SLOVENSKI STANDARD
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Plavajoči pripomočki za učenje plavanja - 2. del: Varnostne zahteve in preskusne metode za plavajoče pripomočke, ki se držijo z rokami

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

Aides à la flottabilité pour l'apprentissage de la natation - Partie 2 : Exigences de sécurité et méthodes d'essai pour les aides à la flottabilité à tenir

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13.340.70	Rešilni jopiči, vzgonska pomagala in plavajoči pripomočki	Lifejackets, buoyancy aids and floating devices
97.220.40	Oprema za športe na prostem in vodne športe	Outdoor and water sports equipment

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EUROPEAN STANDARD

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English Version

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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European foreword

This document (EN 13138-2:2021) 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of an identical text or by endorsement, at the latest by April 2022 and conflicting national standards shall be withdrawn at the latest by April 2022.

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

This document supersedes EN 13138-2:2014.

Annex G provides details of significant technical changes between this European Standard and the previous edition EN 13138-2:2014.

EN 13138, *Buoyant aids for swimming instruction* consists of the following parts dealing with buoyant swimming devices for swimming instructions for the various stages of the learning process:

— *Part 1: Safety requirements and test methods for buoyant aids to be worn*

— *Part 2: Safety requirements and test methods for buoyant aids to be held*

— *Part 3: Safety requirements and test methods for swim seats into which a user is positioned*

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

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

— getting familiar with the water environment and movements in it, and

— acquiring skills in standard swimming strokes.

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

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

Although this document sets performance requirements to ensure that swimming devices perform appropriately, it is essential that the swimming 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 user and that when correctly fitted, they cannot become displaced. Swim seats however should allow immediate escape in case of capsizing. Therefore, the use of these swimming devices is recommended to be restricted to water out of standing depth of the user.

The highest degree of protection against drowning can only be achieved by using lifejackets. It is essential that there is a clear distinction between rescue intended to preserve life and those which are intended only to assist buoyancy for the user when learning to swim. As swimming devices 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 types of swimming devices could, 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 devices being put in the mouth, especially by children. For this reason, flammability requirements are not included in this document.

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

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

— Part 1 of this series is only for products that are securely attached to the body (Class B swimming devices = for an active user). They are intended to introduce the user to the range of swimming strokes.

— Part 2 of this series is for products that are held either in the hands or by the body (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 of this series deals only with products (swim seats) to assist children up to 36 months in their first attempts to learn to swim (i.e. to get familiar with the —in-water-environment) and moving through it. The child is positioned inside the buoyant structure, which provides buoyancy and lateral support to the body, thereby keeping the child's head above water level (Class A swimming devices = for a passive user).

Swim seats allow young children to experience the water environment and being moved through it. Movements of lower limbs and arms are possible. The use of swim seats does however not replicate any form of a correct swimming stroke.

Swim seats complying with this document provide a stable, floating position for a child sitting in the swim seat and avoid entrapment in case of capsizing. Children in swim seats do however require very close parental supervision. Overload beyond specified body mass, breaking waves and violent external forces are remaining risks that can cause capsizing. Use of these swimming devices in water that is of the child's standing depth will increase the risk of capsizing and will hinder or block the escape from the seat in case of emergency.

1 Scope

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

This part 2 of EN 13138 applies only to class C swimming devices that are designed to be held in the hands or by the body. Typical swimming devices include kick boards and pull/kick boards. These swimming devices are used to assist in learning to swim or to assist with swimming strokes and improving specific elements of the stroke, which have either inherent buoyancy or can be inflated.

It does not apply to pull buoys, swim rings, lifebuoys, buoyancy aids, lifejackets or aquatic toys.

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 71-1:2014+A1:2018, *Safety of toys — Part 1: Mechanical and physical properties*

EN 20105-A02:1994, *Textiles — Tests for colour fastness — Part A02: Grey scale for assessing change in colour (ISO 105-A02:1993)*

EN ISO 105-E03:2010, *Textiles — Tests for colour fastness — Part E03: Colour fastness to chlorinated water (swimming-pool water) (ISO 105-E03:2010)*

EN ISO 105-E04:2013, *Textiles — Tests for colour fastness — Part E04: Colour fastness to perspiration (ISO 105-E04:2013)*

EN ISO 105-X12:2016, *Textiles — Tests for colour fastness — Part X12: Colour fastness to rubbing (ISO 105-X12:2016)*

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 document, the following terms and definitions apply.

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

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

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

3.1
buoyancy
resultant upthrust of a swimming device 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 that are not inflatable and are filled with air or gas

3.3
buoyant aid for swimming instruction
garment or swimming device which when worn or held correctly will provide the buoyancy required to become familiar with movement through the water, assist with learning to swim or to improve swimming strokes

Note 1 to entry: In brief: swimming device.

3.4
minimum buoyancy
least buoyancy required by the standard

3.5
original buoyancy
buoyancy (3.1) provided by a complete swimming device when first tested

3.6
class A swimming device
swimming device for children up to 36 months of age in which the child is in contact with the water positioned inside the buoyant structure so that it will keep the passive user in a stable floating position where the base of the chin is at or above the surface of the water

Note 1 to entry: This swimming device is intended to allow the user to become familiar with the water environment.

Note 2 to entry: For swimming devices class A for children above 36 months see EN ISO 25649-4.

3.7
class B swimming device

swimming device intended to be worn, to be securely attached to the body and to introduce the active user to the range of swimming strokes

3.8
class C swimming device
swimming device intended to be held either in the hands or by the body and to assist with swimming strokes and/or improving specific elements of the strokes

3.9
conditioning
process to which the complete swimming device is submitted that includes immersion in chlorinated swimming pool water and storage in cold and hot conditions and comprising a number of cycles, to simulate the conditions to which the swimming device is likely to be subjected in normal use and storage

3.10
component
sub-group of the entire swimming device which contributes to either buoyancy, function or safety

3.11
swim seat
buoyant swimming device intended to introduce the user to the aquatic environment and to build water confidence as a pre-requisite to learning to swim

Note 1 to entry: Swim seats provide safety for the user but do not guarantee protection against drowning.

Note 2 to entry: Swim seats are learning aids and not aquatic toys as defined in EN 71-1:2014+A1:2018.

3.12
swim seat system
all integrated components (parts) of a swim seat which contribute to stable floating conditions and to safety during normal use or after a capsizing emergency

3.13
escape
complete separation between the test dummy and the swim seat in case of a deliberate capsizing of the swim seat or swim seat system

3.14
assessment panel
group of three people, all of whom are experienced in assessing buoyant swimming devices appointed to witness and assess the swimming device

3.15
kick board
buoyant swimming device designed to be held in the hands or by the arms in order to support the body in the water to assist the user to improve swimming strokes

3.16
sinking angle
angle to which a test manikin is intentionally calibrated when hung on its centre of gravity and completely immersed under water

3.17
passive user
user who does not need to make conscious efforts to keep their airway above water level since this is achieved by the swimming device

3.18
active user
user who needs to make conscious efforts to keep their airway above water level since this is not achieved by the swimming device

3.19
swimming device intended to be worn
swimming device having either inherent buoyancy or may be inflated to provide buoyancy and which is securely attached to the body in such a way that it cannot be accidentally be removed and so as to provide the user with buoyancy

3.20
swimming device intended to be held
device held either in the hands or by the body and which provides buoyancy whilst it is being held by the user

4 Classification

Buoyant swimming devices shall be classified according to Table 1.

Table 1 — Classification of buoyant aids for swimming instruction

Class	Description
A	Buoyant swimming device in which the child is in contact with the water positioned inside the buoyant structure. This swimming device is intended to allow the user to become familiar with the water environment and movements through it. The swimming device will keep the passive user in a stable floating position so that the base of the chin is at or above the surface of the water
B	Buoyant swimming device intended to be worn, to be securely attached to the body and to introduce the active user to the range of swimming strokes.
C	Swimming device intended to be held either in the hands or by the body and to assist with swimming strokes and/or improving specific elements of the strokes

5 Safety requirements concerning design and material

5.1 General

Construction of a buoyant swimming device shall be such that it corresponds in terms of design, dimensions, safety, strength and durability for its intended use. The requirements set out were chosen to ensure compliance with these considerations. Where buoyant swimming devices are provided in several components, the requirements apply to each of the components as specified in the relevant paragraphs below.

Where buoyancy is not inherent, components shall have a minimum of two independent chambers safeguarding function and safety if one chamber fails. A swimming device shall be only class A or class B or class C.

Hand-held swimming devices shall be assessed by the assessment panel to determine whether they comply with the ergonomic requirements of the intended user group.

There are no colour requirements for these swimming devices.

5.2 Buoyancy characteristics of the complete swimming device

5.2.1 General

When tested in accordance with the procedures 5.2.2, the swimming device shall, with all of its buoyant components, have a minimum buoyancy of 15 N.

NOTE For illustration of class of swimming device, see Figure 1.

5.2.2 Measurement of buoyancy of complete swimming device

5.2.2.1 Apparatus

The standard equipment required consists of a weighted cage, whose submerged weight is greater than 1,1 times the expected buoyancy value of the swimming device, and a tank of fresh water, deep enough to accommodate the swimming device horizontally with its upper surface at a depth of 100 mm to 150 mm below the water surface without contacting the sides of the tank or the bottom and with a calibrated load cell of balance supporting it.