

BS EN 71-2:2011



BSI Standards Publication

Safety of toys

Part 2: Flammability

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National foreword

This British Standard is the UK implementation of EN 71-2:2011. It supersedes BS EN 71-2:2006+A1:2007 which is withdrawn.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 secretary.

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Safety of toys - Part 2: Flammability

Sécurité des jouets - Partie 2: Inflammabilité

Sicherheit von Spielzeug - Teil 2: Entflammbarkeit

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Foreword

This document (EN 71-2:2011) 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of an identical text or by endorsement, at the latest by January 2012, and conflicting national standards shall be withdrawn at the latest by January 2012.

This document supersedes EN 71-2:2006+A1:2007.

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

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this European Standard.

This European Standard constitutes the second part of the European Standard on safety of toys and should be read in conjunction with Part 1.

This European Standard for 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*

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

- CEN Report, CR 14379:2002, Classification of toys — Guidelines,
- CEN Technical Report CEN/TR 15071:2005, Safety of toys — National translations of warnings and instructions for use in EN 71, and
- CEN Technical Report CEN/TR 15371:2009, Safety of toys — Replies to requests for interpretation of EN 71-1, EN 71-2, and EN 71-8.

NOTE 2 Different legal requirements may exist in non-EU countries.

According to the CEN/CENELEC Internal Regulations, the national standards organizations 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, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

Introduction

This European Standard 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 or game; account should be taken of the mental and physical development of the child who will be using it.

The requirements of this European Standard do not release parents or carers from their responsibility of watching over the child while he or she is playing.

1 Scope (see A.2)

This European Standard 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 cannot be considered as providing an overall indication of the potential fire hazard of toys or materials when subjected to other sources of ignition.

This European Standard 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 *hair*, pile or *material with similar features*; masks; hoods, head-dresses, etc.; flowing elements of toys to be worn on the head, but excluding paper novelty hats of the type usually supplied in party crackers;
- toy disguise costumes and toys intended to be worn by a child in play;
- toys intended to be entered by a child;
- *soft-filled toys*.

NOTE Additional requirements for *flammability* of electric toys are specified in EN 62115.

2 Normative references

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

EN ISO 2431:1996, *Paints and varnishes — Determination of flow time by use of flow cups (ISO 2431:1993, including Technical Corrigendum 1:1994)*

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.

- 3.1 flammability**
ability of a material or a product to burn with a flame under specified test conditions
- 3.2 flaming debris**
material that becomes detached from the sample during the test procedure and continues to flame as it falls
- 3.3 hair**
slender flexible fibres intended to represent human or animal hair
- 3.4 soft-filled toy**
toy, clothed or unclothed, with soft body surfaces and filled with soft material, readily allowing compression of the main part of the toy with the hand
- 3.5 surface flash**
rapid spread of flame over the surface of a material without ignition of its base structure at the same time
- 3.6 molten drips**
falling droplets of molten material
- 3.7 flammable liquid**
liquid having a flash point ≥ 23 °C and ≤ 60 °C
- 3.8 highly flammable liquid**
liquid having a flash point < 23 °C and initial boiling point > 35 °C
- 3.9 extremely flammable liquid**
liquid having a flash point < 23 °C and initial boiling point ≤ 35 °C
- 3.10 flammable gas**
gas or gas mixture having a flammable range with air at 20 °C and a standard pressure of 101,3 kPa

3.11

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

3.12

material with similar features

material having the ability to flow like *hair*, to hang closely to the head and continue to move on its own after the head is rotated then stopped

3.13

moulded head mask

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

NOTE Definitions for *flammable liquid*, *highly flammable liquid*, *extremely flammable liquid* and *flammable gas* have been extracted from 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.

4 Requirements

4.1 General requirements (see A.3)

NOTE 1 Words in *italics* are defined in Clause 3 (Terms and definitions). Additional information on the background and rationale for various requirements is given in Annex A.

NOTE 2 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 soaked. 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.

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, and
- materials with the same behaviour in fire as celluloid (see A.3).

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:

- materials with a piled surface which produce *surface flash* when a flame is applied to the tested material under the conditions described in 5.5.1 and 5.5.2. 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;

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 $260 \times 10^{-6} \text{ m}^2/\text{s}$ corresponding to a flow time of more than 38 s when determined in accordance with EN ISO 2431 using cup No. 6;
- *highly flammable liquids* contained in *chemical toys*.

NOTE 3 Different legal requirements may exist in non-EU countries.

4.2 Toys to be worn on the head (see A.4)

4.2.1 General

The requirements of 4.2 apply to:

- beards, moustaches, wigs, etc. made from *hair*, pile or *material with similar features*,
- moulded and fabric masks,
- hoods, head-dresses, etc.,
- flowing elements of toys to be worn on the head,

but not to paper novelty hats of the type usually supplied in party crackers (see A.4).

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 made from elastic or string which are used for the purpose of securing a mask, hat, etc. on the head shall not be tested.

4.2.2 Beards, moustaches, wigs, etc., made from hair, pile or material with similar features (e.g. free-hanging ribbons, paper, cloth strands or other flowing elements), which protrude 50 mm or more from the surface of the toy

When tested according to 5.2, 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 *hair*, pile, or *material with similar features* 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 hair, pile or material with similar features (e.g. free-hanging ribbons, paper, cloth strands or other flowing elements), which protrude less than 50 mm from the surface of the toy

Wigs, etc. made from *hair*, pile or *material with similar features* which protrude 5 mm or less from the surface of the toy are regarded as head-dresses 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 Flowing elements of toys to be worn on the head (except those covered by 4.2.2 and 4.2.3), hoods, head-dresses, etc. and masks not covered by 4.2.4 which partially or fully cover the head (e.g. fabric and cardboard 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 sample shall not exceed 10 mm/s or the test sample shall self-extinguish.

4.3 Toy disguise costumes and toys intended to be worn by a child in play (see A.5)

These include, for example, cowboy suits, nurses' outfits and long flowing capes not attached to headwear covered by 4.2.5.

When tested in accordance with 5.4, the rate of spread of flame of the test sample shall not exceed 30 mm/s or the test sample shall self-extinguish.

If the rate of spread of flame is between 10 mm/s and 30 mm/s, the appropriate part(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.6)

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

When tested in accordance with 5.4, the rate of spread of flame of the test sample shall not exceed 30 mm/s or the test sample shall self-extinguish.

If the test sample 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 part(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.7)

The requirements of this subclause 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.

The requirements of this subclause do not apply to toys which, when positioned in accordance with 5.5.3, present a maximum unhindered vertical soft-filled height of 150 mm or less.

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.

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 self-extinguish.

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 samples 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 sample 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 samples 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 hair, pile or material with similar features (e.g. free-hanging ribbons, paper, cloth strands or other 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

Vertical.

5.2.3 Test performance

Measure the length of the *hair*, pile or *material with similar features* and position the toy so that the largest dimension of the *hair*, pile or *material with similar features* hangs vertically or as near vertically as possible.

Apply the test flame for $(2 \pm 0,5)$ s to the lower edge or ends of the sample 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 *hair*, pile or *material with similar features* that has been burnt.

5.3 Test relating to beards, moustaches, wigs, etc., made from hair, pile or material with similar features (e.g. free-hanging ribbons, paper, cloth strands or other flowing elements), which protrude less than 50 mm from the surface of the toy, and full or partial moulded head masks (see A.8)

5.3.1 Test flame

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

5.3.2 Test burner position

Move the burner to an angle of 45° .

5.3.3 Test performance

Position the toy vertically.

Apply the test flame to the toy for $(5 \pm 0,5)$ 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 approximately 5 mm measured horizontally from the closest point of the burner tube, to the surface of the toy.

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 flowing elements of toys to be worn on the head (except those covered by 4.2.2 and 4.2.3), hoods, head-dresses, etc. and masks not covered by 4.2.4 which partially or fully cover the head (e.g. fabric and cardboard masks, eye masks, face masks), toy disguise costumes and toys intended to be entered or worn by a child (see A.9)

5.4.1 Preparation of test sample

Each test shall be carried out on a new toy.

For toys intended for use by children under 36 months, see 4.1, Note 2 regarding cleaning and washing requirements.

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

- indicates that the toy is not intended to be washed, it shall not be washed before testing;
- recommends a method of washing or cleaning, the toy shall be treated before test samples are cut from the toy in accordance with these recommendations which are regarded as instructions from the manufacturer;
- gives no information relating to washing or cleaning the toy, and if it is likely to be washed during its life, the test sample(s) cut from the toy shall be treated, before testing, in accordance with the following instructions.

Immerse the test sample(s) in tap water (approximately 20°C) at a ratio of at least 1:20 mass of test sample(s) to volume of water, and allow it/them to stand for 10 min. Drain and repeat twice. Rinse by immersing the test sample(s) in demineralized water for 2 min. Drain and dry by a method appropriate to the test sample(s) and, where appropriate, restore the pile as near as possible to its original condition.

Cut test samples with dimensions of at least 610 mm × 100 mm from each material available on the toy. Each test sample shall be made of one material. Where possible, the test sample should not include seamed edges or edges decorated with lace trimmings. As seams modify the rate of spread of flame, they shall be placed in the upper part of the sample holder.

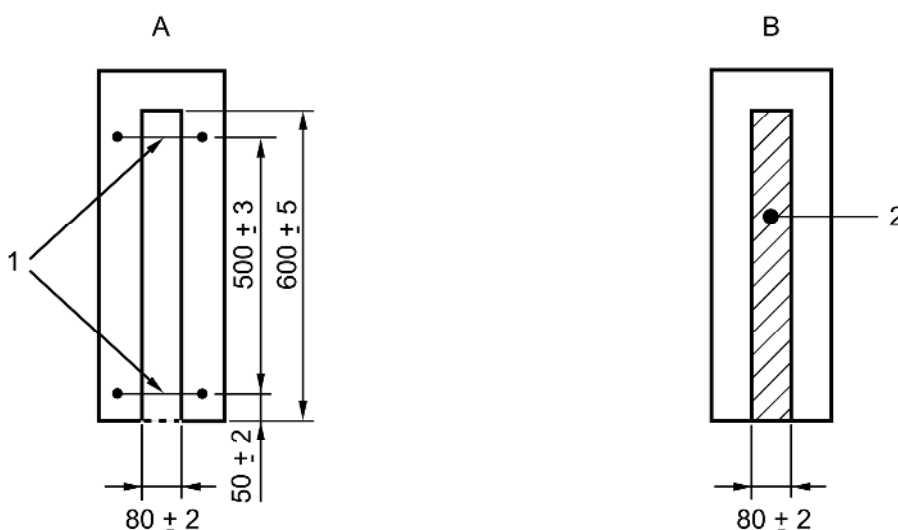
Where there is insufficient material to prepare a full test sample as described above, it is permissible to use a test sample made up of two separate pieces of the same material from the same toy measuring 310 mm × 100 mm each which - when fitted together with an overlap of 10 mm - will constitute a test sample of 610 mm × 100 mm. In order to ensure that there is no gap at the overlap, staples may be used to secure the join.

As the rate of spread of flame can be different with the direction of the fabric, where there is enough material, cut the test sample with the length corresponding to the vertical direction of the toy when in use.

5.4.2 Holding the test sample

Place the test sample on the test sample holder as shown in Figure 1, slightly tensioned to avoid creases, waving or curling.

Dimensions in millimetres



Key

- A top side
- B underside
- 1 100 % cotton marker threads
- 2 test sample

Figure 1 — Test sample holder

For toys corresponding to 4.2.5 and 4.3, the outside surface of the material when in use, shall be positioned face up.

If the material of toys corresponding to 4.4 has non-identical surfaces, both sides shall be tested.

Attach the marker threads at points A and B of Figure 2 across the sample at no more than 2 mm from the surface of the sample, with a device to indicate when the marker thread is severed.

Position the sample holder at $(45 \pm 1)^\circ$ to the horizontal.

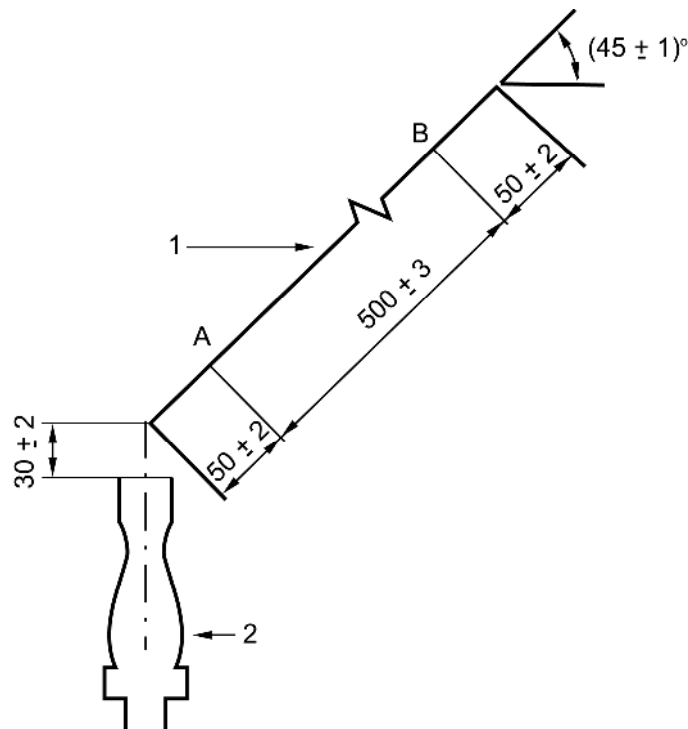
5.4.3 Test flame

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

5.4.4 Test burner position

Position the burner vertically in order to have a distance between the edge and the top of the burner of (30 ± 2) mm (see Figure 2).

Dimensions in millimetres



Key

- A and B location of 100 % cotton marker threads
- 1 test sample
- 2 burner

Figure 2 — Gas burner

5.4.5 Test performance

Maintain the burner with the flame as indicated above 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 sample fails to ignite and if the first marker thread is not severed, the rate of spread of flame is equal to 0.

If flaming occurs and the first marker thread is severed and the flame extinguishes before severing the second marker thread, the material tested is considered 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

5.5.1 Test flame

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

5.5.2 Test burner position

Move the burner to an angle of 45° .

5.5.3 Test performance

Position the toy vertically, i.e. with the head uppermost, if it has one, or otherwise so that the toy presents the maximum unhindered soft-filled vertical area of its surface to the spread of flame.

Apply the test flame to the toy for $(3 \pm 0,5)$ s so that the distance between the edge of the burner tube and the toy is approximately 5 mm and the test flame makes contact between 20 mm and 50 mm above the lower edge of the most flammable material of the toy, as predetermined. The test flame application point shall not be less than 150 mm from the top surface of the toy.

If the test flame application point for the most flammable material is located at a distance less than 150 mm from the top surface of the toy, the next most flammable material located 150 mm or more from the top surface of the toy shall be chosen for the application of the test flame.

NOTE 1 In general, predetermination of the most flammable material should be carried out by observation of the flame spread while the sample is burning during the first test. Samples that self-extinguish with little damage occurring can be tested using a test flame application point on a different material higher up the sample 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 height of the uppermost toy surface.

If flaming occurs and the flame extinguishes before reaching the height of the uppermost toy surface, the tested toy is considered as self-extinguishing.

NOTE 2 If the straight vertical distance between the point of application of the flame and the uppermost toy surface is 500 mm or more, the test can be stopped when the top of the flames reach 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 European Standard

A.1 General

This European Standard 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 data-bases 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 Scope

This sets out the main categories of toys which are dealt with in this European Standard, but it should be noted that there are categories of flammable materials which are prohibited in all toys.

A.3 General requirements (see 4.1)

Materials with the same behaviour in fire as celluloid can be defined as those which 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 materials with the same behaviour in fire as celluloid, no validated test method has been established. However some evaluations made on a strip of celluloid material (8 cm long) coming 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 grammage (weight) of 80 g/m² and a dimension of 21 cm by 29,7 cm tested under the same conditions have 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.

A.4 Toys to be worn on the head (see 4.2)

This subclause 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. *Hair*, pile or *materials with similar features* 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).

Anything protruding upwards, e.g. native Indian feathers on top of a headwear, should not be regarded as falling into this category.

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

Wigs, etc. made from *hair*, pile or *material with similar features*, which protrudes 5 mm or less from the surface of the toy, are regarded as presenting a *flammability* hazard similar to head-dresses 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.

However, if they incorporate several features e.g. *hair*, each part shall be tested to the applicable clause relevant to that particular part of the toy.

A.5 Toy disguise costumes and toys intended to be worn by a child in play (see 4.3)

These include for example cowboy suits, nurses' outfits and long flowing capes not attached to headwear covered by 4.2.5. To ensure a wider range of testing (principally, to cover small sizes of costumes etc.), the test sample may be constructed in two equal parts from the same toy.

A.6 Toys intended to be entered by a child (see 4.4)

These include for example toy tents, puppet theatres, wigwams and play tunnels. It is thought unlikely that any such toy would escape testing because of insufficient sample 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.

A.7 Soft-filled toys (see 4.5)

The previous version of this European Standard specified requirements for: "soft-filled toys (animals and dolls) with a piled or textile surface". During the revision of this European Standard, it was decided not to restrict the scope of this heading (4.5) to the shape of the toy and its surface material. Therefore, the heading of 4.5 has been changed to include all *soft-filled toys* that can be cuddled or hugged by a child (for example a teddy bear, a play mat). However, those *soft-filled toys* or soft-filled parts of toys which cannot be cuddled or hugged by a child during play (for example the soft-filled rim of a pushchair, a non-removable soft-filled mattress of a toy cot) continue to be excluded from the scope of this heading.

A.8 Test relating to full or partial moulded head masks (see 5.3)

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

A.9 Test relating to toy disguise costumes and toys intended to be entered by a child (see 5.4)

The U-shaped double frame has been designed to ensure that the material is secured throughout the test. When materials are subjected to heating, they react differently depending upon the type. There is a tendency for some materials to shrink away from the flame source. By specifying the sample holder, this effect has been minimised and inconsistencies between the laboratories reduced. The important criterion here is not the speed of ignition but the rate of flame spread. There are practical difficulties in testing toys that have seamed edges and edges decorated with trimmings. When it is possible to prepare a representative sample without their inclusion, this should be done.

Annex B (informative)

Significant technical changes between this European Standard and the previous version

Clause/paragraph/table/figure	Change
General	The standard has been revised to reflect new particular safety requirements in directive 2009/48/EC, in comparison to 88/378/EEC
3	Terms and definitions of “hair”, “soft-filled toys”, “flammable liquid”, “highly flammable liquid” have been amended. Terms and definitions of “extremely flammable liquid”, “flammable gas”, “chemical toy”, “materials with similar features”, “moulded head masks” have been added
4.1	The term “highly flammable solids” has been removed as no definition exists and because it is embedded into “materials with the same behaviour as celluloid” The conditions used to observe a <i>surface flash</i> have been added
4.2.3	Wigs, etc. made from <i>hair</i> , pile or <i>material with similar features</i> which protrude 5 mm or less from the surface of the toy are regarded as head-dresses
4.2.4	Moulded eye masks and face masks that neither cover the chin nor a cheek are covered by 4.2.5
4.5	Heading changed to include all <i>soft-filled toys</i> . Exemption made for <i>soft-filled toys</i> and soft-filled parts of toys that cannot be cuddled or hugged by a child during play
5.3.3	Upper height limitation for the application of the test flame has been added
5.4.2	Tolerances for the test equipment values have been added
5.4.4	Tolerances for the test equipment values have been added
5.5.3	Clarification of the application of the test flame has been made
6	Clause 6 “Test report” has been removed
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)

Clauses of this European Standard addressing essential requirements or other provisions of EU Directives

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association as a mean of conforming to Essential Requirements of the New Approach Directive 2009/48/EC.

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

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

Clause(s)/sub-clause(s) of this Part of EN 71	Safety Requirements of Directive 2009/48/EC
4	Article 10 paragraph 2 (essential safety requirements)
4	Annex II - I.9 (b) (particular safety requirements)
4	Annex II - II.1 (particular safety requirements)

WARNING — Other requirements and other EU Directives may be applicable to the product(s) falling within the scope of this standard.

Bibliography

- [1] EN 71-5, *Safety of toys — Part 5: Chemical toys (sets) other than experimental sets*
- [2] EN 1103:1995, *Textiles — Fabrics for apparel — Detailed procedure to determine the burning behaviour*
- [3] EN 62115, *Electric toys — Safety*
- [4] Directive 2009/48/EC of the European Parliament and of the Council of 18 June 2009 on the safety of toys
- [5] 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

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