SLOVENSKI STANDARD
SIST EN 13138-1:2003

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Plavajoļ i pripomoļ ki za uļ enje plavanja ï 1. del: Varnostne zahteve in preskusne metode za plavajoļ e pripomoļ ke, ki se obleļ ejo

Buoyant aids for swimming instruction - Part 1: Safety requirements and test methods for buoyant aids to be worn

Auftriebshilfen für das Schwimmenlernen - Teil 1: Sicherheitstechnische Anforderungen und Prüfverfahren für am Körper getragene Auftriebshilfen

Aides a la flottabilité pour l'apprentissage de la natation - Partie 1: Exigences de sécurité et méthodes d'essais pour les aides a la flottabilité portées au corps

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English version

Buoyant aids for swimming instruction - Part 1: Safety requirements and test methods for buoyant aids to be worn

Aides à la flottabilité pour l'apprentissage de la natation - Partie 1: Exigences de sécurité et méthodes d'essais pour les aides à la flottabilité dispositif porté au corps

Auftriebshilfen für das Schwimmenlernen - Teil 1: Sicherheitstechnische Anforderungen und Prüfverfahren für am Körper getragene Auftriebshilfen

This European Standard was approved by CEN on 14 February 2003.

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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.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and United Kingdom.

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

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Contents

Foreword

This document (EN 13138-1:2003) 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of an identical text or by endorsement, at the latest by November 2003, and conflicting national standards shall be withdrawn at the latest by November 2003.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

The annexes A to H 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, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and the United Kingdom.

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 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 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 and are intended (class C devices for an active user) 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 months in their first attempts to learn to swim i.e. to get familiar with the "in-water-environment" and movement 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 1, deals with devices that are worn on the body and that cannot be accidentally discarded. As such, these devices are classed as PPE.

1 Scope

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

This European Standard, Part 1, applies to devices that are designed to be worn or are carried on the body and which have either inherent buoyancy or can be inflated. It includes Class B devices intended to introduce the wearer to the range of swimming strokes. 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 105-E04:1994)

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 standard, the following terms and definitions apply:

3.1
swimming aid
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.

3.2
buoyancy
resultant upthrust of a swimming aid when totally submerged in fresh water with its uppermost part just below the water surface.

3.3
inherent buoyancy
upthrust provided by material which is less dense than water or by sealed chambers filled with air or gas.

3.4
class A devices
device 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
device 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
device intended to be held in the hands, by the body or between the legs in order to assist with improving specific elements of a swimming stroke.

3.7
devices to be worn
device having either inherent buoyancy or which may be inflated to provide buoyancy and which is firmly attached to the body in such a way that it cannot be accidentally removed and so as to provide the wearer with positive buoyancy.

3.8
devices to be held
device held either in the hands or between the legs or by the body and provides buoyancy whilst it is being held by the user.

3.9
conditioning
process 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 swimming pool water and storage in cold and hot conditions.

3.10
component
sub-groups of the entire device contributing to buoyancy, function and safety

3.11
swim seat system
all permanently attached components (parts) of a swim seat which contribute to stable floating conditions and safety after an emergency capsizing constitute a swim seat system

3.12
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

3.13
assessment panel
group of three people from an accredited and notified test house, all of whom are experienced in assessing swimming aids.

4 Classification

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

Table 1 — Classification of buoyant aids

Class	Description
A	Buoyant device in which the child is seated. This buoyant device is intended to allow the user to become familiar with the water environment and movement through it. The device will keep the passive wearer in such a position that the base of the chin is at or above the surface of the water.
B	Buoyant swimming aid intended to be worn and to introduce the active wearer to the range of swimming strokes.
C	Buoyant 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 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 were chosen to ensure compliance with these considerations and where swimming 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

5.2.1 Buoyancy characteristics of the complete device

When tested in accordance with the procedures in 6.6, the device shall have minimum buoyancy in accordance with Table 2. Where the Table shows a “dash” (–), this is intended to indicate that the device is not appropriate for the type of user.

NOTE Figure 1 is intended to show where on the body the buoyancy should be positioned.

Table 2 — Buoyancy characteristics including illustration of class of device

Category of wearer		Class of buoyant aid for swimming instruction					
Age [a] (years)	Mass range (kg)	Minimum buoyancy (N)					
		Garment	Collar	Arm bands (per pair)	Chest belt or ring	Backpack	
Up to 1	Up to 11	20	20	20	---	---	
1 to 2	11 to 15	20	20	20	---	---	
2 to 3	15 to 18	20	25	25	15	20	
3 to 6	18 to 30	20	25	25	15	20	
6 to 12	30 to 60	25	30	30	20	25	
Over 12	Over 60	30	40	40	25	30	

[a] Age groups for orientation only. The correlation between the age and the body mass can vary considerably.

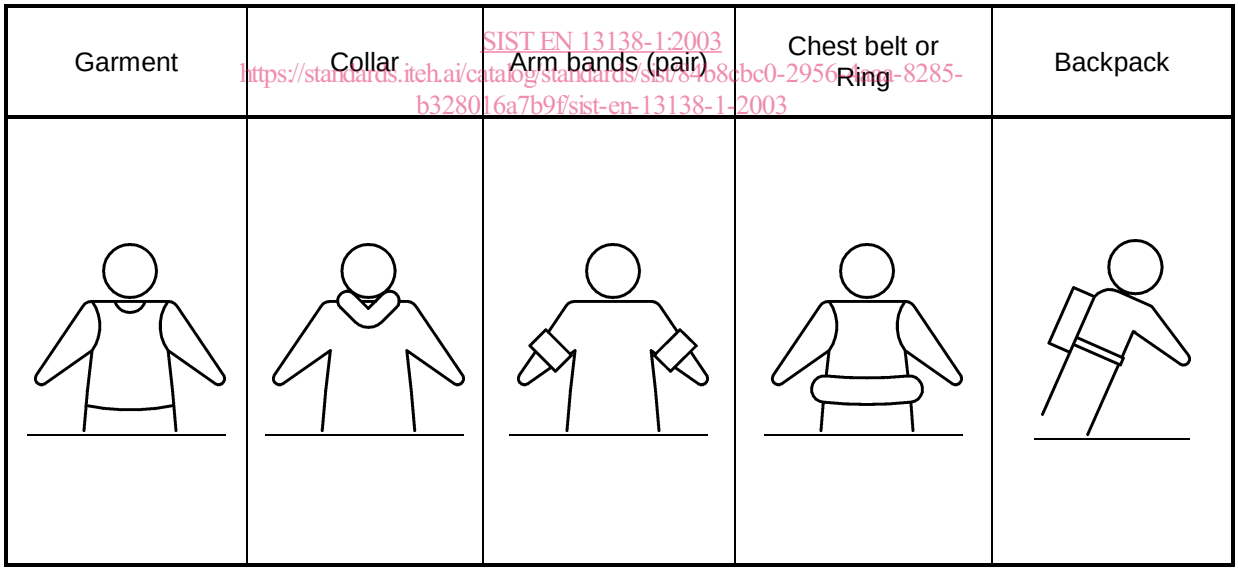

Figure 1 — Position of the device on the body