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Inflatable play equipment —

Part 2: Additional safety requirements for inflatable bouncing pillows intended for permanent installation

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted (see www.iso.org/directives).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by the European Committee for Standardization (CEN), Technical Committee CEN/TC 136, *Sports, playground and other recreational equipment* (as EN 14960-2:2019) and drafted in accordance with its editorial rules. It was assigned to Technical Committee ISO/TC 83, *Sports and other recreational facilities and equipment* and adopted, without modification other than those given below, under the "fast-track procedure":

— references to EN documents were replaced with their equivalent ISO standards.

This first edition of ISO 20187-2, together with ISO 20187-1 and ISO 20187-3, cancels and replaces ISO 20187:2016, which has been technically revised.

The main changes are as follows:

— changes with regard to inflatables sited on hard standing;

— minor editing to improve the content accuracy of the document.

A list of all parts in the ISO 20187 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user’s national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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Introduction

Play is the means by which children discover and understand the world in which they live and is an essential element in a child's physical and mental growth.

It is important for children's rounded development that, through play, they arrive at an understanding of danger, which provides a basis for assessing safety in a variety of situations. The balance between challenge and safety is an important consideration.

The inflatable play equipment referred to in this document can provide different levels of challenge and excitement. This document aims to minimize the level of risk and the possibility of serious injury while allowing children to enjoy themselves when playing in or on inflatable equipment.

This document acknowledges the difficulties of addressing safety issues by age criteria alone because the ability to handle risk is based on the individual user's level of skill and not age. Moreover, users other than the intended age range might make use of the inflatable equipment, in which case, the provisions of this standard still apply.

It is not the purpose of the requirements of this document to affect a child's need to play nor to lessen the contribution that inflatable play equipment makes either to the child's development or meaningful play from an educational point of view.

Where inflatable play equipment is combined with other items of children's playground equipment, the relevant standards applying to the other items of equipment should also be consulted.

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Inflatable play equipment —

Part 2:
Additional safety requirements for inflatable bouncing pillows intended for permanent installation

1 Scope

This part of ISO 20187 specifies additional safety requirements for inflatable bouncing pillows intended for permanent installation.

This part of ISO 20187 is applicable to inflatable play equipment intended for use by children fourteen years and under, both individually and collectively.

This part of ISO 20187 specifies safety requirements for inflatable play equipment for which the primary activity is bouncing. It sets measures to address risks and also to minimize accidents to users for those involved in the design, manufacture and supply of inflatable play equipment.

It specifies information to be supplied with the equipment. The requirements have been laid down bearing in mind the risk factor based on available data.

This part of ISO 20187 specifies the requirements that will protect a child from hazards that he or she might be unable to foresee when using the equipment as intended, or in a manner that can be reasonably anticipated.

This part of ISO 20187 is not applicable to inflatables dealt with in ISO 20187-1:2022, inflatable water-borne play and leisure equipment, domestic inflatable toys, air-supported buildings, inflatables used solely for protection, inflatables used for rescue, or other types of inflatable toys where the primary activity is not bouncing or sliding.

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 71-3, *Safety of toys — Part 3: Migration of certain elements*

EN 1176-1:2017, *Playground equipment and surfacing — Part 1: General safety requirements and test methods*

ISO 1421, *Rubber- or plastics-coated fabrics — Determination of tensile strength and elongation at break*

ISO 2411, *Rubber- or plastics-coated fabrics — Determination of coating adhesion*

ISO 20187-1:2022, *Inflatable play equipment — Part 1: Safety requirements and test methods*

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3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 20187-1:2022 and the following apply.

Note 1 to entry In order not to confine the application of this document to those items of equipment currently in use and to allow freedom of design for the manufacture of new equipment, only the fundamental forms of equipment and motion are defined.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

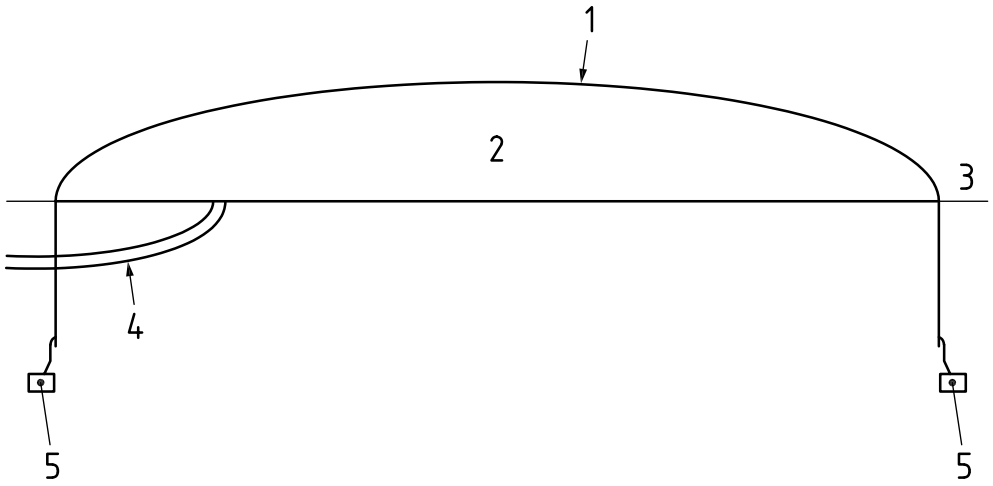
— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1
inflatable bouncing pillow
structure made of a single thickness sheet with edges permanently installed in the ground, relying on a continuous supply of air to form a pressurized void on which users can play and bounce

Note 1 to entry: This type of structure has no walls and enables access and egress on all sides.

Note 2 to entry: See Figure 1.



Key
1 sheet
2 pressurized void
3 ground level
4 air supply tube
5 foundation

Figure 1 — Inflatable bouncing pillow

3.2
blower
powered machine used to inflate the structure continuously

3.3
air supply tube
tube running underground, connected to the blower and discharging into the void

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3.4
free height of fall
greatest vertical distance from the clearly intended body support to the impact area below

3.5
critical fall height
maximum free height of fall, for which a surface provides an acceptable level of impact attenuation

3.6
platform
any surface on which a user can stand

3.7
entrapment
hazard in which a body, or part of a body, or clothing, can become trapped

3.8
impact area
area surrounding the open sides of the bouncing pillow

3.9
user height
maximum height of persons allowed to use the inflatable

3.10
free space
space in, on or around the inflatable that can be occupied by a user undergoing a movement forced by the equipment

3.11
playing area
space on the inflatable, clear of any hazard, intended for play

4 Safety requirements

4.1 Materials

4.1.1 Fabrics

Fabrics shall be flame retardant.

Fabrics, and joins in fabrics, shall be of adequate tear and tensile strength for the weight of the intended user and have sufficient air retention to enable the inflatable, when pressurized, to resume its shape after distortion under load.

Fabrics of:

a) minimum tear strength 500 N (see the test method in ISO 20187-1:2022, Annex E),

b) minimum tensile strength 3 500 N (in accordance with ISO 1421), and

c) minimum coating adhesion 100 N (in accordance with ISO 2411)

shall be used in structural parts where force or stress is applied by the user.

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