3.10
highly flammable solid
material with similar behaviour in fire as celluloid (cellulose nitrate), i.e. ignites instantaneously as a result of a brief contact with a flame and proceeds to burn very rapidly

Note 1 to entry: Further information is provided in A.2.

3.11
molten drips
falling droplets of molten material

3.12
moulded head mask
mask that is moulded to the contours of the head or face

3.13
soft-filled toy
toy, with soft body surfaces and filled with soft material, readily allowing compression of the main part of the toy with the hand

3.14
surface flash
rapid spread of flame over the surface of a material without ignition of its base structure at the same time

3.15
toy disguise costume
costume intended to be worn by children to facilitate imaginative play where the child pretends to be a character

Note 1 to entry: Costumes and garments for children less than 12 months old are not regarded as toy disguise costumes since such children are unable to engage in character role-play (see A.4).

Note 2 to entry: A toy disguise costume can be a single article or a clothing ensemble with multiple articles. A wizard's cloak or a princess's dress are examples of single article toy disguise costumes. A superhero's cape and bodice and gloves are examples of a clothing ensemble with multiple articles.

3.16
toys intended to be entered by a child
toy constructed from fabric and/or polymer sheets and films that are intended to fully or almost fully enclose a child on all sides

Note 1 to entry: Tents, puppet theatres, wigwams, tepees and play tunnels are examples of toys intended to be entered by a child.

3.17
washing
process designed to clean textile articles in an aqueous bath

Note 1 to entry: Washing includes all or some of the following operations in relevant combinations:

— soaking, pre-washing and main washing - carried out usually with heating, mechanical action and in the presence of detergents or other products - and rinsing;

— water extraction, i.e. spinning or wringing performed during and/or at the end of the operations mentioned above.

These operations may be carried out by machine or by hand

[SOURCE EN ISO 3758 [3]]

4 Requirements

4.1 General requirements

The following materials shall not be present in toys:

— celluloid (cellulose nitrate), except when used in varnish, paint or glue, or in balls of the type used for table tennis or similar games;

— *highly flammable solids* (see A.2);

— materials with a piled surface which produce *surface flash* when a flame is applied to the tested material under the conditions described in 5.5. Piled surfaces showing no momentary area of flame over the area of the piled surface remote from the test flame are considered to meet this requirement.

Specific materials to which the test flame is applied in order to check compliance of the toy with requirements in 4.2 to 4.5 are considered to comply with the above requirements if the toy meets its appropriate requirements in 4.2 to 4.5.

In addition, toys shall not contain *flammable gases, extremely flammable liquids, highly flammable liquids*, *flammable liquids* and flammable gels except as provided for below:

— *flammable liquids* and flammable gels supplied in sealed containers having a maximum volume of 15 ml per container;

— *highly flammable liquids* and *flammable liquids* being entirely retained within a porous material in capillary channels of writing instruments;

— *flammable liquids* with a viscosity greater than 260×10^{-6} m^2/s corresponding to a flow time of more than 38 s when determined in accordance with EN ISO 2431:2019 using cup No. 6;

— *highly flammable liquids* contained in *chemical toys*, and in olfactory board games, cosmetic kits and gustative games, as defined in 2009/48/EC.

4.2 Toys to be worn on the head (see A. 3)

4.2.1 General

The requirements of 4.2 apply to:

— beards, moustaches, wigs, made from pile or *flowing elements*;

— masks;

— hats, hoods, headdresses, etc.,

but not to paper or paperboard hats unless they have embellishments or attachments that form *flowing elements.*

When a product incorporates several features, for example a hat with an attached mask and hair, each part shall be tested separately to the applicable clause relevant to that particular part of the toy.

Attachments which are used for the purpose of securing a mask, hat, etc., on the head (e.g. string, elastic, plastic strap) shall not be tested (see A.3).

4.2.2 Beards, moustaches, wigs, etc., made from pile or flowing elements which protrude 50 mm or more from the surface of the toy

When tested according to 5.3, the duration of flaming shall not be more than 2 s after the removal of the test flame.

In addition, if ignition occurs, the maximum-burnt length of pile, or *flowing elements* shall not be:

a) more than 50 % of the greatest initial length, when the initial length was 150 mm or more, or;

b) more than 75 % of the greatest initial length, when the initial length was less than 150 mm.

When determining whether materials are required to be tested under 4.2.2, the distance by which the material protrudes shall be measured without applying tension to the protruding part, e.g. curly hair is not straightened. Plaits or braided hair shall be fully released and combed, where possible, before testing.

4.2.3 Beards, moustaches, wigs, etc., made from pile or flowing elements which protrude less than 50 mm from the surface of the toy

Beards, moustaches, wigs, etc. made from pile or *flowing elements* which protrude 5 mm or less from the surface of the toy are regarded as headdresses and are covered by 4.2.5.

When tested in accordance with 5.3 the duration of flaming shall not be more than 2 s after the removal of the test flame, and the maximum distance between the upper edge of the burnt area and the point of application of the test flame shall not be more than 70 mm.

4.2.4 Full or partial moulded head masks

When tested in accordance with 5.3, the duration of flaming shall not be more than 2 s after the removal of the test flame. The maximum distance between the upper edge of the burnt area and the point of application of the test flame shall not be more than 70 mm.

This requirement does not apply to moulded eye masks that neither cover the chin nor a cheek as they are covered by 4.2.5.

4.2.5 Toys to be worn on the head (except those covered by 4.2.2 and 4.2.3), hoods, headdresses including upward protruding items and masks not covered by 4.2.4 which partially or fully cover the head (e.g. fabric and paperboard masks, eye masks, face masks), but excluding those items covered by 4.3

When tested in accordance with 5.4, the rate of spread of flame of the test specimen shall not exceed 10 mm/s or the test specimen shall self-extinguish.

4.3 Toy disguise costumes and toys intended to be worn by a child in play (see A.4)

This requirement does not apply to separate toys to be worn on the head, which are supplied with a *toy disguise costume*.

When tested in accordance with 5.5 parts of *toy disguise costumes* and toys intended to be worn by children in play which contain loose stuffing which would fall out if tested in accordance with 5.4.1.2 shall not exceed 30 mm/s rate of spread of flame or the test specimen shall self-extinguish.

This requirement does not apply to soft-filled parts which, when positioned in accordance with 5.5.3, present a maximum unhindered vertical soft-filled height of 150 mm or less.

When tested in accordance with 5.4 all other *toy disguise costumes* and toys intended to be worn by a child in play (and parts thereof), shall not exceed 30 mm/s rate of spread of flame or the test specimen shall self-extinguish.

In all cases if the rate of spread of flame is between 10 mm/s and 30 mm/s, the appropriate component(s) of the toy and the packaging shall be permanently marked with the following warning: **"Warning. Keep away from fire".**

4.4 Toys intended to be entered by a child (see A.5)

These include for example toy tents, puppet theatres, wigwams, tepees and play tunnels.

When tested in accordance with 5.4, the rate of spread of flame of the test specimen shall not exceed 20 mm/s or the test specimen shall self-extinguish.

If the test specimen has a rate of spread of flame greater than 20 mm/s when tested in accordance with 5.4, there shall be no *flaming debris* or *molten drips*.

If the material has non-identical surfaces, both sides shall be tested.

If the rate of spread of flame is between 10 mm/s and 30 mm/s, the appropriate components(s) of the toy and the packaging shall be permanently marked with the following warning: **"Warning. Keep away from fire".**

4.5 Soft-filled toys (see A.6)

These requirements do not apply to:

— *soft-filled toys* or soft-filled parts of a toy that cannot be cuddled or hugged by a child during play;

— toys which, when positioned in accordance with 5.5.3, present a maximum unhindered vertical soft-filled height of 150 mm or less.

When tested in accordance with 5.5, the rate of spread of flame on the surface shall not be more than 30 mm/s or the toy shall be self-extinguishing.

5 Test methods

5.1 General

5.1.1 Test burner

The test flame shall be obtained from a burner as described in EN ISO 6941:2003, Annex A and shall be operated with butane or propane gas.

5.1.2 Conditioning and test chamber

Before each test, the toys or test specimens shall be conditioned for at least 7 h in an atmosphere having a temperature of (20 ± 5) °C and a relative humidity of (65 ± 5) %.

Carry out the tests in a test chamber in which the movement of air is less than 0,2 m/s at the start of the test and is not affected by operation of mechanical apparatus during the test. It is essential that the volume of air in the test chamber is not affected by a reduction in the level of oxygen concentration. When an open fronted chamber is used for the test, ensure that the test specimen is at least 300 mm from the walls of the chamber. Maintain the chamber at 10 °C to 30 °C and at a relative humidity of 15 % to 80 % prior to the test being carried out.

The toys or test specimens shall be tested within 5 min of removal from the conditioning atmosphere.

5.1.3 Test flame

Light the burner described in 5.1.1 and pre-heat for a minimum of 2 min.

The required height of the flame shall be measured from the end of the burner tube to the top of the flame with the burner in the vertical position.

5.2 Test relating to beards, moustaches, wigs, etc., made from pile or flowing elements, which protrude 50 mm or more from the surface of the toy

5.2.1 Test flame

Adjust the flame height to (20 ± 2) mm.

5.2.2 Test burner position

Position the burner at (90 ± 2) ° to the horizontal.

5.2.3 Test performance

Measure the length of the pile or *flowing elements* and position the toy so that the largest dimension of the pile or *flowing elements* hangs vertically or as near vertically as possible.

Apply the test flame for (2 ± 0,5) s to the lower edge or ends of the specimen material so that the flame penetrates the element by approximately 10 mm.

If ignition occurs, measure the duration of flaming and the maximum burnt length, i.e. the maximum length of the pile or *flowing elements* that has been burnt.

5.3 Test relating to beards, moustaches, wigs, etc., made from pile or flowing elements, which protrude less than 50 mm from the surface of the toy, and full or partial moulded head masks (see A.7)

5.3.1 Test flame

Adjust the flame height to (20 ± 2) mm.

5.3.2 Test burner position

Position the burner at an angle of (45 ± 2) ° to the horizontal.

5.3.3 Test performance

Position the toy vertically.

Apply the test flame to the toy for (5 ± 0,5) s, so that the test flame makes contact between 20 mm and 30 mm above the lower edge of the toy and/or attachment and at a distance of (5 ± 2) mm measured horizontally from the closest point of the burner tube, to the surface of the toy.

NOTE The lower edge of the toy is considered to be the bottom of the toy when placed on the head.

If ignition occurs, measure the duration of flaming and the maximum distance between the upper edge of the burnt area and the point of application of the flame.

5.4 Test relating to toys to be worn on the head (4.2.5), hoods, headdresses including upward protruding items and masks not covered by 4.2.4 which partially or fully cover the head (e.g. fabric and paperboard masks, eye masks, face masks), toy disguise

costumes and toys intended to be worn or toys intended to be entered by a child (see A.8)

5.4.1 Preparation of test specimen

5.4.1.1 General

Each test shall be carried out on material taken from a new toy, prepared as described below. It is acceptable to wash test specimens prepared according to 5.4.1.2 rather than the whole toy.

Toy disguise costumes shall be subjected to testing before and after *washing* and shall be washed in accordance with any care instructions from the manufacturer. If there are no care instructions or an instruction not to wash or an instruction to cleanse the surface of the toy only, then the *toy disguise costume* shall be treated in accordance with 5.4.1.1 c).

For other toys, if the advice given to the consumer (for example a care label on the toy or its packaging):

a) indicates that the toy is not intended to be washed or cleansed, it shall not be washed or cleansed before testing;

b) recommends a method of *washing* or *cleansing* the toy shall be treated once in accordance with these recommendations;

c) gives no information relating to *washing* or *cleansing* the toy, and if it is likely to be washed during its life, the test specimens(s) shall be treated, before testing, in accordance with the following instructions:

   Immerse the test specimens(s) in water at (20 ± 3) °C and having a calcium hardness of 8 to 14dH (80 mg/L CaO to 140 mg/L CaO) at a ratio of at least 1:20 mass of test specimen(s) to volume of water, and allow it/them to stand for (10 ± 1) min. Drain and repeat twice. Rinse by immersing the test specimen(s) in demineralized water for (2 ± 0,5) min. Drain and dry by a method appropriate to the test specimen(s) and, where appropriate, restore the pile as near as possible to its original condition.

5.4.1.2 Test specimens from toy disguise costumes (see A.9)

5.4.1.2.1 General

Take a test specimen or a combined test specimen from each different material and where possible, ensure the lower edge of the test specimen includes the lower edge of the costume material.

NOTE Textile materials of the same fabric but a different colour are regarded as the same material.

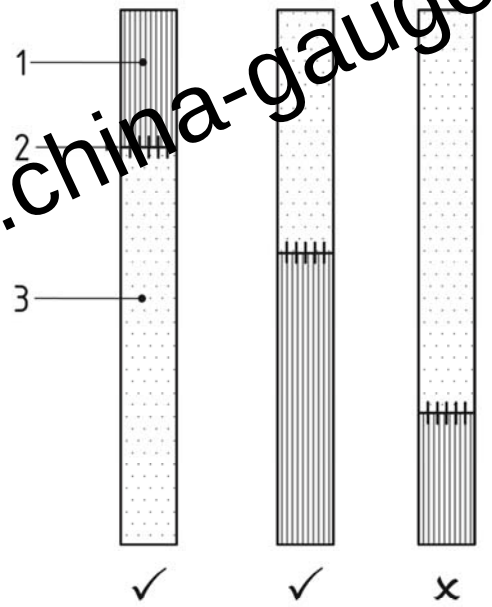
Where there is sufficient material, cut the test specimen with the length corresponding to the vertical direction when the toy is worn. In case of insufficient material, priority shall be given to making combined test specimens taken in the vertical direction, rather than full-size or half-size test specimens taken in the horizontal direction.

When preparing pieces for a combined test specimen, ensure the longer piece is taken in the vertical direction if this is possible, and in any case, locate the longer piece in the lower half of the combined test specimen. If a combined test specimen is formed from 2 pieces of similar size and cut in different directions, the piece from the vertical direction shall be located in the lower half of the combined test specimen.

When forming a combined test specimen, in order to ensure that there is no gap at the overlap, the 2 pieces shall be overlapped by (10± 2) mm and joined using vertically orientated metal staples of sufficient

gauge to maintain the integrity of the joint when handing the test specimen (e.g. 22/6) spaced at 5 equidistant points from the edge of the test specimen holder specified in 5.4.2.

Figure 1, shows the correct orientation of combined test specimen pieces.



Key

1	Piece taken in vertical orientation from the toy
2	Overlap join using 5 vertical staples
3	Piece taken in horizontal orientation
✓	Correct orientation
✗	Incorrect orientation

Figure 1 — Orientation of combined test specimen pieces

Filling materials (e.g. fibre wadding, foam fillings) which do not drop out of the test specimen shall be regarded as a single material for the purpose of test specimen preparation (i.e. fabric plus filling). Test specimens that include filling materials shall be prepared in accordance with 5.4.1.2.6 or 5.4.1.2.7.

Seams, decorative trims, embellishments etc. with the exception of finished lowest edges of the costume or the cuff edges of sleeves, shall not be included in test specimens that are prepared in accordance with 5.4.1.2.2 to 5.4.1.2.5.

Obtain test specimens in the following order:

a) where possible take a full-size test specimen (5.4.1.2.2) but if there is insufficient material, make up a combined full-size test specimen (5.4.1.2.3). Where there is insufficient material to make up a combined full-size test specimen take a half-size test specimen (5.4.1.2.4) and if that is not possible, make up a combined half-size test specimen (5.4.1.2.5);

b) when all test specimens have been taken in accordance with 5.4.1.2.1 a), further test specimens are taken in accordance with 5.4.1.2.6, provided there is sufficient material;

c) when all test specimens have been taken in accordance with 5.4.1.2.1 b), further test specimens are taken in accordance with 5.4.1.2.7, provided there is sufficient material and the material was not previously prepared according to 5.4.1.2.1 a) and b);

d) where there is insufficient material to make up a test specimen in accordance with 5.4.1.2.1 a) to c) no test is performed.

5.4.1.2.2 Full-size test specimen

Take a single piece test specimen with dimensions of at least 610 mm × 100 mm.

5.4.1.2.3 Combined full-size test specimen

Where there is insufficient material to prepare a test specimen in accordance with 5.4.1.2.2, make up a test specimen with dimensions of at least 610 mm × 100 mm from two separate pieces of the same material. The 2 pieces shall be orientated and joined using metal staples as described in 5.4.1.2.1.

5.4.1.2.4 Half-size test specimen

Where there is insufficient material to prepare a test specimen in accordance with 5.4.1.2.3, take a test specimen with dimensions of at least 310 mm × 100 mm.

5.4.1.2.5 Combined half-size test specimen

Where there is insufficient material to prepare a test specimen in accordance with 5.4.1.2.4 make up a test specimen with dimensions of at least 310 mm × 100 mm from two pieces of the same material, of dimensions at least 160 mm x 100 mm. The 2 pieces shall be orientated and joined using metal staples as described in 5.4.1.2.1.

5.4.1.2.6 Test specimens that include fillings or features such as seams, trims and embellishments

Prepare full-size test specimens of materials that contain fillings or features (e.g. prints, appliques, trims, embellishments, patchwork material, vertically orientated seams) from a single piece of material with dimensions of at least 610 mm x 100 mm.

Where there is insufficient material to prepare a full-size test specimen prepare a half-size test specimen with dimensions of at least 310 mm × 100 mm.

The test specimens are only taken in the vertical direction when the toy is in use. The lower edge of the test specimen (to which the test flame will be applied) shall be representative of the lowest edge of the costume or the cuff edge of a sleeve. If the lowest edge or sleeve cuff is not an even length (e.g. zig-zagged) then trim the bottom edge to produce a straight edge to aid measurement and testing.

If the specimen includes a vertically orientated seam, take the test specimen so that the seam will be located approximately in the centre of the test specimen holder specified in 5.4.2.

If the *toy disguise costume* has to be cut to form the test specimen the filling or feature should be placed approximately in the centre of the test specimen.

NOTE This can mean that the trimmed bottom edge of the test specimen is not necessarily the lowest point on the bottom edge of the *toy disguise costume*.

5.4.1.2.7 Test specimens of narrow materials

For materials that cannot be prepared in accordance with 5.4.1.2.2 to 5.4.1.2.6 cut a single test specimen at least 310 mm × 40 mm, provided there is sufficient material. Seams, trims, embellishments etc., shall not be included in the test specimen but fillings are permitted.

Cut the test specimen with the greater dimension corresponding to the vertical direction when the toy is worn.

5.4.1.3 Test specimens from toys worn on the head with flowing elements (4.2.5), hoods, headdresses including upward protruding items and masks not covered by 4.2.4 which partially

or fully cover the head (e.g. fabric and paperboard masks, eye masks, face masks), and toys intended to be worn (4.3) or toys intended to be entered by a child (4.4)

Cut test specimens with dimensions of at least 610 mm × 100 mm from each material available on the toy. Each test specimen shall be made of one material. Where there is enough material, cut the test specimen with the length corresponding to the vertical direction of the toy when in use. Where possible, the test specimen should not include seamed edges. As seams can modify the rate of spread of flame, they shall be placed in the upper part of the specimen holder specified in 5.4.2.

Where there is insufficient material to prepare a full-size test specimen as described above, it is permissible to use a test specimen made up of two separate pieces of the same material measuring at least 310 mm × 100 mm each which, when fitted together with an overlap of 10 mm, will constitute a test specimen of at least 610 mm × 100 mm. The 2 pieces shall be joined using metal staples as described in 5.4.1.2.1.

In the case of *toys to be entered by a child* (4.4), if the material has non-identical surfaces, both sides shall be tested.

5.4.2 Holding and positioning the test specimen

Mount the test specimen on the test specimen holder as shown in Figure 2.

For narrow materials prepared in accordance with 5.4.1.2.7 the test specimen shall be supported in the holder by a stainless-steel wire mesh of (18 × 18 +4/-0 mm) grid size with a wire diameter of (1 ± 0,4 mm). See Figure 2b)

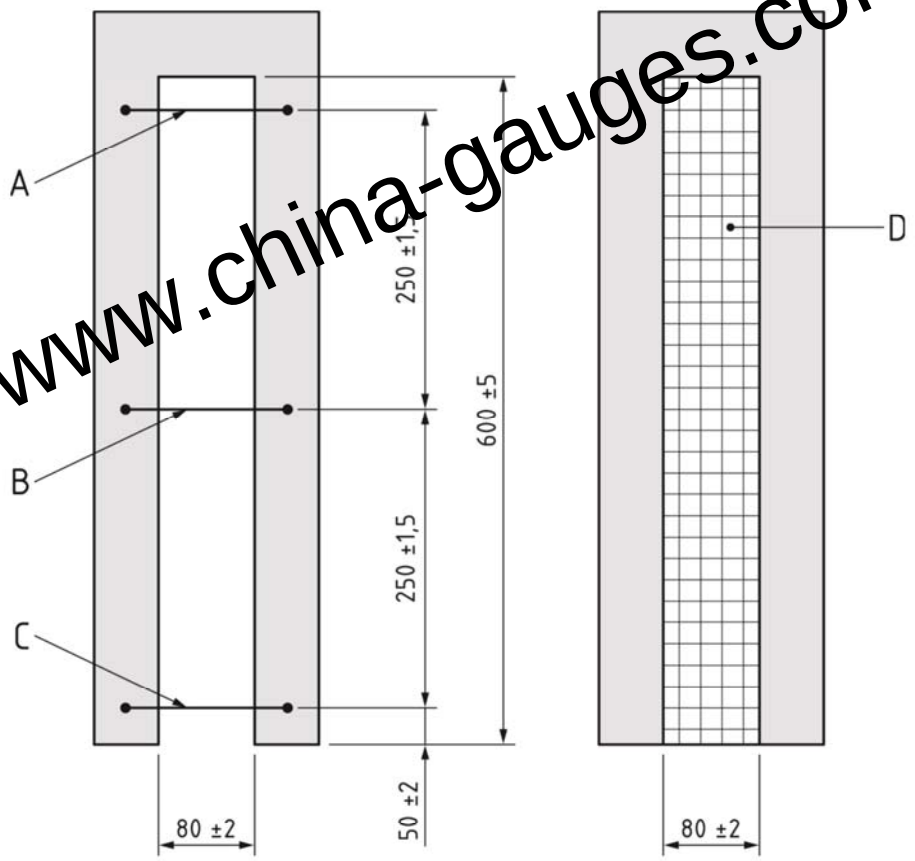
The specimens shall be secured under slight tension to avoid creases, waving, or curling by suitable means that do not affect ignition or flame spread.

For toys corresponding to 4.2.5 and 4.3, the outside surface of the material, when in use, shall be positioned with their outer surface uppermost.

Attach 100 % cotton marker threads as per Figure 2a across the specimen at no more than 2 mm from the surface of the test specimen, with a device to indicate when the marker thread is severed. In the case of full-size test specimens use marker thread A and C. For half-size test specimens use marker thread B and C.

Position the specimen holder at 45 (±1) ° to the horizontal.

Dimensions in millimetres



a) **Test specimen holder**

b)**Test specimen holder with wire mesh support**

Key

A, B and C	Location of 100 % cotton marker threads
D	Wire mesh support

Figure 2 — Test specimen holders

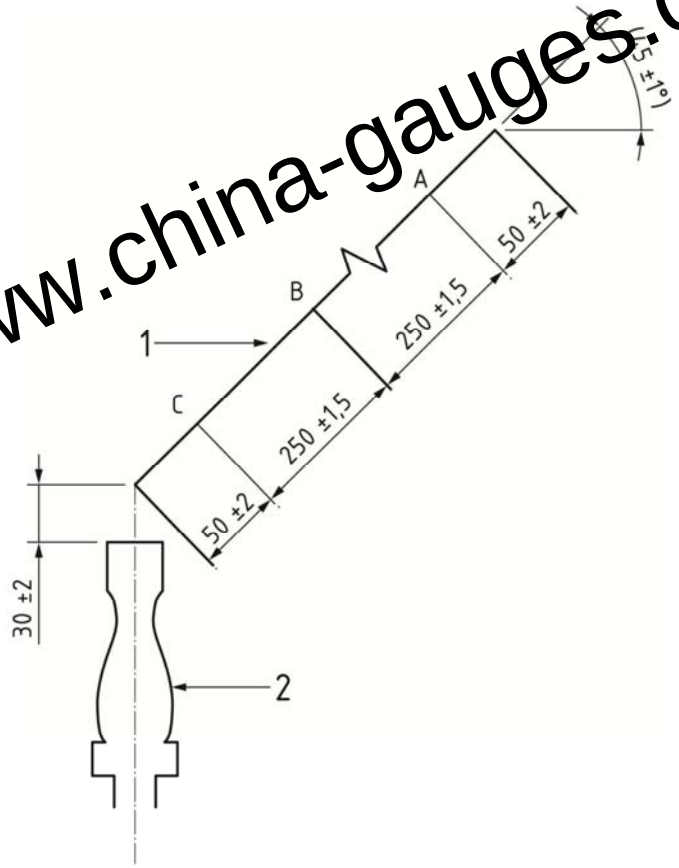
5.4.3 Test flame

Adjust the flame height to (40 ± 3) mm.

5.4.4 Test burner position

Position the burner vertically (90 ± 2) ° to the horizontal in order to have a distance of (30 ± 2) mm between the centre of the lower edge of the test specimen and the top of the burner (see Figure 3).

Dimensions in millimetres



Key

A, B and C	Location of 100 % cotton marker threads
1	Test specimen
2	Burner

Figure 3 — Gas burner position

5.4.5 Test performance

Apply the test flame to the centre of the lower edge of the test specimen as shown in Figure 3, for (10 ± 1) s.

If flaming occurs, start the timing device when the first marker thread is severed by the flame and stop it when the second marker thread is severed.

5.4.6 Results

If, after applying the flame, the test specimen fails to ignite, record the material as “Did not ignite.”

If the test specimen ignites but the first marker thread is not severed, record the rate of spread of flame as “Self-extinguished within 50 mm of flame application.”

If flaming occurs and the first marker thread is severed and the flame extinguishes before severing the second marker thread, record the material tested as “Self-extinguishing.”

If the second marker thread is severed, note the time and calculate the rate of spread of flame in mm/s. Round the resulting value to the nearest mm/s.

5.5 Test for soft-filled toys and certain soft-filled parts of toy disguise costumes

5.5.1 Test flame

Adjust the flame height to (20 ± 2) mm.

5.5.2 Test burner position

Position the burner at an angle of (45 ± 5)° to the horizontal.

5.5.3 Test performance

Determine the maximum unhindered soft-filled dimension of the toy and if this is greater than 150 mm, position the toy so that this dimension is vertically orientated in a suitable clamp.

Soft-filled toys shall be tested as supplied, including any clothing or cover present with the toy and, if considered to be more onerous, with the clothes or cover removed if removal can be accomplished without damage to the clothes, cover or toy.

Applicable soft-filled parts of *toy disguise costumes* shall be prepared in accordance with 5.4.1.1.

Apply the test flame to the toy for (3 ± 0,5) s so that the distance between the edge of the burner tube and the toy is (5 ± 2) mm and the test flame makes contact between 20 mm and 50 mm above the lower edge of the most flammable soft-filled material of the toy, as predetermined, and is not less than 120 mm from the top of the maximum soft-filled dimension of the toy.

If the test flame application point for the most flammable soft-filled material cannot be located at a distance 120 mm or more from the top of the maximum soft-filled dimension of the toy, the next most flammable soft-filled material located 120 mm or more from the top of the maximum soft-filled dimension of the toy shall be chosen for the application of the test flame.

In general, predetermination of the most flammable soft-filled material should be carried out by observation of the flame spread while the specimen is burning during the first test. Specimens that self-extinguish with little damage occurring can be tested using a test flame application point on a different material higher up the specimen provided that the self-extinguishing flame has been remote from the area of new material.

After removal of the test flame, measure the time taken for the flame to spread on the surface of the toy until the top of the flames first reach the top of the maximum soft-filled dimension of the toy.

If flaming occurs and the flame extinguishes before reaching the top of the maximum soft-filled dimension of the toy, the tested toy is considered as self-extinguishing.

If the vertical distance between the point of application of the flame and the top of the soft-filled dimension is 500 mm or more, the test can be stopped when the top of the flames reaches a height of 500 mm from the point of application of the test flame. The rate of spread of flame is then calculated using the time elapsed to reach this point.

Annex A
(informative)

Background and rationale for this document

A.1 General

This document sets safety requirements for those toys that could pose a significant risk of injury to a child from the hazards presented by their potential to catch fire.

Several databases were consulted during the preparation of the initial standard, including those of the United Kingdom's 'Home Accident Surveillance System' and the United States' Consumer Product Safety Commission. There was no indication from these sources that accidents were occurring due to direct contact of children with burning material in toys. It could be argued that the standards/legislation over the years have resulted in safer toy products with respect to *flammability*.

A.2 General requirements (see 4.1)

Highly flammable solids are defined as materials with similar behaviour in fire as celluloid. Such materials readily catch fire after brief contact with a source of ignition and which continue to burn or to be consumed after removal of the ignition source. In this case, only materials that ignite instantaneously (at the time of contact with a source of ignition) and are very rapidly consumed should fall into this category. Plastics, paper, textiles, etc. will all burn, but should normally not be considered as materials with the same behaviour in fire as celluloid.

In the context of the requirement for *highly flammable solids*, no validated test method has been established. However, some evaluations made on a strip of celluloid material (8 cm long) from a table tennis ball have shown that, when a flame is applied under the conditions described in 5.5.1 and 5.5.2 to the lower edge of the strip placed vertically, it ignites instantaneously and shows a rate of spread of flame of approximately 400 mm/s.

A piece of paper with a gram weight of 80 g/m^2 and a dimension of 21 cm by 29,7 cm tested under the same conditions has shown a rate of spread of flame of approximately 110 mm/s. These values should be taken into consideration if further assessment of the material is required.

According to Directive 2009/48/EC the following safety requirements apply regarding cleaning and *washing*: "A toy intended for use by children under 36 months must be designed and manufactured in such a way that it can be cleaned. A textile toy shall, to this end, be washable, except if it contains a mechanism that may be damaged if soak washed. The toy shall fulfil the safety requirements also after having been cleaned in accordance with this point from the Directive and the manufacturer's instructions.". The manufacturer should, if applicable, provide instructions on how the toy has to be cleaned. This information is not exhaustive and Directive 2009/48/EC and the associated guidance documents should be consulted for further details.

A.3 Toys to be worn on the head (see 4.2)

Clause 4.2 is intended to cover those articles with elements that could become ignited without the child's knowledge, for example, when blowing candles on a birthday cake. *Flowing elements* (such as hair) would present the highest *flammability* hazard in this respect. Therefore, specific requirements have been set for these materials, based on their protruding length (length of the material measured from the surface of the toy to the end of the material).

Attachments made from elastic or string which serve a functional purpose, for example, to secure a mask, hat etc. on the head, or articulating a facial feature are not tested. Functional strings and elastic of this type fit closely to the surface of the head.

In addition to the duration of flaming, 4.2.2 establishes requirements regarding the maximum burnt length of pile or *flowing elements*, and 4.2.3 establishes requirements for the maximum burnt area measured at the surface of a toy.

As the rate of spread of flame can be different depending on the direction of the fabric, preference is given to cut the test specimen with the length corresponding to the vertical direction of the toy when in use.

Beards, moustaches, wigs, etc. made from pile or *flowing elements*, which protrudes 5 mm or less from the surface of the toy are regarded as presenting a *flammability* hazard similar to headdresses and have therefore been considered as such.

The categories of toys covered by 4.2.5 are those not already covered by 4.2.1 to 4.2.4. If toys incorporate several features e.g. hair, each part is tested to the applicable clause relevant to that particular part of the toy.

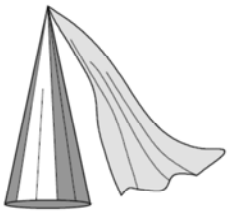
As it is impossible to describe all types of toys in this category, Table A.1 has been provided to aid assessments. Table A.1 is a list of (non-exhaustive) pictorial examples indicating the applicability of 4.1 to 4.2.5 and is based upon CEN/TR 15371-1:2017[7]

Table A.1 — Pictorial examples of toys and their application to 4.1 to 4.2.5

Ref	Picture	Brief description of the toy to be worn on the head / Comments	4.1	4.2.2	4.2.3	4.2.4	4.2.5
1		This toy is made out of textile material. The side elements do not flow and shall not be regarded as *flowing elements* or pile. It is regarded as a headdress.	x				x
2		This toy is made of pile material protruding less than 5 mm from the surface of the toy. It is therefore considered as a headdress. (If it was protruding more than 5 mm but less than 50 mm, 4.2.3 would have been applicable). The black ears are regarded as *flowing elements* as they hang close to the head and continue to move on their own after the head is rotated then stopped. They protrude more than 50 mm from the surface of the toy.	x	x Ears			x Headdress

Ref	Picture	Brief description of the toy to be worn on the head / Comments	4.1	4.2.2	4.2.3	4.2.4	4.2.5
3		The antennas are made of plastic material and the flower material is textile, Both elements are regarded as headdress.	x				x
4		Head and ear materials are textile. They are regarded as hood / headdress.	x				x
5		Translucent textile surrounded by metallic frame. It is regarded as headdress. The ribbons are made of textile. These ribbons are regarded as *flowing elements* as they hang close to the head and continue to move on their own after the head is rotated then stopped. They protrude more than 50 mm from the surface of the toy.	x	x Ribbons			x Headdress
6		This mask is made of EVA (ethylene vinyl acetate) material. It is not moulded to the contours of the face. The ears are not *flowing elements* which hang close to the head and continue to move on their own after the head is rotated then stopped.	x				x
7		This headband is made of textile material and feathers. Feathers are upright and do not hang or flow and shall not be regarded as *flowing elements* or pile material according to 4.2.2 or 4.2.3. The whole toy is regarded as a headdress.	x				x

Ref	Picture	Brief description of the toy to be worn on the head / Comments	4.1	4.2.2	4.2.3	4.2.4	4.2.5
8		This headband is made of textile material and feathers. Upright feathers do not hang or flow and shall not be regarded as *flowing elements* according to 4.2.2 or 4.2.3. The feathers hanging on the back of the head hang or flow like hair. They protrude more than 50 mm from the surface of the toy.	x	x Hanging feathers			x Headband and upright feathers
		This toy is intended to be placed on the head. The child's face is not covered. It is entirely made of textile material with pile protruding less than 5 mm from the surface of the toy. The protruding parts are not *flowing elements* which hang close to the head and continue to move on their own after the head is rotated then stopped. The whole toy is regarded as a hood / headdress.	x				x
10		The mask is made of plastic material and is moulded to the contours of the face. The hair is protruding more than 50 mm from the surface of the toy.	x	x Hair		x Mask	
11		The band to attach the toy to the head is made of plastic material and the flower is textile. The elements hanging down are not regarded as *flowing elements* as they do not hang close to the head and continue to move on their own after the head is rotated then stopped. The whole toy is regarded as a headdress.	x				x
12		The hat is made of felt and is surrounded with pile material. The pile material is not regarded as *flowing elements* as it does not hang close to the head. It is covered by 4.2.5 as it is for the felt material (headdress)	x				x Felt and pile materials

Ref	Picture	Brief description of the toy to be worn on the head / Comments	4.1	4.2.2	4.2.3	4.2.4	4.2.5
13		The hat is made of paperboard material. As such it is excluded from testing. The attachment/embellishment on top is made of textile material and regarded as a *flowing element*. It hangs close to the head and moves when the head is shaked. It protrudes more than 50 mm from the surface of the toy.	x	x Textile material			
14		The mask is made of plastic material and is moulded to the contours of the face. It is regarded as a full *moulded head mask*.	x			x	
15		This helmet is made out of plastic material with hair on top which is not flowing like hair. It shall not be regarded as a wig with hair or pile material according to 4.2.2 or 4.2.3. The whole toy is regarded as a headdress with *flowing elements* (hair) not covered by 4.2.2 and 4.2.3.	x				x
16		The mask is made of plastic material and is moulded to the contours of the face. It is regarded as a partial *moulded head mask.*	x			x	
17		Hat and eyepatch are made of textile material. They are both regarded as a headdress.	x				x

Ref	Picture	Brief description of the toy to be worn on the head / Comments	4.1	4.2.2	4.2.3	4.2.4	4.2.5
18		The headband and the shroud are made of textile material. The shroud textile material is not regarded as a *flowing element* as it is not made of cloth strands, is continuously surrounding the head and is covering the shoulders. The whole toy is regarded as a hood / headdress.	x				x Headband and shroud
19		This eye mask is made of paperboard material and is moulded to the contours of the face, It is excluded from 4.2.4 and is covered by 4.2.5	x				x
20		This headband is made of textile material and a feather. Feather is upright and does not hang or flow and shall not be regarded as *flowing element* according to 4.2.1 or 4.2.2. The whole toy is regarded as a headdress.	x				x
21		Textile hood based on a unicorn. The mane is made of textile loops. The loops are free hanging but are not considered as *flowing elements* as they do not hang closely to the shape of the head	x				x
22		Hairband constructed from real (natural) feathers attached to a hard plastic band. The feathers are not regarded as *flowing elements* as they do not hang closely to the shape of the head.	x				x
23		Felt hat with felt side panels. The side panels protrude more than 50 mm from the hat. The side panels are not regarded as *flowing elements* as they do not flow like hair or continue to move on their own after the head is rotated then stopped.	x				x

A.4 Toy disguise costumes and toys intended to be worn by a child in play (see 4.3)

Toy disguise costumes include for example cowboy suits, nurses' outfits and long flowing capes not attached to headwear covered by 4.2.5. Costumes for children under the age of 12 months are not considered to be *toy disguise costumes* because children of this age do not have any concept of the character they are dressed as and so would not be able to engage in imaginative role play[6]

To ensure a wider range of testing, principally to cover small sizes of costumes etc., the test specimen may be constructed from two pieces of the same material, either as a full-size combined test specimen or as a half-size combined test specimen.

There are no specified dimensions for the 2 pieces of the combined test specimens but they shall have the specified combined length (610 mm or 310 mm) and the longer piece shall be located in the lower part of the test specimen holder so that it is ignited first. This ensures the longest uninterrupted burn before the staples are reached by the flame front.

There are practical difficulties in preparing and testing toys that have seamed edges, edges decorated with trims or contain filling or wadding materials. Unlike earlier versions of EN 71-2, this standard now intentionally aims to test materials that contain features like seams, trims, appliques and similar embellishments, provided there is sufficient material available in the test specimen. Materials that contain wadding or fillings are also tested together with the filling/wadding provided it does not fall out of the material when the test specimen is prepared.

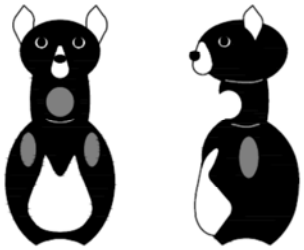
Components of *toy disguise costumes* with loose stuffing that does fall out if prepared in accordance with 5.4.1.2 are tested as per the *soft-filled toy* method. This is to ensure those soft-filled parts are tested appropriately in the form they present.

The standard also permits narrower strips of material to be tested (greater than 40 mm in width) by allowing the test specimen to be supported on a wire mesh within the specimen holder. Narrow strips are taken in the vertical direction and they do not include seams or other features, but they may include any wadding or filling that remains attached to the test specimen.

Materials where there is insufficient material for a test specimen to be made, are not subject to testing according to 5.4 but would still be assessed under general requirements of 4.1.

As it is impossible to describe all types of toys in this category, Table A.2 has been provided to aid assessments. Table A.2 is a list of (non-exhaustive) pictorial examples indicating the applicability of 4.1, 4.3 and 5.4 and 5.5

Table A.2 — Pictorial examples of toys and their application to 4.1, 4.3, 5.4 and 5.5

Ref	Picture	Brief description of the toy disguise costumes	4.1	4.3 / 5.4	4.3/ 5.5
1		One-piece unicorn body and head made of textile. The child's head and arms protrude from the grey areas. The child's legs protrude from the bottom of the body. The head and the belly are filled with fibrous loose stuffing which would fall out if tested in accordance with 5.4.1.2	x	x All parts other than head and belly	x head and belly
2		One-piece animal body and head made of textile. The child's head and arms protrude from the grey areas. The child's legs protrude from the bottom of the body. The head and the belly are filled with fibrous loose stuffing which would fall out if tested in accordance with 5.4.1.2	x	x All parts other than head and belly	x head and belly

A.5 Toys intended to be entered by a child (see 4.4)

These include for example toy tents, puppet theatres, wigwams, tepees and play tunnels.

It is thought unlikely that any such toy would escape testing because of insufficient specimen size. The *flaming debris* requirement has been limited to those materials that have a rate of flame spread greater than 20 mm/s. Products produced from nylon and other man-made materials can produce *flaming debris* and yet are extensively used in the production of children's clothing because they have a relatively slow rate of flame spread. This has led to the use of more hazardous materials that meet the *flaming debris* requirement but have a more rapid spread of flame.

In case of difficulties assessing whether toys or element of toys are to be entered by a child, the following may be used: Draw a virtual cube containing the children. If a minimum of four sides of the toy or toy element are fully or almost fully enclosing the child during normal and foreseeable use, then the toy or toy element is considered to be entered by a child.

A.6 Soft-filled toys (see 4.5)

These requirements are aimed at *soft-filled toys* or soft-filled parts of toys which would normally be cuddled or hugged by a child during play.

Typical examples of these toys are soft-filled teddy bears, animals, balls, soft-bodied dolls etc.

These requirements are not aimed at soft-filled parts that would not be cuddled or hugged during foreseeable play by children, for example the soft-filled rim of a pushchair, a non-removable soft-filled mattress of a toy cot, soft-filled components (nappies, padded dolls clothes) of a doll's playset, etc.

A.7 Test relating to toy disguise costumes and toys intended to be entered by a child (see 5.4)

Toy disguise costumes are likely to be treated as clothing articles in respect to *washing* therefore all *toy disguise costumes* must be washed by immersion before testing, irrespective of the manufacturers care instruction. *Toy disguise costumes* which contain mechanisms that may be damaged by *washing* are still required to undergo the immersion test as the mechanism is considered secondary to the play value of the disguise costume itself (e.g. a battery powered sound effect inside a *toy disguise costume* may have a play life span much lower than the costume itself which could be used long after the sound mechanism ceases to function). Manufacturers are encouraged to make such mechanisms removable.

When testing a full-size sample, manufacturers may find it useful to also include marker B (for half-size specimens). *Toy disguise costumes* can be complex in construction and burn at varying speeds as the flame progresses. A specimen may burn at a steady rate initially but then reach an embellishment or trim that may slow or speed up the overall burn. Manufacturers may find the addition of marker B helpful to select materials and design toys with lower burn rates overall.

The U-shaped double frame test specimen holder has been designed to ensure that the material is secured throughout the test. To facilitate the testing of narrow strips of material (<100 mm but ≥ 40 mm in width) the addition of a wire mesh support is added to the specimen holder 2b).

When materials are subjected to heating, they react differently depending upon their type. There is a tendency for some materials to shrink away from the flame source. By specifying the specimen holder, this effect has been minimized and inconsistencies between the laboratories reduced. The important criterion here is not the speed of ignition but the rate of flame spread.

A.8 Suggestions to help reduce rate of spread of flames for toy disguise costumes.

There are various design considerations that can be incorporated into the construction of *toy disguise costumes* that may help reduce the rate of spread of flames in the unlikely event of accidental contact with a source of ignition. Manufacturers are encouraged to review these aspects during the design and development of *toy disguise costumes*. These may have the added benefit of avoiding the need for flame retardant chemicals.

Design and Construction Considerations

Coatings / Finishes

- Glitter glue may increase flame progression. Heavy glitter printing around bottom edges (skirt hems, sleeve ends etc.) may increase likelihood of ignition and/or flame progression This may occur if the level of printing is either too light or too heavy and may relate to the levels of adhesive/glue used rather than the glitter itself.

- Coatings on lining fabrics may increase flame progression.

- Flame ignition and progression on fabric mesh/lattice may be quicker with added finishing chemicals such as stiffeners etc.

- Use of fabric softeners may increase flame progression.

Printing

- Large screen/plastisol prints (e.g. on the bodice of dresses) may increase flame progression.

- When printing covers large areas consider testing of unprinted base materials as well as the printed materials. Where printing increases flame progression, consider adding horizontal breaks to help prevent the print carrying the flame along the fabric.

Fabrics

- Where possible it is preferable to use fabrics made entirely of synthetic fibres such as polyester and nylon as they generally have lower rates of spread of flame than fabrics containing cellulosic fibres such as cotton and viscose.

- Thicker or heavier felts generally give slower rates of spread of flames.

Costume Design

- Consider adding trim to (or just above) the hemline of heavily ruched type skirts.

- Fabric trims attached vertically to skirt hems can promote ignition and speed up flame spread. Trims can be tested prior to selection to determine whether or not they promote ignition and rapid flame spread. It is recommended that only trims which burn at less than 30 mm/s should be selected for inclusion in disguise costume.

- Seams may burn faster than base materials especially skirt side seams and those on fabric mesh/lattice overskirts. Consider a simple overlap at the waist as an alternative.

Flammability testing of fabrics

- Test specimens may burn at different rates depending upon the orientation of the warp and weft directions. Manufacturers are advised to take this into account when designing, testing and manufacturing costumes or testing swatches.

- Testing fabric swatches with 4.3 of this standard can be used to assess compliance of those materials. Final article testing would then be required to ensure that the method of assembly and any trim, seams and embellishments have not affected the compliance.

A.9 Flowcharts showing how to obtain test specimens from toy disguise costumes

The following flowcharts give guidance on how to select test specimens from disguise costumes in accordance with 5.4.1.2. These flowcharts are for informative guidance only – the normative text must be referred to.

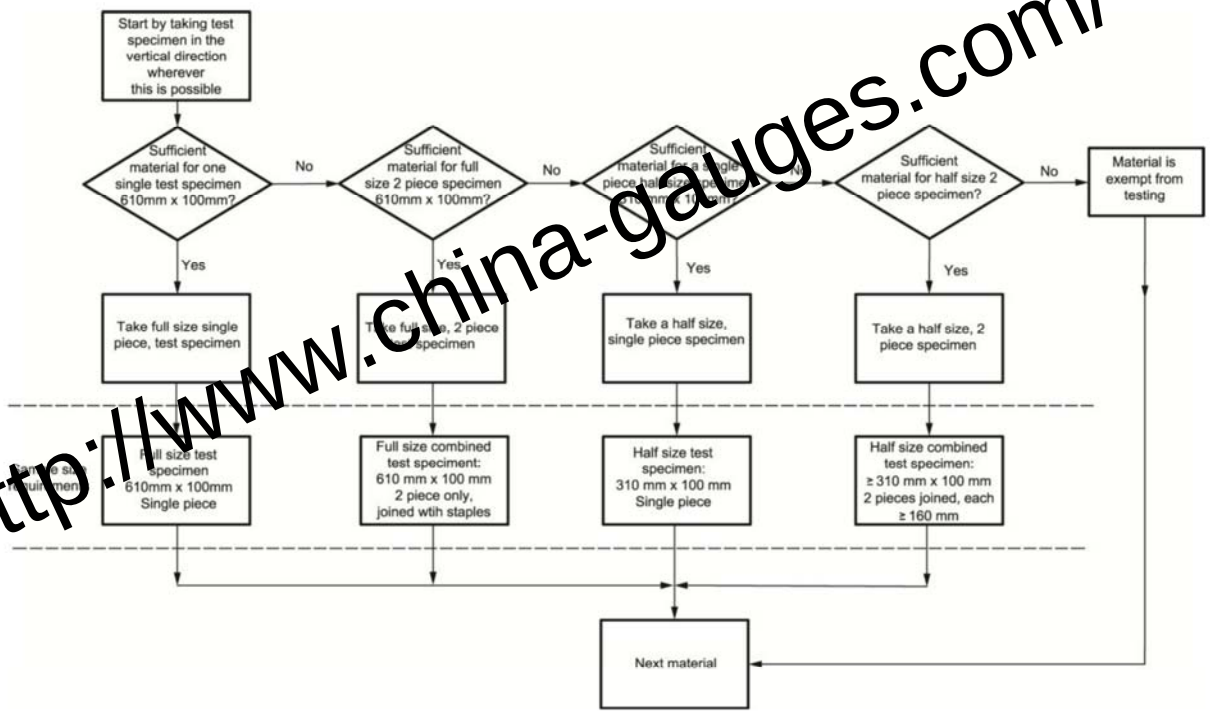


Figure A.1 — Obtaining test specimens from a material with no features, embellishments etc.

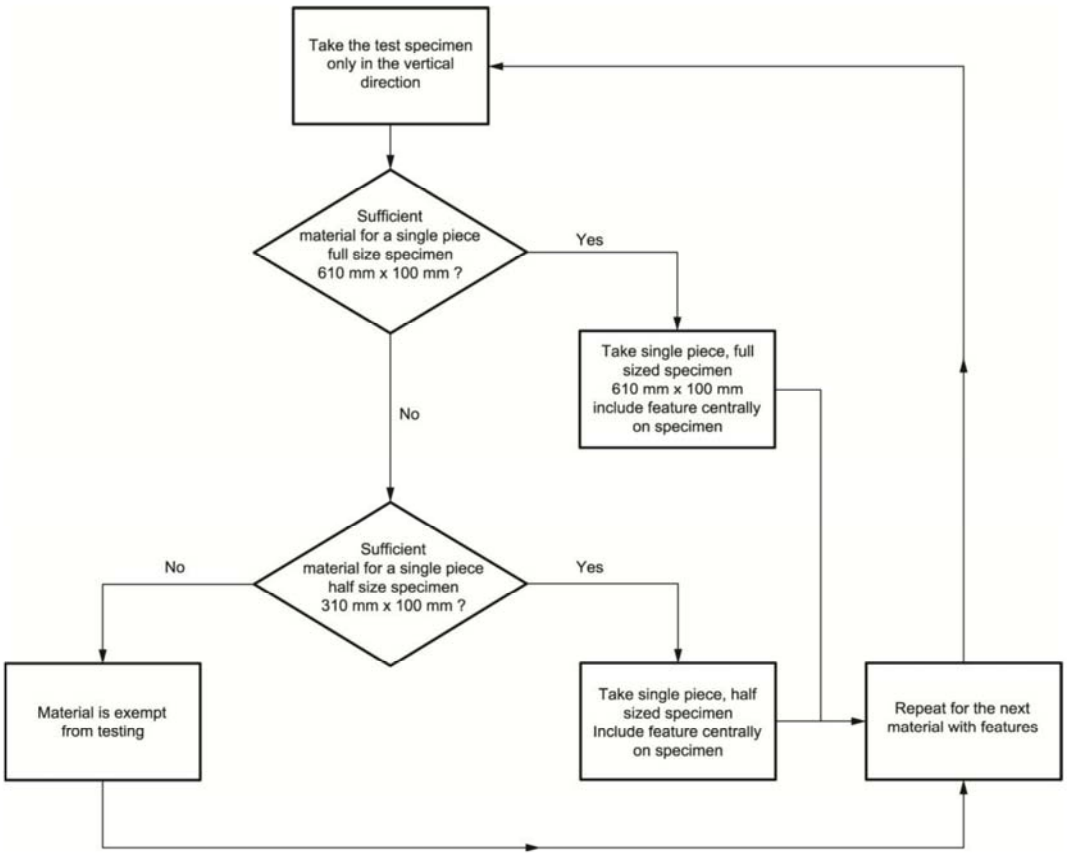


Figure A.2 — Obtaining test specimens from materials with features such as seams or embellishments

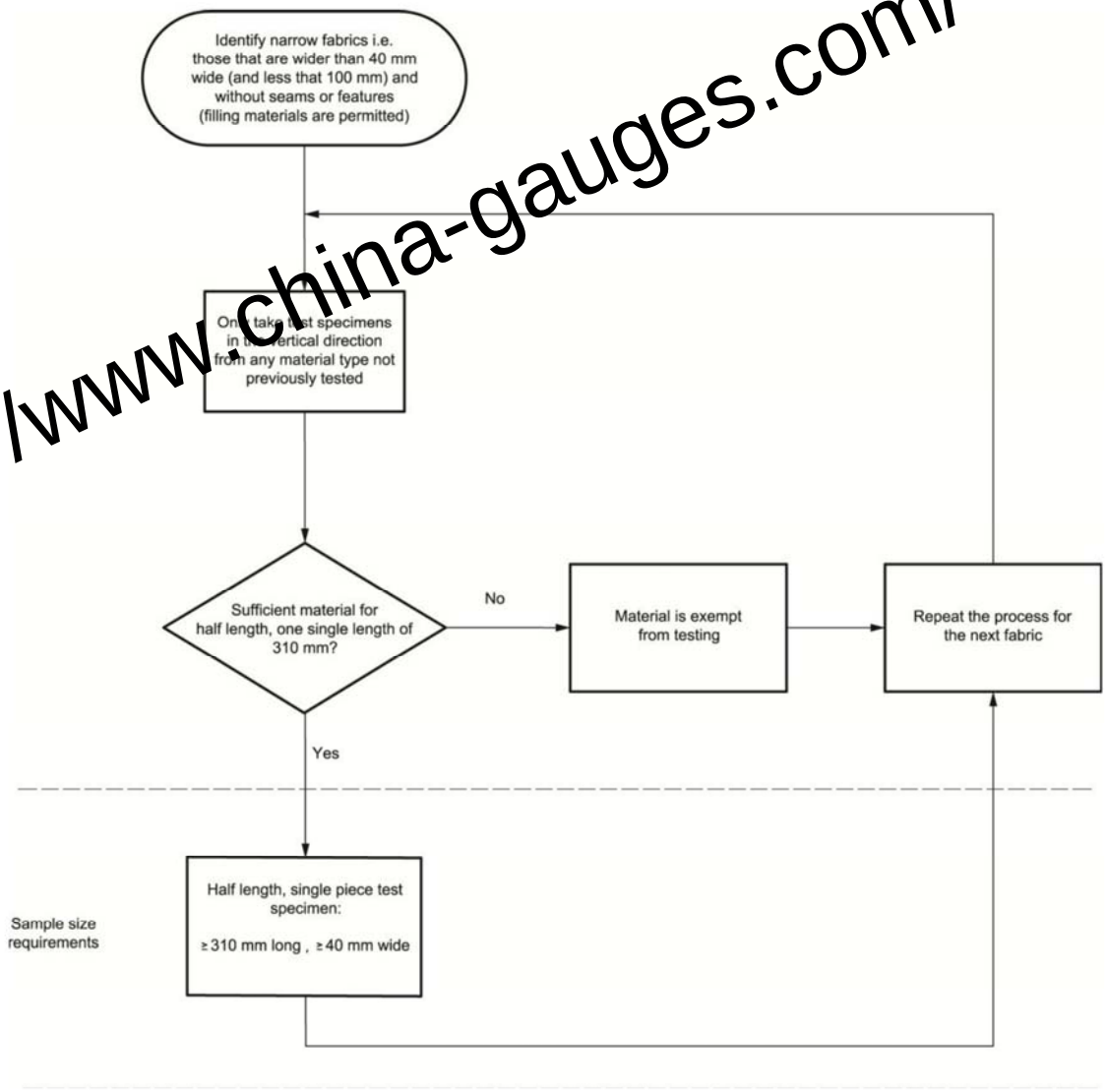


Figure A.3 — Obtaining test specimens from narrow fabrics

Annex B
(informative)

Significant technical changes between this European and the previous version

Clause/paragraph/table/figure	Change
3.	Added new definitions for: *Cleansing, flowing elements* (replaces "material with similar features" in previous version and now includes hair), *highly flammable solid, toy disguise costume, toys intended to be entered by a child* and *washing*.
4.1	*Highly flammable solids* have replaced "materials with similar behaviour in fire as celluloid" in the previous version.
4.2	Requirements for *flowing elements* ("material with similar features" in previous version) have been reworded to aid clarity.
4.2.5	Revised application to apply to all toys to be worn on the head if not covered by preceding clauses of 4.2.
4.3	New requirements for *toy disguise costumes* which contain loose stuffing which would otherwise fall out during testing (to 5.4.1.2.).
5.4.1.1	Added requirements for *toy disguise costumes* to be tested before and after *washing* even if instructions state not to wash.
5.4.1.2	Fully revised to increase testing of smaller specimens by allowing combined specimens or half-sized specimens and narrow materials as well as specifying testing of fillings, trims and embellishments. Inclusion of "Figure 1 - Orientation of combined test specimen pieces" within the normative text (within the informative Annex of previous version).
5.4.2	Addition of wire mesh to test specimen holder to allow testing of narrow materials.
5.4.6	Revised expression of results.
5.5	Inclusion of soft-filled parts of disguise costumes if they contain loose filling which would otherwise fall out during testing under 5.4.1.2.
5.5.3	Clarified that the measurement of maximum unhindered dimension refers to the part(s) that are soft-filled regardless of whether the toy has a head or not. Clarified that timings are made to the top of the soft-filled parts and not to the top of the entire toy unless the top of the toy is also a soft filled part.

Clause/paragraph/table/figure	Change
Annex A	Removal of previous version of A.2 Scope as it had limited usefulness.
A.2	Inclusion of text from Directive 2009/48/EC regarding *washing* (moved from 4.1 of previous version).
A.3	Clarification of test categories applicable to different types of toys to be worn on the head.
A.4	Clarification of test categories applicable to different types of *toy disguise costumes*
A.5	Inclusion of advice on how to assess whether certain toys are to be entered by a child (taken from CEN TR 15371-1:2017[7])
A.7	Clarification that *toy disguise costumes* should be washed regardless if they contain mechanisms that may be damaged by *washing*. Additional recommendation to add marker thread B. Explanation of wire mesh added to test specimen holder.
A.8	New Annex - suggestions to manufacturers of *toy disguise costumes* on how to reduce rate of spread of flame.
A.9	New Annex - flow diagrams to aid clarification on how to obtain test specimens from *toy disguise costumes*.
NOTE The technical changes referred include the significant technical changes from the EN revised but is not an exhaustive list of all modifications from the previous version.	

Annex ZA
(informative)

Relationship between this European Standard and the Essential Requirements of EU Directive 2009/48/EC aimed to be covered

This European Standard has been prepared under a Commission's standardization request M/445 to provide one voluntary means of conforming to essential requirements of Directive 2009/48/EC of the European Parliament and of the Council of 18 June 2009 on the safety of toys.

Once this standard is cited in the Official Journal of the European Union under that Directive, compliance with the normative clauses of this standard given in Table ZA.1 confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding essential requirements of that Directive and associated EFTA regulations.

Table ZA.1 — Correspondence between this European Standard and Directive 2009/48/EC

Essential Requirements of Directive 2009/48/EC	Clause(s)/sub-clause(s) of this EN	Remarks/Notes
Article 10, 2 (General)	Clause 4	
Annex II, I, 9(b) (Particular)	Clause 4	
Annex II, II, 1 (Particular)	Clause 4	

WARNING 1 — Presumption of conformity stays valid only as long as a reference to this European Standard is maintained in the list published in the Official Journal of the European Union. Users of this standard should consult frequently the latest list published in the Official Journal of the European Union.

WARNING 2 — Other Union legislation may be applicable to the product(s) falling within the scope of this standard.

Bibliography

[1] Directive 2009/48/EC of the European Parliament and of the Council of 18 June 2009 on the safety of toys

[2] EN 62115:2005, *Electric toys - Safety*

[3] EN 71-4:2013, *Safety of toys - Part 4: Experimental sets for chemistry and related activities*

[4] REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006

[5] EN ISO 3758:2012, *Textiles - Care labelling code using symbols (ISO 3758:2012)*

[6] EUROPEAN COMMISSION GUIDANCE DOCUMENT NO. 17 on Carnival costumes (*disguise costumes*, fancy dress). http://ec.europa.eu/growth/sectors/toys/safety/guidance_en

[7] CEN/TR 15371-1:2017, *Safety of toys - Interpretations - Part 1: Replies to requests for interpretation of EN 71-1, EN 71-2, EN 71-8 and EN 71-14*

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