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AMENDMENT 1
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Safety of toys —

Part 4:

**Swings, slides and similar activity toys for
indoor and outdoor family domestic use**

AMENDMENT 1: Inflatable activity toys

Sécurité des jouets —

*Partie 4: Balançoires, glissoires et jouets à activité similaire à usage
domestique familial intérieur et extérieur*

AMENDEMENT 1: Jouets à activité gonflables



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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 8124-4:2010 was prepared by Technical Committee ISO/TC 181, *Safety of toys*.

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Safety of toys —

Part 4:

Swings, slides and similar activity toys for indoor and outdoor family domestic use

AMENDMENT 1: Inflatable activity toys

Page 1, Scope

Add the following paragraph:

Inflatable activity toys are included in the scope of this part of ISO 8124. However, a powered blower used to continuously inflate the toy is not covered by this part of ISO 8124 since it is considered to be a household appliance and covered by requirements given in IEC 60335-2-80.

Page 1, Terms and definitions

Amend 3.1 so that it reads:

3.1

activity toy

toy intended for family domestic use, intended to bear the mass of one or more children, the support structure of which remains stationary while the activity is taking place and which is intended for the performance by a child of any of the following activities: climbing, swinging, sliding, rocking, spinning, jumping, bouncing, crawling and creeping, or any combination thereof

EXAMPLES Swings, slides, carousels and climbing frames (see Figure 1).

NOTE Aquatic toys, paddling pools, trampolines and ride-on vehicles are not considered activity toys in the context of this International Standard.

In 3.17, amend the key to Figure 4 as follows:

Key

- 1 crossbeam/support member
- 2 suspension connector
- 3 suspension coupling
- 4 means of suspension
- 5 swing device
- 6 swing element (e.g. seat, rings, bar, gondola)

Add the following new definition:

3.18

inflatable activity toy

activity toy, with a structure made of flexible material, inflated by air, intended for children to play on or in

EXAMPLES Bouncy castle, inflatable slides (see Figure 5).

NOTE There are two types of inflatable activity toys: one is kept inflated by a closure (valve) once inflated; the other is kept inflated only by the continuous input of air from a blower.

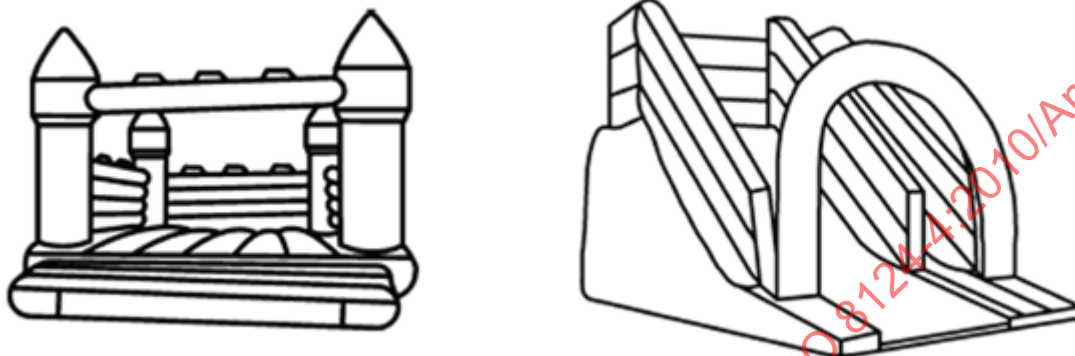


Figure 5 — Examples of inflatable activity toys

(Renumber subsequent figures accordingly.)

Page 22, Clause 4

Add the following new requirement:

4.10 Inflatable activity toys

See A.4.10.

4.10.1 General

Inflatable activity toys shall meet the requirements of any other applicable part of this International Standard, e.g. for slides and barriers.

4.10.2 Anchorage

Inflatable activity toys intended for outdoor use, or that use a blower for continuous input of air, shall be provided with an anchorage system and any necessary accessories, enabling the toy to be securely fixed to the ground.

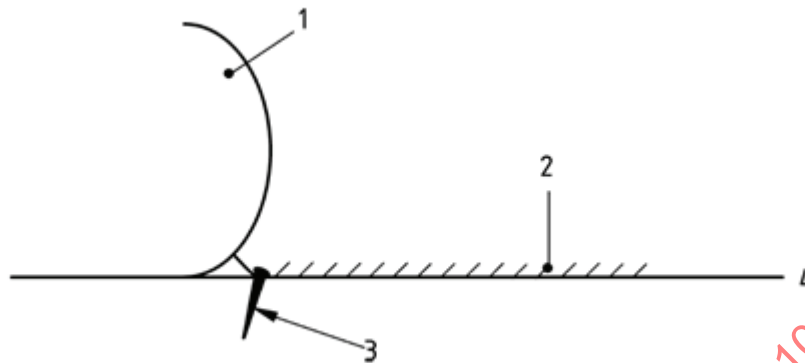
If secured by ground anchors, there shall be a minimum of two anchorage points per side of the inflatable activity toy and a minimum of four per toy, e.g. for a circular product, they shall be distributed approximately evenly.

NOTE Corner anchors count as 50 % on each side.

Each anchorage point and all of the components of the anchorage system, e.g. ropes, webbings, metal attachments, stakes and weights, shall withstand a force of 1 600 N applied in a direction in accordance with the angle of normal use as determined by the attachment to the toy.

The tops of ground stakes (if supplied) shall be free from sharp edges and/or provided with a protective cover of soft or resilient material to prevent injury if impacted.

The anchorage system shall be designed so that anchorage points are positioned away from potential impact areas, for example by attaching them to the bottom perimeter edge of the toy (see Figure 17).



Key

- 1 side of inflatable
- 2 impact area
- 3 anchorage stake as close as practicable to the side of the inflatable
- 4 ground level

Figure 17 — Anchorage at the bottom edge of the toy

Anchorage systems other than ground anchor stakes (such as a water pool, ballast bags, sandbox or a heavily weighted base) are permitted if the system will withstand the same forces as if it were secured with ground anchor stakes, taking into account the shape of the toy.

4.10.3 Connection tubes for continuous inflation

Connection tubes for continuous input of air from a blower to inflatable activity toys shall be long enough to allow the inflation device to be placed at a minimum of 2,5 m from the toy.

4.10.4 Containment

4.10.4.1 General

The containing wall height shall be measured from the surface of the platform or slope to the top of the wall, perpendicular to the platform or slope and in an unloaded condition.

Containing walls shall not include features that might be used as an aid to climbing the wall.

Toys and activities that are integral to the inflatable activity toy shall not be placed in a manner that allows them to be used as an aid to climbing containing walls.

Openings in containing walls to give access to slides, climbing frames and ladders are permitted.

4.10.4.2 Platforms

Any platform intended for sitting or standing 760 mm or more above the ground shall be provided with a means to contain users.

Containment shall be provided by either of the following:

- a) walls with a minimum height of 1,8 m;
- b) walls with a height of between 610 mm and 1,8 m, permanently roofed in a manner that contain users.

4.10.4.3 Slopes

Slopes of less than 30° shall be treated as a platform.

The first metre at the top of slopes greater than 30° shall meet the containment requirements for platforms.

The remaining length of slopes greater than 30° that are 760 mm or more above the ground shall be provided with containing walls with a minimum height of 900 mm.

The angle of slopes is measured in an unloaded condition.

4.10.5 Safe collapse

Inflatable activity toys shall be designed so that users have sufficient time and clearance to evacuate the toy in the case of a loss of air pressure.

When tested in accordance with 6.9:

- a) the minimum time taken for the test load to reach its lowest point shall be as given in Table 3;

Table 3 – Minimum deflation times

Height of platform	Minimum time for test load to reach its lowest point
Less than 600 mm	10 s
Greater than 600 mm and less than 1 500 mm	20 s
Greater than 1 500 mm and less than 2 000 mm	30 s
Greater than 2 000 mm	40 s

- b) the opening of any tunnel or squeeze point under any platform shall not be reduced in height by more than 50 % within 30 s.

A squeeze point that has zero separation when the toy is fully inflated is exempt.

(Renumber subsequent figures and tables accordingly.)

Page 22, 5.2.1

Amend the first paragraph so it reads:

Except for inflatable activity toys, equipment with a designated playing surface of 600 mm or less in height is exempt from the requirements of 5.2.

In the fourth paragraph, amend the second bullet so it reads:

- detailed instructions on how and where anchors shall be installed to prevent overturning or lifting of the support members during normal use or reasonably foreseeable abuse, also taking into account the condition of the ground normally encountered. The instructions shall include information on the ground conditions for which the anchors supplied are intended and information on alternative anchors for other ground conditions that might reasonably be expected to be encountered, for example corkscrew augers for sandy soil;

Add the following bullet:

- a recommendation on the orientation of the toy in relation to the sun (e.g. if there are surfaces that may become hot enough under direct sunlight to cause burning injuries).

Page 23, 5.3

Add the following new paragraph:

The maintenance instructions for inflatable activity toys shall include a recommendation that the toy be cleaned and any accumulated debris removed before each use. Advice shall also be given on cleaning materials and methods appropriate for the material used in the construction of the toy.

Add the following new requirement:

5.4 Warnings

5.4.1 Drowning

If there is a possibility that water can accumulate to a depth of more than 40 mm in any part of the activity toy, a warning shall be provided in the instructions and on the toy regarding the risk of drowning if the accumulated water is not removed before use (see C.2.2 for guidance).

5.4.2 Inflatable activity toys

5.4.2.1 Anchorage

Inflatable activity toys and their packaging (if supplied) shall carry a warning that they are not safe if the anchorage system provided is not used, and that they shall not be used in high winds (see C.2.3 for guidance).

5.4.2.2 Connection tubes for continuous inflation

Connection tubes for continuous input of air from a blower to inflatable activity toys shall carry a warning concerning the risk of falling on to the inflation device and instructions that it should be positioned no less than 2,5 m away from the toy (see C.2.4 for guidance).

5.4.2.3 Friction burns

If appropriate:

- a warning shall be provided on the toy and in the instructions for inflatable activity toys concerning friction burns (see C.2.5 for guidance);
- information shall be provided in the instructions for use that appropriate clothing should be worn when using the toy to avoid friction burns.

Page 49, Clause 6

Add the following new requirement:

6.9 Deflation of inflatable activity toys

6.9.1 Principle

A test mass is applied to a single platform or playing surface and the valve is opened or the blower motor is stopped, as applicable. The time for the toy to deflate so that the mass reaches its lowest point is measured.

The test is repeated for each individual platform or playing surface.

6.9.2 Apparatus

6.9.2.1 Loading pad, made of a rigid material with a diameter of 400 mm.

6.9.2.2 Additional loads, consisting of sandbags sufficient to make up the test loads as specified in 6.9.3.

6.9.3 Procedure

Inflate the activity toy to its specified minimum air pressure or to the pressure of the supplied blower.

Apply the appropriate load in accordance with Table 6, at the geometric centre of the platform or playing surface through the loading pad.

Table 6 – Test loads for deflation test

Height of platform	Mass of test load
Less than 1 500 mm	20 kg
1 500 mm or more	35 kg

Open the valve or stop the blower motor as applicable.

Measure:

- the time taken for the test mass to reach its lowest point, and
- the time taken for the opening of any tunnel or squeeze point under the platform to be reduced in height by 50 %.

(Renumber subsequent tables accordingly.)

Page 52, Clause A.4

Add the following subclause:

A.4.10 Inflatable activity toys

Inflatable activity toys have a high surface area in proportion to their mass and can be affected by wind if not properly anchored.

Commercial inflatable play devices are required to have sufficient anchorage to withstand a Beaufort scale 6 wind speed (11,1 m/s). The number of anchorage points required on each side of the device is calculated using Equation (1):

$$\text{Number of anchorage points} = \frac{F}{1600\text{N}} \times 1,5 \quad (1)$$

where

$$F = \text{force} = C_w \frac{\rho}{2} V^2 A$$

C_w = wind coefficient

ρ = density of air

V = maximum wind speed

A = area of exposed surface determined by measurement or calculation (m²)

using the following default values:

$C_w = 1,5$

$\rho = 1,24 \text{ kg/m}^3$

$V = 11,1 \text{ m/s}$ (mean of Force 6 Beaufort).

Using these values, two anchorage points per side are sufficient for a device with an exposed surface area of 18,7 m². Two anchorage points per side are therefore considered to be sufficient for a toy intended for domestic family use.

Each component of the anchorage system is required to withstand a force of 1 600 N applied in the direction of normal use. Failure is determined by separation of the component from the ground or the toy. It is expected that if the force is sufficient to loosen the component, then it will be sufficient to completely separate it.

Page 53, Annex B

Add a new informative annex after Annex B:

Annex C (informative)

Safety labelling guidelines for certain types of activity toys

C.1 General

This annex provides guidance for labelling of certain types of activity toys.

The purpose of safety labelling is to supply appropriate safety information to the consumer at the point of purchase (i.e. on the toy or on the packaging, if supplied) and/or prior to the initial use of the toy (i.e. in the instructions) and/or prior to each use of the toy (i.e. labelling on the toy). Requirements for toy safety labelling for certain toys or toy characteristics are given in the appropriate subclauses of Clause 5.

C.2 Safety labelling

C.2.1 Label definition and location

The safety labelling should be in a visible, easily legible, understandable and indelible form.

The safety information should be in a format that draws the attention of the consumer and should be placed on the packaging or the product so that the consumer, at the point of purchase, can easily see it.

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