
**Plavajoči pripomočki za prosti čas, ki se uporabljajo na vodi in v njej - 6. del:
Dodatne posebne varnostne zahteve in preskusne metode za pripomočke razreda
D**

Floating leisure articles for use on and in the water - Part 6: Additional specific safety requirements and test methods for Class D devices

Schwimmende Freizeitartikel zum Gebrauch auf und im Wasser - Teil 6: Zusätzliche spezifische sicherheitstechnische Anforderungen und Prüfverfahren für Klasse D-Geräte
(standards.iteh.ai)

Articles de loisirs flottants à utiliser sur ou dans l'eau - Partie 6: Exigences de sécurité et méthodes d'essai complémentaires propres aux dispositifs de Classe D

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Floating leisure articles for use on and in the water - Part 6: Additional specific safety requirements and test methods for Class D devices

Articles de loisirs flottants à utiliser sur ou dans l'eau -
Partie 6 : Exigences de sécurité et méthodes d'essai
complémentaires propres aux dispositifs de Classe D

Schwimmende Freizeitartikel zum Gebrauch auf und im
Wasser - Teil 6: Zusätzliche besondere
sicherheitstechnische Anforderungen und Prüfverfahren für
Artikel der Klasse D

This European Standard was approved by CEN on 11 September 2009.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, 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.



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Foreword

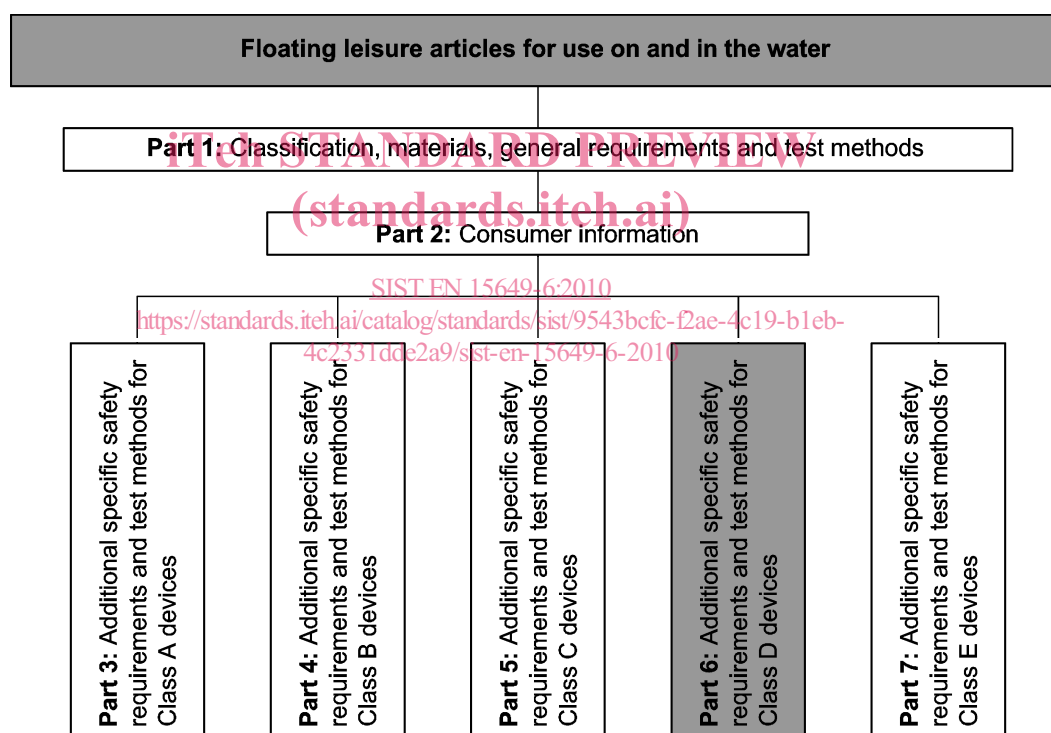
This document (EN 15649-6:2009) has been prepared by Technical Committee CEN/TC 136 "Sports, playground and other recreational facilities and equipment", the secretariat of which is held by DIN.

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 May 2010, and conflicting national standards shall be withdrawn at the latest by May 2010.

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

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

This European Standard is one of a series consisting of seven standards dealing with floating leisure articles for use on and in the water.



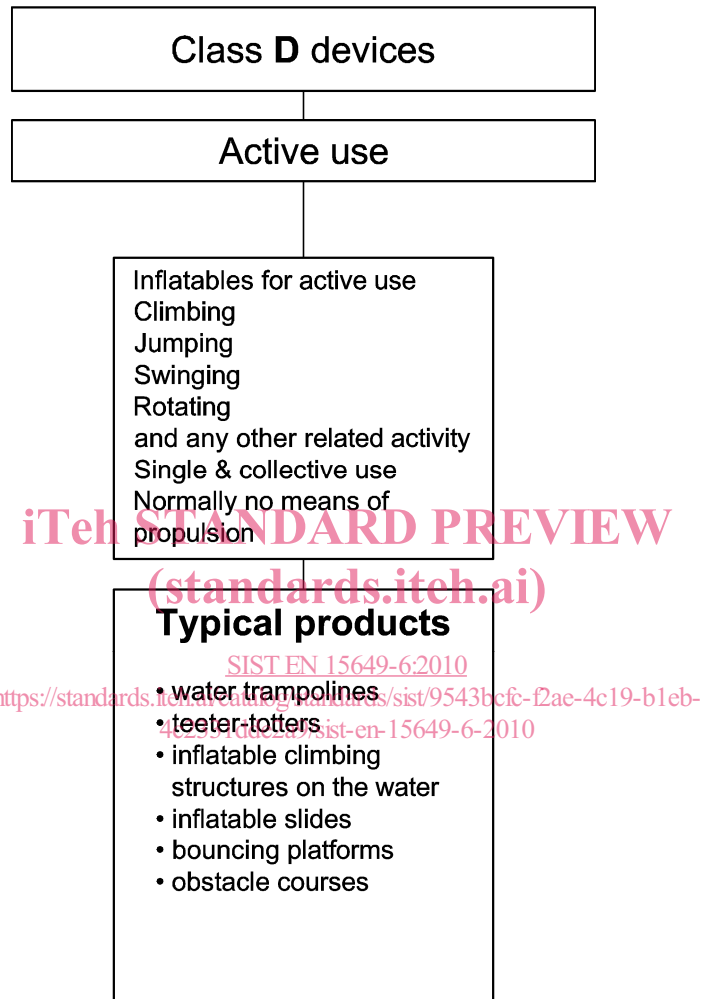
Compliance of a product to this standard requires that the requirements of the relevant specific part and, additionally, the requirements of EN 15649-1 and EN 15649-2 have to be met. If a product includes multiple use related to several classes it has to meet the requirements of all these classes.

Annex A is informative.

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, 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

Interior Structure Class D



Class D devices are applicable to persons older than 36 months with the restriction of the capability to swim. Class D devices are intended to be anchored in position or free floating. They are designed for active use on the water surface. Characteristics for Class D devices are especially the active use. Jumping, playing, climbing and any other related activity on the inflatable are part of the use.

Table 1 — Introductory risk analysis

No.	Typical products	Place of usage	Function; range of usage; target/age group	Type of movement/propulsion	Position of user in regard to the equipment, elevation above water	Predictable misuse	Partial risk related to water environment	Final risk	Protection aims standard/regulation
Trampoline D Climbing/jumping structures	trampolines on the water of various sizes	sea shore / close to shore; lakes; smoothly running rivers; big pools; fun parks	jumping on devices / in the water, dual use: resting , use as platform all age groups, swimmers	static use on a determined place, device moored may also be free floating; users jumping; all sorts of movements	considerable elevation depending on the size of the device and jumping height; entrapment through swimming underneath the structure	use by non swimmers; overcrowding; insufficient water depth; impact in water, collision; entrapment through swimming underneath device, lack of supervision (small children)	collision of persons; collision with objects (anchoring); insufficient water depth; safety distances; dangerous proximity to other objects; shallow water; re-embarking (grab handles)	D R O W N I N G	age limits; swimmers only; no protruding parts; no entrapment; cushioning; warnings; supervision of small children
	large floatable structures for action and fun, mainly climbing jumping, rollicking; bouncing castles on water	sea shore / close to shore; lakes; rivers; big pools; fun parks	all age groups, swimmers	devices static (drifting or moored); users are jumping; climbing; sliding; bouncing; (see also trampolines)	depending on the size of the device; height up to 4 m are likely; jumps and falls are part of the game	depending on the size of the device; heights up to 4 m are likely; jumps and falls are part of the game	as above		supervision; no rules are known for on the water equipment; safety transfers are likely from land bound toy-structures

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EN 15649-6:2009 (E)**1 Scope**

This European Standard is applicable for CLASS D floating leisure articles for use on and in water according to EN 15649-1 regardless whether the buoyancy is achieved by inflation or inherent buoyant material.

This document (EN 15649-6) is applicable with EN 15649-1 and EN 15649-2.

NOTE 1 Typical products forming Class D:

- inflatable climbing structures on the water;
- bouncing platforms;
- inflatable slides;
- water trampolines;
- teeter totters;
- obstacle courses.

NOTE 2 Typical places for application:

- pools;
- lakes, ponds;
- open sea;
- sea shore (no offshore winds, no currents)

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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 913:2008, *Gymnastic equipment — General safety requirements and test methods*

EN 13138-1:2008, *Buoyant aids for swimming instruction — Part 1: Safety requirements and test methods for buoyant aids to be worn*

EN 13138-3:2007, *Buoyant aids for swimming instruction — Part 3: Safety requirements and test methods for swim seats to be worn*

EN 15649-1:2009, *Floating leisure articles for use on and in the water — Part 1: Classification, materials, general requirements and test methods*

EN 15649-2:2009, *Floating leisure articles for use on and in the water — Part 2: Consumer information*

EN 15649-3:2009, *Floating leisure articles for use on and in the water - Part 3: Additional specific safety requirements and test methods for Class A devices*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 15649-1:2009 and the following apply.

3.1

inherent buoyancy

upthrust provided by material which is less dense than water or by sealed chambers filled with air or gas

[EN 13138-1:2008, 3.2]

3.2

residual buoyancy

provision of remaining buoyancy in case of a defect of any buoyancy chamber

3.3

means to assist re-embarkation

means which helps the user to climb back on board of the floatable device from an in-water position regardless whether the buoyant structure is fully inflated or any air chamber is deflated

3.4

safety pad

trampoline cover for springs, metal frame and fringe zone of the jumping surface

3.5

available area

area on or inside a floating article which can be unrestrictedly used for user accommodation when taking the intended posture(s)

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3.6

multiple use products

any products that are intended to be used for more than one purpose (jumping, resting, climbing, etc.)

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3.7

permanent air flow articles

floating leisure articles that use a power source to continuously inflate a product maintaining its shape

3.8

inherent buoyant material

non-crosslinked (closed-cell) foam or other materials enclosed in (a) sealed compartment(s) in the hull which less than fresh water

NOTE Inflatable made from inherent buoyant material is a buoyant structure (hull) achieving all or parts of its intended shape and buoyancy from soft foam, hard foam or sealed chambers filled with air, gas or granules.

3.9

unsupported materials

materials which have no reinforcing textiles

4 Safety requirements and test methods

4.1 General

Construction of a floating article Class D device shall be such that it corresponds in terms of design, dimensions, safety, strength and durability for its intended use. The requirements set out in this standard were chosen to ensure compliance with these considerations. When floating articles provide buoyancy in several components, these requirements apply to all components. Inflatables shall provide residual buoyancy if one air

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chamber fails. This residual buoyancy maintains the safety of the device even if its function might be lost. The following safety requirements are therefore related to:

- design;
- sizing;
- materials;
- strength;
- performance;
- information.

General and common material related requirements and test method as specified in EN 15649-1 and EN 15649-2 of this series of standards apply for Class D devices (inflatable or inherent buoyant).

EN 15649-1 and EN 15649-2 are applicable as general parts. In individual cases, due to the unpredictability, valency and indeterminability of existing and future concrete products, a corresponding choice shall be made by the test house.

4.2 Design of buckles and other fixings**4.2.1 Requirements**

If buckles or other detachable fastening devices are used as components of Class D devices in order to attach or connect functional parts or other components, they shall require at least two simultaneous actions for their release or opening in order to prevent an unintended opening. When one of the two sequences of buckle opening relies on pressure, it shall be necessary to apply a force of at least 100 N on this release mechanism.

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4.2.2 Testing

Verification shall be executed by the test panel. In case of a locking system based on pressure, the testing shall be done in accordance with EN 13138-3:2007, Annex E.

4.3 Sizing and admissible number of users, maximum load capacity**4.3.1 General**

If a specific size/body weight correlation between user and device is relevant, the marking shall be in accordance with the range of body weights. The size / body weights of the user shall be indicated on the product by completing the relevant boxes of the appropriate "Number of users, adult/children" and/or "Maximum load capacity" as specified in EN 15649-2.

Devices shall be marked according to their size and/or number of permitted users and maximum load capacity as specified in EN 15649-1 and EN 15649-2.

Devices including dual or multiple use (e.g. jumping on a trampoline or lying rest) shall include markings in accordance with EN 15649-2 for all intended functions.

4.3.2 Space per person per trampoline

4.3.2.1 Requirements

Class D products shall be labelled with regard to the intended posture — lying/sitting/standing and relaxing or jumping (for multi-use bounce platforms or trampolines) of the user(s) and the maximum permissible number of users recommended by the manufacturer.

The minimum space for a user in lying posture shall correspond to a flexible pattern (adult/child) the dimensions of which are specified in EN 15649-1:2009, A.1.1 and specified in EN 15649-3:2009, 4.2.3.1. The minimum space for a sitting user shall correspond to the template (adult/child) in accordance with EN 15649-1:2009, A.1.

For multi-use bounce platforms or trampolines, the maximum number of jumpers shall correlate to the space available for each jumper. A 1,5 m jumping surface diameter is required per jumper. Each increase of jumping surface by 1,5 m shall allow for an increase of one more jumper. The total number of jumpers shall however not exceed three persons. The minimum space for a user in relaxing position should correspond to a flexible pattern (adult/child) the dimensions of which are specified in EN 15649-1:2009, A.1.1. The minimum space for a sitting or lying user shall correspond to the template (adult/child) as specified in EN 15649-1:2009, A.1. The maximum permissible number of users shall be recommended by the manufacturer.

NOTE In deviation to other specifications related to land based trampolines, a 1,5 m jumping circle diameter per person can be accepted considering experience over a period of ten years without accidents related to this space per person and the fact that the trampolines in question have to meet a high level of fall protection requirements (covering of rigid objects on the surface according to 4.5.13). In addition to this, EN 15649-6 deals with trampolines positioned on the water and thus allow jumps and falls into it without those risks accompanied with land based devices.

The total amount of users determined by the template shall not contradict to the load capacity and floating stability of the device.

4.3.2.2 Testing

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Testing shall be done by applying the relevant lying/sitting templates as specified in EN 15649-1:2009, A.1. Templates shall be stretched out over the area available to the user without overlapping. Patterns may be arrayed to optimise the amount of users without contradicting to the load capacity of the device. Check for appropriate labelling in accordance with "Number of users, adult/children" and/or "Maximum load capacity" as specified in EN 15649-2.

4.4 Components

4.4.1 Valves and stoppers (special requirements for Class D)

Floating articles Class D shall be fitted with non-return valves. Valves should meet the relevant requirements set out in EN 15649-1:2009, 5.10 and Annex B.

In deviation to EN 15649-1, the protrusion of the valve and stopper shall not exceed 20 mm above the surrounding surface when the device has been inflated. When accessible during intended use protruding parts of valves shall be rounded and not create entanglement or entrapment (see EN 15649-1:2009, 5.5).

When tested in accordance with 4.4.2 the inflatable device shall not suddenly collapse due to a loss of sudden air pressure. Testing shall be in accordance with 4.4.2.

The valves shall be located in a safe place that does not obstruct the use of the products and so positioned that it cannot easily be opened by any individual. If placement shall be in visible view and located where it is easily reachable then a locking system for the valve or a valve apron (permanent covering) shall be used.

The valves should have no hazardous parts that result in entrapment (such as loose strings, etc.).