
Safety of toys —

Part 1:

**Safety aspects related to mechanical and
physical properties**

AMENDMENT 1

Sécurité des jouets —

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

AMENDEMENT 1



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Published in Switzerland

Foreword

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The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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

Amendment 1 to ISO 8124-1 was prepared by Technical Committee ISO/TC 181, *Safety of toys*.

ISO 8124 consists of the following parts, under the general title *Safety of toys*:

- *Part 1: Safety aspects related to mechanical and physical properties*
- *Part 2: Flammability*
- *Part 3: Migration of certain elements*

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Safety of toys —

Part 1:

Safety aspects related to mechanical and physical properties

AMENDMENT 1

Foreword

Delete the last paragraph.

Introduction

Delete the 5th and 6th paragraphs and replace the text with:

Annexes A, B, C, D and E are for information purposes only but are crucial for the correct interpretation of this part of ISO 8124.

The safety of electric toys is covered by IEC 62115.

When age indications are required for safety labelling purposes, they may be given in either months or years.

1 Scope

Amend item l) to read:

l) aquatic equipment intended to be used in deep water, swimming-learning devices and floatation aids for children such as swim-seats and swim-aids;

2 Normative references

Amend reference to ISO 4287-2:1997 to read:

ISO 4287:1997, *Geometrical Product Specifications (GPS) — Surface texture: Profile method — Terms, definitions and surface texture parameters*

3 Terms and definitions

Amend the note (below the heading) to read:

NOTE The requirements in this part of ISO 8124 are applicable to certain age ranges. For interpretation of these age ranges, please see clause E.42 (age-break terminology) of the rationale.

3.8

cord

Add a note:

NOTE Doll hair is not considered as a cord.

3.34

paper

Amend “maximum areic mass of 400 g/m²” to “maximum mass per unit area of 400 g/m²”

3.40

protective cap or cover

Amend the term to “protective cap, protective cover or protective tip”

Add the following new terms and definitions:

3.55

resilient material

any material having a hardness less than 70 Shore A scale durometer as measured in accordance with ISO 868

3.56

squeeze toy

hand-held pliable toy, usually incorporating a noise-making feature activated by forcing air through an opening when flexed or squeezed and which usually recovers its original shape when released

4 Requirements

4.3.1 Material quality (see E.4)

Amend “by the unaided eye rather than under magnification” to “by normal corrected vision rather than under magnification”.

4.4.1 (three times) Amend “up to and including 36 months” to “under 36 months”.

For children under 36 months

Add to the bullet list:

- audio and/or video discs which are not themselves small parts

4.4.2 (twice):

Amend “from 37 months up to and including 72 months” to “36 months and over but under 72 months”.

4.5.1 Squeeze toys, rattles and certain other toys

Amend a) and b) to read:

- a) Such toys shall be designed so that no part of the toy protrudes past the base of test template A, when tested in accordance with 5.3.
- b) Such toys with nearly spherical, hemispherical, or circular flared ends shall be designed so that such ends do not protrude past the base of the supplemental test template B when tested in accordance with 5.3.

4.5.2 Amend:

“up to and including 36 months” to “under 36 months”.

“from 37 months up to and including 96 months” to “36 months and over but under 96 months”.

4.5.3 Amend “up to and including 36 months” to “under 36 months”.

4.5.4 Preschool play figures

In 1st paragraph, 1st line, amend “preschool figures to “preschool play figures”.

Amend “up to and including 36 months” to “under 36 months”.

4.5.5 Amend “up to and including 36 months” to “under 36 months”.

4.5.4 Preschool play figures

In 1st paragraph, 1st line, **amend** “preschool figures to “preschool play figures”.

Add the following clause:

4.5.8 Hemispheric-shaped toys (see E.40)

These requirements apply to cup-shaped, bowl-shaped or one-half-of-an-egg-shaped toys having a nearly round, oval or elliptical opening with the dimensions of minor and major axes between 64 mm and 102 mm, a volume of less than 177 ml, a depth greater than 13 mm, and intended for children under 36 months.

The following toys are exempt from these requirements:

- objects intended to hold liquids in products appropriate for children of 24 months and over (e.g. pots and pans);
- containers that must be airtight so the contents can maintain their functional integrity (e.g. modelling clay containers);
- components of larger products that do not become detached when tested in accordance with 5.24 (reasonably foreseeable abuse tests), (e.g. bowl-shaped smoke stack that is permanently attached to a toy train, or a swimming pool that is moulded into a larger toy playscape);
- containers that are part of packaging intended to be discarded once the toy is removed from the packaging.

Cup-shaped, bowl-shaped or one-half-of-an-egg-shaped toys shall, as a minimum, comply with at least one of the requirements in items a), b), c) or d) below:

- a) The object shall have at least two openings that are at least 13 mm from the rim as measured along the outside contour:
 - if the openings are placed in the base of the object, at least two of the openings shall be at least 13 mm apart; see Figure 8 a);
 - if the openings are not placed in the base of the object, at least two of the openings shall be placed at least 30° but not more than 150° apart; see Figure 8 b).
- b) The plane of the opening to the cup shape shall be interrupted at the centre by some type of divider that extends to 6 mm or less from the plane of the opening. An example of an interruption includes a rib through the centre of the opening; see Figure 8 c).

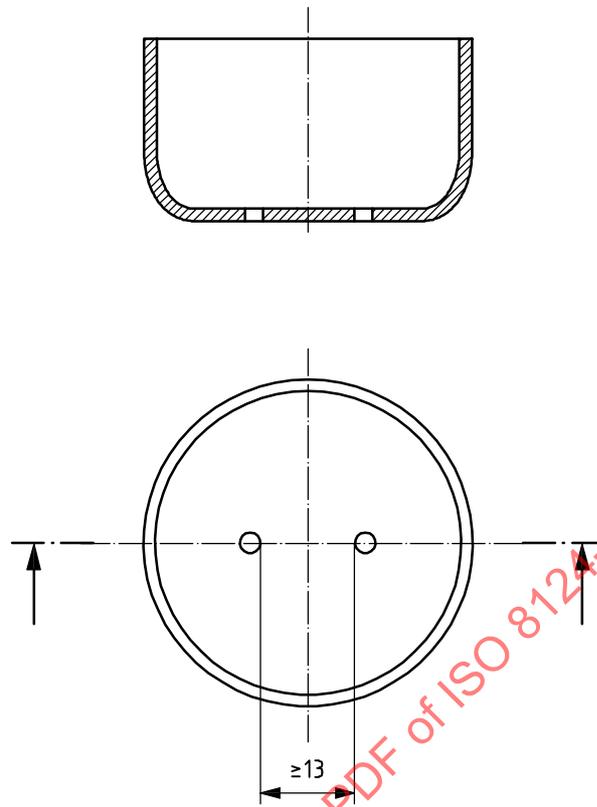
- c) The object shall have three openings located between 6 mm and 13 mm from the rim and at least 100° degrees apart as measured along the outside contour.
- d) The object shall have a repeated scalloped edge pattern around the entire rim. The maximum distance between centerlines of adjacent peaks shall be 25 mm and the minimum depth shall be 6 mm. See Figure 8 d) for examples of scalloped edge patterns.

For the purpose of these requirements, an opening is defined as a hole of any shape with a minimum dimension of 2 mm.

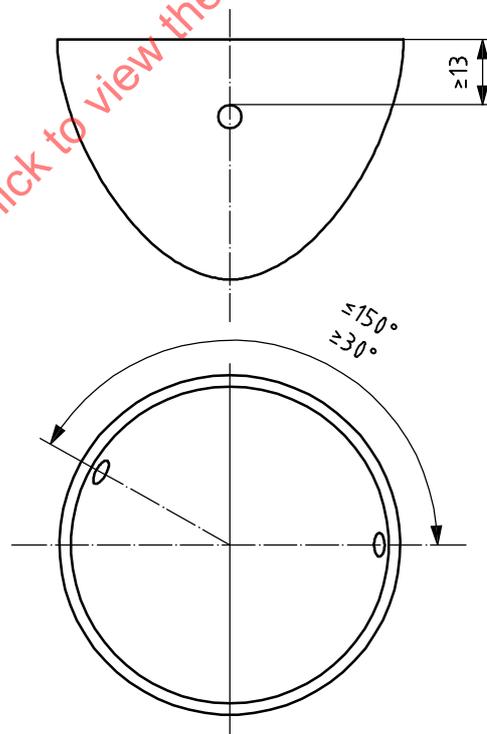
The requirements above apply before and after testing in accordance with 5.24 (reasonably foreseeable abuse test).

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Dimensions in millimetres



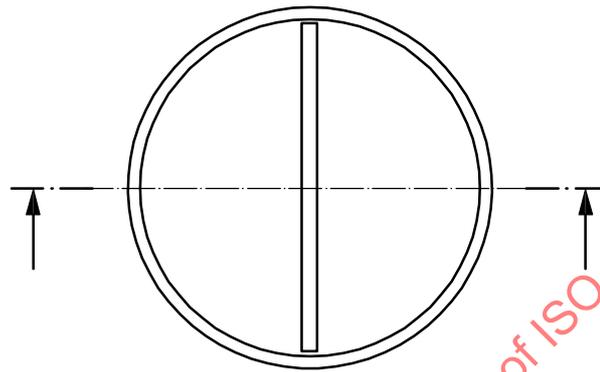
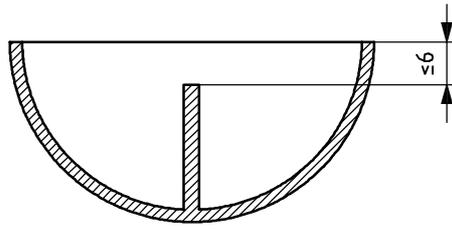
a) Openings in the base of bowl



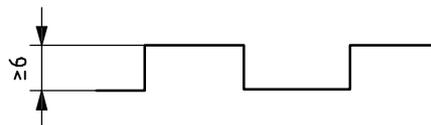
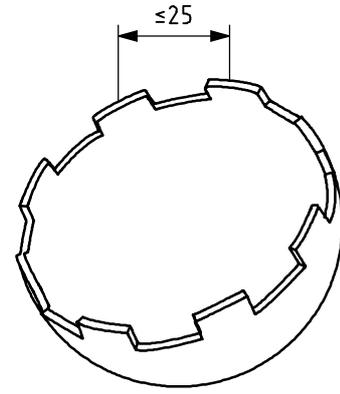
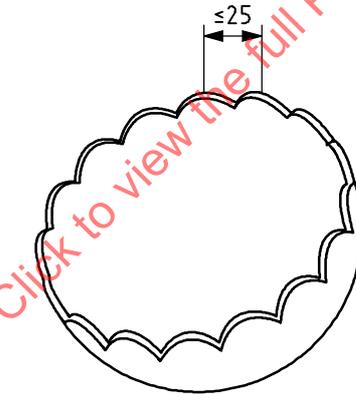
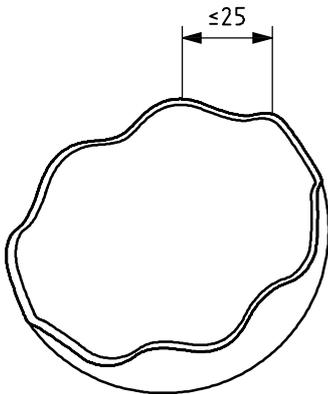
b) Opening placement

Figure 8 — Examples of hemispheric-shaped toys

Dimensions in millimetres



c) Rib-through-cup centre



d) Scalloped-edge pattern

Figure 8 — Examples of hemispheric-shaped toys (continued)

4.6.2 Amend:

“up to and including 36 months” to “under 36 months”.

“from 37 months up to and including 96 months” to “36 months and over but under 96 months”.

4.6.3 “under 97 months” to “under 96 months”.

4.6.4 “under 97 months” to “under 96 months”.

4.7.1 Amend:

“up to and including 36 months” to “under 36 months”.

“under 97 months” to “under 96 months”.

4.7.2 Amend:

“up to and including 36 months” to “under 36 months”.

“from 37 months up to and including 96 months” to “36 months and over but under 96 months”.

4.8 Amend to read:**4.8 Protruding parts** (see E.13)**4.8.1 Projections**

These requirements are intended to minimize possible puncture hazards to the skin should a child fall on a rigid projection, such as unprotected ends of axles, actuating levers and decorative features.

If a projection presents a potential skin puncture hazard, the projection shall be protected by suitable means, such as turning back the end of a wire, or by affixing a smoothly finished *protective cap or cover*, which effectively increases the surface area for potential contact with the skin. The *protective cap or cover* shall not become detached when tested in accordance with 5.24 (reasonably foreseeable abuse tests).

Toys intended to be repeatedly assembled and taken apart, shall have the individual pieces and fully assembled articles, as shown on packaging graphics, instructions or other advertising evaluated separately.

The requirements for the assembled toy do not apply to toys where the assembling makes up a significant part of the play value of the toy.

Since this requirement relates to hazards arising from a child falling on to a toy, only vertical or nearly vertical projections shall be evaluated. The toy shall be tested in its most onerous position. Corners of structures do not fall under this category.

4.8.2 Handlebars and other tubes

Handlebars shall be equipped with handle-grips with enlarged ends. Ends of other tubes shall be equipped with end-plugs or other means of protection at the end of the tube.

Handle-grips and other protective devices shall not become detached when subjected to a removal force of 70 N.

Amend 4.10 to read:

4.10 Plastic film or plastic bags in packaging and in toys (see E.15)

These requirements do not apply to shrink film that is in the form of an overwrap that would normally be destroyed when the packaging is opened.

Flexible plastic film or flexible plastic bags without backing and with a minor dimension greater than 100 mm and used in toys shall either:

- a) have an average thickness of 0,038 mm or greater and no individual measurement less than 0,032 mm thick when tested in accordance with 5.10 (determination of thickness of plastic film and sheeting)

or

- b) have perforations with well-defined holes (where material has been removed) of 1 % minimum area on any maximum area of dimensions 30 mm × 30 mm. See Figure 9.

NOTE The requirement in 4.10 b) can be fulfilled by having 3,4 mm diameter holes in a square grid pattern where the vertical and horizontal distance between the centre of two holes is 22,9 mm or less (the area of a 3,4 mm hole is larger than 9 mm² which is more than 1 % of 900 mm² (30 mm × 30 mm)).

For plastic balloons, the thickness requirement in a) applies to double layers of plastic sheeting (i.e. the thickness is measured without inflating or destroying the balloon).

Dimensions in millimetres

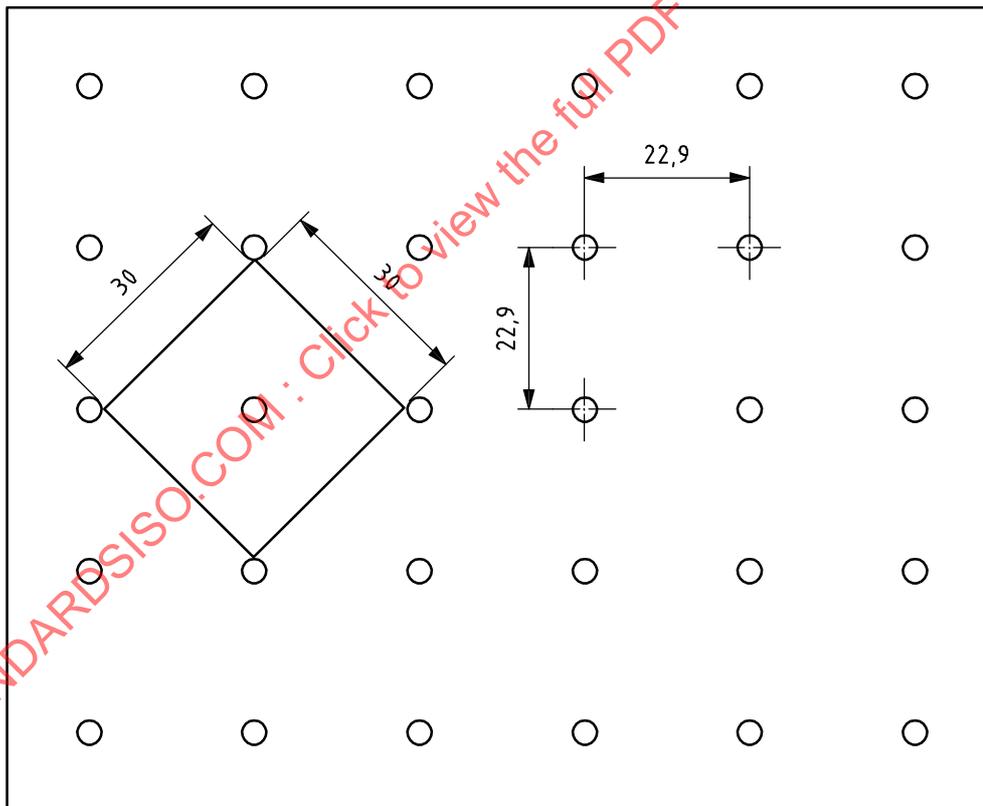


Figure 9 — Example of perforation pattern

4.11.1 Amend “up to and including 18 months” to “under 18 months”.

4.11.2 Amend “up to and including 18 months” to “under 18 months”.

4.11.3 (twice):

Amend “up to and including 36 months” to “under 36 months”.

4.12.1 Renumber Figure 8 as Figure 10. Renumber Figure 9 as Figure 11.

4.13.1 Amend “up to and including 60 months” to “under 60 months”.

4.13.2 Amend “up to and including 96 months” to “under 96 months”.

Amend 4.13.3 to read:

4.13.3 Chains or belts in ride-on toys (see E.22)

Power transmission chains and belts in ride-on toys shall have a shield from, and including, the driving chain- or belt-wheel to, and including, the driven chain- or belt-wheel at the side(s) where the limb of the child is nearest the chain or belt (side A). There shall also be a shield around the driving chain- or belt-wheel on any side (side B) where the chain or belt is separated from the limb of the child (e.g. by a frame on a bicycle), (see Figure 12).

NOTE A toy could have two sides “A”.

The shield shall be such that the chain or belt and any chain- or belt-wheels are not accessible from side A and that the junction between the chain or belt and the chain- or belt-wheel is not accessible from side B (if any) when tested according to 5.7 (accessibility of a part or component).

It shall not be possible to remove the shield without the use of a tool.

Replace Figure 10 by the following figure and renumber it as Figure 12.

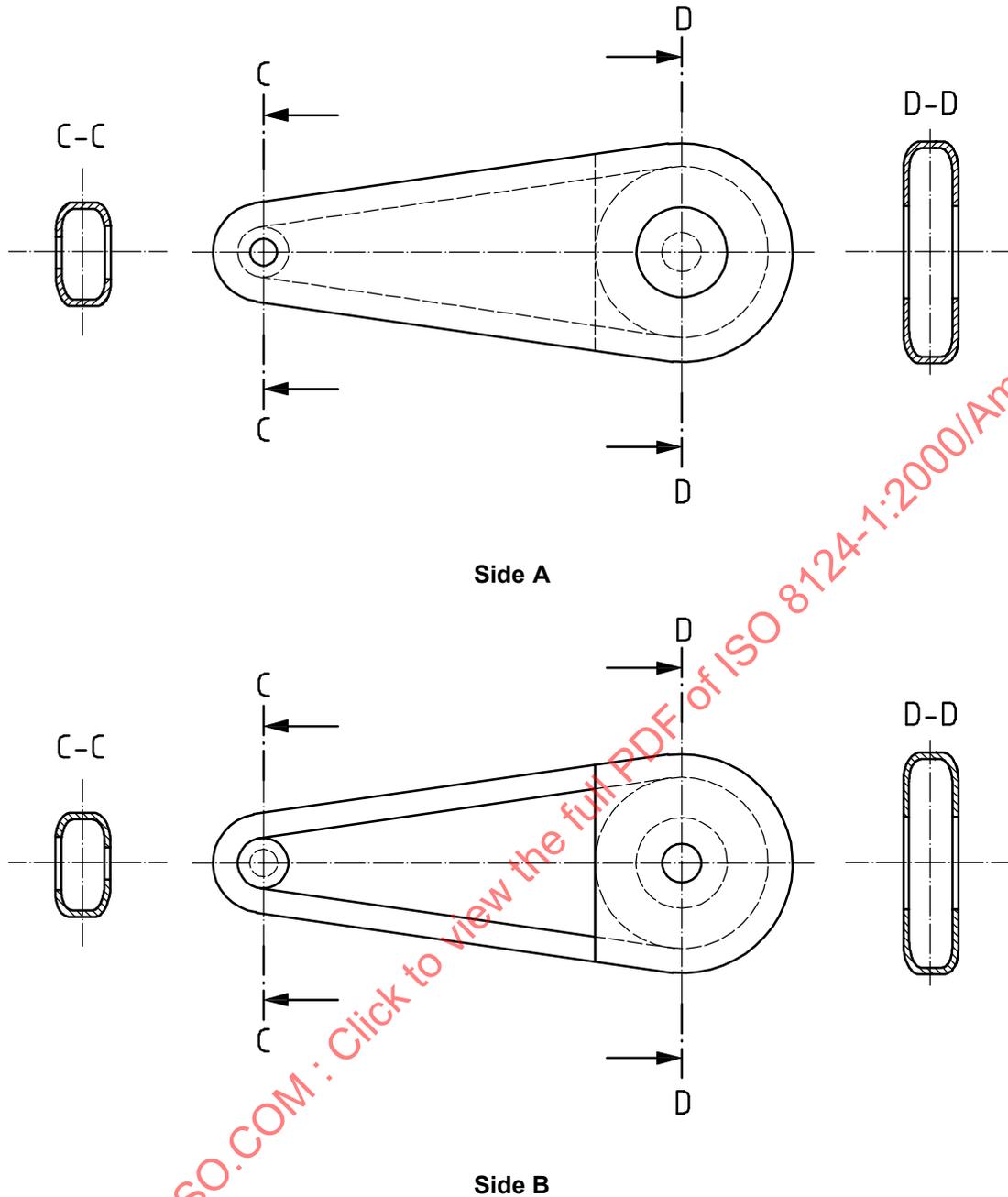


Figure 12 — Propelling chains and chain shields

4.13.5 Amend “up to and including 36 months” to “under 36 months”.

4.15.1 Amend “up to and including 60 months” to “under 60 months”.

4.16.1 Renumber Figure 11 as Figure 13.

4.18.2 Projectile toys with stored energy

Add the following sentence to the end of part “d)”:

Small parts released during reasonably foreseeable abuse testing do not fail this requirement unless they are still able to be fired as a projectile by the mechanism.

4.19 Aquatic toys (see E.33)

Amend 4th paragraph to read:

Aquatic toys shall carry a warning in accordance with B.2.6.

4.21.3 Renumber Figure 12 as Figure 14.

4.23 Toys containing a heat source

Add the following note:

NOTE A temperature difference of 1 K equals a temperature difference of 1 °C.

Amend 4.26 to read:

4.26 Toy roller skates, toy inline skates and toy skateboards

Toy roller skates, toy inline skates and toy skateboards are products that are intended for children with a mass of 20 kg maximum.

Toy roller skates, toy inline skates and toy skateboards shall carry a warning advising that protective equipment be worn and that the product is intended for children with a mass of 20 kg maximum (see B.2.14 for guidance).

5.1:

Amend "from 37 months up to and including 96 months" to "36 months and over but under 96 months".

Amend "from birth up to and including 18 months" to "from birth but under 18 months".

Amend "from 19 months up to and including 36 months" to "18 months and over but under 36 months".

5.2 Renumber Figure 13 as Figure 15.

5.3 Renumber Figures 14 and 15 as Figures 16 and 17, respectively.

5.4 Renumber Figure 16 as Figure 18.

5.7.2.1:**Table 1:**

Amend "up to and including 36 months" to "under 36 months".

Amend "37 months and over" to "36 months and over".

Renumber Figure 17 as Figure 19.

5.8.2.1 Mandrel, made of steel

Last line, correct the mandrel diameter to be: 9,53 mm ± 0,12 mm.

5.8.2.3 Renumber Figure 18 as Figure 20.

5.9.2.1 Renumber Figure 19 as Figure 21.

5.12.2 Stability test, feet available for stabilization

Amend heading to “Sideways stability test, feet available for stabilization”.

Table 2:

Amend “up to and including 36 months” to “under 36 months”.

Amend “37 months and over” to “36 months and over”.

5.12.3 Stability test, feet unavailable for stabilization

Amend heading to “Sideways stability test, feet unavailable for stabilization”.

5.12.5, Table 3:

Amend “up to and including 36 months” to “under 36 months”.

Amend “37 months up to and including 96 months” to “36 months and over but under 96 months”.

Amend “97 months and over” to “96 months and over”.

5.16.1:

Amend “up to and including 36 months” to “under 36 months”.

Amend “37 months and over” to “36 months and over”.

5.22.1 Amend “up to and including 36 months” to “under 36 months”.

5.24.1 Amend “up to and including 96 months” to “under 96 months”.

5.24.2:

Amend “up to and including 18 months” to “under 18 months”.

Amend “19 months up to and including 96 months” to “18 months and over but under 96 months”.

5.24.6.2 Renumber Figure 20 as Figure 22.

5.24.7, Table 5:

Amend “up to and including 36 months” to “under 36 months”.

Amend “37 months up to and including 96 months” to “36 months and over but under 96 months”.

5.24.8 Renumber Figure 21 as Figure 23.

ANNEXES

Amend as follows:

Previous designation	Amendment	New designation
Annex A: Battery-operated toys	Delete	—
Annex B: Age-grading guidelines	Redesignate	Annex A: Age-grading guidelines
Annex C: Safety-labelling guidelines and manufacturer's markings	Redesignate	Annex B: Safety-labelling guidelines and manufacturer's markings
Annex D: Design guidelines for toys attached to cribs or playpens	Redesignate	Annex C: Design guidelines for toys attached to cribs or playpens
	New	Annex D: Toy gun marking
Annex E: Rationale	No change	Annex E: Rationale
Annex F: Acoustics	Delete	—

The following amendments refer to the new designations of the annexes.

Annex B – Safety-labelling guidelines and manufacturer's markings

B.2.1 Label definition and location

Add a new paragraph:

Safety labelling and manufacturing markings should be in the language of the country in which the toys will be distributed.

B.2.12 Amend “from 37 months up to and including 96 months” to “36 months and over but under 96 months”.

B.2.14 Amend to read:

B.2.14 Toy roller skates, toy inline skates and toy skateboards (see 4.26)

Toy roller skates, toy inline skates and toy skateboards are products that are intended for children with a mass of 20 kg maximum. Toy roller skates, toy inline skates and toy skateboards should carry a label indicating that the product is intended for children with a mass of 20 kg maximum, recommending the user to use protective equipment such as helmet, wrist-pads, knee-pads and elbow-pads and to not use the product on roads where motorised traffic can be expected.