



SLOVENSKI STANDARD

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Buoyant aids for swimming instruction - Part 2: Safety requirements and test methods for buoyant aids to be held

Auftriebshilfen für das Schwimmenlernen - Teil 2: Sicherheitstechnische Anforderungen und Prüfverfahren für Auftriebshilfen, die gehalten werden

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Aides a la flottabilité pour l'apprentissage de la natation Partie 2: Exigences et méthodes d'essai relatives aux dispositifs a tenir

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Auftriebshilfen für das Schwimmenlernen - Teil 2:
Sicherheitstechnische Anforderungen und Prüfverfahren für
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This European Standard was approved by CEN on 10 August 2002.

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 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 Management Centre has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Foreword

This document (EN 13138-2:2002) has been prepared by Technical Committee CEN /TC 162, "Protective clothing including hand and arm protection and lifejackets", 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of an identical text or by endorsement, at the latest by April 2003, and conflicting national standards shall be withdrawn at the latest by April 2003.

The annexes A to E are normative.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

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Introduction

The entire process of learning to swim is considered to include three stages:

- becoming familiar with the water environment and movements through it;
- acquiring skills in standard swimming strokes;
- developing more advanced swimming strokes and techniques.

Buoyant aids for swimming instructions (in brief: "swimming aid(s)") are intended to assist persons (in particular children) to learn to swim. The design and purpose of the devices are related to the above stages.

Swimming aids are intended to give the user positive buoyancy in the water whilst maintaining the correct body position for swimming. However, it should not be assumed that standard conformity of the devices will by itself eliminate the risk of drowning as this depends also on the behaviour of the user and any supervision.

Although this standard sets performance requirements to ensure that swimming aids perform appropriately, it is essential that the devices are used correctly and under constant and close supervision. It is important to ensure that they are securely fitted to the appropriate size of wearer and that when correctly fitted, they cannot become displaced. Swim seats however shall allow immediate escape in case of capsizing. The use of these devices shall be restricted to water out of standing depth of the wearer.

The highest degree of protection against drowning can only be achieved by using life jackets. It is essential that there is a clear distinction between devices intended to preserve life and those which are intended only to assist buoyancy for the user when learning to swim. As swimming aids are not life preservers, they should only be used in swimming pools and other situations free from current, tides and waves.

The bulk storage of some sorts of swimming aids can, under certain conditions, result in a potential fire hazard. The perceived risk of such a hazard was evaluated against the actual risk to the user from materials treated with certain known toxic fire retardant chemicals. However, the fire hazard is less of a problem to the user than the risk associated with the swimming aids being put in the mouth, especially by children. For this reason, flammability requirements are not included in the standard.

For the above reasons and to differentiate these devices from aquatic toys, advisory safety measures, including marking, warning notices and user instructions are included in this standard.

The range both of the design and function of swimming aids varies considerably and for this reason, the standard has been prepared in three parts, namely devices that are intended to allow the wearer to become familiar with water (passive wearer), devices that are worn (active wearer) and those devices that are held by the user for special training purposes.

Part 1 of the standard is for devices that are worn or carried on the body (class B devices for an active user). They are intended to introduce the user to the range of swimming strokes.

Part 2 of the standard is for devices that are held either in the hands, by the body or between the legs (class C devices for an active user) and are intended to assist with improving specific elements of the swimming stroke. For adult beginners or more advanced users they can also be used for further stages of the process to learn to swim.

Part 3, deals with swim seats as typical and common devices to assist children up to 36 month in their first attempts to learn to swim i.e. to get familiar with the "in-water-environment" and moving through it (class A devices, passive user). The child sits inside the seat, the seat provides buoyancy and lateral support to keep the child's head above water level.

This part of the standard, Part 2, deals with devices that are held either in the hands, between the legs or by the body.

1 Scope

This European Standard specifies safety requirements for construction, performance, sizing and marking for swimming aids intended to assist users with movement through the water in the early stages of water awareness, whilst learning to swim or whilst learning part of a swimming stroke. It also gives methods of test for verification of these requirements.

This Part of this European Standard applies to class C devices that are designed to assist with improving specific elements of the stroke and which have either inherent buoyancy or can be inflated. It includes devices that are held in the hands, by the body or between the legs. It does not apply to buoyancy aids, lifejackets or aquatic toys.

2 Normative References

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European standard only when incorporated in it by amendment or revision. For undated references, the latest edition of the publication referred to applies (including amendments).

EN 71-1:1998, *Safety of toys - Part 1: Mechanical and physical properties.*

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

EN 393:1993, *Lifejackets and personal buoyancy aids - Buoyancy aids 50 N.*

EN 20105-A02, *Textiles - Tests for colour fastness - Part A02: Grey Scale for assessing change in colour (ISO 105-A02:1993).*

EN ISO 105-E03:1996, *Textiles - Tests for colour fastness - Part E03: Colour fastness to chlorinated water (swimming pool water) (ISO 105-E03:1994).*

EN ISO 105-E04, *Textiles - Tests for colour fastness - Part E04: Colour fastness to perspiration (ISO-A04:1994).*

EN ISO 105-X12, *Textiles - Tests for colour fastness - Part X12: Colour fastness to rubbing (ISO 105-X12:1993).*

EN ISO 3696:1995, *Water for analytical laboratory use - Specification and test methods (ISO 3696:1987).*

3 Terms and definitions

For the purposes of this European Standard, the following terms and definitions apply.

3.1

buoyancy

the resultant upthrust of a swimming aid when totally submerged in fresh water with its uppermost part just below the water surface

3.2

inherent buoyancy

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

3.3

buoyant swimming aid

a garment or device which when worn or held correctly, and used in water under constant supervision, will provide the buoyancy required to become familiar with movement through the water, assist with learning to swim or to improve swimming strokes

3.4

class A devices

are intended to provide sufficient buoyancy to allow the wearer to become familiar with the water environment. They are not intended to specifically facilitate learning swimming strokes. They will keep a passive wearer in such a position that the base of the chin is at or above the water surface

3.5

class B devices

are intended to be worn and to provide the wearer with buoyancy appropriate to the needs of the swimming stroke that is being taught. The buoyancy will be sufficient to allow the body to adopt a near normal position in the water appropriate to the stroke or part of the stroke

3.6

class C devices

are intended to be held in the hands, by the body or between the legs and to assist with improving specific elements of a swimming stroke.

3.7

kick board

a buoyant device designed to be held in the hands or by the arms in order to support the body in a horizontal and stable position in the water to assist the user to improve leg action

3.8

pull buoy

a buoyant device designed to be held between the legs to maintain the legs in a horizontal position in the water to assist the user to improve arm action

3.9

devices to be worn

have either inherent buoyancy or may be inflated to provide buoyancy and which is attached to the body in such a way that it cannot be accidentally removed and so as to provide the wearer with positive buoyancy

3.10

swimseat

are intended to provide sufficient buoyancy to allow a wearer up to the age of 36 months to become familiar with the water environment. They are not intended to specifically facilitate learning swimming strokes. They will keep a passive wearer in such a position that the base of the chin is at or above the water surface

3.11

devices to be held

are held either in the hands or between the legs or by the body and provides buoyancy whilst it is being held by the user

3.12

conditioning

a process, prior to any testing, to which the complete device shall be submitted and comprising a number of cycles, to simulate the conditions to which the device is likely to be subjected in normal use and storage. The conditioning process will include immersion in chlorinated, salt, swimming pool water and storage in cold and hot conditions

4 Classification

Buoyant swimming aids shall be classified by design [class] as set out in Table 1:

Table 1 — Classification of buoyant swimming aids

Class	Description
Class A	Buoyant swimming aid intended to introduce the wearer to movement through the water
Class B	Buoyant swimming aid intended to be worn and to introduce the wearer to a range of swimming strokes
Class C	Buoyant swimming aid intended to be held and to assist with improving specific elements of a swimming stroke

5 Safety requirements

5.1 General

Construction of a buoyant swimming aid shall be such that it corresponds in terms of design, dimensions, safety, strength and durability for its intended use.

The requirements set out have been chosen to ensure compliance with these considerations and where buoyant aids are provided in and intended to be used in pairs, the requirements apply to the pair. Where buoyancy is not inherent, devices shall have a minimum of two separate chambers.

5.2 Buoyancy

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5.2.1 Buoyancy characteristics of the complete device

When tested in accordance with the procedures in 6.6, the device or pair of devices shall have minimum buoyancy of 15 N.

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5.2.2 Residual buoyancy

Any buoyant aid for swimming instruction providing buoyancy by inflation or by filling materials such as granules, air sacs or similar shall provide a residual buoyancy of at least 50% of the original buoyancy after complete deflation of one chamber or through the removal of 50% of the filling material when tested in accordance with 6.6.

5.3 Safe design

5.3.1 Edges, corners and points

Buoyant swimming aids shall be of a design such that they cannot cause harm to the user. Edges and corners of hard and rigid materials shall be chamfered or rounded. There shall be no barbs or other sharp points or features. Testing shall be by tactile assessment in accordance with 6.7.

5.3.2 Small parts

Attached small parts shall withstand a pull of (90 ± 2) N in the direction most likely to cause failure without becoming detached from the device. Parts which can become detached shall not fit wholly into the small parts cylinder, testing of which shall be in accordance with 6.10.

5.3.3 Migration of certain elements

Buoyant swimming aids shall conform to the requirements set out in EN 71-3 when tested in accordance with 6.11.2.

5.4 Valves and stoppers

5.4.1 Inflatable buoyant swimming aids shall be fitted with non-return valves. Stoppers shall be connected to the buoyant swimming aid.