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## Safety of toys —

### Part 1: Safety aspects related to mechanical and physical properties

#### AMENDMENT 1: Cords

iTeh STANDARD PREVIEW

*Sécurité des jouets —*

(standards.iteh.ai)

*Partie 1: Aspects de sécurité relatifs aux propriétés mécaniques et  
physiques*

ISO 8124-1:2014/FDAMd-1  
AMENDEMENT 1: Cordages

<https://standards.iteh.ai/catalog/standards/sist/307e5253-079a-43a1-aac6-03bd7724f87d/iso-8124-1-2014-fdamd-1>

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This document was prepared by Technical Committee ISO/TC 181, *Safety of toys*.

A list of all parts in the ISO 8124 series can be found on the ISO website.

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# Safety of toys —

## Part 1: Safety aspects related to mechanical and physical properties

### AMENDMENT 1: Cords

#### 3 Terms and definitions

*Replace the existing terminological entry with the following:*

##### 3.11

##### **cord**

narrow piece of flexible textile or non-textile material, the length of which is significantly greater than the thickness and width

**EXAMPLE** Cord includes elastic material, monofilament polymeric material, tape, ribbon, rope, strap, chain, woven and twisted material and string, as well as certain weak and long springs.

Note 1 to entry Electrical cables (see 3.X9) are not considered to be cords. Accessible electrical wires (e.g. between a battery box and a sound source in a soft filled toy) which are not electrical cables are, however, considered to be cords.

*Add the following new terminological entries:*  
<https://standards.iteh.ai/catalog/standards/sist/307e5253-079a-43a1-aac6-03bd7724f87d/iso-8124-1-2014-fdamd-1>

##### 3.X1

##### **elastic**

material or item that is stretchable when subjected to an external force and which is able to recover or nearly recover its original length or shape when the force is removed

##### 3.X2

##### **fixed loop**

loop in a cord, the perimeter of which is fixed by any permanent means including one or more knots, hook and loop fasteners, buckles or similar fasteners

Note 1 to entry A fixed loop can include a part or parts of the toy (see [Figure X1](#)).

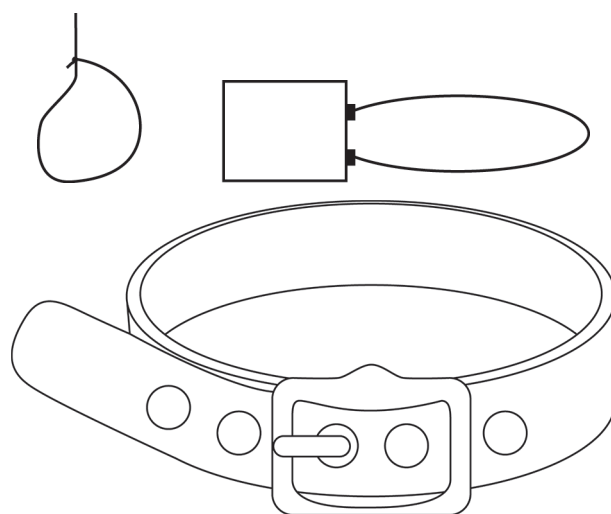


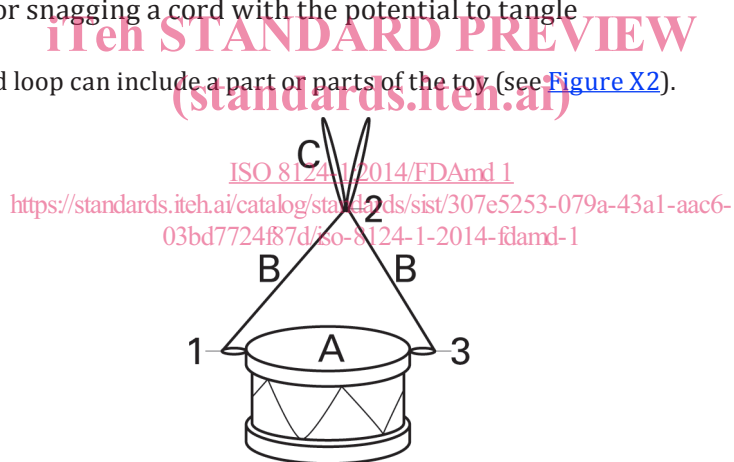
Figure X1 — Examples of fixed loops

3.X3

**tangled loop**

loop created by twisting or snagging a cord with the potential to tangle

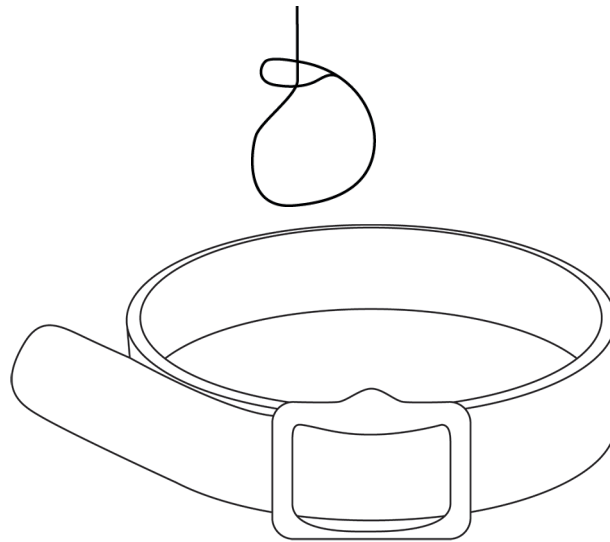
Note 1 to entry The tangled loop can include a part or parts of the toy (see Figure X2).



**Key**

- 1 fixing point
- 2 tangle point
- a Drum surface.
- b Cord attaching drumstick to drum.
- c Drumstick.

Figure X2 — Example of a tangled loop



**3.X4  
noose**

loop in a cord which reduces in perimeter as the cord is pulled (see [Figure X3](#))

**Figure X3 – Examples of a noose**  
(standards.iteh.ai)

**3.X5  
ribbon**

narrow piece of fabric or textile material, the length of which is significantly greater than the width, and the width of which is significantly greater than the thickness

**3.X6  
strap**

strip of flexible material used for fastening, securing, carrying or holding

**3.X8  
tape**

narrow piece of non-textile material, the length of which is significantly greater than the width, and the width of which is significantly greater than the thickness

**3.X9  
electrical cable**

flexible insulated conductor used for connecting a toy to a supply of electricity or to a piece of electronic equipment which is not itself a toy or part of a toy

**3.X10  
yo-yo ball**

toy with a tether made from an elastic material usually having a ring at one end (i.e. a loop to place around a finger) and a flexible object at the other end, intended to be thrown and returned to the hand

**3.X11  
cord with the potential to tangle**

cord with an attachment, fixed loop, knot or similar feature that can cause the cord to tangle and form a tangled loop or noose during reasonably foreseeable use and without excessive or intricate manipulation

**3.X12  
chain**

series of connected links or rings of which the length is significantly greater than the thickness and width

*Replace the existing text of 4.11 with the following:*

## 4.11 Cords

### 4.11.1 General

See E.16.

The requirements in 4.11 do not apply to:

- ropes and chains that are covered by the diameter requirements of ISO 8124-4 (e.g. climbing and swinging ropes);
- straps intended to be worn fully or partially around the neck (see 4.33, Straps intended to be worn fully or partially around the neck);
- straps in safety harnesses;
- straps in imitation safety harnesses (e.g. on toy pushchairs);
- shoulder or waist straps (e.g. on toy bags, toy backpacks or toy fairy wings);
- handles (e.g. on toy bags, toy cradles, toy carry cots, or toy buckets and boxes);
- cords intended for pulling sledges or toboggans, intended for outdoor use on snow under adult supervision (see 4.34, Sledges and toboggans with cords for pulling).

NOTE Straps in safety harnesses include straps for securing children to ride-on toys and seats.

The requirements from 4.11.2 to 4.11.8 do not apply to:

- toys intended to be strung across a cradle, cot, perambulator or carriage. However, any elements hanging down from such toys that are intended to be within the reach of children are not exempt from these clauses and shall fulfil the applicable requirements;
- toys, intended to be attached to a cradle, cot, perambulator or carriage, with cords which are intended to be out of reach of the children.

The requirements of 4.11.2 to 4.11.5 and 4.11.7 to 4.11.11 do not apply to electrical cables on toys intended for children 18 months and over; such electrical cables shall comply with 4.11.5.

### 4.11.2 Cords in toys intended for children under 18 months

#### 4.11.2.1 Cords with the potential to tangle

Cords with the potential to tangle shall either:

- a) have a length not exceeding 220 mm when measured according to 5.11.2 (Length of cords and electrical cables), or
- b) separate into parts when tested according to 5.11.3 (Breakaway feature separation test). It shall be possible to join the parts after they have been separated without altering the characteristics of the joints (see [Figure X4](#)). In addition, any cord with the potential to tangle included with or attached to the toy after the breakaway has been separated shall continue to comply with the requirement of 4.11.2.1 a).

Two cords with the potential to tangle that are attached to the toy in the same position (e.g. using the same fixing point or same stitching) shall be considered as one cord for the purpose of this requirement. Where more than two cords are attached, the longest two cords shall be measured as if they were one cord with their lengths combined.

#### 4.11.2.2 Other cords

Other cords included with or attached to toys, excluding pull toys, shall have a free length not exceeding 300 mm when measured according to 5.11.2. This requirement applies to any cords remaining attached to the toy after assessment against 4.11.2.1 b) (length of cords and electrical cables).



Two cords that are attached to the toy in the same position (e.g. using the same fixing point or same stitching) shall be considered as two separate cords for the purpose of this requirement. Where more than two cords are attached, each is considered a separate cord.

#### 4.11.3 Cords in toys intended for children of 18 months and over but under 36 months

##### 4.11.3.1 Cords with the potential to tangle

Cords with the potential to tangle shall either:

- a) have a length not exceeding 300 mm when measured according to 5.11.2 (Length of cords and electrical cables), or
- b) separate into parts when tested according to 5.11.3 (Breakaway feature separation test). It shall be possible to join the parts after they have been separated without altering the characteristics of the joints (see [Figure X4](#)). In addition, any cord with the potential to tangle included with or attached to the toy after the breakaway has been separated shall continue to comply with the requirements of 4.11.3.1 a).

Two cords with the potential to tangle that are attached to the toy in the same position (e.g. using the same fixing point or same stitching) shall be considered as one cord for the purpose of this requirement. Where more than two cords are attached, the longest two cords shall be measured as if they were one cord.



**Figure X4 – Example of a joint on cords**  
(standards.iteh.ai)

##### 4.11.3.2 Toys and the packaging of toys with other cords included with or attached to toys

Toys and the packaging of toys with other cords included with or attached to toys (excluding pull toys) with a free length exceeding 300 mm, when measured according to 5.11.2 (Length of cords and electrical cables), shall carry a warning: (see B.2.XY, Toys with cords intended for children 18 months and over but under 36 months). This requirement applies to any cords remaining attached to the toy after assessment against 4.11.3.1 b).

Two cords that are attached to the toy in the same position (e.g. using the same fixing point or same stitching) shall be considered as two separate cords for the purpose of this requirement. Where more than two cords are attached, each is considered a separate cord.

##### 4.11.3.3 Other cords without a free end

Other cords without a free end with a length exceeding 220 mm, but not exceeding 300 mm, shall bear a warning indicating that the toy is not suitable for children under the age of 18 months (see B.2.XY, Toys with cords intended for children 18 months and over but under 36 months).

#### 4.11.4 Fixed loops and nooses intended for children under 36 months

Cords that comprise fixed loops or nooses on toys as received shall either:

- a) not permit the passage of the head probe (see [Figure X7](#)) when tested in accordance with 5.11.4.1 (Test for loops and cords). Specifically, the loop shall not allow the head probe to be inserted so deep that it admits the base of the probe; or
- b) be separable such that the loop or noose is no longer intact, when tested according to 5.11.3 (Breakaway feature separation test).

In addition, any cords with the potential to tangle attached to the toy after the breakaway has been separated and without a free end shall continue to comply with the requirement of 4.11.2.1 a) or 4.11.3.1 a), as appropriate, for the intended age grade of the toy.

Toys including components intended to create fixed loops and nooses shall include information in their instructions on the hazards of fixed loops and nooses, and provide breakaway features to enable the fixed loop or noose to be created in a manner that would comply with this requirement.

#### 4.11.5 Cords on pull toys

Cords on pull toys intended for children under 36 months shall have a free length not exceeding 800 mm when measured according to 5.11.2 (Length of cords and electrical cables).

#### 4.11.6 Electrical cables

Electrical cables on toys longer than 300 mm, when measured according to 5.11.2 (Length of cords and electrical cables), intended for children 18 months and over shall carry a warning (see B.2.XX, Toys with electric cables exceeding 300 mm in length). Electrical cables on toys intended for children aged under 18 months shall comply with 4.11, as applicable.

#### 4.11.7 Diameter of certain cords intended for children under 36 months

Cords connected to a self-retraction mechanism and cords in pull toys shall have an average cross-sectional dimension of 1,5 mm or more when measured according to 5.11.1 (cords cross-sectional dimension).

#### 4.11.8 Self-retracting cords intended for children under 36 months

The force of self-retraction mechanisms for cords in toys shall not retract the cord by more than 6 mm under any of the testing conditions specified in 5.11.5 (Self-retracting cords).

#### 4.11.9 Toys attached to or intended to be strung across, or otherwise attached to, a cradle, cot, perambulator or carriage

##### 4.11.9.1 Toys intended to be strung across a cradle, cot, perambulator or carriage

Toys intended to be strung across a cradle, cot, perambulator or carriage shall carry a warning (see B.2.10, Toys intended to be strung across a cradle, cot or perambulator and carriage).

NOTE This requirement is intended to ensure that the message is available on the product during its foreseeable life.

##### 4.11.9.2 Toys otherwise intended to be attached to a cradle, cot, perambulator or carriage

Toys intended to be attached to, but not strung across, a cradle, cot, perambulator or carriage, where any attached cords do not comply with the requirements of 4.11.2 to 4.11.8, shall bear a warning stating that they are to be affixed so that the cords are out of the reach of children and that they are to be removed before the child can reach them (see B.2.XXX, Toys intended to be attached to a cradle, cot or perambulator and carriage).

The toy shall be accompanied by instructions which indicate how the toy is to be affixed out of reach of children.

##### 4.11.10 Cords on toy bags

Toy bags made of impermeable material with an opening perimeter greater than 360 mm shall not have a drawstring or a cord as a means of closing (see also 4.11, Plastic film or plastic bags in packaging and in toys).

##### 4.11.11 Cords, strings and lines for flying toys

Hand-held cords, strings and lines over 1,8 m long, attached to toy kites or other flying toys, shall have an electrical resistance of more than  $10^8 \Omega/\text{cm}$  when tested in accordance with 5.11.6 (electrical resistance of cords).

Toy kites and other flying toys shall carry a warning (see B.2.16, Toy kites, for guidance).

Add the following new subclauses:

#### 4.32 Yo-yo balls

See E.46.

The initial length ( $l_0$ ) of the yo-yo ball tether, measured as described in 5.38.2 (Measurement of initial length), shall not be greater than 370 mm.

The ratio of the mass  $m$  (in grams) to the elastic constant  $k$  of the yo-yo ball tether, measured as described in 5.38.1 (Measurement of elastic constant), shall be less than 2,2 (see Formula (1)):

$$m/k < 2,2 \quad (1)$$

where

$m$  is the total mass of the ball and the tether made of elastic material;

$k$  is the elastic constant of the yo-yo ball tether as measured in 5.38.1.

#### 4.33 Straps intended to be worn fully or partially around the neck

See E.47.

Toys intended for children under 36 months with straps intended to be worn fully or partially around the neck, and which create a fixed loop, shall have a breakaway feature which breaks when tested according to 5.11.3 (Breakaway feature separation test).

Safety harnesses, backpack shoulder straps and the straps of bag/bucket/box handles are excluded from this requirement.

#### 4.34 Sledges and toboggans with cords for pulling

Sledges and toboggans, which are intended for outdoor use on snow under adult supervision, that are equipped with a cord for pulling shall carry a warning on the sledges or toboggans (see B.2.XZ, Sledges and toboggans with cords for pulling).

Replace the existing text of 5.11.1 with the following:

##### 5.11.1 Cords cross-sectional dimension

See 4.11.7.

While under a tension of  $(25 \pm 2)$  N, measure the maximum cross-sectional dimension of the cord (see [Figure X5](#)) at five points along its length using an instrument capable of measuring in units of 0,1 mm or less.

Determine the average cross-sectional dimension to the nearest 0,1 mm. For cords approaching 1,5 mm in cross-sectional dimension, use a non-compressible measuring device, e.g. an optical projector.